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Part One: Global Themes and Contemporary Challenges

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TABLE OF CONTENTS

PART ONE: GLOBAL THEMES AND CONTEMPORARY CHALLENGES

| | |
|---|-----|
| Acknowledgments | xi |
| 1 Introduction <i>Philip G. Altbach and James J. F. Forest</i> | 1 |
| 2 The Academic Profession <i>Jürgen Enders</i> | 5 |
| 3 Accountability and Quality Assurance: New Issues for Academic Inquiry <i>Elaine El-Khawas</i> | 23 |
| 4 Curricula in International Perspective <i>Lisa R. Lattuca</i> | 39 |
| 5 Doctoral Education: Present Realities and Future Trends <i>Philip G. Altbach</i> | 65 |
| 6 Higher Education Finance: Trends and Issues <i>Arthur M. Hauptman</i> | 83 |
| 7 For-Profit Higher Education: U.S. Tendencies, International Echoes <i>Kevin Kinser and Daniel C. Levy</i> | 107 |
| 8 Globalization and the University: Realities in an Unequal World <i>Philip G. Altbach</i> | 121 |

vi *Table of Contents*

| | | |
|----|---|-----|
| 9 | Governance and Administration: Organizational and Structural Trends <i>Barbara Sporn</i> | 141 |
| 10 | History of Universities <i>Harold Perkin</i> | 159 |
| 11 | Internationalization: Concepts, Complexities and Challenges <i>Jane Knight</i> | 207 |
| 12 | Higher Education Management: Challenges and Strategies <i>George Keller</i> | 229 |
| 13 | Reflections on the Transition from Elite to Mass to Universal Access: Forms and Phases of Higher Education in Modern Societies since WWII <i>Martin Trow</i> | 243 |
| 14 | The Private Fit in the Higher Education Landscape <i>Daniel C. Levy</i> | 281 |
| 15 | Beyond Private Gain: The Public Benefits of Higher Education <i>David E. Bloom, Matthew Hartley, and Henry Rosovsky</i> | 293 |
| 16 | Research and Scholarship <i>Grant Harman</i> | 309 |
| 17 | Student Politics: Activism and Culture <i>Philip G. Altbach</i> | 329 |
| 18 | Teaching and Learning in Higher Education <i>James J. F. Forest</i> | 347 |
| 19 | Rhetoric or Reality? Technology in Borderless Higher Education <i>Svava Bjarnason</i> | 377 |
| | About the Editors | 393 |
| | About the Contributors | 395 |

PART TWO: REGIONS AND COUNTRIES

| | |
|-----------------------|----|
| Preface to Volume Two | xi |
|-----------------------|----|

SECTION 1

REGIONAL PERSPECTIVES

| | | |
|----|---|-----|
| 20 | Higher Education in the Arab World <i>Linda Herrera</i> | 409 |
| 21 | Higher Education in Central and Eastern Europe <i>Peter Scott</i> | 423 |
| 22 | Higher Education in Developing Countries <i>David E. Bloom and Henry Rosovsky</i> | 443 |
| 23 | European Integration in Higher Education: The Bologna Process Towards a European Higher Education Area <i>Hans de Wit</i> | 461 |
| 24 | Higher Education in French-Speaking Sub-Saharan Africa <i>Juma Shabani</i> | 483 |
| 25 | Latin American University Transformation of the 1990s: Altered Identities? <i>Marcela Mollis</i> | 503 |
| 26 | Higher Education in Scandinavia <i>Evanthia Kalpazidou Schmidt</i> | 517 |
| 27 | Higher Education in Southeast Asia in the Era of Globalization <i>Molly N. N. Lee</i> | 539 |
| 28 | Higher Education in Sub-Saharan Africa <i>Damtew Teferra</i> | 557 |

SECTION 2

NATIONAL PERSPECTIVES

| | | |
|----|--|-----|
| 29 | Argentina <i>Ana M. García de Fanelli</i> | 573 |
| 30 | Australia <i>Simon Marginson</i> | 587 |

| | | |
|------|---|-----|
| viii | <i>Table of Contents</i> | |
| 31 | Brazil <i>Simon Schwartzman</i> | 613 |
| 32 | Canada <i>Glen A. Jones</i> | 627 |
| 33 | Chile <i>José Joaquín Brunner and Anthony Tillet</i> | 647 |
| 34 | China <i>Ruth Hayhoe and Qiang Zha</i> | 667 |
| 35 | Egypt <i>Iman Farag</i> | 693 |
| 36 | France <i>Christine Musselin</i> | 711 |
| 37 | Germany <i>Barbara M. Kehm</i> | 729 |
| 38 | India <i>N. Jayaram</i> | 747 |
| 39 | Indonesia <i>M. K. Tadjudin</i> | 769 |
| 40 | Iran <i>Abbas Bazargan</i> | 781 |
| 41 | Israel <i>Yaacov Iram</i> | 793 |
| 42 | Italy <i>Roberto Moscati</i> | 811 |
| 43 | Japan <i>Akiyoshi Yonezawa</i> | 829 |
| 44 | Kenya <i>Charles K. Ngome</i> | 839 |
| 45 | Korea <i>Namgi Park</i> | 867 |

| | | |
|----|---|------|
| 46 | Mexico <i>Hugo Casanova-Cardiel</i> | 881 |
| 47 | The Netherlands <i>Egbert de Weert</i> | 899 |
| 48 | Nigeria <i>Munzali Jibril</i> | 919 |
| 49 | Poland <i>Wojciech Duczmal</i> | 935 |
| 50 | Russia <i>Anna Smolentseva</i> | 951 |
| 51 | South Africa <i>Chika Trevor Schoole</i> | 971 |
| 52 | Spain <i>José-Ginés Mora</i> | 993 |
| 53 | Turkey <i>Hasan Simsek</i> | 1003 |
| 54 | United Kingdom <i>Michael Shattock</i> | 1019 |
| 55 | United States <i>Peter D. Eckel and Jacqueline E. King</i> | 1035 |
| | About the Editors | 1055 |
| | About the Contributors | 1057 |
| | Index | 1069 |

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James J. F. Forest, West Point, NY
Philip G. Altbach, Boston College, MA
June 1, 2005

INTRODUCTION

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Higher education is an increasingly complex phenomenon throughout the world. *The International Handbook of Higher Education* provides an in-depth analysis of the scope of postsecondary education worldwide, combining a series of overarching comparative essays with analytic chapters focusing on key countries and regions. We have carefully selected the key topics requiring broad analysis. In these chapters, a comparative approach permits an understanding of multifaceted subjects from a range of perspectives. The regional and country chapters provide appropriate background as well as current analysis of realities and trends. In all chapters, the emphasis is analytic depth rather than description. This handbook is not an encyclopedia—it provides deeper consideration of central issues and countries rather than more superficial but broader coverage. We are convinced that this approach provides a more sophisticated understanding of the complex reality of contemporary higher education.

Key trends emerge in this comparative view, including: (1) worldwide growth in demand and (in most countries) the provision of access to higher education; (2) diversification and privatization of higher education institutions; (3) increasing global interaction and interconnectedness; and (4) the growing use of technology. The first of these has played the most prominent role in shaping higher education over the last half century. Demand for access to higher education is inevitable, as a postsecondary degree or certificate is seen as a key to social and economic success in many corners of the globe. However, from both a financial and quality control perspective, governments must carefully monitor the provision of access to colleges and universities.

Responsibility for establishing university admissions policies varies across countries, from national direction to institutional autonomy and open admissions policies. Over the past several decades, governmental involvement in controlling access to higher education has shifted from the former toward the latter. Years ago, it was common for a number of national governments to play a prominent role in formulating policies regarding access to higher education—often maintaining a limit on the number of students to be admitted and direct involvement in the selection procedure of those enrolled. A few even regulated enrollments in private universities. Now such centralized control is unusual—individual institutions are free to determine their own selection and enrollment policies. Policymakers may provide certain guidelines or general criteria,

but universities are free to decide for themselves how to fill their enrollment capacity, and many strive to ensure that students are admitted to postsecondary study who are adequately prepared and likely to succeed in their studies.

This shift in governmental approaches to access has dramatic implications for the students enrolling in institutions of higher education. In the past, universities—largely in the public sector—served an elite clientele. A few vocational institutions and teachers colleges provided practical training. A small proportion of the relevant age group attended these institutions in most countries. Now higher education most everywhere consists of complex and diversified academic systems serving ever-growing segments of the population. As Martin Trow points out in his chapter in Volume I, much of the world has moved from elite access to postsecondary education to mass access, and in a growing number of countries, to universal access.

The United States was the first country to build a mass higher education system, and for this reason, it has been a model for other countries to examine as they moved from elite to mass higher education access. Now, in all but a few countries, mass access is a reality, and the central challenge is coping with massification. While much of the industrialized world now enrolls more than 30% of the relevant age group, developing countries face massive growth in the coming decades. For countries like China and India, the numbers involved with mass higher education systems are quite large—indeed, China has moved ahead of the United States as the largest academic system in the world, although it still enrolls less than 20% of the age cohort. Some of the poorer developing countries—such as many in sub-Saharan Africa and such Asian nations as Cambodia and Burma—still enroll only a small proportion of the population, and they will face the full brunt of expansion.

As enrollments have grown throughout much of the world, academic systems have become complex and differentiated. The traditional universities at the top and small vocational schools below have been joined by large relatively unselective mid-ranking or lower-ranking universities and other kinds of institutions offering traditional academic programs. The range of vocationally oriented schools has also expanded significantly. Entirely new kinds of institutions, such as “open universities,” were established to provide avenues of access to higher education. Of the ten largest open universities, nine are in developing countries. New regional initiatives in distance education are also a relatively new phenomenon—for example, the Arab Open University, with its headquarters in Kuwait and branches in Bahrain, Egypt, Lebanon, Jordan and Saudi Arabia.

The private sector, in many countries, has expanded dramatically over the past several decades. Private colleges and universities have grown in size and importance in parts of the world where the public sector traditionally dominated, such as in Latin America and Eastern Europe. Today, a number of Latin American countries—including Brazil and Colombia—find more than half their postsecondary enrollments in private institutions. Another inevitable result of massification has been a decline in the overall standards and quality of higher education.

In addition to the growth of the private sector, public support for higher education has declined substantially. The idea that higher education should be seen as a “private good” (to be paid for by those who will directly benefit from it) rather than a “public good”

(benefiting the entire society, and therefore a responsibility of society) has currency in most of the world. Emanating from the World Bank and other agencies, the “private good” economic argument is powerful everywhere and is causing shifts in patterns of funding higher education. As both the level of financial support for higher education and the average qualification of entering students dropped, a decline in quality was inevitable. At the beginning of the 21st century, academic systems are coping with these, and other, pressures.

As massification and its financial implications were the hallmarks of higher education in the second half of the 20th century worldwide, globalization and technology will surely be the central issues of the first part of the 21st century. If by globalization we mean the increasing links among higher education worldwide and the pressures that face academe worldwide, we can already see significant changes. Ideas have unprecedented global salience. Global links among academic institutions are becoming increasingly important. Twinning arrangements among academic institutions in different countries, offshore branch campuses, and others are commonplace. Globalization has also encouraged the worldwide spread of an assessment and quality assurance movement in higher education (as well as other trends in areas of governance and administration), and introduced new challenges and opportunities for members of the academic profession.

An increasingly globalized marketplace has also created enormous demand for international competencies throughout the workforce, leading to public policies meant to encourage the internationalization of a nation’s educational programs and scientific research. Foreign study and exchange opportunities are available like never before, with millions of foreign students taking advantage of these opportunities annually—the majority of them traveling to study in North America and Europe. Several regional policy initiatives are contributing to regional and international student and faculty mobility, including the ERASMUS and SOCRATES programs in Europe, Mercosur in the Americas, and ASEAN and APEC in the Asian and Pacific regions. And globalization has also led to the rising international popularity of such degrees as the master of business administration (especially when taught in the English language), which has implications for curricular reforms in many corners of the globe.

Technology is a second key trend shaping the higher education landscape of the 21st century. Specifically, the Internet offers an array of information resources previously only available in a few university libraries and laboratories, with significant implications for productive research collaborations between faculty across borders. In addition, immediate access to the perspectives and cultural values of other teachers and learners around the world has been dramatically enlarged and enriched. In short, the Internet has transformed the communication of knowledge and research, and will have implications for teaching as well.

The rise of distance education brings together technological innovation and globalization in a new phenomenon, now in its early stage, that will be of increasing importance throughout the foreseeable future. Distance education institutions have the capability of delivering educational programs across international boundaries, and are increasingly incorporating technology in doing so. Prominent examples include the African Virtual University; the Syrian Virtual University; Germany’s *FernUniversität*;

Japan's University of the Air; Canada's Athabasca University; and others. Distance education is particularly growing throughout Asia, with examples such as the Indira Gandhi National Open University; over a dozen new digital universities in Korea; and nearly a hundred online colleges established by conventional universities in China.

Overall, the evolution of technology has changed the landscape of higher education and, by implication, the social and economic benefits a country can derive from investments in distance education initiatives. Given that nearly one fifth of the world's population is functionally illiterate, the promise of expanding access to higher education via technology is understandably popular in many corners. In particular, most of the largest distance education universities are in developing countries, including India, China, Thailand, Turkey, and others—although their curricular offerings are largely produced locally. Clearly, critical challenges exist—particularly for rural communities, where the infrastructure necessary for providing distance education is severely limited. The lack of Internet connectivity, phone service, or even reliable electricity severely undermines the development of viable distance education programs in these regions. However, the combination of globalization and distance education will play a key role in framing the worldwide evolution of higher education throughout the foreseeable future.

In sum, this comparative view of higher education trends and challenges offers an important set of insights that should inform policy and research in many academic disciplines. It is virtually impossible to overestimate how important the advancement of learning can be in improving the human condition. The discussion and analysis presented in the chapters of *The International Handbook of Higher Education* thus provide a useful contribution to the worldwide knowledge network by capturing the best thinking on the historical and future evolution of the modern university. In a world fraught with uncertainty and turmoil, the university stands as a monument to our human potential and the hope of meeting today's challenges with increasing sophistication and success.

THE ACADEMIC PROFESSION

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In observing the various sectors of production and service in our modern societies and the various institutions in charge, we note that the higher education and research sector is peculiar in several respects. Higher education can be characterized by a relatively open set of multiple goals; by loose mechanisms of coercion, control and steering from above; by a high degree of fragmentation; and by a strong influence of the principal workers—the academic professionals—on the determination of goals, on the management and administration of institutions, and on the daily routines of work. In addition, if we look at the interrelationships between different sectors of production and services, we might consider the academic profession to be one of the most influential in shaping other sectors as well. This is, for example, underscored by British social historian Harold Perkin's description of the academic profession as the "key profession . . . the profession that educates the other professions" (Perkin, 1969).

Public debate and scholarly reflection on the academic profession is, however, not characterized by contentment and serenity. Some have argued that the concept of a single academic profession might be an illusion, that the academic profession can hardly cope with the tensions it has to live with, and that the academic profession is endangered. Over the last two decades, it has become widely assumed that the academic profession seems to feel increasingly entrenched, and the available literature suggests that the sense of crisis has grown (cf. Altbach, 2000; Enders, 2001a; Farnham, 1999; Kogan, Moses, & El-Khawas, 1994). The concern about the academic profession is obviously entangled with the massification of higher education and the long-standing secular trend towards a "knowledge" society, a society of "lifelong learning", or an "information" society. Whatever the short-hand title might be, the changing nature and role of knowledge in society seem to be accompanied by changes in higher education (and its interrelationship with society) that are a mixed blessing to the academic profession (Enders & Teichler, 1997). It cannot be denied as well that the failures of the academic profession to recognize the implications of these developments have equally contributed to the interesting times amidst which many faculty find themselves today.

The Rise of the Modern University and the Changing Academic Profession

In the intellectual landscape, universities are a distinctive feature but their skylines are far from being uniform. Higher education systems, missions, structures, and institutions differ according to their historical development and traditional features, current characteristics, and efforts to deal with recent trends and respond to new challenges. The same diversity holds true for the academic profession as well. Part of the many faces of the academic profession can be understood by the historical contexts which formed them and the more recent forces which continue to shape the profession.

The university is a European invention, and it started with the idea of a single community—a community of masters and students. The 12th century saw the birth of the European university in Bologna, Salerno, and Paris. By 1300, 16 universities were already established in England, France, Italy, and Spain. Within these institutions, academics formed guild-like associations of medieval masters with a growing feeling of shared beliefs and mutuality across institutions; this can be seen as the birth of the academic estate. Nearly 80 universities were in existence by the end of the Middle Ages, and their growth in numbers and size was partly stimulated by the Reformation and counter-Reformation movements as well as the growing number of students who joined the gentry and nobility. In the 17th and 18th centuries, academics formed basically a teaching estate, becoming partly involved in the social reproduction and control of the upper social strata.

The impetus for reform and the birth of the modern university came from Scotland in the 18th century and from Germany in the 19th century (Ben-David, 1977). As part of the Enlightenment, Scottish scholars gave leeway to the establishment of new disciplines, accompanied by a growing specialization and departmentalization of knowledge—a process that has continued ever since and has had a defining impact on the many faces of the academic profession. University reform in Germany led to the concept of academic freedom, encompassing the freedom to teach and the freedom to learn, as well as the ideal of “pure knowledge” and “science” (*wissenschaft* as a concept for all fields of study and academic specializations) (Ringer, 1969). The creation of a teaching-research nexus gave the professionalization project in academe an important push. It provided a kind of mutual legitimacy base for basic research and academic teaching that were supposed to benefit from each other. At the same time, tensions due to an overload of functions were embedded in the emergence of the modern university as well as in the rise of the modern academic profession (Schimank & Winnes, 2000).

Such concepts and practices soon became influential in other European countries as well as in the United States. Students and scholars who learned about the German university brought their ideals and practices to other places (Rothblatt & Wittrock, 1993). The burgeoning American university blended certain elements of the Humboldtian research university with certain elements of the Oxbridge tradition of undergraduate teaching. The ideas implemented in the making of the Johns Hopkins University were, for example, a most fruitful misunderstanding of the model of Prussia’s universities. It brought the creation of research institutes and centers, the graduate school, the reform of professional education, the department structure, and the rise of university presses and journals. Later on, undergraduate teaching became re-emphasized by the creation of

residence halls, student unions, undergraduate libraries and counseling centers (Moray, 1992). Equally important, the American university incorporated from its beginning the idea that faculty should to some extent use their specialized expertise in the service of the larger public and the citizens, exemplified through community service, contract work and consulting (Trow, 1999).

No doubt, the American university nowadays serves as the world's leading ideal. But other traditions still play a certain role, namely in Europe and other parts of the world that were influenced by European concepts and traditions of higher education and research. In some parts of the world, European models were implemented during the colonial periods, and in many cases the languages of the colonial powers were introduced for education and research as well. After independence, many of these countries kept certain characteristics of their colonial higher education systems and the language imposed by colonial powers (Altbach, 2002). Even in countries like Ethiopia, Thailand or Japan that were not subject to colonization, European models played a prominent role in the establishment of the higher education system.

In many industrial societies after World War II, the coincidence of various phenomena had contributed to a political climate that allowed for a substantial increase in the expenses for higher education and research: namely, the belief that so-called "blue-sky research" serves important societal needs for scientific and technological innovation; the boom of the economics of education—i.e., the belief that substantial educational investment is needed in order to ensure economic growth; the readiness to reduce inequality of opportunities in education; and the radical student protests of the late 1960s.

Yet in retrospect, this period might be viewed as a time in which the dominant political forces in industrial societies considered higher education as a relevant sector for the future of society. In these days, a consensus emerged among faculty in modern universities about what it means to be a professional in the higher academic strata: research forms the more prominent focus of academic work, and knowledge is pursued for its own sake; the search for the latest frontiers of truth is best organized in academic-disciplinary units; reputation is established in national and international peer groups of scholars; and quality is assured by peer review and academic freedom (Gappa, 2001). Recent experience in academe shows that these defining notions of the academic profession are not permanent, but are likely to be contested in various ways; further, several contemporary observers point to an academic profession that seems to have lost some of its political standing and bargaining power within society.

The massification of higher education has led to a growth in faculty numbers, sometimes in a relatively uncontrolled way (in certain periods) that brought questions of quality into the profession. At the same time, privileges that were characteristic for members of the academic profession in an elite higher education system came increasingly under pressure in a massified and more diversifying system (Trow, 1972). More and more faculty face the fact that the "gold standards" that were once characteristic for the few are not to be taken for granted for the many. Growth and diversification of higher education have meant growth and diversification of the academic profession as well. In a global perspective, the academic profession in the 21st century is mainly a teaching profession and the main role of research is its contribution to the instruction of a growing and diversifying body of students.

The fiscal constraints on higher education that have hit many of the rich as well as the poor countries around the world have had an impact on the academic profession as well. The end of the dream of everlasting prosperity in higher education and research has meant a dramatic change for many who had grown accustomed to working in the mature growth industry of academe. With resources either stable or declining, change is expected to occur by substitution and concentration. This development affects the overall size and profile of the academic profession as well as matters such as faculty workload and use of time, productivity and output. Academics are increasingly asked to take care of their own funding, and the more successful they are in that effort the more they spend their time and energy beyond the core activities of teaching and research. Often, adequate funding is more difficult to find from diversifying sources—all of them with their specific stake in the expected outcomes and products of the academic enterprise. A further development concerns the disconnection of funding for research and teaching. While resources for teaching have been reduced on a per-student basis, research funding is more subject to market-like influences. And transition from bureaucratic control to market forces puts difficult choices on the agenda—what to keep and what to discard from traditional beliefs, norms and practices, as well as what to adopt and modify from the recent trends of modernization (Chen, 2002).

The redefinition of traditional tasks and the inclusion of new tasks for universities and other higher education providers are not easily integrated into the work roles and practices of the existing academic profession. The search for societal and economic relevance in teaching and research challenges traditional norms and rewards more exclusively based on principles of cognitive rationality and academic excellence. Technology transfer from universities to industry and other users of research results, such as the military or the health care system, was one of the demands that arose during the 1960s and has remained since then. Priority setting to promote technologically promising scientific developments, attempts to forecast scientific breakthroughs with a strong application potential, and a general emphasis on “relevance” and “strategic research” are familiar phenomena by now (Irvine & Martin, 1984; Rip, 2004). More and more academics face a situation where they are kindly invited to move from a bounded world of academe to a project of academic identity and work, living in multiple worlds with blurring boundaries and which encompasses a growing emphasis on the quasi-entrepreneurial role of academics (Henkel, 2001; Owen-Smith & Powell, 2001).

In teaching, universities are nowadays not only expected to continue considering fair access according to socio-biographic background, while facilitating the supply of a highly trained workforce. They are also expected to further diversify structurally and, in terms of conditions on study and courses provided, devote greater attention to generic competencies and social skills, reshape their function for a society of lifelong learning, prepare students for a growing internationalization, and provide practical learning experiences beyond classroom teaching. In other words, universities are expected to move from a “front end” model to a “life span” model of education and training—to move from curricula to learning pathways (Jongbloed, 2002).

Information and communication technologies allow for new ways and approaches in the use of pedagogical methods and tools, the design of learning environments and

courseware, and the interaction with and between students. All this raises new questions for accreditation and quality control, the ownership of intellectual property and the commercialization of teaching and learning packages, and the role of faculty in the teaching-learning cycle (Trow, 1997). Equally important, the information technology revolution is speeding up scientific research and communication worldwide, sharpening the need for up-to-date information as well as the search for the latest competitive advantage in a globalizing scientific working environment. All this is still in its early stages and will increase its impact on higher education and the academic profession everywhere. In the developing world, access to such resources and exchange channels is relatively recent, and for many academics is still sporadic. The issue of access is central here if new technologies are going to be used to help overcome traditional isolation instead of increasing the peripherality of academics in the developing world (Altbach, 2002).

A Profession of Professions

Faculty are the heart and soul of higher education and research. But they are not one heart and one soul. Of course, the notion of the collegium, the guild or estate—united in a common purpose and belief—has deep roots. But the idea that there is a single academic profession becomes more and more contested. Four important axes of differentiation are frequently named in this context: the discipline or academic specialty, the sectoral or institutional dividing line, the internal ranking system, and national differences—all of which may affect structures, practices and cultures in academe (Clark, 1987; Fulton, 1996; Teichler, 1996).

As far as disciplines are concerned, they certainly form the most frequently addressed dividing line within the academic profession. Traditionally, job roles in academe have been of a rather holistic kind encompassing teaching and research, management and service, although with different emphasis, while the division of work within the profession has taken place mainly via increasing specialization of fields of knowledge. Observers are impressed by the internal dynamics that subdivide the academic profession into “tribes and territories” (Becher, 1989)—not only the substance of inquiry differs, but the self-concept as an academic, the role research and teaching play overall and in daily work, the modes of communication within institutions, and the interaction with the external world. The famous notion of academe as a series of individual faculty held together by a common grievance over parking (Kerr, 1982) may be an exaggeration when it comes to the individual faculty. Yet, it characterizes appropriately the disciplinary fragmentation within academe, stretching over both values and practices. Quite recent developments point to the establishment of new fields of inter-disciplinary inquiry that challenge traditional fault lines and ask for new forms of interaction—for example, in biotechnology, nanotechnology, or the cognitive sciences. However, such processes of partial integration simultaneously create new dynamics of differentiation in academe.

It was probably the analysis of the American higher education system that first and most impressively illuminated the sectoral and institutional diversity within academe (Jencks & Reisman, 1968; Light, 1974; Parsons & Platt, 1968). This diversity is

expressed in structural conditions and institutional missions as well as in academic practices. One might categorize such sectors or institutions according to their names prevalent in different national contexts, like doctoral research universities, *Fachhochschulen*, *grandes écoles*, or 4-year colleges. There is also room for debate over how far institutional diversity forms an unavoidable response to the massification of higher education, and to what extent processes of institutional differentiation are due to governmental regulation and prescription and/or to institutional responses to market forces and pressures (Scott, 1995). Traditionally, diversity basically means a division of work as regards an institution's prime functions in either teaching or research, or a combination of both through forms of governance and funding that work as incentives and constraints to "academic drift" and "professional drift." This points the finger at the academics and their working conditions that are one of the most common means of specifying sectoral or institutional missions by enabling or limiting their time and resources for research and teaching. However, recent forces—such as globalization and regionalization—encourage much finer-grain and flexible differentiations of institutions than in the age of higher education "types," and these forces may well lead to a growing volatility and fuzziness within and across systems (Meek, Goedegebuure, Kivinen, & Rinne, 1996; Nowotny, Scott, & Gibbons, 2001).

The two dimensions just discussed—discipline and sector—are the two classic axes in the literature on the academic profession. Another important role is played by the academic ranking system, the career structures and conditions of work. There are still elements of a collegium that implies partnership on terms of equality of status and participation. But while we are all equal, some are certainly more equal than others. With very few exceptions, the collegiate model is nowadays replaced by a hierarchy of appointments with different status, rewards and power. And in academe, the younger staff spend quite a long period of time being trained and evaluated before they proceed to the status of a full professional. Therefore, the status and prestige of a staff member has to be viewed as another key element of heterogeneity within the academic profession. In some systems—notably those based on or influenced by the German tradition—the full professor was traditionally perceived as the only true member of the profession, while other ranks represent assistantships and apprentices for these positions. The Anglo-Saxon tradition—with its American and British variations—has been less exclusive and hierarchical in its concept of membership in the academic profession (Enders, 2001b; Neave & Rhoades, 1987). But differentiated career ladders and elite groups of staff were certainly not unknown to them, and the rise of untenured staff, teaching only staff, or research project personnel has created new fault lines within academe as well (Gappa, 2001).

Finally, the academic profession varies systematically according to countries (Clark, 1983). Different conceptual traditions still play a certain role; for example, the Humboldtian tradition of a strong teaching-research nexus and a strong link of the university and the academic profession to the state; the Napoleonic tradition, with its emphasis on professional training in universities while the training of the elites and research tend to be organized in separate institutions; and the Oxbridge tradition, for which John Henry Cardinal Newman emphasized the role of the university to raise the intellectual tone of society, and to cultivate the public mind and national taste as well as a gentlemen

culture among the coming elite (Newman, 1852). Different national laws and regulations have had an impact on the shape and practices of the academic profession, and one must take into account different social and economic conditions in different regions and countries around the world. There are some arguments that all this is going to be washed away by the forces of globalization and inter-connectedness to which academe is itself a major contributor. But it is also possible to construct a counter-hypothesis in which the national varieties pretend to play a role and will influence different responses to such homogenizing forces.

Autonomy and Accountability

However different in tradition and outlook, some basic features (as well as recent challenges) may be identified, while recognizing the existence of the “academic professions” held together by shared but contested beliefs. Academics have traditionally valued their autonomy and academic freedom as among the primary values of the profession. In the European tradition, academic freedom was mainly defined as the freedom of teaching and research—the freedom of academics to choose their topics, concepts, methods and sources—and the right to contribute to their academic communities according to the standards and rules of the academic world. This definition of academic freedom is mostly concerned with professional autonomy within the university and the wider academic community. In the American tradition, this idea of academic freedom is supplemented by a second sphere that addresses the civil freedoms of academics, their political freedom and right to speak and write outside the area of academic expertise (Shils, 1991).

Academic freedom has never been uncontested, and over the centuries the challenges to professional autonomy have come from many sources. In the early period, church authorities were often inclined to ensure doctrinal loyalty of academics, and faculty became embroiled in the religious struggles of their respective period (Rashdall, 1895). In the past and present, dictatorial and totalitarian political systems have restricted teaching and research. In such environments, publications may be closely monitored and political authorities may try to push academics to join them in the political debate, while punishing those who resist or counteract civil authorities and their ideologies.

Given the current realities, it does not come as a surprise that academic freedom is nowadays not very high on the priority list in developing countries. Colonial powers and postcolonial governments have continually tended to stress bureaucratic control and political oversight over higher education and their academics. Universities may be highly politicized places, and this has an impact on academic work as well. And certain institutionalized privileges for academics in the North of our globe—such as tenure, being a member of the civil service or being protected by a certain institutional environment—are not taken for granted in the South (Altbach, 2002).

At the same time, more and more faculty around the globe realize that academic freedom does not necessarily include a protection from social and economic trends affecting the rest of society. Growing interests in strengthening the accountability and responsiveness of higher education to society form part and parcel of the realities of 21st century academe everywhere. As traditional authority is weakened and trust in

traditional elites undermined, more formal and open accounts and justifications have to be made to the variety of bodies which claim the right to judge the performance of institutions and professionals (Neave, 1998; Trow, 1996). Again, the approaches may differ but the overall picture is one of a profession under strain. In some countries, public debate tends to draw a caricature of the *homo academicus* as the “lazy professor” who has to be kept at work by a management of short-breath incentives and visible sanctions. In another variation, the academic tends to be seen as a *homo economicus* who can easily be steered by a cost-centered management that is locally shaping rules, regulations and instruments for efficient work and output. A more sophisticated version emphasizes the internal differentiation of academic staff and the role of institutional leadership as soft supervisors aiming to design status and tasks of academics according to their strength and weaknesses. In any case, there is diminishing trust in the self-steering capacities of academics as long-standing and deeply socialized professionals who are best let alone and only symbolically represented by institutional and governmental leadership (Boer, 2002; Trow, 1996). Governments have tried (and still try) to link measures of “outputs” more closely to funding, and this linkage seems to require assessments of the amount and quality of what is achieved by their higher education organizations and their professionals. Accountability means that trust is no longer given but has to be earned, again and again. It makes a huge difference if someone who attacks you has to show up with evidence that you are untrustworthy, or if you have to show up with evidence that there is no need to attack you because you are trustworthy. This also means that there is a certain correlation between accountability and power: those who define the processes and criteria for accountability measurements will have pre-defined performance and success to a certain extent. The struggle around the setting for evaluations and quality assessments, as well as their external and internal use, has thus developed into one of the main arenas of ongoing power games within and around higher education (Morley, 2003).

A related development points to the recognition that the growth of higher education systems, both in size and complexity, strengthens the need for granting greater autonomy to their universities and other higher education providers, along with greater management of work processes and outputs. This basically means that institutional autonomy and academic freedom—frequently perceived as being more or less identical—differentiate from each other. Such developments are not necessarily detrimental for higher education and the academic profession. But they have an impact on some of the major features traditionally assigned to the academic profession and the nature of the academic work role. And for many academics socialized under the traditional regime, it will be hard to accept that autonomy goes increasingly together with accountability.

Employment and Working Conditions

The academic profession has frequently been characterized by its high degree of job satisfaction, and academic staff have been thought of as well rewarded by extrinsic and intrinsic aspects of their profession. Although not as well remunerated as comparable employees outside higher education, they were considered well rewarded by their status and income as well as by their social position within society. Furthermore, the intrinsic

rewards of the job role—e.g., a high degree of job autonomy and freedom in the use of time, a low degree of job prescription and control, the possibility to do challenging and interesting work, the satisfaction with the content of one's work and the reputation among scholars—might be even more important than employment or pay. But it is generally assumed that external changes in the conditions of service as well as the growing differentiation of status groups within the profession might have changed the picture.

Traditionally, we might differentiate two ideal types of staff structure: the chair model and the department-college model (Neave & Rhoades, 1987). The chair model—in its Humboldtian and Napoleonic variations—has been characterized by a relatively sharp contrast between the traditional professorial core of the profession holding tenured positions as chairholders and the largely untenured class of junior staff aiming to reach professorial positions through a relatively long period of two or three career stages. Under these conditions, appointment to a professoriate is seen as a big jump in status and prestige, independence and resources. In contrast, the department-college model traditionally forms a more collegial than individual based organization of the basic units of academe. Academic staff from lower ranks to (full) professor are generally supposed to serve the same basic functions, and status is dependent on publicly acknowledged qualifications and expertise. The probationary period of non-tenured staff is shorter, admission into regular staff structure of tenured positions comes earlier, and further career steps within academe are more regularly organized—for example, in the tenure-track model of U.S. universities or the tradition of (senior) lecturers, readers and professors in the Oxbridge model (Halsey, 1992). Today, this evolution of academic roles and careers has become more mixed-up for a variety of reasons, and may well be at a critical turning point.

One of the reasons is the re-interpretation of regular staff structures. While, for example, staff structure in Germany might still be characterized most strongly in terms of the chair-contract-tract model, attempts are made to strengthen the positioning and independence of postdoctoral junior staff that are influenced by the U.S. tenure-track model. In other European countries, such as Austria, France and Italy, the largely untenured assistants have gained (to some extent) permanent contracts. In the U.K., it seems that expectations are growing that middle rank staff should strive for a professoriate and that non-promotion tends to be regarded as a failure (Enders, 2001a).

A change likely to have a much more important impact on the profession is the growing number of academic staff that are excluded from regular staff structures—whatever their character might be. Expansion as well as policy reorganization of resources and personnel has changed non-professorial posts. The rise of a class of non-professorial teachers, in response to growing student numbers as well as the rise of a group of externally financed contracted research staff, are more or less international phenomena. They tend to embed conflicting values and expectations (regarding the functions of higher education and its staff) directly into academe (Clark, 1997). Continuous and satisfying employment, as well as personal development and encouragement for a regular academic career, have become more insecure for a growing number of staff. For example, the majority of faculty members in the United States no longer occupy tenured positions, and about two-thirds of the academic staff are either full-time faculty who are

not eligible for tenure, or part-time faculty. In Latin America, relatively few academics are working as full-time university employees, and many faculty members work either in several academic positions at more than one institution or teach part-time at a university alongside their primary external work obligations. Faculty members working on an hourly basis with meager salaries or without any payment are not unusual, with many of them also working towards their master's or Ph.D. degrees (Balbachevsky & Quinteiro, 2002; Marquis, 2002). In countries like Poland and Russia, many full-time employees receive relatively low salaries and seek supplementary part-time contracts that are needed to gain a reasonable income. Certainly, a reasonable core of master's and doctoral degrees among a full-time tenured faculty is increasingly perceived as the best way to assure institutional quality and a good position in the growing global competition. But external conditions in many cases do not allow for a quick upgrading of academic working conditions. And conditions within the institutions (together with traditional regimes and privileges) are likely to be an obstacle for necessary reform as well.

In a number of countries, the rise of private institutions tends to contribute to these trends in academic appointment. Private institutions may compete with public universities for students but they frequently live in a somewhat strange kind of symbioses with the public sector in terms of their academic staff. Private institutions generally recruit their academic personnel from public universities and offer little full-time or long-term contracts, but operate on the contract system for faculty appointments. Short-term contracts, part-time teachers paid by the hour, and lack of social benefits characterize the employment conditions of many faculty in these institutions.

A third observation is that the meanings of tenure have changed in some countries. In the Netherlands, Sweden, and the United Kingdom, "tenure" in its traditional strict meaning (that permanent academic staff can only be dismissed in very exceptional cases) has come to an end. In these countries, tenured staff can now be dismissed in case of redundancy, for example, when their department or institute is closed down. Up to now, this seems to have had little impact on the realities of tenure, but it is, at least, a significant symbolic loss for the academic professions in the respective countries. Finland has introduced temporary positions for professors, and in Austria positions for professors or senior staff under contract have become an issue. In other countries, debates continue about the future role of tenure, which could lead to a reduction of tenured positions, the introduction of new untenured positions alongside the traditional tenured ones, or the increasingly common practice of voluntary redundancy and early retirement (Enders, 2001a).

Salary levels and other issues related to remuneration have had an impact on the academic profession as well. The academic career was never perceived as a first choice for those who strive primarily for financial rewards, but academic salaries are supposed to put faculty in the middle or upper-middle social strata of society. In general, this still holds true for Australia, Europe and North America, where salaries are higher than in most other parts of the world (except places like Hong Kong, Singapore or some Arabian Gulf states). Across Europe, pay scales for the professorial ranks differ considerably by country. In absolute terms—that is, without taking relative costs of living into account—we can estimate that the highest salaries for the professoriate are

paid in Belgium, Italy and the Netherlands, followed by France, Germany and Ireland. A further analysis of pay differentials in relative terms shows, however, that academic salaries in countries such as Finland, Norway, Sweden, and the United Kingdom are considered to be relatively low or declining. In these countries, dissatisfaction with salaries seems to be most clearly expressed among academic staff who have seen a gradual erosion in academic remuneration over a longer period (Enders & Teichler, 1997). Especially for those disciplines where higher education has to face serious competition with the private labor market, the academic profession has become less attractive when it comes to financial rewards. Prestige of the profession and academic freedom might therefore compensate less for the financial handicap when young people consider an academic career. In the transitional societies of Central and Eastern Europe, academic salaries have clearly not kept up with the costs of living and salaries paid in other sectors with highly qualified manpower. Typically, senior academics must hold other academic and non-academic jobs to earn additional income. Increasingly, graduates from these countries go for doctoral training in Western European countries where they find better conditions. The shortage of supply in domestic doctoral training in some Western European countries—especially in the science and technology fields—requires employees to search more actively for international graduates.

By international comparison, academic salaries in North America and Australia (at least in top-ranking universities) are clearly higher than in Europe. Among other factors—such as the availability of research facilities, terms and conditions of appointment, and international reputation—academic salaries may have stimulated an influx of academic talent from Europe (and especially from the United Kingdom) to North America and Australia. Patterns of migration from the developing South to the industrialized North are evident as well, and poor academic salaries may well contribute to the exodus of the best and most aspiring scholars. As a general rule, academic salaries are very low in developing countries, and professorial remuneration has never been adequate compared to international standards. In some countries, like India and China, other provisions—including housing and other benefits—may offset the low pay to some extent. But adequate payment is still the exception in the developing countries while there are signs of deterioration in other parts of the world. At the same time, there are signs of flexibility and a widening of pay scales for academic staff. While governments and institutions increasingly stimulate their faculty to search for additional income through applied research, additional teaching, and consultancy, faculties' prospects to succeed in such markets are quite differentiated by discipline. And as institutions may have very unequal income streams, they may well pay very different salaries and performance rewards to their academic personnel. Some countries have experienced a gradual process of decentralization from the central ministry level towards lower authorities. The basic idea of this decentralization is that a nationwide state system is no longer appropriate when considering the complexities of higher education. Along with this decentralization, there is in some countries a shift from the status of public employees (civil servants) towards a “private” contractual relationship (private employees). The government sets the general framework of central guidelines, and within such a framework universities are given a high degree of autonomy in financing and staffing matters. This shift has become clear in the Netherlands and quite recently in Austria.

In some countries, a further decentralization on the institutional level exists and ideas have been put forward that each employee will have his or her own individual salary.

Centers and Peripheries: The International Academic Community

There are many variations in higher education and the situation of their academic staff across and within countries. National traditions still play a certain role, and socio-economic circumstances within a given setting have a major impact on the conditions of the professoriate. Yet, there have always been certain international elements within academe as a house of science. Nowadays, global trends play an increasingly important role, and a further push towards the internationalization of higher education is in the making (Sassen, 1996; Scott, 1998). International mobility of students and academic staff has grown, new technologies connect scholarly communities around the world in new ways, and English has become the new lingua franca of the international communities. New regulations concerning comparability of degrees and mutual recognition (like in the European Union) as well as the growth of virtual universities, off-campus providers and internationally active study programs foster the internationalization of teaching and learning (Teichler, 1999; Van der Wende, 2001). There is again an international market for academics, for members of the professoriate as well as for junior staff. Since the Middle Ages, academe has probably never been so much characterized as an international endeavor. Academe contributes to internationalization while it is at the same time affected by increasing internationalism and globalism within and beyond higher education.

It is, however, obvious that the academic world is itself hierarchical and that the research universities in the industrialized North set the standards for the international science system. International mobility is predominantly a South-to-North phenomenon even though some activities are undertaken towards exchange on more equal terms. The vast majority of international students are from low- and middle-income countries, and their destinations are in the richer parts of the world, with the U.S. as a major host country followed by Australia, Canada, the United Kingdom, and Western Europe. The increasing flow of academics around the world is also dominated by a South-to-North pattern, while there is significant movement between the industrialized countries and some South-to-South movement as well.

Economic and political power of a country, its size and geographic location, its dominant culture, the quality of its higher education system, and the role its language plays internationally must be taken into consideration when examining its inclusion or exclusion in the international academic community. In analyzing the results of an international survey on the academic profession, four types of approaches to internationalization could be identified which reflect the different contexts set out above (Boyer, Altbach, & Whitelaw, 1994). One approach could be called "would-be internationalization," where academics want to be partners in international communication and cooperation, but face problems because they tend not to be considered partners on equal terms. This is certainly a central problem for many academics and higher education institutions in developing countries who live at the peripheries of the academic world. A lack of opportunities for involvement in international communities is to some extent visible in parts of Latin America and Central and Eastern Europe

as well. Moreover, many academics spend their professional life at the same institutions where they graduated. There are well-known social and economic reasons for this “institutional inbreeding,” a phenomenon which is unlikely to enhance quality standards and knowledge transfer via cognitive mobility of academic staff. Thus, the international flow of students and staff from these regions certainly contributes to a further upgrading and growing international orientation on their home turf—either due to foreign-returned academics or due to emigrants who retain a certain commitment and support to their home countries. But there is still a long way to overcome inequality of opportunities and dependency on the main centers of academic life even in countries, like China and India, who are considered as the upcoming giants.

Another pattern may be called “must-be internationalization.” In some countries, international communication, cooperation, and recognition are considered indispensable. Except for a very small number of fields of study, one could not imagine an academic being respected in his or her home country unless she or he was internationally visible. In the context of the 13-country study described above, this turned out to be the case especially for Sweden, within the European context, as well as for the Netherlands, and for some places outside Europe, such as Hong Kong and Israel. Academics from such countries find access to international networks without major difficulties, while the national system seems to be perceived as either too small or too limited to strive for national visibility only. Traditional patterns of international orientation within the given societies support a strong international commitment of their faculty as well.

Some countries, such as Germany or—to take an example outside Europe—Japan, could be characterized as “two arena” countries. Academics in many fields can either strive for more national or more international visibility. International cooperation and communication are highly valued by most academics. But within their own academic tradition—the networks within their home scientific community—academic communication and publication in the countries’ language still play a major role and support a certain insularity of their faculty as well.

Finally, the pattern found in the U.S., and to some extent the United Kingdom, may be called “armchair internationalization” or internationalization by importing. For many years, internationalization mainly meant hosting foreign students and academics and considering international research only if it was published in English, often only in international publications in these two countries. The attitudes and practices found in the survey indicate an ambivalent relationship to internationalization. Faculty feel that their system and language are central to the international academic community; the world comes to them, and there is thus little reason for a pro-active international approach. Being at the center of the world academic system places them in a powerful and comfortable position when it comes to international contacts and recognition that supports, however, a remarkably insular approach that will probably only last as long as this dominance is not endangered.

Outlook: The Tunnels at the End of the Light

Today, the academic profession finds itself living in interesting times. While each academic system is embedded into its own national traditions, characteristics and issues, there are some common realities, especially in the realm of growing financial

constraints, processes of differentiation within massified higher education systems and their institutions, demands for accountability and responsiveness to societal needs, and market-like approaches to higher education. Higher education has become a mature service industry, and the academic profession has become a large and complex profession with many faces. Obviously, there are many remaining unanswered questions about the future of the academic profession. We live in times of uncertainties about the future development of higher education and its place in society, and it is therefore not surprising to note that the future of the academic profession seems uncertain as well. Thus, it seems worthwhile to have a final look into possible future scenarios for the academic profession and to provide some spotlights of possible spaces. In doing so, one has to be fully aware that this means condensing and stereotyping current debates to some extent, that other options and mixed variations are thinkable, and that our reflections might be changed in the light of emerging developments in this area.

According to one scenario, one might hope that the emerging knowledge society will strengthen the academic profession in its function as the cutting-edge profession, the profession of the professions, or the key profession. Academe will not only provide the knowledge and skills on which advanced societies depend, but will be the canvas that contains the image of the future society, serving as a kind of role model of rational and disinterested discourse for highly qualified expertise. In this context, the academic profession might be characterized as the axial profession—training, socializing, and selecting other professionals, experts and knowledge workers as well as supplying them with research-based knowledge for their career. This does not, however, mean that the future will be without problems for the academic profession. But universities have been ever changing, always adapting to new circumstances, and it seems reasonable to expect flexible responses to current changes and a continuity of defining traditions, at least for the core of the academic profession.

According to a second view, the academic profession is in danger of losing its key position and leadership role within higher education as well as for further development of society. It is assumed that there is a danger for the academic profession to lose considerable proportions of its privileges and academic guild powers; that traditional notions of social control of quality within the academic profession will be undermined; and that managers, institutions and governments will strengthen their impact on higher education procedures and outputs. Deprofessionalization, bureaucratization, and marginalization are frequently used terms to analyze the negative consequences of these ongoing changes in the external conditions of the academic profession. Furthermore, one fears for a decline in faculty morale, a disillusion among academics about their mission, perceiving themselves as academic workers doing a routine job, no longer strongly committed to the traditional norms and values of the academic profession. From this perspective, a decline of the traditional professoriate and a rundown of the academic calling are reasonable visions of a possible future in which the academic profession is seen mainly as an institutional resource providing more or less effective services.

According to a third view, the university could become a marginal institution, even in the knowledge society, and the academic professions might become, at best, an antiquity where they remain fixated on traditional characteristics and images of their

job role. In this perspective, resistance to change might become the central obstacle in a negative scenario of the future of the academic profession—e.g., a persistence on the idea of an academic community, on traditional academic cultures based on disciplinary division of labor, and on knowledge as a privileged and expert resource. In effect, the needs of “post-industrial societies” might be better served by other institutions than by higher education, and the academic profession might lose its central role as a main contributor to cultural reproduction, the creation of new knowledge and the training of the young generation of those who will run future societies.

Finally, according to a fourth view, the university as an old-style professional and collegial organization will be transformed in the context of a post-modern or post-industrial society, and scenarios of the academic profession as a “role model” or as “academic workers” would probably be regarded to be old-fashioned. In the optimistic version of this perspective, it is rather assumed that the older class, occupation and stratification-based functions of higher education will be replaced by a kind of mediator function between growing expert systems and the individualization of life courses. The main functions of the academic profession will therefore be reinterpreted: teaching might put a growing emphasis on social or even life skills, and academics will function more as interpreters of truth as a relative concept than as legislators of traditional academic cultures and knowledge. Research tends to be organized as a non-hierarchical, pluralistic, trans-disciplinary, fast changing and socially responsive activity. Relativism, intellectual multi-vocalism or multi-professionalism, flexible responsiveness and the erosion of traditional authoritative knowledge traditions are key words in this scenario. Overall, the fate of the academic profession may lie solely in how it responds to changes that impact universities and higher education systems worldwide in the coming years.

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ACCOUNTABILITY AND QUALITY ASSURANCE: NEW ISSUES FOR ACADEMIC INQUIRY

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Over the last two decades, higher education in most countries has been subject to increased public attention and scrutiny. Many governments have imposed structural changes, including changes in institutional role, expansion in the number of institutions, or mergers among certain types of institutions. Others have adopted new financing schemes, often with loans and tuition fees.

Also widespread has been the introduction of accountability policies, in which governments have called on higher education institutions to demonstrate more explicitly their quality and effectiveness. New reporting requirements, performance standards, and evaluation visits by external review teams have been introduced, and new agencies have been established to implement the new forms of monitoring. Today, public agencies responsible for quality assurance and accountability can be found worldwide. More than 80 agencies in over 50 countries have developed formal ties as members of the International Network of Quality Assurance Agencies in Higher Education (INQAAHE), a coordination network designed to help members carry out these new responsibilities.

With the growth of government accountability, new scholarly attention to accountability and quality assurance has also emerged. Many early analyses—for example Linke's work in Australia in the late 1980s and 1990s (Linke, 1995)—were prepared to help inform government planning of new policy initiatives. Other analyses were developed as invited papers for conferences organized by fledging quality assurance agencies. An influential example was the 1993 Copenhagen Conference, sponsored by Denmark's newly established Evaluation Institute.

Much of the early work in that field of study also took a broad conceptual stance, offering analysis of the changing rationales that helped shape the government policies appearing in the late 1980s and early 1990s (Brennan et al., 1996; Kogan, 1986; Moses, 1995; Neave & van Vught, 1991; Pollitt, 1993). Several European policy initiatives drew substantial attention, including the British White Paper of 1991, designed to establish stronger policy direction of higher education. Academics also studied governmental

initiatives to move toward a “steering” philosophy as well as actions by new governments established in Eastern and Central Europe after the fall of the Iron Curtain in 1989 (Neave & van Vught, 1994; Westerheijden, 2001).

The scholarly study of accountability and quality assurance thus gained momentum in the early 1990s, spurred by the actions of governments in a range of countries. This scholarship has experienced a lively, sustained development since that time, following the continuing evolution of government policy on accountability and quality. While it builds on previous scholarship on institutional evaluation and student assessment, it is distinctive for its broad perspective, directed to public policy debate and to problems of policy implementation at a time when quality and accountability agendas were being actively pursued in different country settings and within international organizations.

This chapter reviews major developments in higher education accountability, with attention both to changing policy directions and to the development of scholarship that offered critical perspective. The first section outlines important trends in quality assurance policy and practices over the last two decades, a period when government actions have been prominent. The second section offers an analysis of the scholarly work that has developed to interpret and understand these policy developments.

Some initial guidance is needed regarding definitions of terms, because usage has varied across national contexts. There is growing consensus on terms, but some governments continue to use different definitions. The following definitions indicate how terms are used in this chapter.

Accountability, the broadest term, refers to the general trend of governmentally-initiated efforts to place new obligations on institutions of higher education. Neave (1998) describes this broad, multi-country trend with another term, the “evaluative state.” Governmental policies to address accountability may be directed to institutional performance, broadly defined, or to specific issues such as financial accountability.

Quality assurance refers to governmental policies that call on institutions of higher education to submit to some form of external scrutiny in order to provide public assurances that they offer worthwhile services to society. Public monitoring is the most important element, intended to identify or prevent problems. Some quality assurance policies are mandates, others have been advisory. Most have created new state agencies or independent or quasi-independent bodies to carry out a quality assurance agenda.

Quality improvement, sometimes called quality enhancement, refers to policies that call for systematic efforts to improve academic institutions. The term, found primarily in academic writing and less frequently in government policies, is often contrasted with policies that emphasize institutional compliance with quality assurance directives.

Assessment is another narrow term in the quality assurance context, despite its more general usage as a synonym for evaluation. In most analyses of quality assurance, it refers to relatively technical steps to identify and evaluate the effects of teaching or student learning, and less often, the effects of an academic program or course.

Accreditation is a multi-step process that gives public recognition for an academic institution that meets certain standards, based on a self-assessment and some form of external review. In the United States, with its century-long history of accreditation, the term encompasses reviews of institutions as well as reviews of academic programs of study. Over the last decade, the term accreditation has become increasingly salient

worldwide for its validation role, offering public recognition that an institution of higher education meets external standards for quality. In different country settings, the term has sometimes been given different meanings—for example, to describe an initial governmental approval, or licensing, of an institution.

Performance funding, sometimes called benchmarking, is another term that appears in government policy and academic literature. It most often refers to an analytic mechanism by which institutions compile certain, governmentally-defined statistical indicators of their operations and accomplishments, and then report these statistics to a state agency. Often, an entire set of institutions must report at the same time and on the same measures. In some cases, the government uses these statistics to gauge institutional performance and to allocate funds according to metrics of performance.

Public Policy on Quality Assurance: Ubiquitous and Consequential

Quality assurance rose to prominence in policy discussions about higher education during the late 1980s and early 1990s, with specific timing varying among countries. There were precedents before this period, but the early 1990s witnessed dramatically new departures in many countries. New mandates for quality assurance emerged in such diverse countries as Australia, Argentina, Chile, Denmark, England, France, Hong Kong, Hungary, the Netherlands, Romania and New Zealand, to name just a few.

What caused this new attention to quality assurance? What had changed so that long-standing institutional processes and standards were no longer considered sufficient? While various explanations have been offered for this explosion of policy initiatives, most analysts agree that several external developments played a role. The late 1980s were a time when university-level enrollments were undergoing significant expansion worldwide (UNESCO, 1998; World Bank, 1994). Rising enrollment, and increasing costs to government, created new urgency among policy officials, both to manage rapid growth and to maintain quality while the size and number of institutions grew. Dramatically new approaches to public administration were another factor, as governments in many countries questioned old assumptions about higher education and other sectors long supported by government (Bleiklie, 1998; Kogan, 1986; Pollitt, 1993).

Enrollment growth was but one of the many new pressures that raised quality issues in both advanced and developing countries (El-Khawas, 2002; Salmi, 2002). Most systems of higher education during the last two decades became more competitive, more diverse in their students, less well funded, more efficient as measured by external criteria, and increasingly expected to serve national, regional and local needs. Adaptiveness and entrepreneurialism became buzzwords that marked new expectations for universities in this changed environment (Clark, 1998; Sporn, 1999).

In many countries, higher education was increasingly seen as part of a country's trade policy. Although differing in intensity, most universities and systems of higher education pursued new strategies to strengthen their international linkages during this time (Currie, DeAngelis, de Boer, Huisman, & Lacotte, 2003; Van der Wende, 2001). International competition also heightened the stakes for world-class research, affecting elite institutions throughout the world (de Wit & Knight, 1999). The 1990s also witnessed significant change in Europe, due both to the fall of the Iron Curtain in 1989 and

to far-reaching European Commission policies that increasingly affected higher education. Most Eastern and Central European countries adopted quality assurance mechanisms as part of their post-1989 restructuring (Council of Europe, 1993, 1995). The ERASMUS program and other European Commission initiatives to facilitate mobility among students and professors brought about extensive change in academic programs, both in EU countries and in other European countries working toward integration into the EU (Van der Wende & Westerheijden, 2001).

Quality assurance agencies emerged, or were given new mandates, during this period, with varying rationales, approaches and forms across the world (El-Khawas, DePietro-Jurand, & Holm-Nielsen, 1998; Harmon, 1998). In many countries, these agencies were given broad responsibilities and charged with setting a framework for closer university monitoring. Different mechanisms were established, including licensing restrictions, audits of various kinds, information reporting, and institutional reviews. In some countries, quality assurance agencies had narrow mandates, at least initially. Reviews in the Netherlands, Portugal, and Denmark, for example, focused on teaching and learning, and examined specific academic programs. Other agencies, including individual state governing boards in the United States, focused on the development of performance indicators, including “outcomes” data on the academic achievements or labor market experience of university graduates (Burke et al., 2002; Kezar & El-Khawas, 2003).

British policies for accountability, which have been widely discussed, were launched after the 1991 White Paper, titled *Higher Education: A New Framework*. A pivotal document, it outlined a new public policy to increase access to higher education and to allocate government funding based on explicit performance assessment processes. In 1992–1993, a new agency, the Higher Education Funding Council for England, implemented a research assessment process that provided a quantitative, results-based method for funding university research (El-Khawas & Massy, 1996). A parallel process for assessing teaching quality on a subject-by-subject basis was put in place in 1992. Brown (2004) has compiled an in-depth “insider” account of these developments. In January 2003, the British government established a new Quality Assurance Agency (QAA), intended to continue the quality assurance agenda but with a “lighter” touch. It is conducting institutional audits and is expected to emphasize quality enhancement to a greater degree than its predecessor agency.

Other governments developed significant new accountability policies during this period as well. Starting in 1985, France established a very different approach. Its *Comité National d’Evaluation* organized external reviews of universities based on site visits and public reports of findings. In 1986, New Zealand established a new policy framework for higher education that included a requirement for academic audits of its universities and polytechnics. Australia’s approach in the late 1980s was to develop performance-funding indicators, followed soon after by a national Committee on Quality Assurance that conducted annual system-wide reviews on teaching, research and community service during 1993–1995. In the Netherlands, quality assurance agencies were established in 1985 for the non-university sector and in 1989 for universities, while other new policies introduced conditional funding of research and, later, an output-based system of university funding. In Denmark, a different model based on an Evaluation Institute began in 1992 (Thune, 1996). It conducted well-respected reviews of subject areas within universities, based on invitation by the universities.

A number of multinational agencies—including the World Bank, the Organization for Economic Development and Cooperation (OECD), the Council of Europe, the Association of Southeast Asian Nations (Hinagi, 2004), and the European Commission—also promoted the development of quality assurance agencies or their equivalent, during this time. In 1994, with World Bank assistance, Argentina introduced a requirement for university self-evaluation and reporting, linked to governmental accreditation of programs. Brazil established a national examination for university students, organized by major subject, designed to show the quality of university provision (El-Khawas et al., 1998). Countries in Central and Eastern Europe, with help from multinational agencies, restructured their higher education systems after 1989 and the end of Soviet domination. Most adopted accreditation or similar monitoring systems as part of their initial reforms (Szanto, 2004; Westerheijden, 2001).

During the mid-1990s and onward, accountability and quality assurance continued to be highly salient issues on government policy agendas. A number of countries, including South Africa and Mexico, established new agencies charged with quality assurance mandates. It is also true that many countries experienced considerable instability in the nature of quality assurance or its requirements. England may have had the greatest degree of change, with several agencies created and dissolved during the last decade, as well as significant changes in policy (Brown, 2004). Other countries, among them Australia, Sweden, Ireland, and the Netherlands also changed their approaches to quality assurance (Faber & Huisman, 2003).

At the same time, new accountability concerns emerged. The development of new technologies, especially distance education and the creation of “virtual” universities that rely primarily on electronic learning, added new questions about how the quality of nontraditional modes of delivery can be evaluated (Council for Higher Education Accreditation, 1998; Swift & Morejele, 1996). A quickening pace of globalization in higher education provision also raised new issues (Van Damme, 2001). Complex questions were being raised about how national agencies can deal with transnational consortia and foreign country satellite campuses of both traditional institutions and new, for-profit providers. England’s Higher Education Quality Council developed a code of good practice for overseas provision of educational programs, and other quality assurance bodies adjusted their procedures to address international dimensions of higher education. It was increasingly evident that information sharing across countries was needed, along with better methods to compare quality control measures, degree structures and standards (Van der Wende & Westerheijden, 2001).

Globalization issues spurred closer coordination among quality assurance agencies around the world and greater recognition that country-level quality assurance must be complemented by cross-border understandings. From these global concerns, the International Network of Quality Assurance Agencies in Higher Education (INQAAHE) was established in 1991. The European Network for Quality Assurance (ENQA) was established during this time as well, and the European University Association (EUA, formerly CRE) joined with other agencies in 1993 to launch a review process for measuring the quality of international programs and strategies (Faber & Huisman, 2003). In 2002, Japan joined with other partners in the Association of Southeast Asian Nations (ASEAN) to develop a common evaluation process for university education (Hinagi, 2004). Recognition of the necessity of international cooperation was especially strong

in professional fields such as engineering and business, where both professionals and institutions increasingly operate on a global scale. In engineering, these pressures led to the Washington Accord, an agreement on methods of mutual recognition among eight countries. In management, one response was the establishment of the Community of European Management Schools (Kristensen & Planthoin, 1998).

In an environment of growing strategic concern about each country's competitive position internationally, there has been increased attention to issues of mutual recognition of credentials across countries (e.g., Kristoffersen & Lindeberg, 2004; Larsen & Momii, 2004). Related debates have emerged, particularly in Europe, about the comparability of degree structures (Schwarz & Westerheijden, 2003). Other questions have been raised about the comparability, or equivalence, of university outcomes (Woodhouse, 1998).

This account, necessarily abbreviated, has sketched a broad picture of national and international developments that, collectively, established a new infrastructure for quality assurance in higher education over the last two decades. Other developments, which took place mainly within countries, have also contributed to policy thinking about quality and accountability. France and several other countries, for example, introduced contract mechanisms for universities that, while responsive to each institution's profile and chosen strategies, also set clear accountability terms on which each institution would be judged in the near future. Elements of performance contracts have subsequently been developed by other governments, including a similar mechanism in Australia after 1999, based on an educational profile for each institution. Other governments have relied on performance indicators, typically based on statistical measures applied uniformly to a number of institutions and requiring annual reporting. In some settings, funding decisions are adjusted according to acceptable progress or levels of performance (Burke et al., 2002; Jongbloed & Vossensteyn, 2001; Kezar & El-Khawas, 2003).

Other initiatives affecting only some institutions or academic disciplines also have introduced new practices for how quality could be demonstrated and improved. In many countries, innovative thinking and procedures have led to more effective forms of institutional assessment. U.S. accrediting agencies, for example, have experimented with new ways to measure institutional effectiveness during this period (Eaton, 2001), including methods to assess institutions that rely on distance learning methods (Council for Higher Education Accreditation, 1998). So too, academics in Australia, Canada, Scotland, the United States, England and other countries have developed and tested innovative approaches to assessing student learning, approaches in which results can be quickly applied toward program improvement (e.g., Banta et al., 1993; Horsburgh, 1999).

In brief, the past two decades have seen considerable development, but with significant variation in how accountability pressures have been translated into government policies. The inevitable political tensions caused by policy discussions about quality assurance help explain the variations across countries as well as the many revisions in approach that have been made. Overall, the broad and apparently long-term trend has been unmistakable: governments in a great many countries, whether advanced or developing, have set up policy mechanisms and have framed issues for higher education in ways that call for heightened accountability.

Themes in the Scholarly Analysis of Accountability

Scholars in this developing area of academic study are numerous and found worldwide. While some have directed their attention to policy developments within their own countries, many scholars have adopted a comparative perspective, giving this field a distinctively varied and rich scope of inquiry. Although academics have been most active, contributions have also been made by experienced practitioners, ranging from university leaders to government officials, such as Amaral (1995), Bauer and Henkel (1997), Brown (2004), Moses (1995), Newman (1987), Thune (1996), and Woodhouse (1998).

Scholarly articles on quality assurance began appearing during the early 1990s in several international journals, including *Higher Education Quarterly*, *Higher Education Management* and the *European Journal of Education*. A new journal specifically devoted to this topic, *Quality in Higher Education*, was launched in 1995. Based in England, this journal has always had an international editorial board, and submissions have been international in content throughout its history.

The intellectual roots of recent scholarship on accountability and quality assurance can be found in three academic areas: the study of public policy; academic study of the relationship between government and higher education; and research on methods of institutional improvement, evaluation and assessment. In consequence, perhaps, scholarly work is characterized by a strong applied perspective, one that spans a wide range of topics and levels of analysis, ranging from a system-level or policy approach to a focus on institutional, program or instructor-level issues tied to quality.

Another characteristic of scholarship on quality assurance is that, while much valuable work has offered country-specific analysis, most scholarly work on this topic has adopted a broader, cross-national agenda. Over time, a core number of scholars have created an extensive body of comparative analysis. While a comparative approach mirrors the international development of quality assurance itself, a separate influence that promoted strong comparative analysis and scholarly collaboration was the founding in 1990 of an international network of scholars with comparative interests, the Coalition of Higher Education Researchers (CHER). A further influence on the development of this field of study lies with the priorities of funding agencies and multi-national organizations. OECD has organized several multi-country projects directed toward quality assurance or evaluation issues. The European Commission has funded several pertinent projects that called for multiple-country participation. Similarly, the Association of European Universities (1997) sponsored several projects to develop methods of institutional review that have been widely accepted in Europe and beyond.

Three general themes have dominated the evolving area of inquiry into accountability, assessment and quality assurance:

- analyses of the influence of accountability policies on the long-term relationship between higher education and government;
- policy analysis, looking to policy development and design issues; and
- studies of the impact of accountability policies.

Throughout the last two decades, scholarly attention has been directed toward the implications of new accountability directives for the traditional arrangements by which

government and higher education have worked together. Several early studies by European scholars, including Kogan (1986), Neave and van Vught (1991), Pollitt (1993), and Salter and Tapper (1994), offered explanatory perspectives on governmental objectives underlying new accountability measures, and considered how important elements of academic autonomy might be maintained. Others, including American analysts Graham, Lyman, and Trow (1996), sought to make distinctions between the areas appropriate for external, or governmental, forms of accountability and those that are appropriate only for internal, or university-based, accountability measures. Trow (1996) extended this argument, emphasizing the continuing importance of trust as an element in higher education-government partnerships. Newman (1987) offered other pertinent distinctions, seeking to alert policymakers to potential problems of intrusion into university matters while urging university leaders to be responsive to legitimate governmental concerns.

As policies have evolved, several scholars—many of whom have had public policy or political science backgrounds—have continued this line of analysis. They have monitored actual experience with new accountability measures, offered perspective on purposes and likely consequences of new policies, and assessed the broader implications of accountability and quality assurance policy (e.g., Enders, Goedegebuure, & Maassen, 2003). Harmon and Meek (1997) noted, for example, that while government policies affirm the importance of balancing accountability with academic autonomy, the specificity of required accountability instruments often leaves little real choice for universities.

Scholars have sometimes taken a critical stance. Some have questioned the initial government arguments to justify new accountability policies, noting that concerns about quality were never well-documented and relied on largely rhetorical arguments about the “need” to document accountability (Harvey & Askling, 2003). Some analysts have said that accountability policy has yielded relatively few benefits while creating unproductive burdens on universities (McNay, 1995). Others have pointed out that accountability measures are, at their most basic level, a new control mechanism, and should be seen as part of a larger strategy to change the distribution of power between government and higher education (Harvey & Newton, 2004).

In another thematic area, scholarly work has clarified issues in designing policy instruments to strengthen accountability. Much of the early work sought to establish definitions (e.g., Harvey & Green, 1993) and to identify the purposes of new accountability and quality assurance policies (e.g., Brennan, de Vries, & Williams, 1997; Brennan et al., 1996). Actors, their interests and degrees of participation have also been examined (El-Khawas, 1995, 2001b).

Several analyses, mirroring work found in the scholarly literature on public policy, have assessed strengths and weaknesses of policy instruments adopted in different countries. The earlier literature focused on external review (e.g., Amaral, 1995; Brennan, El-Khawas, & Shah, 1994; El-Khawas, 1993; van Vught & Westerheijden, 1993;). Accreditation models, patterned after the U.S. experience, have also received attention. In the early 1990s, many Eastern and Central European countries established accreditation systems, stimulating research on its uses and shortcomings (Brennan & Shah, 1997;

Council of Europe, 1993, 1995; Szanto, 2004). In recent years, scholarly attention toward accreditation has re-emerged in Europe (Faber & Huisman, 2003), partly in response to European Commission initiatives that champion the use of accreditation to gain international comparability (Schwarz & Westerheijden, 2003; Surssock, 2001). A monograph series being developed by the International Institute for Education Planning (IIEP) will produce in-depth analyses of experience with accreditation in a dozen countries (El-Khawas, 2001a).

Continuing analysis has been directed to England's precedent-setting Research Assessment Exercise, which reports ratings of academic programs and carries significant financial consequences. Scholars active in this area have included Brennan, et al. (1997), El-Khawas and Massy (1996), Kogan and Hanney (1999), and Thomas (2001).

Performance indicators and related measures have been assessed, sometimes to promote their development (e.g., Alstete, 1995) and in other work to highlight the shortcomings of standardized definitions and reporting (Jongbloed & Vossensteyn, 2001; Schofield, 1998). Interest was strong at one point in Australia (Linke, 1995), while sustained interest has been most evident in the U.S. (Banta et al., 1996; Burke et al., 2002; Gaither, Nedwek, & Neal, 1994), and among international organizations and other policy organizations.

Scholarly work on student assessment methodologies has been lively, with a rich exchange of ideas and debate through publications and national and international conferences. Banta et al. (1993), Bogue and Hall (2003), Ewell (1993), and Horsburgh (1999), have provided useful analysis, sometimes taking an institutional perspective, on progress in developing instruments to assess student learning and achievement. Many scholars, however, have emphasized that some uses of student learning measures are inappropriate (e.g., Knight, 2002).

Approaches relying on an audit model—examining internal institutional processes that support quality—have been of interest to researchers, and arguments have been advanced as to its relative advantages (Dill, 2000; Dill, Massy, Williams, & Cook, 1996; Higher Education Quality Council, 1994; Massaro, 1997; Massy & French, 2001). Interest in audit models seems to reflect a growing consensus about the disadvantages of the “heavy hand” of government in many early policies for accountability. Audit, it is argued, provides a better means of quality review by providing close examination of academic processes with lighter burdens on institutions.

In recent years, researchers have also produced useful work on a third theme, the impact of quality assurance and accountability. None can be considered definitive, in light of the many factors that affect how policy pronouncements translate into institutional practice. A special constraint is the fact that, in many countries, quality assurance policies and methods have changed over time. Agencies have been established but later abolished or given a new role. In some countries, initially strict methods have been softened to allow greater institutional discretion.

Impact studies have varied in their methodological approach. Some are based on perceptions and personal reactions of various stakeholders. Meade and Woodhouse (2000) considered the impact of New Zealand's academic audit, based on opinions of representatives of government, universities, professional societies, and national staff

and public service associations. Others have described the experience of several departments or institutions (e.g., McNay, 1995). Documentary analysis has been useful; Stensaker (2000), for example, analyzed evidence found in institutional reports submitted to Sweden's quality assurance agency. Institution-level studies have been completed, sometimes limited to one institution (e.g., Baldwin, 1997) although others have conducted systematic research with a large number of universities (e.g., Bauer & Henkel, 1997; Brennan & Shah, 2000).

Impact studies have also varied in their focus. Some are directed to government purposes and inquire into the extent of policy compliance that has been achieved (e.g., Brennan & Shah, 2000; Nilsson & Wahlen, 2000). Generally, compliance has been achieved but has primarily involved the hosting of site visits or the production of additional reports, statistical data or other information by universities, typically on a deadline (e.g., El-Khawas, 1998). Implementation has been slow in some countries, varying according to whether governments set firm mandates (detailed tasks, specific deadlines, etc.) or instead call for new institutional practices that take some time to put in place. Such "flexible" approaches have received only minor attention in policy debates but have been shown to produce useful results by a number of studies (National Agency for Higher Education, 1997; Thune, 1996). What should also be recognized is that many accountability policies allow for voluntary participation by universities; for example, the institutional reviews carried out in Europe by the EUA or external reviews organized internationally by professional bodies in engineering, business management and other fields. Studies have found that these review procedures are typically aligned with institutional purposes and goals and thus are readily accepted or sought out by university leaders (Kristensen & Planthoin, 1998).

Several researchers have examined the effects of government policies on the inner life of academic institutions, typically based on case study methodology (e.g., Askling, 1997; Baldwin, 1997; Trowler, 1998). As Henkel (2000) documented (and others, subsequently), one broad consequence is that academic institutions pay more attention to teaching and learning issues today, compared to two decades ago. This study is widely cited also for its in-depth exploration of ways that accountability policies in England have affected academic identities. There is also evidence that more managerial styles have permeated university structures, including new administrative burdens tied to research (Bauer & Henkel, 1997). Massy and French (2001) have noted the "review fatigue" that many institutions experience under the burden of fulfilling numerous reporting and review requirements.

Notably, while the stakeholder interests of governments and of academics have received attention, analysis has rarely turned to the interests and reactions of students, another important constituency that could be significantly affected by accountability policy. Little is known, for example, about whether students are aware of quality assurance measures or whether they find information disclosures useful.

Many analyses have pointed to the trade-offs that have been necessary, due to conflicting policy goals. Drennan (2001) has reported that the potential value of the Scottish assessments of teaching quality has been diminished by the offsetting demands for increased research output. The trade-offs between the conflicting goals of improvement or accountability, embedded in many government policies, has often

been examined (e.g., Mackie, Martin, & Thomson, 1995; Middlehurst & Woodhouse, 1995).

Conclusions and Prospects for the Future

As this review demonstrates, the subject of accountability and quality assurance has received significant attention by a large number of scholars. Many have analyzed policy in their own countries, outlining new developments, analyzing likely effects or reporting early responses. Others have made multiple and continuing contributions that take a comparative perspective.

Despite a large volume of published work on quality assurance, the development of theory has fallen behind. Most analytic work has been policy directed, with analyses of the way a certain policy developed or an assessment of strong and weak points that became apparent as the policy was implemented. However, sufficient experience has accumulated that the subject area is promising for broader conceptualization and theoretical application (Dill, 1998). Political science theories, for example, offer strong potential for understanding the compromises and conflicts that shape government decisions over time. Resource dependency theories are applicable and may explain differing institutional responses to government initiatives. Organization theorists are needed to map and explain the internal consequences for academics, institutional functioning, and instructional practice. Critical theory can be valuable for probing the implicit meanings and unstated assumptions that underlie public policy debate.

Especially useful, at this stage, would be middle-range theories including development of applicable concepts that are sufficiently specific to capture developments in a single country, but are also sufficiently general to offer perspective across diverse settings. Building on previous work, new questions can be explored. What changes at the institutional level, for example, are related to different approaches to accountability, and how does the impact on institutions vary between decentralized versus centralized models of quality assurance? Other work could explore how reforms that occur independently of government policy can gain better recognition by policy officials and analysts. Some institutions may be “ahead” of government in adapting to external forces.

Developmental work is also needed to construct better measures of the consequences, or results, of quality assurance policies. Many policies focus on outcomes, typically defined by student-level rather than institutional-level actions, but the emphasis has been on available measures, such as graduation rates. In light of the diversity of institutional types and roles, scholars should help clarify relevant dimensions of institutional effectiveness.

In short, a substantial amount of analytic research is needed. The challenge is to promote scholarly investigation of accountability while also informing practitioner audiences at governmental and institutional levels. Research is needed to advance our understanding of fundamental issues in the still unsettled debate over quality assurance, but should also include carefully designed studies directed toward application, so that results can inform policy decisions, including policy alternatives. There is much to do in the years ahead.

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CURRICULA IN INTERNATIONAL PERSPECTIVE

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Defining Curricula: Expanded Scope and Perspectives

The word curriculum typically calls to mind a set of lessons in a course or a set of courses in a program, but this definition is limited. Although a curriculum is typically composed of pre-determined instructional activities intended to deliver particular content (for example, knowledge, skills, or dispositions), curricula are more fruitfully conceptualized as sites of interaction among instructors, learners, and the content to be learned. It is this interaction of individuals and curricula that results in learning. Without interactions among content, learners, and instructors, a curriculum approximates a learning experience, but is not commensurate with it because a variety of contextual factors influence the outcome of any educational experience.

In defining curricula as sites for social interaction, we bring to the foreground the various factors and influences that animate courses and programs. Students are the most obvious, if not most salient, influence on an academic plan, bringing prior knowledge, goals, motivations, expectations, needs, skills, and capacities to the learning experience and thus shaping the outcomes of a curriculum. Institutional contexts are another influence on curricula; organizational, departmental, and program resources, assessment practices, reward systems, and so on, have an impact on what is planned and how it is delivered. Prevailing social and cultural forces further shape what happens in interactions among instructors, learners, and content. Norms for classroom behavior, beliefs about what can be accomplished and by whom, labor market trends, evolutions in fields and disciplines, changes in government policies, and a host of other factors also affect curricular plans.

Educators may argue that it is impossible to consider all this, particularly the diversity of students in their courses and programs, as they plan; they can only focus on content and create a learning experience geared to the average student. However, once learning outcomes become the criterion by which the quality of a curriculum is judged, it is no longer possible (and indeed, it is shortsighted) to ignore the impact of student characteristics and experiences on curricula. Moreover, in an era of mass higher education, a curriculum can no longer be designed for a homogeneous population.

Student diversity, mobility, and the press toward globalization compel us to change the way we think about curricula just as they challenge our assumptions about higher education structures.

If we acknowledge that curricula are sites for social interactions—in short, that the curriculum on paper may not be the curriculum that is experienced—then the discussion of any curriculum must consider its intended purposes, content, and methods of instruction (including choices about what, when, and how to assess learning), as well as what transpires when learners engage the curriculum. Moreover, because learning is affected by the multiple and overlapping contexts—institutional, professional, social, cultural, economic, political, and historical—in which it occurs, curricula, too, must be understood to be a product of these institutional and extra-institutional contexts. For this reason, explorations of curricula may be easiest to conduct at the level of individual or classroom interactions, where fairly distinct boundaries can be drawn around instructors, students, content, activities, and the influences that act most directly on learners and instructors. At the level of the program and the institution, the complexity of the task is multiplied. At the level of a national system, only the most general statements can be defended. The more distant the observer is from the learning experience, the more difficult it is to speak confidently about the nature of a curriculum and its effects on learning.

Discussions of curricula at the macro-level may seem bloodless because they reduce a curriculum to a set of structures and stated rationales, and obscure its dynamism by extracting it from its lived contexts. Such discussions, however imperfect, are necessary if we are to understand higher education curricula from its historical roots to the present. Thus, this chapter begins with a disclaimer: for the sake of analysis, the intersecting, mutually influential elements of curricula (purpose, content, instructional methods, assessment, etc.) will sometimes be treated as if they were truly separable. This approach facilitates comparisons across time and space, but it does not provide a view of a curriculum in practice. It therefore becomes the reader's task to consider how the many different elements of a curriculum come together in local contexts, the nature of educational interactions in those contexts, and their implications for the success of a given learning experience.

Changes in educational purposes—an inevitable consequence of changing social, cultural, political, and economic needs—have influenced curricula throughout the history of higher education. Part I of this chapter, therefore, traces the development and evolution of different higher education models to reveal the connections among national conditions and choices regarding educational purposes, organizational structures, and curricula. This portrait of university life in different eras and regions provides necessary groundwork for a discussion (provided in Part II of this chapter) on contemporary curricular issues that transcend national boundaries. Simply put, the history of the higher education curriculum is, at heart, a history of the development of national systems,¹ their educational goals, and how they modified educational programs to serve those goals. This discussion also emphasizes the critical linkages between sociocultural contexts, educational purposes, organizational structures, and curricular content.

Higher Education Curricula in Historical Perspective

Understanding curricula requires understanding the institutions in which they are embedded, and how both evolved over time. In earlier eras, universities and their curricula were more similar than different. Kerr (1990) observed that for its first 2000 years, the higher education community was a “cosmopolitan” community in which wandering students and scholars from different countries studied what they wanted to study free of “external guidance or constraints by nation states” (p. 6). About 500 years ago, Kerr contended, this cosmopolitan community began to fragment into national systems that served to train national elites and reinforce national interests. During the last five centuries, as institutions multiplied and became more diverse, their curricula also took on unique characteristics.

Contemporary universities derive their structure and functions from Western models of higher education. The English and Scottish residential colleges, with their curricular and extracurricular emphasis on character development, influenced the development of postsecondary institutions in a number of countries. Later, the German university model, which valorized specialization for both faculty and students, transformed the collegiate experience into a university experience through the creation of a curriculum based on the pursuit of inquiry and new knowledge. The French *grandes écoles* contributed the ideals of meritocracy and professorial autonomy, and created a form of higher education that stressed rigorous intellectual training for the professions.

Despite their strong influence on higher education beyond Western Europe, the models were modified to fit local conditions. Japan, for example, adopted Western ideas about education after the Meiji Restoration in 1868, initially patterning its universities on the French model with its separate research institutes. Shortly thereafter, however, Japanese imperial universities were required by law to combine teaching and research along the lines of the German model, providing both undergraduate teaching and a graduate level component based on research (Clark, 1995). The German concept of academic freedom did not make the transnational voyage to Japan—the imperial university was born as an engine of economic development and an instrument of modernization that would produce a technical elite; universities were thus designed to meet changing national needs in the late 19th and early 20th century (Cummings, 1985). In the United States between 1600 and 1900, serial adaptation of elements of the English, Scottish, and German systems resulted in a diverse assortment of colleges and universities that provided professional education and specialization at the level of the bachelor’s (or first) degree, but also required students to complete a general education curriculum. Although clearly grounded in Western European educational models, the U.S. system is also distinctive. In the following historical overview, the influential role of sociocultural contexts in shaping higher education curricula will become clear.

Origins of the University Curriculum

By the 13th century, the course of study in the dozen or so European universities was organized according to the liberal arts as defined by the ancient Greeks. The

medieval student studied the *trivium* and the *quadrivium*, better known as the seven liberal arts. The *quadrivium*—which included arithmetic, geometry, astronomy, and music—was considered to be of somewhat lower order than the *trivium*—or studies of logic, grammar, and rhetoric—which focused on the meaning and use of the Latin language. Moreover, a few standard texts contained what was to be learned (Haskins, 1957). Mastering these texts, and thus the liberal arts of the *trivium* and *quadrivium*, prepared students to study philosophy, which was further divided into natural philosophy (physics), mental philosophy (metaphysics), and moral philosophy (ethics).

The monastic and cathedral schools that preceded the universities relied on a limited number of texts. During the 12th century, the curriculum expanded to include Ptolemy's astronomy, the works of Euclid and Aristotle, and, briefly, the Latin classics and works of ancient Greek authors (Haskins, 1957; Perkin, 1991). By the 13th century, literary studies had virtually disappeared and the tension between classical and "practical" studies—which animates discussions of the curriculum to this day—materialized. Haskins (1957) argued that the classical movement of the 12th century was "crushed in its early youth by the triumph of logic and more practical studies of law and rhetoric" (p. 29). More than a subject, logic provided a method that pervaded all other subjects; disputation, syllogism, and argumentation became the intellectual habits of mind encouraged in the study of philosophy, law, medicine, and theology (Haskins, 1957; Kimball, 1986). Haskins argued that this strict focus on argument rendered considerations of literary form inconsequential, and the practical uses of rhetoric (for example, the composition of letters and official documents) further eroded interest in literary expression. The study of the classics, in this interpretation, was an opportunity to illustrate the rules of grammar.

Rothblatt (1993) challenged the perceived dichotomy between liberal and practical studies, arguing that education is always about applied knowledge; it is designed to provide experiences suitable to particular goals. For example, training in horsemanship, gymnastics, and martial arts was critical to an education for those who would serve the state through the military. Even drawing could be viewed as a precursor to map-making and the depiction of military targets. A 15th century instructional manual, the *Regulae*, by the educator Guarino Guarini of Verona, reveals how a regimen of Latin grammar and pronunciation exercises preceded studies in history, geography, and mythology. In this vision of the liberal arts, strict instruction in the arts of language—rather than in the art of independent thought—was justified by the need to master the skills of conversation, persuasion, and diplomacy, which were required for success in law, administration, royal courts, and teaching (Jardine & Grafton, 1982).

The medieval church had its own view about the application of knowledge, and strongly influenced the study of theology and logic in the medieval university curriculum. The study of theology, "*madame la haute science*," was integral to the curriculum, and medieval scholars exercised the powers of logic to provide acceptable explanations and interpretations of ideas that appeared to be irreconcilable with doctrine (Haskins, 1957). During the Reformation, Renaissance, and rise of the nation-state, the religious orientation of the universities diminished, and secular interests gained a stronger foothold in the university, further expanding the curriculum and increasing attention

to fields of study beyond theology. The classical education of the medieval university eventually transformed into a general education for the ruling elite.

Although the Reformation resulted in the abolition of monasteries and monastic schools, it left the universities largely untouched. In Britain and elsewhere, universities adapted to new cultural conditions by shifting their attention to the training of state and local administrators, who were increasingly drawn from the gentry and middle classes. In Britain, the moral imperatives of Plato and Locke became foundational to the education provided by elite secondary schools and the universities of Oxford and Cambridge. The moral training of future leaders centered on humanistic studies, and the classics of Greek and Latin literature, philosophy, and history became central to the curriculum in the 19th and early 20th centuries (Holmes & McLean, 1989). The curricula of the English colleges also emphasized the cultivation of manners and political awareness (Perkin, 1991).

The undergraduate education of the English residential colleges stressed liberal education, character development, and close informal relationships between masters and students (Clark, 1995). In Scotland in the 18th and 19th centuries, colleges offered a broader curriculum that differed significantly from the more narrow English curriculum. In time, the Scottish institutions aligned their curricula with that of their English counterparts, but replaced the federation of individual residential colleges with the departmental structure, which organized education and academic work around subject matter. The close tutor-student relationship of the English college also gave way in most universities to the lecture format in which one instructor, specializing in a single subject area, taught many students simultaneously. Higher education curricula evolved further as the skeptical, critical, and rational outlook of the Enlightenment and the Scientific Revolution undermined medieval and Aristotelean views prominent in the college and university curriculum. For example, in Scotland, classical languages remained a component of the university curriculum, but modern languages and modern social sciences were added. Moral philosophy replaced rhetoric as a mechanism for integrating studies across different subject matter.

Although educated individuals increasingly accepted the role of scientific thought and studies, those interested in scientific study—with such notable exceptions as Galileo and Newton—pursued their work in academies outside the university walls. The university was instead home to advances in other disciplines. For example, the Scottish faculties at Edinburgh and Glasgow developed the modern social sciences and skeptical philosophy during this period; universities in the Netherlands created new methods for teaching natural science and medicine; and a few German universities even sought to incorporate Enlightenment thinking into the curriculum. Despite these inroads, the medieval curriculum was still dominant in many institutions, even as criticisms of irrelevance mounted (Perkin, 1991).

Colonization and Adaptation

The nature and content of university curricula diverged somewhat when the Puritans migrated to North America in the 1600s and re-established the role of the university as a training ground for clergy. Although the American colonial colleges attempted

to reproduce the contemporary English college, they adapted the model to their needs and resources. Students in the colonial colleges learned law and medicine, staples of the European university curriculum, through apprenticeship; economy and efficiency trumped theory and structured study. A lack of instructors forced other modifications to teaching practices: group instruction for students of similar standing (for example, sophomores) replaced the English tutorial model, which was grounded in the one-to-one student-tutor relationship. As the Scottish universities of Edinburgh and Glasgow introduced instructors with specialized competence in the early 18th century, Harvard College tutors taught all subjects. In the late 1760s, tutors finally began to teach one subject to all of their classes (Rudolph, 1977).

The American colonial college of the 1600s and 1700s blended medieval scholasticism and Christian humanism into a curriculum that emphasized the unity of knowledge and the practical and moral aims of learning (Reuben, 1996). Education began with the art of rational thought, then moved to the arts of speech and communication, mathematics, and physics, and ended with theology. An educated person would know all of these arts, as well as that each was valuable only in relationship to the whole.

American colleges maintained this unitary philosophy and prescribed curriculum of classical texts—the liberal arts canon—through the early 1800s (Hutcheson, 1997; Rothblatt, 1993). Students took classes in Greek, Latin, Hebrew, logic, and the branches of philosophy. This educational philosophy, with its roots in medieval scholasticism, gradually fell out of favor as critics chastised colleges and universities (and their faculties) for excluding many subjects worthy of study. The curriculum, critics contended, should include modern subjects, such as the natural sciences, history, the *beaux-arts*, as well as practical subjects such as engineering and agriculture (Reuben, 1996; Rudolph, 1977). Advocates for scientific studies won their battle in the mid-1800s, although at first the sciences were taught in separate scientific schools, or “parallel courses” of study, which stood apart from the standard degree program, and were viewed by many as inferior to the classical course of study. Eventually, the emphasis on scholarship as inquiry—prevalent in the German research university—immigrated to the United States by way of American faculty trained in European institutions, and the emphasis on scientific learning, often with an eye toward utilitarian ends, became an integral element of American college and university curricula.

Expertise and Inquiry

Higher education, despite its presumptive claim as the seedbed of new knowledge, is often reactive; social and cultural changes, rather than change from within, are frequently the catalyst for structural and curricular innovation. Higher education, for example, might have ignored the Industrial Revolution, much as it had the Scientific Revolution, unless pressured by external forces in the form of student and market demand. Well into the 1800s, most universities focused on the education of civil servants, clergy, and lawyers, and although institutions updated the medieval curriculum, they did not immediately add courses or degrees in applied sciences and technologies. These subjects originally found homes in technical institutes outside the university

system—in the *grandes écoles* of France, the mechanics institutes of Britain, and *technische hochschulen* of Germany.

The German university veered sharply from the instruction in character formation that was practiced in English and U.S. colleges and toward a more loosely organized search for truth through inquiry. The German concepts of *lernfreiheit* (freedom in learning) and *lehrfreiheit* (freedom in teaching) were integral to an institution that assumed the unity of teaching and research. In this conceptualization of higher education, research experiences became the foundation for advanced study. In comparison to the fixed curriculum of the medieval, English, and American colonial colleges, the curriculum of the German university was “whatever professors chose to do in their own inquiries and whatever topics the students pursued” (Clark, 1995, p. 21). Faculty and students expected to work on the frontiers of knowledge and to prepare generations of pioneers in specialized fields of study (Husen, 1996); liberation from any and all academic requirements was the condition for an education in which inquiry was pursued for the sake of inquiry.

The educational outcome of the German higher education experience, in the Humboldtian vision of the university, was not so different from that desired by the faculty of the English and American residential college. It was the means to that end that varied and that had significant implications for the curriculum. In the vision of the Humboldt brothers—founders of the University of Berlin—the German university student and professor would develop, through unfettered inquiry, deeply informed and well-rounded perspectives and thus contribute to a rationally organized society (Clark, 1995). The Humboldtian ideal rested on the assumption that *wissenschaft*—the development of the mind as it comes to understand itself through the process of study and learning—was corollary to *bildung*, or self-realization and self-development based on the individual’s effort to reach intellectual and spiritual perfection. The pursuit of truth was thus aligned with liberal education.

In actuality, students at the University of Berlin rejected this idealistic philosophy for more pragmatic pursuits. Rather than enroll in seminars on research methods and inquiry, students registered in lecture classes to prepare for professional examinations or qualification to teach in the newly reformed *gymnasien*, or secondary schools (McClelland, 1980). The concept and position of disciplinary specialization, however, solidified. Lectures based on a changing conceptualization of the discipline replaced the canon of authoritative texts that had served as the foundation of the university curriculum. In time, a pure transmission model of teaching, where instructors imparted knowledge to students, also gave way to seminars, laboratories, and teaching hospitals that invited critical dialogue among participants. With general education demoted to the gymnasium level, undergraduate education was reconceived as a time to specialize in a chosen field of study, whether vocational or academic (a distinction made in some systems but not in Germany). Over time, the model of small groups of faculty and students working together on topics of interest metamorphosed again, producing a model of higher education that was less self-contained (Clark, 1995).

The demand for modern subjects and new perspectives on higher education also infiltrated Britain’s educational strongholds: Oxford and Cambridge. During the 18th century, the study of psychology influenced conceptions of liberal education, shifting its

emphasis from character development to intellectual development (Rothblatt, 1993). This reconceptualization supported the advancement of a university education that stressed both teaching and research as in the German university.

Oxford and Cambridge added Cavendish and Clarendon laboratories in the 1870s, and thus furthered their expertise and reputations in science and technology, but they were not the first British institutions to experiment with new ideas and new disciplines. In 1826, University College, founded in London but influenced by the Scottish model, featured single-discipline professors in medicine and jurisprudence, as well as in newer fields such as chemistry and modern languages (Perkin, 1991). The introduction of new curricula and professors did not, however, substantially alter the college tutorial system, which remained influential in both England and the United States (where liberal education, although somewhat redefined, was still the primary educational mission).

Once specialization was accepted as the animating force of a curriculum, it engendered a number of structural changes. In addition to academic departments, electives, majors, and the course-unit or modular system came to define higher education in a number of countries. The course system, which packaged knowledge into free-standing courses, was a great advantage because it permitted the incorporation of new disciplines—and new groups of students—without displacing existing ones (Rothblatt, 1993). In France, other radical changes were afoot.

Following the French Revolution, dissatisfaction with university teachings and the structures of status and privilege associated with the university culminated in the abolition of the French universities. In 1808, Napoleon Bonaparte established the Imperial University as a single institution, operated regionally through centrally directed administrative units called academies, to serve the country. The faculties of medicine, law, letters and science, became operating units that reported directly to the Ministry of Public Instruction. This unique institution included the secondary schools (*lycées*), and the chief function of the faculties of letters and science was to conduct baccalaureate examinations that controlled access to the faculties of law and medicine, and to the national *grandes écoles*. Teaching at the university level was, according to Clark (1995) “inconsequential” since there were few students to teach (pp. 92–93). Research was similarly unimportant in the French universities, and became the province of the *grandes écoles* and the research institutes. As a result, the *grandes écoles* replaced the universities as the primary site for technical, administrative and educational training (Wittrock, 1993). The French model also situated the professor at the center of the institution, and established the ethic of academic autonomy that still characterizes academic life.

The ideas promulgated during the French Revolution influenced higher education in several countries in Europe and Latin America. In Sweden, for example, constitutional and legal changes in 1809 stipulated that all government offices should be within reach of any qualified aspirant. This change in policy precipitated significant changes in the examination system, which in Western Europe and the Nordic countries historically consisted of a series of disputations in which a student argued and defended several theses or a dissertation that he or his professor authored. The standards for such disputations were low and had little impact on social or occupational mobility. In reality, the route to civil posts in the military or government began with birth into

a privileged family. An adolescent son entered the university at 16 or 17 years of age, took instruction from a personal tutor (often an older student of more modest means), and visited lectures as desired. When oral examinations became more frequent and difficult in the early 1800s, and a passing grade was based on a student's ability to demonstrate knowledge of specific content from textbooks and lectures, the stakes and the curriculum changed. The subjects of examinations became more distinct. Stricter examination standards, which had the potential to make a decisive difference in students' professional futures, further supported the growth of academic specializations (Liedman, 1993).

Balancing Specialization and General Education

While the contemporary research university in Europe provides a specialized or professional education, the German university of the 19th century was, in theory if not in curricular structure, an institution with a dual purpose. The primary responsibilities of the professor were research and teaching, and the assumption that disciplinary learning would lead to *bildung* linked the seemingly opposing goals of general and specialized education. Although, as earlier noted, the Humboldtian vision was lost in translation, the ideal was reflected in other systems of higher education. When Sweden reformed its universities in 1852, it retained the professorial obligation to teach and to conduct research, as well as the notion of *bildning*, the Swedish equivalent of *bildung*, which was considered necessary to developing direction, maturity, and flexibility in life (Liedman, 1993). The perplexing question of how to combine this general education with specialized education was solved through a system of preliminary degrees for students studying for the professions of law, medicine, and the clergy. The preliminary degree would furnish the knowledge and skills needed for both general cultivation of the person and for the profession. Most preliminary degrees reserved a central place for the study of philosophy, whether ethics for lawyers or theoretical philosophy for other professions.

By the early 1900s, debates about the value of general education and the time it added to the length of professional preparation led to the demise of the preliminary degree in Sweden, which followed the lead of Germany and other Nordic countries that moved general education to the level of compulsory or secondary education and reserved university education for specialized studies. In a few places, mechanisms of general education remained. Notably, in Britain and the United States, where higher education tended to be residential, the combination of *in loco parentis*—in which the institution and faculty serve a substitute for parental oversight—and concern for both character and intellectual development still shaped college life.

The nature of, and responsibility for, liberal education were the focus of frequent discussion during the 1800s. Educators explored the differences between a residential college and a university, and considered how to redesign liberal education so that it was more appropriate for a meritocratic and increasingly democratic polity (Rothblatt, 1993).² In the United States, psychological theories about mental powers combined with the social and political commitments of Jacksonian democracy—individualism, pluralism, pragmatism, and opportunism—to generate interest in new kinds of higher

education institutions. By the second half of the 18th century, legislation supported the development of multiple-purpose, state-funded, land-grant institutions with an explicit mission to serve the various needs of the local community.

The Elective System and Academic Major

As early as the 1820s, American academics educated in European universities began to urge the adoption of the German research model, but the process of redefining the academic—from the gentleman loyal to his local institution and generalist in his approach to scholarship and teaching, to the highly specialized professional—took another 50 years (McCaughey, 1974; Rudolph, 1977). As a conduit to specialized study within a liberal education model, institutions created the academic “major” or “concentration” as a mechanism to provide students with some choice in their course of study, but also to ensure the coherence of the overall course of study. The first recorded use of the term major occurs in the 1877–1878 catalog of Johns Hopkins University. The major required two years of academic study, and the catalog also used the term minor to indicate a course of specialized study shorter than that of the major (Payton, 1961).

The development of the major in the United States is best understood in the context of the rise of the elective system and the American interpretation of the German concepts of *lehrfreiheit* and *lernfreiheit*. Generally speaking, faculty embraced the notion of *lehrfreiheit* (which was interpreted broadly as the freedom of the professor to research and teach according to his scholarly interests). In contrast, however, the concept of *lernfreiheit* (which in the German university model translated into the freedom of the student to determine his own course of study according to his needs and intellectual curiosity) was interpreted more narrowly by American universities than by their European counterparts. In U.S. colleges and universities, *lernfreiheit* was tempered by the prescriptive nature of the undergraduate curriculum, but gained ground in institutions which instituted an elective system that allowed students to choose among different courses to develop, at least in part, their undergraduate program of study.

The elective system answered demand for more relevant and practical courses of study, but it also facilitated academic specialization, allowing faculty to develop and teach advanced courses and clusters of courses in their areas of expertise. For students, electives provided an opportunity to connect the worlds of scholarship and work in a way that the prescribed liberal curriculum could not. Market demand, combined with other social forces—such as an increase in the average age of undergraduate students, the introduction of the high school, and assistance from both government and private philanthropy—aided the growth of academic specializations and hastened the development of the elective system in the United States (Hutcheson, 1997). By 1897, Harvard had eliminated all required courses with the exception of English composition (which was required for first-year students), and other institutions followed suit, if to somewhat lesser degrees. In the 50-year period between 1890 and 1940, colleges and universities in the U.S., whose curricula were almost entirely prescribed, reduced the number of required courses for the baccalaureate degree by more than 50% (Rudolph, 1977).

Proponents of the classical curriculum, and anyone who believed in the unity of knowledge, chafed at the fragmentation and incoherence that elective choice seemed to promote. An 1898 study at Harvard found that 55% of the students elected only elementary courses, and nearly 75% followed programs without any clear focus (Rudolph, 1997). One historian of higher education argued that as the liberal component of higher education diminished, and the elective system was applied in the social and academic milieu of the United States, it “produced only confusion and disorder, dilettantism and overspecialization” (Rudy, 1951, p. 162). Because it defined a subject area of interest that required students to move from elementary to advanced levels of study, the major became the preferred solution to curricular chaos. Moreover, both the major and the elective system catered to the growing desire for specialization among the professoriate and promoted the development of faculty expertise.

The problems associated with the elective system are better understood as unintended consequences of educational conditions than as inherent weaknesses in the concept. Traditionally, European students admitted to a university prepared for advanced study by mastering the rigorous and liberal curricula of *lycées* and *gymnasias*, and specialized their studies at this level. Historically, the academic experience of secondary school students in the United States has not been standardized, specialized, or rigorous. In the absence of a secondary education that prepared students for university-level study, colleges established their own preparatory programs, blurring the line between secondary and postsecondary study. Although preparatory courses eventually moved to the secondary level, colleges and universities continued to integrate both liberal (general) and professional education at the postsecondary level.

Contemporary Curricular Issues

Despite the national and cultural diversity of higher education throughout the world, universities and colleges are responding to a number of the same challenges. As described in Martin Trow’s chapter in this *Handbook*, we have slowly left behind a history in which postsecondary education focused on the needs of a small elite population, and have entered a new era in which the university is considered a resource that should (and will) be available to larger numbers of individuals regardless of their socioeconomic and cultural backgrounds. Further, this transformation (or massification) of higher education is evident in both developed and developing countries. Contemporary trends that span national borders—particularly economic globalization—have implications for higher education institutions, which are challenged to develop curricular responses to social, political, economic, and cultural forces in a variety of contexts. A discussion of these trends and curricular responses comprises the rest of this chapter.

Cultural and Economic Relevance

Historically, the university has been perceived as a national investment yielding significant returns to individuals and societies, and contemporary universities retain this reputation as key contributors to national prosperity. This view of higher education may be most visible among today’s formerly colonized nations that are attempting to build

higher education sectors to meet the needs of their existing cultures and developing economies.

Many national systems of higher education are the result of colonial occupations. The curriculum they provide varies, affected in some cases by the degree to which indigenous populations have asserted their ideas and needs. In the case of Latin America and the Caribbean, for example, a succession of colonial powers—the Spanish, the Portuguese, the British, the French, the Americans, and the Soviets—influenced the evolution of higher education. The colleges and universities in this region are still non-native institutions that serve a small, elite population and are, in general, removed from the lives of most of the people in the region (Albornoz, 1991). Most of the region's 500 institutions are teaching-oriented and offer a professional education; few could be called research universities.

In colonial Africa and the West Indies, where most of the population was pre-literate, the British designed an educational system intended to teach literacy and spread Christianity; most of the schooling, conducted by missionaries, was elementary and vocational. However, in the latter part of the 20th century, Africans in sub-Saharan countries—particularly Nigeria and South Africa—began to question the wisdom of the British model of higher education, which emphasized the study of the humanities and which tended to separate students, at least mentally, from their cultures and from the social issues of their home countries (Court, 1991; Muller, 1991).

Even in science and technology fields, higher education may produce experts who are more committed to their profession and its research agenda than to the solution of problems in their home country (Saha, 1997). Ahmed (1985) argued that a Western value system shapes science and technology curricula in developing countries, and that this Westernized curriculum can only produce graduates suited for employment in industrialized countries.³ Universities with a relatively well-developed scientific base, which permits science and technology to be taught with reference to local needs, have been more successful in making contributions to national development (Altbach, 1990). Saha (1997) notes, however, that the development of a well-connected and productive scientific community exacts a price; countries such as Korea, Singapore, Taiwan, and Malaysia have accepted English as the dominant professional language. In general, despite a commitment to indigenous concerns, science and technology teaching and research in developing countries tend to be conducted in English.

Curricular reforms in the 1970s responded to some of these concerns for local priorities by reforming degree programs and replacing imported textbooks with texts and research materials from local authors. Since the 1970s, African universities have developed additional short-term research courses and master's level degree programs, and further emphasized research in undergraduate teaching. However, in sub-Saharan Africa, humanities and arts graduates still outnumber students trained in the sciences and technology fields, and the system lacks the resources to increase production of such graduates. In South Africa, for example, there is a great need for mathematics and science instruction in schools, and for greater access to these kinds of programs in higher education (Figaji, 1997). However, it is important to note that (as seen in parts of Asia and the Pacific) English is still the primary language of instruction throughout much of Africa, and particularly in the former British colonies (Altbach, 2004).

Although enrollments in science and technology fields in Nigeria are also low, Nigerian higher education has fared somewhat better in terms of Africanizing the curriculum, incorporating traditional cultural views into higher education studies and filling university positions. Nigerian universities are also moving away from the British and toward the American model of higher education (Biraimah, 1991; Court, 1991).

In India and South Asia, advanced education had a long history (Altbach, 1998; Perkin, 1991). Hindu education in Nalanda and Taxila dates back to the 3rd century; Buddhist monasteries were formed in the 7th century; and Islamic *madrasas* appeared in the 11th century. Although almost all Asian civilizations have intellectual traditions that include highly-developed languages, literatures, history, and arts, academic institutions in every Asian country are rooted in one or more of the Western models, even those (such as Japan and China) which were never under colonial rule. Knowledge of Western languages and commercial practices, required for economic interactions, permitted colonial authorities to dictate the language of instruction in universities, regardless of the language used in elementary and secondary schools.

Because colonial institutions were linked to developing economic and bureaucratic systems, they often displaced indigenous institutions (Altbach, 1998). Conquering nations imposed their views about curricula on colonial colleges and universities, whether or not their assumptions were relevant to indigenous people. As in Africa, colonial universities in India imposed English as the language of instruction and favored the humanities and languages rather than the science and technology fields (Jayaram, 1997). Ironically, colonial universities in Asia produced nationalist intellectuals who laid the groundwork for independence. Altbach (1998) notes: "While religious fundamentalism may be a contemporary force in many countries, the generation that achieved independence and, in a sense, created the modern nation-state in Asia was trained in the colonial universities and espoused ideas learned there" (p. 45). Although the Indian University Education Commission recommended that regional or other Indian languages replace English as the medium of instruction immediately after independence, English has remained as the language of instruction in many institutions (Jayaram, 1997).

Other influences of Western scholarship are also evident in Asian universities. Western textbooks are used throughout Asia, in their original English or translated versions. Altbach (1998) noted that the use of textbooks has a strong influence on the shape of the curriculum in specific disciplines and thus the education of Asian students. He also observed that the American model of higher education has been increasingly influential in Asian countries. The land-grant philosophy of service to the state and community, with its commitment to applied research and practical curricula, has obvious linkages to the goals of emerging academic and political systems. In addition, general education and continuous, embedded assessment (as opposed to terminal examinations) are now commonly employed in Asian universities.

In Korea and Taiwan, the Japanese imposed their academic system, then based on the French and German models (after World War II, American occupational forces incorporated some American higher education ideas). Mainland China also absorbed a number of Western influences. In time, Communist leaders replaced the Western curricular models with Soviet approaches, which held sway until the Cultural Revolution. More recently, China has again looked to the West for routes to academic development.

Responding to Student and Industry Demand

In many countries, functional sectors of higher education evolved to meet the growing demand for access to higher education, and to serve the economic needs of students and the labor needs of industry. Beginning in the 1960s and 1970s, a new class of institutions and degree programs emerged in many nations, providing more practical courses of study in a limited range of disciplines (typically technical fields) to individuals who would not ordinarily attend higher education. These institutions and programs are more responsive to the needs of local employers, and offer degree programs that are, on average, more structured (typically, more classes and fewer electives) and shorter in duration than university courses of study (Gellert, 1997). In Austria, Germany, and Switzerland, *Fachhochschulen* are the primary providers of non-university degrees. The equivalent sector in the Netherlands, the *hoger beroepsonderwijs* (or HBOs) provide higher vocational training to a very large percentage of the higher education population. In Australia, which has a strong vocational and technical education sector, growing numbers of secondary school students have enrolled in vocational education and training (VET) programs that provide credits, or allow them to complete a VET certificate, while still in school. Vocational studies certificates articulate with diplomas which are, in some cases, recognized by the university sector. Traditionally, Australians pursued vocational education and training in technical and higher education programs, but the increasing diversity of students in secondary education and the need for skilled workers has inspired state and national programs to broaden curricular offerings to improve student retention (Cumming & Maxwell, 2004).

In the French system, technical and professional institutes are part of the university sector, but nonetheless offer shorter, more practical degree programs to individuals without a secondary certification (the baccalaureate). Although unique, the French system provides examples of the differences in the sectors and credentials. The highly selective *grandes écoles* control admissions through an entrance exam, typically attempted after two years of special preparation classes. About 20% of the higher education population is prepared through the *grandes écoles* for professional careers in engineering, teaching, business, government, and the military. In contrast, the university sector in France, open by law to all holders of the baccalaureate degree, offers several degrees, including a two-year general university studies degree, a *licence* (baccalaureate plus three years of university study) and a *maitrise* (baccalaureate plus four years).⁴ University technical institutes, although part of the university sector, provide short-track (2-year) courses of study leading to a university technical diploma. Although admission to the university sector is theoretically open to baccalaureate holders, the demand for a technical diploma has outstripped the supply of places in the institutes, allowing these institutions to choose among applicants who see the technical diploma as a path to job security.

In general, the non-university sector, which provides a clear occupational path, creates greater participation in education among underrepresented populations, including older and poorer students. For example, in the Netherlands in the 1980s, the percentage of students of lower socioeconomic classes was twice as high at non-university sector institutions as at the universities. In Norway, as in the United States, programs that offer

part-time study, particularly in the evening and on weekends, attract large numbers of working adults (Gellert, 1997).

A key concern of the European Union, expressed in the Bologna and Prague Declarations, is employability and its relationship to university degrees. The issue is particularly acute in countries with high unemployment rates among university graduates (e.g., Italy and Spain) and slightly less so in countries where first degrees (bachelor's) enjoy wide acceptance by the labor market (for example, Ireland, the United Kingdom, Malta, and Iceland). However, concerns about labor and skills shortages (prevalent in Ireland and the Nordic countries) support arguments for adjusting university degrees to meet market needs (Haug & Tauch, 2001).

The recent discussions about employability and higher education in the European Union have served as a catalyst for the further development of the college/polytechnic section and even the creation of a binary system to increase opportunities for professional education in several countries, including Estonia, Finland, Italy, Malta, and Slovakia (Haug & Tauch, 2001). These developments are complemented by the development of professional bachelor's degrees in a number of EU countries.

The introduction of professional bachelor's degrees in some countries does not signal a complete overhaul of curricula in EU countries. In fact, Teichler (1999) wondered whether higher education is moving away from professional preparation and toward the idea that first-cycle or undergraduate education provides a foundation of knowledge to be supplemented with more specific knowledge acquired later in life. In contrast, Scott (2002a) argued that general education in Britain—which was recently defined as “education for capabilities”—has moved toward “education for employability” (p. 73). Skills such as communication, problem solving, creativity and teamwork—typically considered liberal arts outcomes—have been reduced to techniques and supplemented with instrumental skills (such as information technology or computer literacy) that accede to corporate needs. Scott conceded, however, that such skills provide students with the ability to navigate the “portfolio careers” that have largely replaced long-term employment (Scott, 2002a, p. 73).

There is some consensus among the signatories to the Bologna accords that educational preparation for employment need not be geared to a specific profession but may also take the form of preparation for postgraduate studies (Haug & Tauch, 2001). Rather than impose a particular model of higher education upon the EU, Bologna seems to encourage diversity of institutional types with clear bridges among them. The complex degree structures of many countries remain, however, creating a critical need for readability and comparability of degrees (as discussed later in this chapter). An important by-product of the debate about employability may be the increased attention to the acquisition of core or transversal skills. Ireland and the United Kingdom have already adopted qualification frameworks that are “outcomes-based”—that is, where degrees are awarded on the basis of acquired skills and competencies rather than time spent or credits attained.

Recent developments, however, demonstrate the degree to which higher education welcomes the opportunity to better align programs with industry needs. Alliances are strongly encouraged by programs such as the European Union's COMETT program, which promotes cooperation between higher education institutions and industries in

need of a technically trained workforce. COMETT supports regional or sector consortia that focus on meeting the training needs of industry and joint training projects as well as student work placements and personnel exchanges. It also provides international companies with an internship system that may enable them to increase their international recruitment efforts in engineering and technology fields (Jones, 1997).

Curricula in Planned and Market Economies

The potential downside of an emphasis on employability in higher education is overspecialization. When the Chinese economy was centrally planned, the curriculum in Chinese universities was highly specialized, and the needs of the planned economy drove undergraduate programs. Most students choose basic rather than applied fields of study, and those in applied fields selected heavy industrial specialties rather than light industrial fields, economics, finance, the social sciences or humanities (Holmes & McLean, 1989). Graduates of highly specialized programs found themselves unprepared for the needs of a technologically advanced market economy. In the mid-1980s, the Chinese State Education Commission responded by broadening each field of study, reducing the number of specializations from more than 1400 to just over 800 (Min, 1997) and giving universities more autonomy to design curricula according to local needs.

Overreactions to prior policies, of course, can be just as dysfunctional. Early in the transition from communism to a market economy in Central and Eastern Europe, university faculty and administrators—skeptical of instrumentalist approaches to curricula that characterized the period immediately after the collapse of communism in 1989—tended to advocate a learning-for-the-sake-of-learning stance (Scott, 2000). Student demand for vocational programs, and the willingness of newly-established private institutions to experiment with new programs, seems to have corrected any imbalance.

Central and Eastern Europe have been in a transition period since the end of Communist rule, but higher education in the region faces many of the same social and economic issues evident in Western Europe. Scott (2002b) observed that across these regions, higher education experienced significant growth after World War II and through the 1960s, and the constituencies served by higher education also broadened—in the West as a response to democratic pressures for greater participation and in Central and Eastern Europe as change in entrance policies imposed by the state (which, in concert with Marxist ideology, favored “workers,” “peasants,” and the party faithful). In addition, the need to address human resource needs of industry or planned economies was keen across Europe.

In 1989, almost 40% of the students in Central and Eastern European higher education were studying the natural sciences. By 1996, that figure declined to 30% and the number of enrolled students in the social sciences and humanities grew from 27% to 43%. In some fields—including education, medicine, and engineering—enrollments have been more stable (Scott, 2002b). In the postcommunist society and economy, many universities restructured their academic programs to provide courses that respond to student markets—particularly business, management, and information technology—as well as more vocational courses (Scott, 2000). There is also greater emphasis on

continuing education, and many institutions have adopted credit-based or modular schemes intended to enhance student choice and enable part-time study (demands made by fee-paying students). Further restructuring is required as research institutes, which were separate from the universities, are being incorporated into universities with the hope of providing greater integration between teaching and research. Technical education institutions are also being absorbed into universities or into binary systems that will allow common planning frameworks and, in some cases, upgrading of technical schools.

Credentialing and Mobility

In the medieval university, the course in liberal arts led, after 6 years, to the master's degree. Students earned their baccalaureate degree sometime during that period. The master's degree prepared a student for professional study in theology, law, and medicine. As the numbers of nation-states increased, and with them the number and types of universities and systems, so did the paths to the bachelor's, master's, and doctorate. Following the tradition established by the medieval university, many postsecondary institutions still measured time to degree in terms of years through the 1900s. A few countries, however, such as Britain and the United States, determined progress toward a degree in terms of academic credits, a standard that permits comparisons of curricular work across institutions and the transfer of student work between institutions.

Comparisons of educational achievement and the mobility of students across national borders were of little concern when lives were spent within the borders of one's home country. Today, we are increasingly aware of the interconnectedness and interdependence of people, institutions, and countries. Globalization has elevated concerns about mobility to the action stage. One of the first international efforts was the agreement known as the Washington Accord, signed in 1989 by the organizations responsible for accrediting professional engineering programs in eight countries: Australia, Canada, Ireland, Hong Kong, New Zealand, South Africa, United Kingdom, and the United States. The Washington Accord recognizes the substantial equivalency of programs accredited by these bodies, and recommends that graduates of accredited programs in any of the signatory countries be recognized by the other countries as having met the academic requirements for entry to the practice of engineering. In 2003, provisional membership was extended to Germany, Malaysia, and Singapore, which have demonstrated that their national accreditation systems appear to be conceptually similar to those of the signatories of the Washington Accord.⁵

The European Union has been particularly active in promoting mobility among higher education students and staff. Programs like the European Action Scheme for the Mobility of University Students (ERASMUS) and LINGUA (a program which promotes the learning of European languages) sought to create a "European higher education space" that will build cross-national linkages for teaching and research. Despite differences in national educational systems, academic structures, languages and cultures of participants, and levels of resources, the European Union is continuing its efforts to promote student employability and mobility, as well as the overall development and competitiveness of the European higher education system.⁶

The LINGUA program, launched in 1989, seeks to improve foreign language competence of students and higher education personnel, particularly instructors of foreign languages (Jones, 1997). One goal of the program is to create a de facto requirement that, as part of their preparation to teach, prospective language teachers spend a recognized period of time in a country where the language they propose to teach is the vernacular. Refresher periods would provide the opportunity for teachers to develop student exchange programs.

The ERASMUS program, whose name recalls the ease with which scholars roamed about the universities of medieval Europe, promotes cooperation among higher education institutions with the intention of increasing transnational student mobility, joint course and program development, and transfer of university credits among participating European universities (Jones, 1997). Open to all disciplines, ERASMUS promotes the formation of university partnerships that allow students to complete parts of their educational programs in cooperating universities. A corollary program, the Trans European Mobility Program for University Studies (TEMPUS), was launched in the early 1990s to assist universities in Central and Eastern Europe as they made adaptations to their higher education systems through cooperative activities with Western European institutions.

ERASMUS also provided the basis for the European Credit Transfer System (ECTS), an experiment in awarding transferable credit to students for academic work undertaken outside the home university. The experiment began with 84 participating institutions. A joint statement of the European ministers of education, the Bologna Declaration of June 19, 1999, reiterated the need to establish a credit system, like ECTS, which would promote widespread student mobility and allow individuals to earn credits in non-higher education contexts and thus encourage lifelong learning. In 2003, a further communiqué of the Conference of Ministers stressed the role of a system like ECTS and encouraged progress not only on the transfer of credits, but their accumulation (Realizing the European Higher Education Area, 2003).

The Bologna Declaration of 1999, with 29 European countries as signatories, called on participants to harmonize European academic degrees by creating standards for bachelor's (first-cycle), master's (second-cycle), and doctoral degrees across the EU signatory countries. The standards framework would describe degree qualifications in terms of workload, level, learning outcomes, competencies, and profile. Bologna also stressed the need to adopt easily readable and comparable degrees and to standardize the undergraduate program as a degree requiring a minimum of three years of study to facilitate entry into the European labor market or prepare students for the second, graduate cycle (master's or doctorate). The anticipated date for the completion of the two-cycle system and recognition of degrees and periods of study is 2010.

Recent proposals suggest that a year of study consists of 60 credits (as defined by the European Credit Transfer System). The first-cycle, or bachelor's degree, would consist of three to four years of study (or no less than 180 and no more than 240 credits). The master's degree would be awarded after the accumulation of about 5 years of ECTS credits (of which at least 1 year's worth were earned through master's-level work). Short master's programs (a year or less) were hailed as enhancing opportunities for intra-European mobility and international competitiveness.

As an extension of the Bologna process, the Coimbra Group (founded in 1985) published a resolution in 2004 to create a common definition of the Ph.D. degree that would ensure doctoral programs adhered to specific standards. The resolution would also permit students to take courses at different universities, without having to enroll or incur additional administrative fees for courses taken outside the home institution. Each university would be required to recognize courses taken at other universities. However, at the time of the resolution, some of the Coimbra institutions did not support the plan to allow exchanges of doctoral candidates, in part due to concerns such as the lack of research and funding links at different universities (Labi, 2004).

In the excitement created by new relationships and agreements, it is easy to overlook the difficulties associated with a mobile student body. The adoption of the credit system in the United States in the early 1900s—an effort to control quality rather than to ensure mobility—established the concept of course equivalency and exchange. Although students have not always been able to transfer 100% of their credits from one institution to another, they have nonetheless transferred themselves and their credits among American colleges and universities quite actively. Several studies based on data from national longitudinal databases demonstrate patterns of multiple institution attendance among postsecondary students in the United States.

Adelman (1999) found that among students who first enrolled in a 4-year institution (as opposed to a 2-year or community college), the proportion who attended more than one institution increased from 39% to 52% for the cohorts that graduated from secondary school in 1972 and 1982. Among those who began their higher education at a 2-year college, the proportion attending more than one institution rose from 36% to 47%. Multiple institution attendance actually rose from about half of the 1972 cohort to about 60% of the 1982 cohort when analyses were limited to bachelor's degree recipients (regardless of where they first enrolled). Most of the increase between the two cohorts came from students who attended three or more institutions. In the absence of changes in the credit system, such increases might be attributed to changes in student characteristics, growth in consumerism, or both.

Another analysis, based on interviews with students who received a bachelor's degree in 1992–1993 (regardless of when they completed their secondary schooling), revealed that just over half of baccalaureate holders attended more than one undergraduate institution and 20% attended at least three institutions (McCormick, 2003). Multiple attendance does not necessarily indicate that students are transferring from one institution to another; some students simultaneously attend more than one institution (for example, taking summer courses at another institution to transfer to the home institution, or taking courses in the same term at a community college and a 4-year college). Among those students who attended more than one institution but did not transfer among colleges, students who took courses at more than one college had higher persistence rates (85%) than those who did not (76%) (McCormick, 2003).

While the phenomenon of multiple transfer may not be associated with decreases in retention rates, it creates challenges for universities, particularly in light of the growing volume of calls for accountability for learning outcomes and increasing attention to quality assurance. How is the quality of an education measured when a student attends multiple institutions? McCormick (2003) voiced an important concern: “When the

only currency is the credit hour, the only question becomes one of course equivalency. Important questions about the coherence and sequence of an educational program go largely unasked” (p. 23). The recent focus on outcomes assessment in accreditation and quality assurance must include considerations about the impact of increased student mobility on educational programs.

Practical and General Education Revisited

The trend toward specialization in the undergraduate curriculum has been highly influential worldwide; however, it exists in tandem with concerns for general (or liberal) education in countries such as Japan, Norway, Sweden, and the United States. Recently, there has been a resurgence of interest in general education as a result of issues associated with the recent social transformations from industrial to post-industrial social forms and the move from elite to mass education. Scott (2002a) noted that the need for the expert professional (met in the 19th and 20th centuries by elite education) is waning in the information society that calls for novel configurations of technical skills, symbolic power, and social status. Similarly, Husen (1996) contended that in a rapidly changing society where specific competencies become obsolete, employers in both the public and private sector recognize the value of the generalist with well-honed analytical and problem solving skills.

The expansion of higher education permitted, if it did not always warmly welcome, the enrollments of growing numbers of students from groups that were previously underrepresented in higher education. In developing and developed countries, the influx of new students challenges hegemonic conceptualizations of knowledge. Universities have been relatively slow to adopt new fields of study that deconstruct existing views (such as feminist or women’s studies and ethnic studies programs), even as these ideas become more prominent among students and faculty (Scott, 2002a; Stark & Lattuca, 1997). In the United States, the growing heterogeneity of the population—fueled by both new immigrant groups and by increased postsecondary attendance among underrepresented citizens—has been the fulcrum of an extended conversation about the content of general education programs and their ability to address the needs of a pluralist, democratic society.

Curricular changes in U.S. colleges and universities are a matter of institutional prerogative because there is no national agency that controls curricular (or other) decision making. Social events and cultural changes are therefore strong influences on beliefs about the equilibrium between specialization and general education, beliefs which play an important role in contemporary higher education policies. In the late 1800s, as the demand for specialization in the United States rose along with calls for more practical studies, the emphasis on liberal education in the college and university curriculum decreased, but did not disappear. Even in the land-grant institutions established in the late 1800s, founded with the explicit mission of educating the citizenry of individual states in agricultural and technical fields, liberal education remained a significant component of higher education.

General education and specialization were (and still are) often viewed as complementary: the general educational experience provides breadth of knowledge in a number of

subject areas, while the major encourages depth of knowledge in a single discipline or field. As World War II pressed the U.S. higher education curriculum into the service of the war effort, and consequently toward greater specialization, Harvard University published an influential document entitled, *General Education in a Free Society*, which argued that higher education institutions must balance general education—which promoted understanding of the Western heritage and effective citizenship—with study in a specialization, which prepared men and women for productive work lives (Committee on the Objectives of a General Education in a Free Society, 1945). These sentiments still undergird many college and university missions and are the basis for the dual focus characteristic of American higher education.

In the political and social unrest of the 1960s, student activists in the United States pressured colleges and universities for greater curricular freedom so that they might develop courses of study more relevant to student needs. Institutions suspended many of their requirements, while others permitted students to develop individualized programs of study. The laissez-faire approach of the 1960s and 1970s eventually inspired calls in the last decades of the 20th century for greater coherence in the curriculum (Association of American Colleges, 1985; Wingspread Group on Higher Education, 1993). A 1990 study by the American Council on Education found that 86% of colleges and universities in the United States still required all students to complete at least some core or general education coursework.

This pendulum-like movement between general and specialized education has been particularly pronounced in the United States, as periodic adjustments are made in response to changing cultural conditions (Stark & Lattuca, 1997), but it is not unique. Recently, there has also been a resurgence of interest in the idea of a core general education curriculum in Sweden, where proponents consider it an antidote for the declining quality of political life and culture (Liedman, 1993). In Japan, universities maintained general education courses even as curricular requirements loosened in the 1970s and individual universities obtained leeway to decide whether to retain general education courses and how to allocate general education credits (Teichler, 1997). In 1991, the Japanese Ministry of Education dropped all curricular regulations, allowing universities complete freedom to determine their programs of study. Many Japanese universities retained their general education courses, providing a broadly based education in the first two years of study and delaying specialization until the last 2 years of undergraduate study (Teichler, 1997).

A recent publication of the World Bank and UNESCO recommended that developing nations consider general education as an alternative to specialized models of higher education (Task Force on Higher Education and Society, 2000). Nussbaum (2004) argues that the idea of a liberal education is attractive to developed and developing nations because it promotes the creation of a critical public culture by emphasizing the development of analytical thinking, argumentation, and active participation in debate. General education is also an avenue to educate citizens for an increasingly pluralistic society, where ethnic antagonism, religious intolerance, and fear of heterogeneity are all too abundant.

A recent study of general education practices in U.S. institutions revealed that the average general education requirement in colleges and universities accounted for about

37% of the undergraduate degree (Ratcliff, Johnson, La Nasa, & Gaff, 2001). However, the proportion of higher education devoted to general education appears to be steadily decreasing in American colleges and universities. In 1967, general education accounted for 43% of baccalaureate credits (Dressel & DeLisle, 1970); in 1987, it was 38% of the degree requirements (Toombs, Fairweather, Amey, & Chen, 1989).

Curricular Inputs or Educational Outcomes

Quality assurance systems vary somewhat from nation to nation and the degree of control they exercise over higher education curricula varies. Often, quality assurance is the responsibility of a centralized or national agency that oversees higher education. In Japan, until very recently the ministry controlled budgets, employment decisions, and curricular requirements (Brender, 2004). In France, the National Evaluation Committee oversees a voluntary process, based on institutional self-study, in which institutions self-report information and data that is subjected to expert peer review (Green, 1997).

In other countries, such as Australia and the United States, the state does not control or scrutinize courses or course content; independent agencies provide the quality assurance function. In the United Kingdom, an agency (funded by subscriptions from universities and colleges of higher education) integrates quality assurance efforts in England, Northern Ireland, Scotland, and Wales. Its processes, however, are similar to those used in France and the United States, in their reliance on self-evaluation and visiting teams that conduct peer reviews. In the U.K., institutional audits, institutional level reviews, and academic reviews of subjects (requirements vary across the U.K.) provide public assurances of the quality of higher education institutions. The quality assurance agency (QAA) of the U.K. also provides reference points to assist in the development of clear standards of quality, and in this way exercises some influence (if not control) over higher education curricula. For example, the QAA promulgates subject benchmark statements for different disciplines that describe the conceptual framework of the field and the techniques and skills that will be expected of a graduate in the field; program specifications for each institution clarify the knowledge, skills, and attributes that students will have developed upon successful completion of a specific program. The publication of such frameworks and standards allows students, employers, and other stakeholders a basis for comparison of different curricular options.

The Bologna Declaration called for European cooperation in quality assurance, particularly the development of comparable evaluation criteria and methodologies. In a number of countries that want to increase international acceptance of their degrees, accreditation—rather than quality assurance—is the goal (Haug & Tauch, 2001). By 2005, these national quality assurance systems should include a definition of the responsibilities of the bodies and institutions involved; evaluation of programs or institutions, including internal assessment, external review, participation of students, and publication of results; and a system of accreditation, certification, or comparable procedures.⁷ A particularly promising development is the focus on student outcomes (what students actually learn) rather than time spent and curricular content covered.

Support for outcomes-based assessment is growing, offering an alternative to quality assurance processes based on a review of inputs (such as student achievement on

national or standardized examinations) or processes (such as those now required). A critique of the recently revised Australian framework for quality assurance, for example, noted that the new procedures cannot contribute to an ongoing and sustained dialogue about standards at the national level. One suggested remedy is to define national standards on the basis of the assessment of student learning and thus clarify expectations of student achievement (James, 2003).

In the United States, calls for greater accountability and concerns about the quality of graduates have similarly inspired accreditation agencies to examine and improve their processes. Accreditors⁸ are increasingly requiring colleges and universities to provide evidence that they assess student learning outcomes and use assessment data in continuous improvement processes. One professional accreditation agency—the Accreditation Board for Engineering and Technology (ABET), which accredits engineering and technology programs in the United States—moved to the forefront in 2001 when it mandated that institutions applying for accreditation or re-accreditation provide evidence of student learning on 11 specific educational outcomes or competencies. A national study of the impact on curricula, teaching and student learning of the shift to this outcomes-based accreditation system will be completed in late 2005 (Prados, Peterson & Lattuca, 2005).

Today, the global higher education enterprise is still diversifying in many respects. The 20th century spawned new institutional types, such as the for-profit university, and transformed methods of delivery through technology. But it is possible that elements of the system are coalescing. In time, observers will be able to determine the extent to which external pressures—such as competition, quality assurance, the need for the mobility of students and degrees, and globalization—have counteracted the trend toward differentiation by standardizing educational structures. The impact on curricular content is likely to be more moderate.

It is appropriate to conclude this discussion with a section focusing on the assessment of student learning. The chapter opened with a definition of curriculum that stretched it beyond its usual meaning as a set of courses or educational experiences. If curricula are truly sites for interactions among students, faculty, and content, then any judgment of the quality of a curriculum must include an assessment of what students learn as a result of an educational experience. Although educators cannot control many of the influences on student learning, they can do their best as they create and deliver curricula that recognizes how learning is influenced by the contexts in which it occurs—and how learning may also change those contexts.

Notes

1. Although the higher education enterprise in the United States is not a national system in the strict sense, it can nonetheless be studied as a set of interlocking structures, purposes, and goals. For more on this, please see the chapter by Peter Eckel and Jacqueline King in volume 2 of this *Handbook*.
2. The terms liberal education and general education are often used interchangeably. Some prefer the term general education because it does not carry the intimations of elitism that liberal education is thought to imply. I use the term general education because general education courses do not necessarily achieve liberal educational aims. See, for example, Rothblatt (1993) for a discussion of the various goals of liberal education.

3. Husen (1996) argues that while developing countries should address the social and human development needs of their own regions, they must also broaden their students' perspective to "problems of a universal character," which raise the issue of the "delicate balance between parochialism and internationalism" (p. 19).
4. At the level of baccalaureate plus five years, students can opt for a professional diploma that leads to professional employment or a doctorate, typically attained in 4-5 years and requiring a thesis.
5. The signatory bodies have indicated that they consider that the provisional signatory has the potential capability to reach full signatory status; however, the awarding of provisional status does not in any way imply a guarantee of the granting of full signatory status (International Engineering Accreditation Bodies Meet, 2003).
6. For more information, please see the chapters by Jane Knight (volume 1) and Hans de Wit (volume 2) in this *Handbook*.
7. The European Network of Quality Agencies, created upon the recommendation of the EU Council of Education Ministers, will assist in the development of quality assurance processes.
8. In the U.S., six regional accreditation agencies (sometimes referred to as general or institutional accreditors) are responsible for confirming the quality of higher education institutions as a whole, while approximately 60 independent, specialized (or professional) accreditation agencies accredit individual programs in specific disciplines and fields (such as social work, engineering, and counseling).

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DOCTORAL EDUCATION: PRESENT REALITIES AND FUTURE TRENDS

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Graduate education has played an important role in developing the human capacity necessary to lead the increasingly technological and knowledge-centered economies of the last and present centuries (Antony & Knaus, 2002). Specific forms and programs of graduate study vary in length and scope, from master's degrees to first professional degrees to the Ph.D.—the pinnacle of most any large and complex higher education system. For a variety of reasons, this chapter focuses mainly on the Ph.D. degree, the research-oriented doctorate, and not on the increasingly important professional doctorates such as the doctor of business administration (DBA), the doctor of law (JD), the doctor of education (Ed.D.), and others, although some attention will be paid to these degrees.

After briefly exploring graduate education from a comparative perspective, this discussion will focus on the most successful model of doctoral education in the world—that of the United States—for several reasons. For example, the United States is the host country for more than 550,000 students, and almost half of them are studying at the graduate level. Also, American doctoral degree recipients hold key leadership positions around the world, especially in developing countries. This chapter will describe the size and shape of the American doctoral education system, patterns of activity and funding, and issues of quality control, before examining broad implications and challenges of maintaining a successful graduate education sector—particularly in terms of economic competition and the global brain drain phenomenon.

While some U.S. analysts would disagree, the basic perspective adopted here is that American graduate education in general and doctoral education in particular is largely successful and effective. The system of doctoral education as it has evolved in the United States over the past century and a half serves both the academic system and society reasonably well. Indeed, many of the problems facing doctoral education are engendered by the system's success. Some of the challenges facing doctoral education relate to broader societal forces while others are internal to the academic system.

Comparative Perspectives

Countries vary widely in their support of graduate education, but there is widespread agreement that an expansion of doctoral education is a desirable goal worldwide, and many countries are in the process of expanding their capacity to provide doctoral training and are also looking for the best models to achieve this goal. According to data gathered by the Organization for Economic Cooperation and Development (OECD), Finland, Germany, Sweden, and Switzerland recorded the highest numbers of doctoral graduates per capita in 2002. Brazil, which today offers the largest collection of master's and doctoral programs in Latin America, awarded 6,000 doctoral degrees and 30,000 master's degrees in 2001 (Schwartzman, 2005). In contrast, barely 1,000 students were enrolled in Mexico's Ph.D. programs that year, compared with 5,900 in Spain, and 45,000 in the United States (Casanova-Cardiel, 2005).

The Korean higher education system includes 142 general graduate schools, 106 professional graduate schools, 596 evening special graduate schools, and 25 independent graduate schools without undergraduate programs (Park, 2005). In contrast, there are just over 50 institutions in Iran offering graduate education, and the majority of graduate students in Iran are enrolled in just two institutions—the University of Tehran (UT), which enrolls a majority of all undergraduate and graduate students in the country, and Tarbiat Modaress University (TMU), an institution exclusively for graduate higher education. In 2002, graduate enrollment at the UT was 7,751, of which 22% were enrolled in Ph.D. programs and 78% in master's or first degree professional programs, while TMU enrolled 4,249 graduate students—27% in Ph.D. programs and 83% in master's degree programs (Bazargan, 2005).

A comparative look at the production of new Ph.D.s in science and technology reflects favorably on the Scandinavian countries: for every 1,000 inhabitants, 1.24 new doctorates were awarded in Sweden, 1.01 in Finland, and 0.49 in Denmark—all of which are higher than comparable figures in the U.S. (0.41) and Japan (0.25) (Schmidt, 2005). In Norway alone (arguably the most research-oriented of the Scandinavian higher education systems), 18,600 postgraduate students were enrolled in 2002, and over 2,400 doctoral degrees were awarded that year.

In Russia, by contrast, 136,242 Ph.D. students were enrolled in 2002, an increase of 171% since 1993. Here, the size and scope of the graduate sector is particularly large enough to support a unique diversity of institutions and degree programs, although currently only France recognizes the Russian “candidate of sciences” degree—reflecting questions about the overall quality of some of the graduate programs (Smolentseva, 2005). Of course, in each of the countries mentioned here, the graduate education sector is dwarfed by that of just one country—the United States, which enrolls over 200,000 graduate students annually. With the world's most successful approach to graduate education, the U.S. model warrants considerable scrutiny.

The U.S. Model of Graduate Education

The Size and Shape of the System

In terms of total student enrollment, the American system of higher education is the second largest in the world after that of China, enrolling 14 million students in

postsecondary institutions. While no accurate statistics are available on the number of doctoral students in U.S. universities, it is likely that around 400,000 students are working at the doctoral level in all fields.¹ In 2000, 44,808 doctoral degrees and an additional 80,057 post-baccalaureate professional degrees (e.g., medicine, law, theology, and others) were awarded. It is possible that half of the world's doctoral students are studying in the United States.

The size, scope, and diversity of doctoral education make accurate description difficult. A total of 406 universities award doctoral degrees, but 50 of them award half of all degrees (Nerad, 2002). The 50 top degree providers consist largely of the most prestigious research-oriented universities—both public and private—although the proportion of doctorates granted by these prestigious universities has declined over the years.² People assume that institutions like Harvard and Yale are the largest doctorate awarding institutions, but in fact of the top ten providers, eight are public universities (including the University of California-Berkeley and the University of Wisconsin-Madison, which are the top two). The only two private universities in the top ten are Nova Southeastern University (a for-profit institution of questionable quality) and Stanford University. Like the rest of the U.S. higher education system, doctoral granting institutions are highly stratified. While doctoral education continues to be dominated by the most prestigious institutions, much of the growth in the past 30 years has been in less famous public universities seeking to boost their reputations by offering doctoral degrees. In the highly competitive American system, offering graduate and professional degrees is seen as a sign of prestige and of joining the “big leagues” of research universities. Some public university systems, such as California's, limit doctoral degree programs to specific institutions—for example, only the University of California institutions can offer doctoral degrees while the larger number of schools in the California State University system are limited to bachelor's and master's programs. Universities offering the doctoral degree are a reflection of the highly differentiated American system of higher education. Many are among the most prestigious institutions, both public and private, in part because research-oriented universities tend to be at the top of the hierarchy, but others are regional universities offering doctorates in certain fields.

In a small number of cases, specialized institutions offer doctoral degrees. Rockefeller University, for example, offers doctoral degrees in the biomedical sciences only and is one of the most prestigious institutions of its kind in the world. There are a few freestanding law and business schools in this category as well. A small number of specialized institutions are authorized to offer doctoral degrees in psychology or psychotherapy and some other fields. Some well-known universities, the California Institute of Technology, for example—are quite small institutions that concentrate on a small cluster of disciplines. In the past decade, for-profit academic institutions have emerged, and a tiny number offer doctorates. The large majority of doctoral degrees are, however, offered by traditional universities.

Patterns of Doctoral Study

The basic structure of doctoral higher education in the United States has increasingly become the pattern worldwide. Aside from some variations, describing the organization of doctoral studies in the United States is a fairly simple task. The traditional

pattern of American postsecondary education includes three degrees, the four-year bachelor's degree, a master's degree that is typically one to two years in duration, and the doctorate.³ Doctoral study is quite variable in duration. While new "executive" doctorates exist in applied fields such as school administration that can be finished in three years, including a dissertation, the "time-to-degree" in the traditional arts and sciences fields has been increasing—to almost nine years in the humanities and six years in the life sciences. In some fields and at some universities, students are admitted to doctoral study directly after completion of the bachelor's degree, while in other cases a master's degree is required for admission to doctoral programs.

Like much else in American higher education, many variations exist in the structure of academic degrees, along with considerable differentiation and competition among institutions and even among academic departments and programs. It should be kept in mind that, at the undergraduate level, the majority of American higher education is unselective—community colleges for the most part are "open door" institutions offering entry to anyone with a secondary school qualification. Many four-year colleges and some lower-tier universities admit virtually all students with the appropriate academic qualifications. Doctoral admission is, of course, more selective, even at the less prestigious universities. At the top of the system, admission to doctoral programs is immensely selective, with only the top candidates being admitted, while at institutions lower in the hierarchy, standards for admission are less stringent.

Traditionally, the doctorate was the quintessential research degree, aimed at preparing students for a career in academic or, in some fields, applied research. For years, however, many doctoral recipients, in fact, have done relatively little research in their careers, having been involved mainly in postsecondary teaching. Virtually everyone who holds a regular academic appointment in a four-year college or university, and many in the community college sector, hold doctoral degrees. The growing disjunction between the traditional purpose of the degree—training for research—and the actual use made of the doctorate has led to some criticism of the pattern of doctoral education, but so far little actual change.

The organization of doctoral study varies by discipline and field and also to some extent by institution. However, in all of American higher education, coursework, a set of examinations, and a dissertation are standard requirements for the doctorate. In contrast to traditional European patterns of doctoral education, the American degree relies heavily on formal courses as an integral part of the process. The standard pattern for doctoral education includes approximately two years of formal coursework, which may include considerable laboratory work in the sciences. Courses typically include basic and advanced material relating to the field and the appropriate methodology both for doing research and for preparing a dissertation. Coursework is followed by a comprehensive examination, aimed at ensuring that the student has in-depth knowledge of the field. These examinations come in many different forms depending on the discipline, department, and university, sometimes including both oral and written parts or just written elements. Some examinations feature extended review essays, while others more directly cover the discipline. If a student fails to pass the examination (several attempts are generally permitted), he or she is dropped from the doctoral program. In such cases, which are not uncommon, the student is often given a master's degree.

Upon successful completion of the doctoral qualifying or comprehensive examination, the student then prepares a dissertation proposal and engages in dissertation research. Most universities also stipulate a hearing concerning the dissertation proposal before it is formally approved and the student has authorization to proceed with the research.

The dissertation is a central element of any doctoral program, and is intended to be a significant piece of original research that makes a new contribution to science and the discipline. A significant number of students never complete their dissertations, creating the informal category of ABD (all but dissertation). The proportion of ABDs varies by institution and discipline, but it is high and growing. Dissertations differ in rigor and focus, of course, with major variations by discipline. In the hard sciences, dissertation topics are often related to the research program of the supervising professor, which may involve a team-based project. In the humanities and social sciences, dissertations are typically individual projects reflecting the interests of the researcher, often with some influence from the faculty supervisor. Dissertation supervision is the main responsibility of the “major professor,” usually with the assistance of several other faculty members. The length, scope, and quality of a doctoral dissertation vary widely, depending, of course, on the discipline, the views of the supervisors, the norms of the university, and, of course, the interests and ability of the student. The length of time it takes for students to complete dissertations has come under much criticism, especially in the humanities and, to some extent, in the social sciences as the time-to-degree has increased for doctoral studies.

The traditional doctorate in the arts and sciences differs from practices in some of the professional fields that offer doctoral degrees. For example, the doctorate of education (Ed.D.), a degree usually obtained by people interested in school administration and related education professions, requires a dissertation—but one that is more a description of a project rather than based on original research. Other professional doctorates also have introduced variations on the research-based dissertation. The growing trend toward tailored professional doctorates in such fields as management studies, education, and others means that accredited doctoral degrees are now offered that include cohort-based weekend course work and dissertations or other research projects that many would say fall considerably short of traditional doctoral requirements. While many people have criticized this trend as “cheapening” the traditional doctoral degree, such programs are growing in number, as are doctoral degrees offered by for-profit academic institutions, usually in professional fields, that always lack the rigor of a traditional doctoral degree.

Another aspect of the system of doctoral education is postdoctoral study. In some fields in the sciences, the postdoctoral position (or “postdoc”) is becoming a standard part of the doctoral study cycle. A significant number of doctoral degree recipients take postdoctoral positions immediately following completion of their degree studies, spending a year or more affiliated to a laboratory prior to competing on the job market. Postdoctoral study permits a scientist to work closely with a senior researcher and often with a research group. In some fields, postdoctoral experience is a necessary prerequisite to obtaining a regular academic job. This arrangement delays the start of a career in some ways and introduces an additional level of uncertainty. Postdoctoral appointments are largely limited to the sciences, and are seldom available in the humanities or social sciences.

Accreditation and Quality Control

Doctoral study takes place mainly at traditional universities in the United States—academic institutions that offer undergraduate and graduate degrees, including the doctorate, in a variety of disciplines and fields. These institutions are accredited by one of the regional accrediting agencies responsible for accrediting all postsecondary institutions in the United States. These regional agencies are not government bodies but rather private organizations controlled by the academic community itself and recognized by government to carry out accrediting activities. Nonaccredited institutions are typically not eligible to receive government loans or grant funds. In some fields of study—such as engineering, business administration, law, and teacher education, among others—additional accrediting bodies controlled by the professional associations must provide authorization for institutions to offer degrees of various kinds. The traditional arts and sciences disciplines have no accrediting beyond the overall institutional accreditation described above. This patchwork of accrediting and authorization, carried out by nongovernmental organizations and agencies, but with government at both state and federal levels recognizing the validity of these accreditors, constitutes the pattern of American accreditation.

Institutional and program accreditation has a long history and is, in general, quite rigorous. Institutions are asked to provide detailed information and self-evaluations of their work, encompassing doctoral programs, extracurricular activities, academic resources such as libraries and laboratories, the qualifications of academic staff, and many other aspects. This information is carefully evaluated by accreditation teams made up of peer committees, and final decisions are made by the accrediting bodies. Institutions and programs are given basic accreditation—they are not ranked in any way. When a university or program specialty is found deficient in some way, it can be given provisional accreditation and asked to remedy the problem or, in rare cases, can be denied accreditation. A denial generally means that the institution or program ceases to function.

In some states, additional authorization from state agencies is required in order to offer specific academic degrees, with some states extending this authority to private as well as public institutions. This authorization is often legally required in order for academic institutions to operate, and can apply both to entire colleges or universities or to specific degree programs. In some cases, state authorization is linked to institutional or program quality, but more often it is a matter of appropriately registering with state agencies and providing evidence of adequate academic resources—such as libraries, teaching staff, and the like. Some states also take into account the perceived need for additional programs or institutions in the state. It is universally the case that there are controls over establishing or expanding public institutions or programs. Controls over private institutions vary from state to state and this process is less rigorous. Accreditation basically provides certification that an institution or program meets the minimum standards of academic quality and has the minimum resources deemed necessary.

Accreditation is not the same thing as quality control or assessment. In fact, there is no systematic quality control over higher education institutions or academic programs at the national level in the United States. In a few states, there are some limited and generally incomplete efforts to measure the academic quality of public institutions

and their academic programs. While there is considerable discussion concerning the quality of academic programs and concern over the cost of providing academic degrees, no comprehensive plans exist to measure quality in any systematic way. One specific issue being discussed widely is the perceived need to measure the outcomes of academic programs in addition to the inputs, but there are no agreed standards or programs relating to such measures.

There is no national or state quality assessment of doctoral programs in any discipline. However, several agencies have attempted to rank academic institutions and discipline-based programs. The most influential and widely circulated such ranking is that done by *U.S. News and World Report*, a weekly general interest magazine. The *U.S. News* annual rankings attempt to measure quality based on a number of variables for academic institutions and programs at all levels. Rankings are provided for graduate programs in many, but not all academic and professional fields, but there are no specific rankings for doctoral programs alone. The most comprehensive national evaluation of doctoral programs was carried out by the Committee for the Study of Research-Doctorate Programs in the United States and was conducted by the National Research Council (Goldberger, Maher, & Flattau, 1995). This study ranked doctoral programs in various academic fields but not in professional areas. Professional organizations, including some that accredit graduate programs, have been concerned with quality assessment and assurance as well. The Carnegie Foundation for the Advancement of Teaching for the past 30 years has provided a categorization of American academic institutions by type—including a category for research and doctoral universities. While not a ranking, this listing helps to identify types of institutions.

The basic fact, however, is that the United States has a complex and highly effective set of accrediting arrangements, sponsored and managed by the academic community, that provides a basic “floor” concerning academic quality and resources at all levels of the postsecondary system, but very little in terms of quality assurance or assessment. Indeed, the United States is behind some other countries in thinking about and implementing programs in this area.

The Funding of Doctoral Study

The pattern of funding for doctoral education in the United States is complex. As with higher education generally, funding comes from a combination of sources. For doctoral education sources include the 50 state governments (mainly through funding of public higher education institutions and systems), the federal government (mainly through research grants to individual professors and occasionally to academic institutions and several different kinds of loan programs), tuition and fees paid by students, university endowments, philanthropic foundations, and businesses of various kinds. The mix of funding varies by field, type of institution, and even program within a university. Generalization is difficult.

Basic institutional support is provided by the states for public universities, although the proportion of state funding has decreased in many states as part of a public disinvestment in higher education generally and in light of current economic difficulties. The

federal government traditionally does not provide basic institutional funding, although it does support some university-based laboratories and facilities in areas defined as in the national interest—mainly although not exclusively defense related. Neither state nor federal funding is available for basic institutional support for private universities, although a few states do provide direct funding to private universities for doctoral education and the federal government funds some research facilities at private institutions. For private institutions, basic funding comes from tuition and fees, the university's own endowment and other funds, and research grants and contracts.

The mix of funding varies by institution as well. The top 50 doctoral granting universities receive the bulk of research funding from the federal government. They also dominate foundation and corporate research funding. These universities are typically able to provide funding packages for many, and in some cases, virtually all of their doctoral students. A large proportion of students have research assistantships and work directly on research projects with professors. This pattern holds for both public and private universities. Less prestigious universities have fewer financial resources. More of their students pay for their studies, and a larger proportion serve as teaching assistants than is the case at top-tier schools.

There are also differences by field and discipline. The sciences are generally better funded than the humanities and social sciences. A larger proportion of science doctoral students receive funding packages that permit them to study on a full-time basis. The size of stipends and scholarships is also typically larger. There is less external funding available in the humanities and social sciences. As a result, fewer students receive full financial support. Most students study part-time. A larger proportion obtain loans rather than grants; more take longer to complete their doctorates and more drop out before completing their degrees.

Providing funding for doctoral study in the U.S. is a perennial difficulty. The present situation is especially problematical because of a change in funding patterns in most states and the impact of the economic downturn. State governments, in general, have reduced their overall support to public higher education, and this has had an influence on doctoral education because the decline in general support has meant fewer resources, higher tuition charges, and less funding for academic facilities. More important, the federal student loan programs have not kept pace either with demand or with the rising tuition charges at many universities.

At the same time, corporate research and development (R&D) expenditures in some fields have declined. The federal government has, so far, not reduced funding for research significantly, but the focus of research funding has shifted to some extent. The United States spends about half of the world's R&D funds, and a significant amount of R&D expenditure is conducted by universities. Basic research, especially, is university based. A significant proportion of applied research, some of it funded by the corporate sector, is also located on university campuses. Thus, the health of doctoral programs in universities is of considerable importance for the entire research enterprise in the United States.

Doctoral education cannot be separated from either the American academic research enterprise or the arrangements for teaching large numbers of undergraduates in the larger research-oriented universities (Graham & Diamond, 1997). Doctoral students,

especially in the sciences, are an integral part of the research system. They provide the personnel at relatively low cost who do much of the research under the supervision of senior professors. The research grants provided by government agencies such as the National Science Foundation and many others, by private philanthropic foundations, and increasingly by corporations are the sources of funding for graduate assistants who work on research while studying for their doctorates. In many cases, dissertation topics relate to the funded research.

This system of financial support for doctoral study and basic research works well for American higher education. It ensures financial support for students as well as faculty mentorship and supervision for them, and it ensures a steady source of labor for research projects. These research funds are awarded on a competitive basis, and as a result the bulk of financial support for doctoral students in the sciences goes to the prestigious research-oriented universities. Doctoral students in all disciplines, but especially in the social sciences and humanities, serve as teaching assistants and sometimes as lecturers for undergraduate courses. In return for modest stipends and tuition scholarships, doctoral students provide much of the teaching in large undergraduate courses. Typically, they work under the supervision of a senior professor and conduct discussion sections for students as well as help with grading and evaluation. In the sciences, doctoral students may help with laboratory supervision. Funds for teaching assistants generally come directly from the university.

The organization, funding, and ethos of doctoral education in the United States has evolved over more than a century of modification and change. Most would agree that it has achieved a high level of quality and is well integrated into the academic system. For these reasons, it is seen as a model for many other countries. However, American doctoral education is uniquely American. It is worth studying as one way of embedding advanced training and research into the academic system, but as other countries look to the United States, both the problems and the lessons of the American system are important to discern.

Implications

As the European Union prepares to reorganize university degree structures to fit the bachelors-master's-doctoral pattern and to implement the European Credit Transfer System (ECTS), the U.S. system—which has included both of these practices for a century or more—offers important insights and lessons. The implications of a successful graduate education sector are often broadly defined in terms of economic competition and the global brain drain phenomenon. Scholars of human capital theory indicate that a nation's development is directly tied to the sophistication and success of its higher education system. Given the current role of the United States as the world's largest economy, it should come as no surprise that the leaders of the European Union are looking to invest in developing their graduate sector as a means to become an economically competitive counterbalance to the U.S.

However, until they do so, they will struggle with a comparative disadvantage—according to a 2003 study published by the European Commission, 73% of Europeans who received Ph.D.'s in the United States decided to stay there, up from 49% in 1990.

Indeed, this is part of a larger phenomenon widely known as the global “brain drain,” in which the best and brightest graduate students of many corners of the globe migrate to other countries in pursuit of educational and other life opportunities. Like other patterns of migration, the primary trend involves individuals moving from less-developed countries to those with highly developed education systems—most prominently, the U.S.

Because of its excellence in graduate education, the United States currently imports some of the best minds from other countries. In some cases, these people are trained at American universities, and many seek employment in U.S. academe, while others are recruited from universities overseas, lured by better salaries and working conditions in the United States. According to the Institute for International Education (IIE), over 84,000 international scholars lived and worked in the United States during the 2002–2003 academic year, and nearly 18% of them were from China (Koh, 2002). Further, according to data collected by the National Science Foundation (NSF), at the turn of the century over 26% of all science and engineering doctoral degrees in the U.S. were held by foreigners. The implications of these patterns are striking—for example, 32% of U.S. Nobel-prize winners in chemistry between 1985 and 1999 were foreign-born.

International students constitute an important element of doctoral study in the United States. Almost half (238,497) of all international students are studying at the graduate level, with a majority of these in doctoral programs. International students constitute 13% of all graduate students, significantly higher than the 2.7% of all undergraduate students who are international students. Just as important, international students tend to be concentrated at the most prestigious universities and in a small number of fields of study. Business and management is the most popular field for international students (almost 20% of enrollments are international students), followed by engineering and mathematics, and computer science. In these fields, about half of all doctorates are earned by international students. It is also the case that international students from a number of the countries sending the largest numbers to the United States—such as India, China, South Korea, and several others—tend not to return to their home countries immediately following the completion of their degrees—with half or more remaining in the United States.⁴

In fields such as engineering, computer science, mathematics, business administration, and several others, a significant part of the professoriate is also from other countries. International students are especially numerous in doctoral programs at the most prestigious research-oriented universities. Many international students who earn doctorates in the United States do not return to their countries of origin, and significant numbers enter the professoriate (Choi, 1995).⁵ Those who do return home bring the norms and orientations of their American doctoral training with them.

The model of American doctoral education—the commitment to teaching and research at the same institutions, rather than separating them in specialized research institutions and teaching-oriented universities; coursework as part of doctoral training; a variety of academic institutions of different quality, prestige, and orientations offering doctoral degrees; and a mixture of funding patterns have proved to be quite influential globally. While U.S. universities have not exported doctoral training abroad, as they

have done with some undergraduate and especially professional degrees, other countries have looked to the United States as a model for expanding doctoral training. For example, Japan is currently expanding its doctoral training opportunities and is looking mainly to the U.S. for ideas.

The U.S. borrowed the basic concept of doctoral education from Germany in the 19th century, adapting it to meet American conditions. While the American pattern has been successful, and has been influential worldwide, it faces some serious challenges in the changing academic environment of the 21st century.

Contemporary Challenges to Doctoral Education

Seen from abroad, American doctoral education seems successful and innovative. Unparalleled in size, comprehensiveness, and quality, doctoral education in the United States seems to have little to worry about. Yes, there are major criticisms made of doctoral education, and the entire system of doctoral training and research faces some difficult challenges in the coming decade. The following discussion highlights some of the main points of criticism currently being discussed in the United States.⁶

The Research Enterprise and Doctoral Education

Doctoral education is closely linked to the research enterprise in American higher education, especially to basic research. In the sciences, the traditional model of research production is under strain. There is greater pressure for research to be linked to applied usage, especially so that income from patents and other innovations can be earned (Bok, 2003). There is also pressure from private-sector corporations, especially in fields such as biotechnology, to be involved in academic research and to have rights to the results of research done on campus. Traditional funders of basic research, including such government agencies as the National Science Foundation as well as private philanthropic foundations, have been critical of the traditional patterns of research funding. At present, the level of funding for research has not significantly decreased although there is some evidence that patterns of funding may be changing. Further, funders are in many cases less willing to provide money for doctoral students, especially when such support cannot be directly justified in terms of research outcomes.

Doctoral education, especially in the sciences and at the most prestigious research-oriented universities, is linked to trends in research funding—both amounts of money available for research and the configuration of research support. This introduces significant uncertainty in terms of levels of funding that will be available, the areas that will receive external support, and the numbers of students who can be supported.

The tight link between external research funding and doctoral education in the sciences at the most prestigious universities has always been problematical. So long as funds were available and providers permitted the academic institutions sufficient autonomy, the system worked. Now, there are signs that this status quo is changing, and it is not clear how either basic research or the provision of funds for doctoral students will

survive. This situation has never been a major factor in the social sciences or especially in the humanities, since significant research funding has not in any case been available.

Narrowness and Limited Relevance of Doctoral Training

As knowledge has expanded, there has been a trend toward increased specialization in doctoral training, producing doctoral degree holders whose skills are limited and who have limited opportunities for employment as a result (National Academy of Sciences, 1995). Employers in industry and many students and recent graduates complain that their training was too narrow and that graduates were ill prepared for a rapidly changing job market. The doctoral curriculum and the philosophy of doctoral education is mainly in the hands of professors who are in general insulated from the job market.

A related complaint, perhaps most widespread in the humanities and social sciences, is that doctoral degree holders are not well trained to teach. This complaint is related to the narrowness of the curriculum, but it also highlights the fact that doctoral programs provide virtually no training in pedagogy and many offer only limited, if any, opportunities to teach.⁷ It has been pointed out that the majority of doctoral degree recipients in the humanities and social sciences, and a large proportion of the total number, engage primarily in teaching at the postsecondary level, including in community colleges. Critics have advocated that doctoral preparation should include training to teach. They point out that even those doctoral students who serve as teaching or laboratory assistants during their degree program are often not given instruction in how to perform their limited teaching duties. While pedagogical training has never been part of doctoral education in the United States, many advocate it as a necessary reform to meet the changing roles of doctoral degree holders in many fields.

Doctoral training, many critics argue, has also become ever more specialized, creating further problems for degree holders as they enter an increasingly differentiated and complex job market. The reasons for increased specialization relate to the expansion of scientific knowledge in all fields and the perceived need to discover new knowledge, albeit in an ever contracting universe. Doctoral faculty, committed to the traditional values of scholarship in this context, have contributed to this specialization. Critics have also argued that doctoral training is also inappropriate for contemporary science and scholarship. It does not sufficiently emphasize collaborative work and new trends in scientific investigation. These trends have played themselves out in different ways in various disciplines, with some more affected than others, and with variations by broad scientific field as well.

Growing Irrelevance in a Changing Job Market

Due in part to the overspecialization discussed here, to a changing academic labor market, and to the fact that growing numbers of Ph.D. degree holders are finding employment outside the universities, there has been criticism that the doctorate has become irrelevant (Altbach, 1999). Faculty members responsible for doctoral training still have the traditional model of a faculty career in mind. The fact is even for those entering the academic profession, the terms and conditions of the professoriate have

changed for many. A declining proportion of doctoral degree holders can expect to work at research-oriented universities, while a growing number find themselves at colleges and universities that focus on teaching rather than research. And in many fields only a minority, and sometimes a small minority, find positions in academe. The job market for doctorates has been ever more diverse as many enter private industry, including entirely new fields such as biotechnology, consulting firms, and the like. Government service at various levels also increasingly attracts doctoral graduates.

This changing and in many ways expanding job market for Ph.D. holders has put pressure on doctoral training to be more flexible and aimed at a wider array of jobs than the traditional academic profession. While some fields have made some minor changes, there has been little rethinking of the links between doctoral training and the changing labor market. The Center for Innovation and Research in Graduate Education has conducted research to show that both the career goals of doctoral students and the actual jobs obtained by graduates are changing.⁸ In biochemistry, for example only 32% of doctoral students want to become professors, while in electrical engineering 35% aspire to the professoriate. In English, 81% desire an academic career, as do 72% in political science. In terms of actual employment, the “Ph.D’s-Ten Years Later” study found that about two-thirds of doctorates in English, mathematics, and political science held professorial positions, while half of those in biochemistry and roughly one-third of those in computer science and electrical engineering were in the professoriate (Nerad, 2002, p. 7). A significant and growing number of Ph.D. recipients are employed outside academe.

The transition from doctoral study to work is also increasingly problematical in the United States. Obtaining an academic job, still a goal for many doctoral students and the predominant desire in many fields, is difficult and ever more complex. It is taking longer for a Ph.D. holder to find a tenure-track academic job. The growth of postdocs in the sciences lengthens the time period of obtaining a “regular” academic position in those disciplines. And there is little articulation between doctoral study and the growing number of nonacademic jobs available to Ph.Ds. Efforts are being made to smooth this degree-to-work transition, but the problems are considerable.

“Time- to-Degree” and Degree Completion

Many have noted that obtaining the doctoral degree is taking longer on average, and this is seen as a problem. It now takes between six and nine years to complete a doctorate—with variations by field and by institution. Students in the humanities take the longest, while those in life sciences complete their studies most quickly. There are many reasons for this trend. Faculty point out that knowledge has expanded and it takes more time to impart the necessary skills (including ever more complex methodologies) to doctoral students. As funding has become less available for the growing number of doctoral students, many are forced to study part-time or to delay their studies. In the humanities, where funding is most problematical, students often accrue loan obligations of \$20,000 to \$30,000 during their doctoral studies. Further, the changes in patterns of funding tend to slow doctoral completion as students are asked to serve as teaching or research assistants, often in areas peripherally related to their specialty.

Some have pointed out that the increased time-to-degree is not cost effective either for students or academic institutions. The universities accrue costs from having students remain on campus for an extended period, and of course, the students themselves face low incomes and the continuing expense of study. Increased time-to-degree lowers morale and contributes to a growing rate of noncompletion of studies. This complex nexus of conditions has created a pattern of difficulties that has made doctoral study more difficult.

Recruiting the Best and the Brightest

One of the greatest challenges for American higher education in the coming period will be recruiting top-quality scholars and scientists to staff the postsecondary education system and especially to ensure that the research universities have the best-quality staff. Doctoral education plays a key role in this arena because the academic profession as well as those who staff research laboratories and institutions of all kinds typically hold doctorates and are trained at research universities that offer doctoral degrees. Those at the top of the system are trained in the key 20 or 30 American research universities.

Ensuring future scientific and academic leadership is now in question. The problems, some of which are discussed here, facing doctoral education in particular and higher education in general in the United States, are serious. Continuing financial problems are placing strains on the doctoral training system and on higher education. Universities find it hard to compete with the private sector for the best talent. Many of the best young minds are unwilling to undergo the long, poorly paid, and often disorganized road to a doctoral degree. The problems encountered by Ph.D.s in obtaining academic employment are another deterrent.

Conclusion

Doctoral education in the United States forms a huge and diverse enterprise. Seen from the outside, American graduate education is often hailed as the “gold standard” to which other nations and academic institutions aspire. From the inside, however, doctoral education faces many challenges. Examining the current condition and future prospects of doctoral education in the United States serves a useful purpose as other countries continue to look to American research universities for guidelines as they cope with the expansion of doctoral education.

This analysis has provided both an overview of the pattern of American doctoral study and an indication of some of the problems facing this key sector of higher education. It may seem paradoxical that the system of doctoral education admired—and often replicated—in other countries is seen by many people in the United States as having some severe problems. The basic structure of doctoral training in the United States, as it has evolved during the past century, is an effective means of training creative specialists in the disciplines and, increasingly, in multidisciplinary fields. Doctoral programs have proved to be sufficiently flexible to allow for new scientific developments and to adjust to the development of mass higher education.

The American pattern of combining instruction and research as part of doctoral preparation has proved to be effective. The “taught doctorate,” as opposed to the European-style research doctorate, has been effective in providing the depth of knowledge required by the expanding disciplines. Locating doctoral study in universities rather than specialized research-focused institutions has also been effective. The fact that doctoral education exists in a large and highly differentiated academic system is also a major advantage—doctoral education is, for the most part, located at the best universities, institutions that can in general afford to provide the facilities needed for quality instruction and research.

The basic structure of American doctoral education does not seem to be in need of dramatic change. However, reforms that will ensure that past successes can be continued are needed. Of greatest importance, perhaps, is ensuring that sufficient funds are made available to provide high-quality training and to support the research enterprise that is integrally related to doctoral education. It is also necessary to ensure that doctoral programs are sensitive to changing employment trends, scientific developments, and the needs of doctoral students and faculty.

Notes

1. In 2001, there were 354,800 students enrolled in science, engineering and health fields in academic departments offering the doctoral degree. Some of these are master’s students, but most are likely studying for the doctorate.
2. The major doctoral institutions are members of the Association of American Universities (AAU). This organization, established in 1900, is generally seen as representing the major, research-oriented American and Canadian universities.
3. More than 25% of American students attend community colleges which offer two-year degrees called associate degrees. Study at community colleges may result in a terminal associate degree or students may transfer to a four-year college or university and complete two additional years for the bachelor’s degree. For more on this, please see the chapter by Peter Eckel and Jacqueline King in volume 2 of this *Handbook*.
4. Most of these statistics are from *Open Doors, 2001*.
5. In many fields, foreigners with U.S. doctorates find it easier to enter the academic profession than to compete for jobs in business or other sectors of the American economy. Americans, on the other hand, are often attracted to private sector employment, where remuneration is higher than in academe. As a result, foreign degree holders are probably overrepresented in academe.
6. This discussion follows many of the points made by Maresi Nerad in her paper “The Ph.D. in the U.S.: Criticisms, Facts, and Remedies.” The Council of Graduate Schools, which is the main organization representing the interests of graduate programs in the U.S., highlights many of these issues in its publications and on its website.
7. The Carnegie Foundation for the Advancement of Teaching is currently studying doctoral preparation in the United States, and will focus on teaching as an essential part of the process.
8. The Center for Innovation and Research in Graduate Education is a new agency involved in research and analysis relating to graduate study. Further information can be obtained from CIRGE, Box 353600, University of Washington, Seattle, WA 98195, USA. E-mail: cirge@u.washington.edu

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HIGHER EDUCATION FINANCE: TRENDS AND ISSUES

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In discussions of higher education around the world, issues of finance are often prominent from the perspective of various stakeholders. Policymakers are engaged in asking how much of the public purse should be devoted to higher education relative to the competing demands for basic education, health care, transportation, and the many other public functions. Higher education officials and faculty are concerned about providing a quality education with scarce resources and sustaining their livelihood. Students and their families worry about how they are going to pay for their education beyond high school.

Whether to impose or increase tuition fees, how best to fund institutional needs, and how to slow the growth of student debt burdens are just some of the topics that tend to dominate higher education debates in countries around the world. These debates now occur with regularity in both industrialized countries and in less developed countries, although often with a somewhat different focus. In the industrialized world, the central issue typically is how to improve the quality of the teaching and research that occurs within institutions as well as how to expand access for disadvantaged groups within society. For less developed countries—those with GDP per capita of less than \$3,000 or so—the issue is more often focused on how to expand higher education to the point that it can meet the demand generated by those graduating from high school.

This chapter focuses particularly on one of the most prominent issues of financing higher education in both developed and developing countries across the world over the past several decades—namely, the gap between the growth in enrollments and public and private resources available to fund that growth.

Ironically, while financing issues are often a hotly debated topic, the amount of academic research written on the subject is fairly modest. Other topics—such as how to maintain quality, protect academic freedom, and strengthen governance—seem to be much more frequently the subject of academic research in higher education than are financial issues. This chapter thus synthesizes our understanding of a number of the issues and structures that help to define how countries¹ finance their higher education systems. The chapter is organized around five central themes: the first section addresses

key macroeconomic concepts and considerations; the second examines major public and private sources of support for institutions; the third discusses the issues entailed in developing student financial aid programs; the fourth considers the importance of linking different financing policies; and the fifth identifies key recent issues related to the gap between the growth of enrollments and resources.

Macroeconomic Concepts and Considerations

A number of macroeconomic concepts help to define a country's system of higher education finance. For example, systems can be defined by measuring the overall level of support for higher education from public and private sources; estimating rates of return to education and higher education; and examining the relationship between levels of participation and investment in higher education.

Overall Level of Support

The overall amount of resources devoted to higher education is a key determinant of both the size and the quality of the enterprise. Generally, the more funds that are provided, the more likely people are able to participate (because more seats can be provided). Quality also is likely to be higher with more resources, because more funds can be spent on staff, services, and facilities.

But comparing countries by the level of resources they devote to higher education can be difficult for several reasons, not the least of which is that accounting conventions vary widely around the world. For example, some countries like the United States include in their national higher education data all costs associated with research conducted on campus, as well as the costs and revenues attached to providing room and board to students and health care services to the community, but most countries do not include these activities in their spending figures. Another possible complication is whether to use the amount spent or the amount of revenues received. Generally, the convention is that level of support tends to be reported in terms of spending, whereas revenue sources are more often used to describe how the system is supported.

There are also a number of ways to measure the overall level of financial commitment to higher education, each with its own strengths and weaknesses. It is not appropriate or helpful, however, simply to ask how much money is spent on higher education in total, in part because currency adjustments are difficult to make without biasing the outcome in one direction or another. But even if adjusting for currency differences were not a problem, one would still want to put the amount spent within the context of the country's overall economy.

Another difficulty in examining the financial commitment for higher education is that most countries report statistics on public spending for education but often do not measure spending on higher education or education that comes from private sources. Thus, international comparisons of higher education spending typically involve a two-step process: first, public spending on all education is measured, and then the proportion spent on higher education is identified. On this variable, countries tend to spend between 2 and 5% of their GDP on education, with developing countries at the lower portion of

this range and developing countries on the higher side. In terms of the percentage of education spending devoted to higher education, the figure averages between 15 and 20%, with developing countries often at the higher end of the range (World Bank, 2000).²

However, higher education spending as a percentage of all education spending can also be misleading, although the World Bank and other groups (for example) tend to rely on this measure to determine a country's commitment to its higher education system. Indeed, a number of additional factors should be considered, including the relative level of spending for education and whether it has been increasing or decreasing over time. A better measure of financial commitment is to compare the money expended by higher education institutions and students as a percentage of the country's Gross Domestic Product (GDP). Unfortunately, many countries do not report this figure, and there is great variability on this measure across countries that do provide it, ranging from as little as 0.1 or 0.2% of GDP in a number of underdeveloped countries to as much as 2.5 to 3% of GDP for some developed countries, including the U.S., New Zealand, and Canada. Overall, the average proportion of GDP devoted to higher education across the world appears to be about 1%.

Another frequently used measure for comparing the level of financial commitment is the amount spent per student. This calculation has the advantage of placing overall spending on higher education within the context of how many students the funds are supporting. The disadvantage is that the comparison requires currency adjustments. Again, there is wide variation among countries, with many less developed countries often spending less than \$1,000 per student. Developed countries spent on average \$10,000 per student in 2000, while in the U.S. spending was twice this amount (OECD, 2003).³

Another approach that combines elements of the previous two is to consider the amount spent per student as a percentage of GDP per capita. This provides a perspective that considers both how many students are enrolled and how higher education spending relates to the overall economy. However, the resulting calculation is in some ways meaningless as an absolute number, although it can be useful as a basis for comparison. As a general rule, spending per student as a percent of GDP per capita for developed countries is less than 50%, while for developing countries it ranges from 40 or 50% but can be as much as 1,000% (World Bank, 2000).⁴

Rates of Return

The resources devoted to higher education, however measured, should inevitably be linked to a society's assessment of the worth of that education. Societal decisions regarding how much to invest in education are tied, either explicitly or implicitly, to an assessment of how much benefit education generates in that country. The question of how much of a society's resources are allocated to higher education and to education more generally in turn is critically linked to the economic concept of rate of return.

Economists tend to measure the benefit produced by education or most other goods and services by calculating a rate of return—the economic and societal benefits generated over a period of time calculated as a percentage of the resources consumed in generating those benefits. The intricacies entailed in calculating rates of return to

education are discussed at greater length and detail in other chapters of this volume. Suffice it to say here that rates of return to education are a function of both public and private benefits. The public benefits to society of more education include items such as the value of having a more educated citizenry (a value which is very hard to calculate, involving an economic concept called externalities). The private benefits of more education are often more easily measured as the additional income that individuals receive as a result of furthering their education, although this figure, too, includes hard to measure externalities such as the improved quality of life for individuals who have furthered their education beyond the secondary level. The additional taxes this additional income generates and the reduced costs for incarceration, health care, and other functions that result from having better educated citizens are also more easily calculated as the public benefits of more education (Leslie & Brinkman, 1988).

The level of resources provided for higher education will be related to a society's assessment about the rates of return to education and, more specifically, higher education. Some cultures appear to value education much more highly than others and this is typically reflected in the amount of funds they are willing to invest in education. This is a principal subject of interest for economists who attempt to make assessments of the effectiveness of educational systems in improving the quality of life.

Rates of return in higher education compared to basic education. The general assessment of most economists, culled over many years of analysis, is that the rates of return to education generally exceed those that accrue to investments in higher education. Perhaps as a result, most countries tend to invest more in basic education than in higher education, as measured in various ways. This economic view also explains why international entities such as the World Bank have for many years argued that the preponderance of their additional resources for education are better devoted to basic education than higher education, although this view has changed somewhat over time, at least at the World Bank, and it has been devoting more resources to higher education in recent years.

Levels of Investment and Participation

A country's participation rate in higher education, like its level of financial commitment, can be measured in a number of ways. One frequently used measure is the proportion of high school graduates who continue their education beyond the secondary level. Countries in which less than one-fifth of their high school cohort moves beyond the secondary level are regarded as elite systems; those with up to half of high school graduates continuing are defined as mass systems; whereas those systems in which more than half of high school graduates continue their education are regarded as being universal (Trow, 2005).⁵

Another measure of participation, perhaps a less accurate reflection of reality but much easier to calculate, is arrived at by simply dividing the number of students enrolled in higher education by the total population of the country. In more developed countries, enrolled tertiary students as a percent of the population average between 3 and 5%, whereas in developing countries this figure is more likely to be in the range of 1% or less (World Bank, 2000, Table B).⁶

A key issue in international comparisons of higher education is the relative level of investment and participation. Several of the ways in which the level of financial commitment and participation to higher education can be measured have already been discussed. Comparing these levels of commitment and participation can be an important component of the higher education debates in many countries. These debates typically arise over the question of whether more money spent on higher education correlates to higher levels of participation. A related question is whether relatively low levels of tuition fees (brought about by higher levels of public investment and higher subsidy levels) lead to higher levels of participation. On this latter question, there is no clear correlation. Some countries and states with low levels of tuition fees have high levels of participation, but more typically countries and states with low levels of tuition fees have relatively low levels of participation. In a number of cases—for example, in many European countries like France and Germany—low or no tuition fees are a mark of elite systems of higher education with relatively low levels of tuition. This is likely not a coincidence. When countries provide high levels of subsidy to keep tuition fees low, they generally can accommodate fewer students within any given level of overall funding.

What is generally true is that *high levels of financial commitment* correlate to high levels of participation. Countries that spend more on higher education tend to have higher levels of participation. What is more difficult to generalize about is whether this financial commitment comes through public or private investment. With a few exceptions, high levels of participation correlate with countries in which fees and other private resources provide a relatively high proportion of total funding for higher education. This most typically occurs in countries and states where the private resources generated by fees supplement a medium to high level of resources from the public sector, resulting in more overall resources, which in turn allows for higher rates of participation. In contrast, as noted above, countries with low tuition fees and low levels of public investment tend to have lower levels of participation.

Public and Private Support of Institutions

Higher education systems around the world depend on a combination of public and private resources to fund their operations. There is a great deal of variation among countries in the proportion of public and private resources they consume. In the majority of countries, institutions are primarily financed through public resources in the form of government support; tuition fees and other private sources of support are low or nonexistent. At the other end of the spectrum are countries such as the United States where private resources constitute as much as half or more of the total resources devoted to higher education.

Public Sources of Support

In most countries, public sources of support represent by far the largest resource for higher education institutions. The way in which these public funds are distributed and the signals that these funds provide to institutional officials are critical in defining the

financing structure of the country. There are a number of issues that help to characterize public support of higher education, including:

- how research activities, recurrent operating expenses (running costs), and capital expenses are financed;
- funding governance issues including who is responsible for distributing funds;
- accountability models; and
- tax-based support.

How are research activities funded? Campus-based research is one of three basic functions of universities, along with teaching and service.⁷ How research is financed is an important consideration, raising several issues:

- Many countries seem to fund research and instruction together by providing lump sums to institutions. A primary rationale for this approach is that it is difficult to separate research from teaching functions and therefore they should be funded together. One problem with this approach, however, is that public officials essentially are then ceding responsibility for deciding what research should be conducted to the institutions, rather than setting it as a matter of policy. The minority of countries that fund research separately have generally had good experiences arising out of this separation of funding.
- Even when campus-based research is funded separately from instruction, there is the question of whether it is funded on a project-by-project basis, usually through a peer-review process, or funded as an allocation to the university based on a set of criteria. The English system is an example of research being funded on the basis of assessments of the overall quality and research capacity of the universities. The U.S. federal system is an example of peer review of research conducted on a project-by-project basis. By contrast, state-level funding for research is typically provided together with instruction and operations.
- Another issue is whether tuition fees are used to finance research and related activities, including the indirect funding of graduate education—as is often the case in the U.S., where graduate students often receive fee waivers and stipends for living expenses that are in effect paid for through undergraduate tuition fees.
- In a number of countries, an increasing amount of campus-based research is being paid for by private companies that share in the benefits of basic research discoveries and applied research. This has the advantage of increasing the resources available to do research in a campus setting, and reducing the institution's reliance on public resources, but it raises a number of ethical questions regarding the degree of authority private entities then have in setting research priorities.

How are operating expenses (recurrent costs) funded? A key financing issue in all countries is the basis on which public funds are distributed to institutions. In looking across countries and over time, there is an evolution of funding policies:

Historical/political allocations. Most countries begin by funding institutions on a historical or political basis. The amount of public funds that institutions receive is based largely on what they received the year before or how powerful their friends are in the

government. This funding approach tends to be more input-driven than others, and is based primarily on staff costs and institutional infrastructure “needs.”

Funding formulas. The next step in the funding evolution process is for countries to shift from historical or political allocations to using formulas of one kind or another, usually based on enrollments and costs per student. By moving to enrollments as a basis for allocations, this use of formulas represents a move from input driven allocations to funding that is more oriented toward students, although the use of costs per student maintains a connection to inputs as well.

Policy-driven funding. The next step in the evolution of public funding models beyond the adoption of basic funding formulas is the introduction of policy variables into the funding process. One example of policy-driven funding occurs when payments for seats in certain fields of study are set at higher levels because of labor force shortages in those fields. Another example of policy-driven funding is when countries use normative costs per student to determine funding levels rather than the more traditional actual costs per student.⁸ Still another example occurs when countries fund institutions on a differential basis that relates to their ability to attract targeted groups of students, such as when funding formulas pay more for economically disadvantaged students than other students.⁹ This notion of policy-driven funding might also be referred to as funding for relevance.

The system run by the Higher Education Funding Council of England (HEFCE) to fund instruction is a prime example of policy-driven funding. It pays institutions more for students enrolled in high priority fields of study, uses bands of normative costs to determine payment levels, and pays institutions more for students who live in postal codes with high concentrations of low income families.

Performance-based funding. The most recent step in the evolution of funding involves funding formulas or funding bodies that recognize outputs rather than just inputs (such as staff costs or enrollments). One example of performance-based funding occurs when funding is based fully or partially on the number of graduates or those who complete a year of study, rather than simply the number of students who enroll. For more than a decade, the British have been funding on the basis of those who complete a year of study, with very good results (Hauptman, 2004). The Danes go further by basing most of their funding on the number of students who graduate (Department of Education and Skills, 2003).

In the U.S., the move to performance-based funding has been less aggressive and more mixed. States are the governmental unit with responsibility for funding institutions in the U.S., and about one-quarter of them have moved to some form of performance-based funding, but typically only as a small portion of total funds for higher education and generally not through the basic funding formula.

Categorical and competitive funds. In addition to using funding formulas, many countries provide a portion of public support in the form of categorical or competitive funds. Categorical support is where only certain types or categories of institutions qualify for assistance. Competitive funds typically provide grants in response to proposals from institutions or individual faculty, often for the purpose of encouraging quality improvement or innovation. Categorical programs are a more traditional form of funding in many countries; they often predate funding formulas. Competitive funding is a much

more recent trend, as countries seek to encourage quality enhancement, including for equipment and innovation, items that are not well suited to funding formulas.

The U.S. was one of the first countries to introduce a competitive fund in 1972, with the creation of the Fund for the Improvement of Postsecondary Education (FIPSE). In the past decade or so, a number of developed and developing countries have created competitive funds to improve quality, innovation, and management. The World Bank has been a principal force in promoting the use of competitive funds in developing countries, particularly in South America (Argentina, Bolivia, and Chile) and Eastern Europe (Bulgaria and Hungary). The rationale for this push by the World Bank is that competitive funds allow for greater flexibility in meeting targeted needs than do more traditional funding formulas or categorical programs designed to help certain types of institutions.

How are capital improvements financed? Capital improvements in higher education—the construction and renovation of facilities and the acquisition of large equipment—tend to be financed in one of several ways. A number of countries pay for capital expenses through the same public funding mechanisms that pay for instruction, operations, and possibly research. But in many other cases, capital expenses are paid for through private sources, either the issuance of bonds in which repayment often comes from dedicated revenues that relate to the capital expense, or through donations and endowments in countries where private giving is a source of funds. Facilities also might be paid for through tuition fees, often a major source of financing for capital expenses. As a general matter, it is better if capital expenditures are not financed through the same mechanism as instruction and operations, as short-term needs for operating funds often squeeze out legitimate longer term needs for improvement.

Governance issues related to funding. A number of governance arrangements also serve to characterize a country's funding system, including:

- *How the overall level of funding is set.* A number of bodies can be responsible for determining how much public funding is devoted to higher education among the many functions that governments support. These bodies include government agencies of one form or another that are political in their nature—e.g., the executive branch, the legislature, or parliamentary bodies—and organizations that are not governmental, although they may well be created by governments. As a general rule, decisions about how much public funds to allocate to higher education should be made by political officials, and not by those who may be appointed by political bodies.
- *How public funds are allocated to institutions.* The decision regarding how public funds for higher education should be distributed can be made by the national government, ministry, or an agency that is designated as a buffer body to negotiate between government authorities and institutional officials. In contrast to the question of how much public funds are devoted to higher education, the decision regarding how public funds are to be distributed to each institution should be insulated from the political process to a large degree. This is the main value of agencies operating as a buffer body being designated to make funding allocation decisions.

- *The level of institutional autonomy in the expenditure of funds.* A third critical governance issue in funding is the degree to which institutional officials have autonomy in how those funds are spent. Countries vary widely on this question, ranging from instances where institutional spending decisions are micro-managed by the government, to cases where institutional officials have total autonomy in how public funds are spent. The issue of autonomy should be linked to the question of accountability; autonomy in the expenditure of public funds is appropriate only if there are sufficient safeguards that funds are being properly spent. On the other hand, if sufficient accountability measures are not in place, there is real danger that abuse will occur with autonomy.

Accountability models. The issue of accountability is a critical issue in the public funding of higher education, although too often it is overlooked in the effort to get funds expended quickly. As a general rule, in many countries there is more talk about accountability in higher education than there is real accountability in ensuring that public funds are efficiently and effectively spent.¹⁰ To put this in context, consider the following four kinds of accountability:

1. *Audit and monitoring.* This is the most basic kind of accountability, ensuring that public funds are spent for the purpose intended. This might also be referred to as “protecting your backside” type of accountability. This is also the most prominent type of accountability currently employed in most countries.
2. *Regulatory performance measures.* Calls for greater accountability over the past decade or more around the world have resulted in various governmental efforts to measure the performance of institutions in various ways, including graduation rates, student loan default rates, pass rates for teachers, and the like. In some instances, these performance-based rates get incorporated into funding schemes either as incentives for institutions, or more often as penalties if institutions fail to meet certain standards.
3. *Performance funding.* Basing funding on performance measures is a third kind of accountability. It has not been utilized frequently, but in this author’s opinion should be put into effect much more often. As discussed above, this less traditional kind of accountability entails paying institutions on the basis of what they accomplish, rather than on the more traditional basis of how many students they enroll or how much the education costs per student. Performance-based funding also can entail providing aid to students on the basis of whether they are well prepared or complete their degree, rather than simply on whether they enroll in an approved program (which is normally the student aid standard).
4. *Market-based strategies.* Developing policies that replicate market type conditions represents a fourth kind of accountability, although it is normally not thought of in this fashion. But making institutions more subject to market pressures is one way to make institutional officials more responsive and accountable for their decisions. Market pressures serve as the chief form of accountability for private institutions and are typically not subject to public review. The debate over whether to move to more market-based structures is occurring in many countries, and it

is worth considering whether moving in such a direction will lead to greater accountability. This has to be balanced against the negative consequences of higher education systems becoming too market-driven.

The history of accountability debates in most countries typically has centered on an evolution from audit and monitoring efforts to the development of regulatory performance measures, which sometimes are then used to determine a small share of overall funding. Only a few countries have moved beyond using regulatory measures to what might be considered true performance funding, where institutions are paid directly on the basis of what they produce. A number of countries have moved—or are moving—toward more market-based structures, usually as a way to reduce their dependence on public funds to pay for higher education. While a greater reliance on performance funding and markets is the direction in which most countries should move, safeguards must be put in place to prevent abuses or minimize unintended negative consequences.

Tax-based policies. Another form of public support for higher education—one that is growing in some countries—is the use of tax-based policies for the support of higher education institutions. These tax-based policies include providing tax breaks for charitable contributions to institutions and tax-based incentives for companies and others to conduct research on campus, as well as for other activities deemed to be of high national or regional importance.¹¹

The U.S. federal government has for many years allowed individuals to deduct from their taxes the gifts they provide to a wide range of nonprofit entities including churches, hospitals, and higher education institutions. These tax breaks have been key in making charitable gifts a major form of revenues for American higher education. Few if any other countries have as extensive a system of tax benefits for gifts to higher education, although some may be considering creating such benefits. The U.S. has also taken the lead in recent decades in providing tax benefits to profit-making entities (such as companies) for the expenditures and investments they make in higher education-related activities, particularly research conducted on campus. One limit to this type of tax benefit is that few countries rely as much on income taxes to pay for public services as does the U.S., thus reducing the potential benefit to higher education and other nonprofit entities of having such a tax-based benefit. By the same token, higher education institutions receive a tax benefit in many countries if they are not subject to value-added and sales taxes because of their nonprofit status.¹²

Private Sources of Funds to Institutions

Colleges and universities around the world depend on a variety of private sources of funds to help support their recurrent operations and fund their capital improvements. These private sources of revenues include tuition fees; gifts and other forms of philanthropy; payments from a variety of services; and the commercialization of research conducted on campus and for the support of other private entrepreneurial enterprises.

*Tuition fees.*¹³ Tuition fees in most countries represent the largest private source of revenues for higher education. They also represent the point in the financing equation

where supply and demand forces most directly intersect. In terms of the supply of seats, tuition fees, and government support of institutions are the two major sources of funds that support the operation of public institutions. For private, nonprofit institutions, tuition fees are typically the major source of revenues, with endowment income, gifts, and payments for services trailing as other sources of support. At for-profit institutions, tuition fees are the primary source of funds. Thus, tuition fees in all types of institutions serve to define the scope of higher education through how many seats are provided. Tuition fees typically represent a smaller source of funds in the public sector than the private sector because, in most countries, government support of higher education institutions exceeds the revenues raised in the private sector.

On the demand side of the equation, tuition fees are a key component of the total costs of attendance—the price—that students and their families face in paying for higher education, along with the costs of room (dormitories), board (food), and other living expenses related to their attendance. As a major part of the price of higher education that students face, tuition fees therefore are a key determinant of their demand for higher education. Another major determinant of demand is the amount of financial aid that is available to students, which is intended to reduce the net price that students pay and therefore affect demand.

A number of issues help to define the tuition fee structure in a country. These include the following:

Who sets tuition fees? For private institutions, there is typically no issue in who sets the fees—it is the officials at the institution—although in a number of countries government officials set guidelines or even actively engage in the fee setting process at private nonprofit institutions. In the Philippines, for example, which has the highest percentage of private enrollments in the world, government officials review private sector tuition fees as part of the institution’s charter.

For public institutions, a diversity of arrangements exists for setting tuition fees. In many cases, public institution officials are responsible for setting fees but usually with the review of government officials. But in most cases, government officials are primarily responsible for setting tuition fees at public institutions.

On what basis do governments set fees? When governments are responsible for the setting of tuition fees, there are several bases for this decision, including:

- as a percentage of costs per student;
- what peer institutions charge; and
- general economic indicators, such as GDP per capita or median income.

For the majority of countries that set tuition fees as a proportion of costs per student, these fees are viewed primarily as a means to finance institutions and would be referred to as cost recovery, a frequently used term in the international lexicon. Many World Bank projects, for example, propose the establishment or expansion of tuition fees as a way to achieve greater cost recovery. In the U.S., by contrast, when fees are set on the basis of what similar institutions in other states charge, this is much more of a market-based concept. When setting fees on the basis of a general economic indicator of ability to pay—such as a multiple or percentage of GDP per capita, median family income, or average wages—then fees become more of a student-based concept of ability to pay.

Tuition fee levels. There is great variation around the world in the level of tuition fees that are charged at public and private institutions. In most countries, there are no tuition fees at public institutions or they remain low—10% or less of recurrent costs per student. But in many countries, public sector tuition fees have grown to 20% or more of recurrent costs per student as a means to increase cost recovery and increase overall resource levels.

There is also considerable variation around the world in what private institutions charge. Changes in private sector fees tend to be more related to changing market conditions, including competition with public institutions, trends in other private sources of revenues such as endowment income and gifts (see below), and the increasing practice of charging higher tuition fees while providing more student aid (see next section). Private sector tuition fees generally far exceed 50% of recurrent costs per student, and many private institutions charge fees that equal or exceed their recurrent costs per student (especially private, for-profit institutions). In countries such as the Philippines and in the West Bank and Gaza—where most institutions are private—tuition fees represent the principal source of revenue for higher education.

Who retains fees? There are really two models for who retains the fees that students and their families pay. Either the institutions retain tuition or the fees are sent to the relevant governmental unit and then recycled as part of the funding process. In many ways, retaining fees is more important than setting the fees, for the following reason: in instances where tuition fees (however set) exceed the marginal cost of providing the education, the ability to retain fees is a motivation for institutions to enroll more students. By contrast, even when fees are relatively high, if governments retain them, there is really little motivation for institutions to enroll more students because they will not directly realize the revenues produced by the higher fees.

Types of fee structures. As in the case of the level of tuition fees and fee retention, there is considerable variation around the world in the type of fee structure that is used. Four models are described below:

- *Traditional fees:* The fee structure that applies in most countries is one in which institutions themselves charge and collect fees from students and their parents. These fees may be uniform for all students or they may vary by categories such as field of study or level of study (e.g., charging more for graduate study than for undergraduate). But the common characteristic here is that institutional officials determine how much to charge, and collect and retain the fees as well.
- *Government-funded fees:* In a few countries, governments actually pay the fees on behalf of students, and typically collect those fees from students through the tax system once the student has completed their education. Australia is the prime example of this approach, with the Higher Education Contribution Scheme (HECS) it introduced in the late 1980s as a way to introduce cost recovery without imposing fees on students at the point of enrollment. A number of other countries have looked at HECS as a possible model for financing, and it appears that England will now be moving toward such an approach in the next few years.
- *Parallel fees:* Another model of fees is one in which most students are charged a relatively low rate that is subsidized by governments, while other students who

don't qualify for the subsidized rate are charged fees that more closely reflect the full cost of education. Typically, parallel fees are used as a way for institutions to capture more revenues; they retain the parallel fees they charge, whereas the fees from the government funded seats are retained by the government. This structure has most frequently been used in Eastern European countries.

- *Two-tiered fee structures:* A more recent development in determining tuition fees involves the creation of two-tiered fee structures, in which the majority of students pay the subsidized rate for government funded seats while the fees on other seats are allowed to be set at "market" levels. This has been the case in most states in the U.S. for some time, as students who grew up in the state are charged the subsidized rate while out-of-state students pay quite a bit more—in fact, equal to (or in some cases exceeding) the full cost of providing the education. This is also the case in most countries where foreign students are charged more than what domestic students are charged. One example of this kind of tuition fee structure can be found in Australia, where the fees of most students are paid by the government under HECS, while all students from foreign countries are charged much higher rates which they must pay up front. In recent years, Australia has expanded its two-tiered fee structure by charging market rate fees to all students in certain fields of study that are not covered by HECS.

Other private sources of support. While tuition fees remain the primary source of private support for institutions, there are a number of other private sources of support upon which many institutions increasingly depend. To begin with, in the United States and other countries where private institutions enroll a significant percentage of students, philanthropy has traditionally represented a major source of funding for higher education. It usually comes in the form of gifts to institutions that then become part of the endowment (a significant pool of reserves which is typically invested and generates income to be used for various purposes). One of the major uses of this philanthropy is to pay for nonrecurring expenses, including the construction and renovation of buildings, the acquisition of equipment, and the permanent funding of academic faculty positions. In recent decades in the U.S., gifts have become more targeted to specific needs, such as expanding scholarship funds. Also over the past several decades, large scale capital campaigns have become much more common in the U.S. and elsewhere as institutions seek to expand the size of their endowments.

In recent decades, many public institutions in the U.S, especially the larger and more prestigious ones, have sought to emulate the success of their private counterparts in fundraising by establishing foundations (to skirt laws in many states that restrict fundraising by public entities) and initiating capital campaigns of their own. Public institutions in other countries are also increasing their fundraising in an effort to increase private resources as a means of offsetting real or perceived reductions in public support of higher education.¹⁴

Auxiliary services, health care, and entrepreneurial activities. Institutions in various parts of the world administer or contract for a number of auxiliary services that produce significant revenues, including student housing, food services, bookstores, and other activities related to student life. A number of U.S. universities (and some in other

countries as well) own or run hospitals that generate considerable revenues (and considerable costs and administrative headaches as well). Significant private revenues also come from corporate sponsorship of campus-based research and similar initiatives. In the U.S. and many other countries, reliance on these other private sources of support has grown in recent decades, as institutions seek to reduce their dependence on public funds and tuition fees in order to maintain and expand their scope of operations.

Strategies for Helping Students and their Families

Over the past several decades, strategies for helping students and their families pay for higher education have become an increasingly important component of financing for the enterprise worldwide. These strategies include the aid that is funded or sponsored by governments; provided by the institutions themselves; or given by private individuals or organizations. Each is discussed in turn.

Government-Funded Student Financial Aid

A growing source of public funding of higher education around the world is government funded or sponsored student financial aid that comes in a number of forms, including:

- Non-repayable aid—grants or bursaries which are typically based on the financial need of the student and his or her family, as well as scholarships or fellowships which are typically based more on merit criteria than on need;
- Repayable aid, including a wide range of student loan arrangements (which many people would not regard as aid, considering that the loan has to be repaid); and
- Employment and service opportunities that help students pay their higher education expenses, including work-study and a variety of service arrangements in which students provide services at below market rates. (As in the case of loans, many observers do not regard work and service as aid, arguing that this should be viewed more as compensation.)
- Tax-based benefits in some countries, particularly the U.S., government support to students and their families is now also being provided in the form of a variety of tax-based benefits. These tax benefits include tax credits for current expenses and tax deductions for savings that are to be used for higher education expenses.

General issues in government student financial aid efforts. A number of general issues help to define the characteristics and the effectiveness of government-funded student financial aid programs.

The mix of student aid and institutional support. In virtually all countries, government funded student financial aid represents a distinct minority of total public support of higher education. In virtually all cases, public spending on student aid is less than one-fifth of what governments spend on direct support of institutions. Debates over whether policies should be more student-based and less institution-based typically center on whether more government funds should be provided as student aid, with less support than provided directly to institutions.

The mix of grants, loans, and work-study. A basic question for policymakers in determining the government role in helping students and families pay for higher education expenses concerns the mix of repayable aid, non-repayable aid, and work-related and service opportunities, a mix which may well change over time.¹⁵ While there is a tendency to think about aid in separate categories, the reality is that the aid programs in many countries combine grants, loans, and work/service in various ways. A number of industrialized countries have programs in which grants become loans or in which loans are converted to grants if students meet certain conditions. Examples of this are found in Germany, where all students receive state support that is typically both grant and loan, and in the Netherlands, where provisional loans can be converted into non-repayable grants if performance requirements are met (Department for Education and Skills, 2003).

Another way in which different types of aid can be combined is the matter of loans and work. The concept of self-help that initially applied to aid in the U.S. was based on the notion that students could choose to work or borrow to help themselves before grant aid would be provided. This notion of helping themselves first through work or borrowing has faded in the U.S. as Pell Grants became the foundation of all other aid (not requiring self-help), and the amount of work available has been insufficient to provide real choice between work-study and loans.

Responsibility for program administration. Another important issue is whether the government itself takes direct responsibility for administration of student aid programs, delegates this responsibility to a separate agency, or decentralizes responsibility to the universities themselves. Choosing which one of these three approaches to adopt depends largely on the country's situation. In those countries with well-developed governmental structures, it may make more sense for the government to assume most or all of the responsibilities for program administration. Even in this instance, though, responsibility for administering student aid might be delegated to a separate agency or the institutions, if there is a broader policy desire to decentralize government functions. For countries with weak governments, delegating the responsibility for program administration to the institutions or establishing a separate aid agency typically may make more sense.

One area in which this issue arises concerns determining whether aid should be provided through institutions or to students directly in the form of vouchers, which allow students to vote with their feet. For many countries—both developed and developing—it is easier to distribute funds to institutions and have them distribute aid according to some set of criteria. But there are also a number of countries—including France and many of the Francophone countries—that traditionally have provided grants on a voucher-like basis, with students receiving chits that they then can take with them to any institution.¹⁶ Denmark is another country using vouchers—students receive up to 70 vouchers, each equating to a month's study, that they can use for either grants or loans. The federal government in the U.S. has had experience with both kinds of grant programs—it has programs in which grant funds are distributed through institutions, and others, like the Pell Grant, which operate more like a voucher.¹⁷

Is aid need-based, merit-based, or both? Another important issue for policymakers to consider is whether aid is based on the financial need of the student and family, the academic merit of the student, or both need and merit. There is great variation around the

world on this question. The most traditional approach seems to be one in which separate aid programs are established for need and merit purposes—this separation between need and merit continues to exist in most countries. But there are plenty of exceptions where need and merit are combined to determine eligibility for aid. The vouchers in France are primarily based on family income, and to some extent student income, but they are conditioned on students continuing to achieve good results (Department of Education and Skills, 2003). A good argument can be made to combine need and merit in order to promote the goals of improving quality and access simultaneously.

How financial need is defined. One of the central issues in developing a government funded student aid program or strategy is how to define the financial need of students. The issues involved include who defines need and on what basis is need defined. In terms of who defines need, the basic choices are the same as in the case of program administration (described above): a government ministry or department; a separate agency responsible for developing student aid policies and practices; or the universities themselves. This decision in each country depends on the relative strengths of the governmental and university sectors. In terms of defining need, this is an important question that most countries may not have addressed in a systematic way. The options range from a simple system, in which a few key questions are asked of students and their families, to much more complex systems in which application forms consist of many pages.

Simple systems can be found in a number of countries, where students petition for aid and are asked a series of questions about their own and their family's financial circumstances, including possibly income or wages. More often, though, the questions asked may not relate directly to income but rather to lifestyle issues that help to define one's economic circumstances. The U.S. is an example at the other end of the spectrum, with application forms that number many pages and which require substantial amounts of time to complete.¹⁸

Compliance is a key issue in this regard. If students and their families come to believe that they can manipulate the system by providing inaccurate answers, the aid system will lose credibility over time. To ensure greater compliance and accuracy, especially in countries with weak or nonexistence tax systems or large black market economies (where income cannot be easily verified), officials should strive to establish relatively simple systems that require information that is relatively easy to verify. Examples of such questions include what high school was attended (especially if schools are ranked by the socioeconomic profile of their students), where do students live (if postal codes are ranked by low income concentrations), whether the family owns a car, has indoor plumbing, or the size of its electric bill.

Policymakers must also decide how precisely they want to define need. In the U.S., need is defined as a specific dollar amount, in which a student's total costs of attendance are compared to an estimate of how much the family can contribute and how much other resources are available to the student. The resulting dollar estimate of need is used in awarding various forms of financial aid. However, the precision of this estimate of need belies the subjectivity that is attached to its calculation. In this author's view, countries are better served by arriving at relative estimates of ability to pay (rather than precise estimates), and then giving discretion to officials for deciding how much aid

to provide based on these estimates of relative financial strength. Relative measures of need would also more easily allow countries to develop an index that combines estimates of need with measures of merit and the ethnicity of a student, so that aid programs are developed that are based on both need and merit rather than the more traditional separation of need-based and merit-based aid programs.

Other general student aid issues. There are a number of other general issues that help to define the characteristics of a student aid program. These include:

- *What types of expenses are to be covered?* Student aid programs can help students and their families pay for tuition fees, living expenses, or both. To a large extent, aid programs should be designed to reflect a philosophy. Non-repayable programs are typically intended to replace family resources that impoverished students do not have available to them. To the extent that fees represent the investment component of expenses, they should be primarily financed by loans, although in most countries that have student loan programs, loans are made available to meet both fees and living expenses.
- *Is aid available to students attending private institutions?* One of the issues frequently raised in the development of student aid programs is whether aid should be provided to students attending private institutions. The argument against extending aid to private sector students is that government subsidies should be limited to students at publicly funded institutions. The argument for extending aid is that it is often cheaper for the government to provide student aid to private institutions than to build new seats in the public sector. In this author's view, the latter argument is the stronger one.
- *Is aid available to students attending out-of-jurisdiction institutions?* Another issue is whether aid should be portable to institutions in other jurisdictions or other countries. The argument against portability is that public funds should stay within the country. Like the argument regarding aid for private sector students, however, extending aid for students enrolling in out-of-jurisdiction institutions can be much cheaper than building seats at domestic institutions to accommodate continuously increasing demand.

Student loan issues. Colombia has the oldest student loan program in the world, dating back more than a half century. Although estimates vary, student loan programs in one form or another now have been instituted in as many as five dozen countries around the world. The general consensus is that most of these programs are not functioning very well, in that they have unacceptably high rates of default (often exceeding 50%). There are three basic student loan models that different countries employ:

1. Government funded loans, often with income contingent repayment terms in which repayment is tied to the borrowers' income once they begin repayment. Examples include Sweden, New Zealand, Australia, and a portion of the loans made in the U.S. under the federal Direct Student Loan Program.
2. Privately funded loans, typically with amortized repayments and guarantee requirements. This is the most frequent model of student loans, and include programs in Canada, Colombia, Spain, and the largest program in the U.S.

3. Institution-based loans that are to some extent a mix of grant and loan and entail non-commercial repayment arrangements. This is the least common of the existing student loan programs and usually restricted to private institutions, with the Philippines offering a prime example of private institutions providing deferred payment loans to their students.

It is important to consider the situation of a country in deciding which of these arrangements makes the most sense in that particular case. Countries with weak governmental structures should not undertake public funding of loans or income-contingent repayment plans that require a strong tax system to operate. Similarly, countries with weak banking structures and little experience with consumer loans should shy away from privately financed student loans. Most higher education institutions lack the capacity to service loans, which means that any institution-based loan program should make provisions for other organizations to deal with repayment once the student has graduated. Within this framework, developing a student loan program requires policy-makers to decide on a number of policy variables including who is eligible to borrow. In most countries, there are limits on who may borrow, principally because subsidies are provided in the form of reduced interest rates set below market levels and/or guarantees or insurance against default. As a general rule, the higher the level of subsidy—in the form of reduced interest rates or other favorable terms—the more restricted loans should be to targeted groups of students.

Given the prospective problems with various student loan arrangements, countries should be willing to consider seriously the potential for nonrepayable forms of aid to achieve the objectives of enhanced cost recovery. That is, countries could achieve a lot by raising fees while introducing grants for students without the resources to pay those fees.

Institutional Financial Aid Strategies

Integral to any discussion of tuition fees is the question of whether and how institutions use some of those tuition fees and other charges to provide student aid to some students. The aid that institutions provide has been given a number of names, but there are really two forms of institutional aid: either aid is provided as a discount from or waivers of the tuition fees that students and their families would otherwise pay, or institutions use other resources—chiefly endowment funds or gifts—to reduce the price that students and their families pay.

In a number of ways, the student financial aid that governments provide or sponsor is similar in purpose to the aid that institutions provide: the aim is to reduce the price that students pay for tuition fees and other expenses, thereby encouraging them to enroll. But in a critical way government-provided aid and institutional aid are very different. Government aid represents additional resources for the institution, while institutional aid represents the absence of funds that otherwise might have been available if institutions had been able to fill their seats without providing aid.

Private institutions traditionally have been much more aggressive in their use of institutional aid strategies than public institutions. This is natural for several reasons. First, private institutions tend to charge higher prices than public institutions and

therefore need to discount more in order to attract students. The difference in the quality of education provided is typically much narrower than the difference in price, and private institutions therefore must be more aggressive in their aid practices in order to remain competitive with lower priced public institutions. In the U.S., private institutions over the past quarter century have become increasingly aggressive in adopting high tuition/high aid strategies as a means for maximizing revenues while promoting access.

Public institutions have traditionally not been as aggressive as private institutions in either their tuition or aid policies. But in recent decades, many public institutions in a number of countries have become more aggressive in trying to emulate the high tuition/high aid approach employed by private institutions in the U.S. and elsewhere. But the private institution model has limited applicability for most public institutions for a various reasons. Chief among them is that institutional officials must have control over fee and aid decisions in order to implement an effective strategy, and officials at most public institutions do not have such authority.

Private Sources of Student Aid

Private individuals and organizations are also often active providers of student financial aid in a variety of forms. In fact, privately provided aid predates government involvement in the student aid business, as private individuals in many countries saw the need for helping students well before governments were willing to commit to this approach. But over time, government funding in most countries has come to overshadow the resources that private entities were able or willing to commit to helping students.

Improving Coordination Among Funding, Fee, and Financial Aid Policies

A fundamental weakness in the higher education financing approach employed in most countries is the inadequate degree of coordination among the three key elements of financing—the funding of institutions, the setting of tuition fees, and the provision of student financial aid (Hauptman, 1998). Among the many challenges in coordinating, three are most prominent.

First, policymakers in every country should consider whether government funding of institutions and tuition fees should be uniform across institutions or differentiated. To put this question into context, one must first recognize that public universities around the world have two major sources of revenues—public funding support and the tuition fees which students and their families pay. These two revenue sources can vary by institution—or they can be equalized.

The best policy, in this author's opinion, is one in which one of these revenue sources is differentiated among institutions and the other is not, for the following reason. If both fees and public funding are differentiated by institution, the best funded universities will get richer while those with the least resources will fall further behind as the gap between them grows. On the other hand, in systems where both fees and funding are equalizing forces—fees are kept the same across institutions, while public funds are distributed in an equal manner—quality is likely to be compromised because high quality institutions are unlikely to emerge in such a funding scheme. It is much better

if one of these sources is differential and the other is an equalizing force. In the opinion of this author, it is better for government funding to be uniform across institutions—in part because it is difficult for governments to pick winners—and for tuition fees to be differentiated, thus providing a measure of quality.

A second issue involving the relationship between fees and funding is what happens to government support in response to changes in tuition fees. The question is, when fees are increased, what happens to the government support those institutions receive? If there is no reduction in public support, institutions have little reason not to increase their fees. On the other hand, if government funds are reduced one-for-one with any increase in fees, then the institution will have little incentive to raise fees because the other major form of support will be correspondingly reduced. The appropriate policy is somewhere in between, with public funding reduced to reflect increases in fee revenues but not as much as the increase in fees.

A third challenge of coordination involves the relationship between fees and financial aid when fees are increased. Most countries seeking to raise tuition fees in relative terms have not adequately recognized the need to increase student aid to protect against the adverse effects of increasing fees for students and families that cannot afford those increases. Concerns about this nexus of higher fees and more financial aid center on three issues. First, loans are relied upon much more than grants as a means to pay for fee increases. Second, the aid provided, whether in the form of loans or grants, is generally insufficient to meet the increased financial need created by higher fees. Third, typically fee increases are put in place before an adequate student financial aid system has been put into operation, thereby creating a new and growing class of needy students and feeding student fears that aid will not be there to offset the effects of higher fees.

Recent Trends and Key Issues

The fundamental financing issue facing higher education systems around the world in the early part of the 21st century is the real or perceived crunch of enrollments growing faster than resources. Key trends and issues in developed and developing countries that have led to this prevailing disconnect between resource and enrollment growth include growth in demand and enrollments compared to available resources; calls for greater accountability; and a growing reliance on market mechanisms and accountability.

Growing Demand Based on Increasing Rates of Return

In countries around the world, people are recognizing the growing economic value of continuing their education beyond the secondary level, as evidenced by growing disparities in average incomes between individuals who receive a higher education and those who do not.¹⁹ This is another way of saying that rates of return to education are rapidly rising, which translates into a growing demand for higher education. Another cause of the growing demand is that many universities are shifting from their traditional focus on fields such as teaching, public service, and related fields to a much broader set of programs designed to respond to market and labor forces.

The growing gap in earnings between those who continue their education and those who do not often leads to the assertion that the proper policy solution lies in increasing the numbers of students who enter and complete higher education. This is certainly true in the short term in virtually all countries, as more education will provide private benefits to the individuals who receive it in the form of higher incomes. But in the longer term the assertion of a permanent differential may not be accurate. The economic principle of diminishing marginal returns would suggest that at some point the additional people receiving a higher education would drive down the higher education wage differential. Or put another way, if everyone in a society received a higher education, then there would be no differential between those with more education and those with less.

Differential Growth in Resources and Enrollments

One of the quandaries facing policymakers in many countries is how to react to growing levels of demand for higher education. The most obvious solution is to provide additional funding to accommodate the growing demand. Most countries, however, are not in a position to increase their public funding sufficiently to keep up with the exploding growth in demand. Policymakers must therefore pursue some combination of the following three approaches to close the gap between enrollment and resource projections: (a) cap the growth in enrollments; (b) seek efficiencies in the delivery of education and services; or (c) rely more on fees and other private resources to augment scarce public resources devoted to higher education.

The inability of most countries to provide sufficient public and private resources to keep up with the growth in demand has meant that spending per student has dropped. This decline in spending per student is often attributed to the lack of government commitment to pay for higher education. But the decline in spending per student in recent years in most countries more often has been a function of the difficulty in keeping up with extraordinary increases in demand than with a lack of commitment of resources, which typically have grown in real terms.

Calls for Greater Accountability

Another consequence of the squeeze between resources and enrollments throughout the world is a growing interest in the greater accountability of higher education. The obvious reason for this growing interest is that governments spend a lot of money for higher education and they want to know where the money is going and whether it is being well spent. Therefore, it is natural for policymakers to want institutional officials to be more accountable, in order to ensure that these public funds are spent wisely. But in most countries, the desire for institutions to be more accountable for the expenditure of public funds has not been matched by real enhancements in accountability.²⁰

Growing Reliance on Market Mechanisms and Privatization

The movement toward greater reliance on market mechanisms is often also referred to as privatization. This greater reliance on markets and privatization can take a number of forms including increases in tuition fees; giving public institutions more autonomy

in how they spend public funds, thus making their governance more like that of private institutions; and encouraging institutional pursuit of other sources of private funds, such as the commercialization of research and the establishment of endowments.

The interest of officials at public institutions in privatization comes in part from their desire to achieve greater autonomy in how they spend funds, rather than being subject to various degrees of government regulation. The interest of policymakers in seeing this happen stems from the possibility of reducing public funding of these institutions, thereby freeing up public funds for other needs in higher education, or more typically in other functions that governments support.

The fact that so many countries are moving increasingly in the direction of market-based strategies and privatization means that the merits of this approach, particularly as a means for achieving greater accountability, needs to be considered. But first it is important to know what it means for policies to be more market-based. There are many definitions—typically they refer to giving institutional officials more control and authority over spending, pricing, and student aid decisions, allowing institutions to act more like a private entity. It also can entail allowing institutional officials to spend funds without review; to set tuition and, more importantly, to retain tuition revenues without being re-appropriated; and to rely more on student aid, particularly loans, as a means of financing the needs of students.

The possible benefits of allowing institutions to act like private entities must be balanced against possible market abuses such as spending public funds inappropriately, charging customers too much for a service that is still mostly publicly financed, and depending too heavily on loans as a means of financing, leading to excessive individual debt burdens for what remains largely a public good.

The Search for Innovative Approaches

Another consequence of the perceived gap between resource and enrollment growth is the intensified search in many countries for innovative financing approaches that will allow for the more effective use of resources in meeting growing demand. These innovations, which take a number of forms (as described in this chapter), share the characteristic that they move away from the more traditional funding models of input-based distributions of public funds to public institutions; relatively low levels of commitment to student financial aid and student-based funding models more generally; and low levels of private support, including modest tuition fees that are highly subsidized. Innovative approaches thus include more sophisticated funding formulas; greater use of competitive funds; increased tuition fee levels and cost recovery rates; and more complex student financial aid arrangements, including government funded voucher schemes and more aggressive fee and aid strategies at both private and public institutions.

In sum, the search for innovative approaches to financing higher education will undoubtedly continue to have a prominent role on the public policy agenda of countries throughout the world. How policymakers and institutional leaders deal with the pressures of accommodating increasing demand in an environment of scarce resources will largely determine their success in meeting the challenges for the foreseeable future.

Notes

1. For reasons of space and readability, this chapter refers to all governmental units as countries, but many of the issues are relevant for sub-country units such as states and provinces as well.
2. These figures are from *Higher Education in Developing Countries*, Task Force on Higher Education and Society, World Bank (Tables D and E) 2000.
3. Figures for developed countries are from *Education at a Glance 2003*. OECD, 2004.
4. *Higher Education in Developing Countries*, op cit, Table E.
5. For more on this topic please see the chapter by Martin Trow in this volume.
6. *Higher Education in Developing Countries*, op cit, Table B.
7. For more on this topic, please see the chapter by Grant Harman in this volume.
8. Normative costs are calculated on the basis of more optimal student/faculty ratios and other output measures and then applied to actual numbers of enrollments to arrive a more efficient measure of costs per student. The use of normative costs in funding formulas thus allows policy bodies to encourage greater efficiency in the system.
9. Funding formulas can be thought of as a spreadsheet in which the three columns of numbers of students, costs per student, and priority are multiplied together to arrive at a “need” for each program or university. When these products are added together, they sum to a cumulative statement of need which must then be compared to the total amounts of funds that are made available through the political process. A key element of funding processes worldwide is how the differences between the amount of funds available and the cumulative of assessed needs of institutions are dealt with.
10. For more on this topic, please see the chapter by Elaine El-Khawas in this volume.
11. Another form of tax benefits—to students and their families in order to offset the cost of attending higher education, particularly tuition fees—is discussed later in this chapter.
12. The concept of private nonprofit institutions is somewhat limited in that in many countries, particularly in the developing world, the distinction between profit-making and nonprofit entities really does not exist.
13. The term tuition is used in different ways around the world. In the U.S. and a number of other countries tuition refers to the amount paid for the education received. In the U.K. and a number of other countries, tuition is the same as instruction and fees, or tuition fees refers to the amount paid. In this chapter we have adopted the U.K. convention.
14. In the U.S, gifts and endowment income account for 10% or more of total revenues for all institutions, and one-third or more of private institution revenues. But the distribution of endowments is very uneven. For the 30 or so institutions with the largest endowments (which account for more than three-quarters of all endowments), their endowments and capital campaigns measure in the billions of dollars. The top 100 institutions have well over 90% of all endowments. For these institutions, endowment income and gifts allow for quality improvements and fee subsidies and discounts that make a real difference in their operation. For the other 3,000 U.S. institutions, endowment income and gifts are a minor resource.
15. The experience in the U.S. is instructive in this regard. The first large government funded student aid effort in the U.S. was the GI Bill, a service-related benefit that has provided veterans from three wars (beginning with World War II) with funds to enroll in a wide range of postsecondary education programs. In the mid-1960s the federal government shifted to a strategy primarily focused on providing aid based on the financial need of students and their parents. While policies have not changed, the emphasis in the U.S. has shifted to greater dependence on loans over time so that loans have become the primary form of aid. In the 1990s, the U.S. federal government added a range of tax benefits to help families meet current expenses and to encourage them to save more for higher education.
16. One of the chief problems with these programs is that over time they have become less targeted on the most disadvantaged students.
17. Interestingly, in both these types of programs (plus many of the grant programs run by states in the U.S.) there has been a shift up the income scale and more middle and upper income students are receiving aid.

18. The complexity of the student aid system in the U.S. has led to an industry of financial aid advisors who help students and families cope with the complexity and search for potential aid sources.
19. This notion of income differentials for those with more education applies to the average incomes of different groups of individuals. Obviously, there will be a number of exceptions where individuals with less education will have higher incomes than those with more education.
20. For more on this topic, please see the chapter by Elaine El-Khawas in this volume.

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FOR-PROFIT HIGHER EDUCATION: U.S. TENDENCIES, INTERNATIONAL ECHOES

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In most of the world, higher education has long been understood overwhelmingly or even exclusively as public. Today, in most regions and countries, surging private higher education compels increased consideration of two separate sectors, public and private. Yet fast-paced developments show that even dual-sector analysis is often too limited: for-profit higher education is on the rise. In the United States, where not-for-profit private higher education is extensive and often prestigious, the for-profit sector has grown dramatically in recent years, fueling discussion about markets and competition across all sectors. Meanwhile, in some countries with traditional public dominance, for-profit higher education adds a fresh dimension—sometimes encouraged, sometimes legally or otherwise suspect—to the global expansion of private higher education.

It is reasonable, then, to speak of three higher education sectors: Public, private non-profit, and private for-profit. Globally, the private nonprofit sector is more prevalent and important than the for-profit sector, and the public sector is more prevalent and important than both private sectors together. But the gap between prevalence and importance on the one hand, and study and understanding on the other hand, is particularly great regarding for-profit higher education. The literature on for-profit higher education is limited (though fast-growing) for the U.S.; elsewhere, it is paltry. Even in the U.S., analysis is often heavily weighted toward a few large for-profits (Kinser, 2005).

The principal purpose of this chapter is to advance an internationally sound definition and identification of for-profit higher education and its main types. While our geographic scope is global, the U.S. is at the core. This is a reflection of reality, as the U.S. in many ways leads a global phenomenon. For-profit higher education is larger and more developed in the U.S. than elsewhere: of the roughly 9,000 postsecondary institutions in the U.S. nearly half are for-profit (NCES, 2003a). Furthermore, several prominent U.S.-based companies have a global presence in the management of for-profit institutions, by establishing branch campuses in other countries, purchasing existing institutions, or marketing distance education curricula to an international audience. The chapter identifies key contours of U.S. for-profit higher education and sketches the parallels or contrasts that can be discerned globally (although often tentatively).¹

At the same time, this inquiry is restricted in a fundamental sense, by not dealing with for-profit elements of either nonprofit or public institutions. These elements are growing and attracting great attention, and although the U.S. leads in this respect, it is far from alone (Kirp, 2003; Clark, 1998). Moreover, many of the driving forces of this expansion, as well as of privatization beyond higher education, are forces also fueling the growth of for-profit higher education institutions. Purpose and even many aspects of practice overlap among the sectors, but this discussion will focus only on the for-profit sector.

From a global perspective, however, it is crucial to keep in mind that many private higher education institutions that are not legally for-profit display strong behavioral equivalency. The recognition of such reality, as well as a desire to tax, led Brazilian authorities in 1996 to permit the for-profit form (for both universities and other higher education institutions), while stipulating requirements to be nonprofit. In many countries, the growth of private higher education has spectacularly occurred without a clear legal framework, and sometimes for-profit higher education is neither legal nor illegal. Nor is it clear whether the legal situation will or should be sorted out through laws on education, higher education, private higher education, nonprofit institutions, or training. In any event, much of what is reported here about for-profits applies to many other commercially oriented private higher education institutions as well.

Size and Scope

International data on for-profit higher education remain sparse, unreliable, and inconsistent. Nonetheless, it can be simultaneously affirmed that the growth is notable while enrollment percentages remain small. Many countries do not legally permit for-profit higher education institutions (e.g., Poland, Portugal, Russia, Tanzania, and Uruguay) or at least have no legally recognized for-profits. Other countries permit for-profits only in non-university sectors (e.g., Chile).

In fact, the bulk of worldwide for-profit enrollment tends to be in non-university institutions, often ones that grant diplomas below the standard first-degree (as in UNESCO level 5 rather than level 6). The vast majority of U.S. for-profit institutions serve non-university students. This remains true despite the fact that since 1990 the phenomenal growth of for-profits in the U.S. has been dominated by universities; although comprising just 6% of all for-profit institutions, they enroll more than 40% of the students in this sector. In any event, for-profits taken all together still account for fewer than 5% of total U.S. postsecondary enrollment. For degree-granting places, for-profits account for roughly 3% of enrollment and 19% of institutions. Table 1 provides additional data on the U.S. for-profit sector (see Table 1).²

For-profit higher education is most extensive where the private sector is demand-absorbing and has a large share of total enrollments. That applies to some Asian and Latin American cases. Roughly two-thirds of Brazil's private institutions are now for-profit. The Philippines, with an 82% overall private share of enrollment, had 47% of all students in for-profits, including a few large and many small institutions, though the law since 1982 has insisted that new institutions be nonprofit (James, 1991,

Table 1. U.S. For-profit Data

| | | Total U.S. | For-Profit | For-Profit/Total |
|-----------------------------|----------------------|------------|---------------------|------------------|
| Enrollment (2001) | Total | 16,334,134 | 765,701 | 4.7% |
| | Men | 7,104,212 | 331,464 | 4.7% |
| | Women | 9,229,922 | 434,237 | 4.7% |
| | Part-time | 6,588,536 | 126,720 | 1.9% |
| | Full-time | 9,745,598 | 638,981 | 6.6% |
| Degree enrollment (2001) | Degree-seeking total | 15,927,987 | 527,501 | 3.3% |
| | 2-year degree | 6,250,579 | 206,329 | 3.3% |
| | 4-year degree | 9,677,408 | 321,172 | 3.3% |
| | Non-degree | 406,147 | 238,200 | 58.6% |
| Faculty (1999) ^a | | 1,027,830 | 30,000 ^b | 2.9% |
| Institutions (2000) | Total | 9,258 | 4,338 | 46.9% |
| | Non-degree | 5,076 | 3,549 | 69.9% |
| | 2 year | 1,732 | 512 | 29.6% |
| | 4-year | 2,450 | 277 | 11.3% |
| | Graduate (2001–02) | 1,757 | 145 | 8.3% |
| Degrees awarded (2001–02) | Associate | 595,133 | 77,712 | 13.1% |
| | Bachelor's | 1,291,900 | 25,398 | 2.0% |
| | Master's | 482,118 | 14,264 | 3.0% |
| | Doctorate | 44,160 | 656 | 1.5% |

Note: Year in which data were collected is in parentheses. For historical data since 1980, see PROPHE (2004).

^aFaculty numbers are for degree-granting institutions only.

^bNumber of for-profit faculty is rounded to the nearest 1000.

Sources: NCES (2003a, 2003b, 2003c).

pp. 193–204). In Malaysia, some 90% of private higher education institutions are reportedly for-profit. South Africa is a rare case in which the bulk of private higher education is legally for-profit (Levy, 2003), including more than three-quarters of the now 96 registered private institutions. But the extreme case appears to be Ukraine, where all privates (with about 16% of the country's total enrollment) are legally for-profit due to general skepticism about private institutions and the corrupt potential of "nonprofits." Even before the reigning 1996 legislation, the private higher education institutions were private businesses or joint stock companies, while petitions to function as nonprofit educational institutions were refused. Other countries with legal for-profit higher education include Jordan and Peru. The case of Chile is particularly salient, with its "professional institutes" and its "training centers"—figuring a share of the former (the largest two institutes choose to remain nonprofit) and all the latter as for-profits, it can be estimated that for-profits hold about 18% of Chile's higher education enrollment.

Regionally, several Gulf states welcome and support for-profit provision. East Africa is more typical in that private higher education remains overwhelmingly nonprofit legally, though with growing profit characteristics (Thaver, 2003, pp. 55–59). The domination of legally nonprofit over legally for-profit institutions appears to remain the case for Latin America, as it surely is for Eastern and Central Europe. Western Europe is the large region most exceptional in avoiding the private surge so far, and thus a for-profit surge, but Germany's first for-profit university is planned for 2004, aiming at the preparation of business leaders and responding to the financial problems of extant universities. Such motivation would seem plausible in many national and regional settings, and ties into the more general trend toward privatization.³ Japan has just (2004) made legal provision for for-profit higher education, though only for certain districts, and so far there are only two for-profit universities.

Definition

The scope and size of the for-profit sector depends heavily on the definition of for-profit. In fact, it often depends on the definition of "higher education," since many countries allow for-profit institutions of "training" but not "education." For example, although Poland allows no for-profits among its roughly 300 private universities, firms provide some training in language and business areas, and similar configurations hold in many countries. In China, the ministry has committed to setting up requirements concerning training institutions that require them to make clear their mission regarding profits.⁴ As in other countries, for-profits are not eligible for government subsidies; where Chinese local governments have taxed private institutions they have in effect accepted them as for-profits. Russia is among many countries where education law not only insists on nonprofit status but also disallows tuition and fees that lead to profit—though enforcement is another story. Lack of a legal framework often allows for-profits *de facto*, whereas subsequent law sometimes then disallows them (as with Romania in 1995). Some countries may not explicitly use the term nonprofit while insisting on provisions that suggest it—e.g., a law in Georgia concerning the use of income. Australia illustrates dramatic attempts to create elite private higher education associated with for-profit initiative and indirect ownership while keeping the university legally nonprofit (e.g., Bond University). Kenya insists on nonprofit designation even where an institution is set up by a corporation (e.g., Daystar University), yet it is mostly silent on what marks nonprofit versus for-profit, and some training institutions take advantage, keeping themselves in the higher education category, as can also be the case for foreign providers in Kenya.

What emerges from this analysis is a slippery and murky definition of for-profit higher education, as often is the case regarding for-profit sectors beyond higher education alone. Distinguishing for-profits, nonprofits, and publics has often involved a "name game" (Frumkin, 2002, pp. 10–16). Sectors overlap. Sectors blur. Sectoral labels partly deceive. The general legal delineation suggests that only for-profit institutions may distribute profits to owners, although the precise nature of "profits" and "owners" is elusive in a global analysis. So, then, we must be careful about when and how much to treat for-profit higher education institutions as distinctive regarding fundamental

missions and purposes that challenge the eleemosynary justification of more traditional colleges and universities.

Struggling to decide what to allow and what to label it, many countries are keen to know how the U.S. defines for-profit. The profit status of any U.S. organization is identified by the tax code. Not-for-profit educational institutions are known as 501(c)(3) organizations, after the section of the tax code that describes them. These institutions cannot be organized to benefit private interests, their assets must be permanently dedicated to charitable purposes, and net earnings cannot be distributed to owners or shareholders (IRS, 2003). For-profit institutions need not meet these stipulations. Rather, their “bottom-line” purpose can be to make a profit for their owners or shareholders. Reflecting this distinction, data on for-profit higher education in the U.S. are collected under a definition that describes these schools as “private institution[s] in which the individual(s) or agency in control receives compensation other than wages, rent, or other expenses for the assumption of risk” (NCES, 2003a).

Taken together, these definitions suggest that for-profit institutions of higher education are defined not by making money or “profit,” but by what they are able to do with that money. Nonprofit institutions can only use money left over after expenses are paid to develop the organization and continue its charitable or other nonprofit objectives, while for-profit institutions can essentially do whatever they want with it, including offering additional reward to their owners.

At least four complications arise with such definitional analysis. The first is that the claim that owners’ compensation is for the “assumption of risk” suggests a match between the risk assumed by the owners and the compensation they receive. Yet the profits earned may, in fact, exceed any true risk, particularly given that the providers of higher education are more knowledgeable about their product than are the students who are purchasing it (Pusser & Doane, 2001). Some owners will take advantage of this to engage in questionable student recruiting practices. In the U.S., for example, regulations have been established given concerns over violations by for-profit institutions, such as paying admissions officers a commission to enroll students and admitting students who have no “ability to benefit” from the education provided. In countries where the idea of profit is widely regarded as incompatible with true educational pursuits, the tendency is to regard *any* profit (and indeed many fees, even in nonprofits) as excessive. Thus, in 2003, the Indian Supreme Court clamped down on excessive tuition as well as special payments to gain entry to medical colleges. It declared that “education” was not simply “training,” and it raised great doubts about permitted profits. In India—as in the U.S. and elsewhere—nonprofits are often thought of as “charitable” institutions, which can greatly limit their leeway to serve owners or clients. The 2002 Chinese law allows for reasonable profit but leaves the determination of reasonable quite open to (government) interpretation.

The second complication concerns the level at which for-profits educate, relating back to the question of what is “higher education.” Compared to nonprofit and public counterparts, for-profits around the world stand out for not providing particularly advanced education. Even when graduate degrees are offered, their academic standards have been regularly questioned in the United States and elsewhere. Should they be considered as higher education or grouped instead with training institutions?

The third complication (sometimes intertwined with the question of “higher education” status) concerns the definition of what is in a country’s higher education system, or lies in a murky international zone not covered by mainstream higher education law. For example, while Uruguay allows no for-profit higher education institutions, international for-profit universities offer courses in the country. Like Ukraine, some countries accept international management but lack international ownership. Other countries host both. Japan has not recognized foreign providers but likely will soon. For-profit universities and chains from developed countries such as Australia, the U.K., and the U.S. appear to dominate in direct offerings and in franchising, but for-profits from other countries (e.g., South Africa) penetrate regional markets. Where and when the international ownership secures local recognition is a subject that merits watchful analysis. So does the phenomenon of public and nonprofit institutions creating for-profit branches that operate abroad.

The fourth complication is simply that the other three complications also arise in the nonprofit and sometimes even in the public sectors. Indeed, commercialization, differentiation, and internationalization in these sectors increase the percentage of institutions or activity that is functionally for-profit; this is happening beyond higher education as well, with nonprofits turning “profits” at “record levels” (Frumkin, 2002, p. 172). In fact, both public and nonprofit private higher education institutions in Eastern/Central Europe, Africa and elsewhere are admitting “private” paying students alongside the public, subsidized students. Indian, Chinese, and U.S. public universities have been able to offer courses and many other activities to make money. As in China, they may be permitted to establish internal private units that can accept stock investment. Venerable U.S. public and nonprofit universities find themselves in the ticklish situation that their investments include for-profit companies engaged in U.S. and international higher education. Thus, even in the U.S., the functional distinction between a for-profit institution and a nonprofit one is not always obvious. While the tax code may draw a bright line, to many observers activities can seem remarkably similar regardless of the institution’s profit-making status.

Nevertheless, because of both the dubious academic levels and a pursuit of “dirty profits,” and simply because they are new, unknown forms, it is for-profit higher institutions around the world that most typically confront great problems of legitimacy. Regarding education as properly a “public good,” many oppose allowing for-profits to operate. For-profits are seen as untrustworthy, guided by the wrong incentives, and thus often shoddy or inappropriate in their pursuits. Denigration of new privates by older established privates has occurred widely over the years; what is mostly fresh today is that the new institutions are sometimes mostly for-profit (e.g., Brazil), so that there’s a nonprofit versus for-profit institutional dimension. Of course, the for-profits respond that there is nothing wrong with profit *per se* and even extol the idea of bolstering options, access, and job relevance without depending on public subsidies or tax breaks. Further, in certain instances—as the Ukrainian case suggests—local skepticism regarding nonprofit motives can make the for-profits a viable alternative for a private system of higher education. Detractors denounce for-profits as unaccountable to the public interest; supporters claim that direct accountability to stakeholders far surpasses that in public and nonprofit higher education.

Types and Classifications

A wide range of institutions comprise for-profit higher education, differing in their typical ownership, mission, curricula, pedagogy, clientele, and status. Yet there is no dominant classification of the for-profit sector or its sub-types. For Malaysia, Lee (1999) identifies types mostly by ownership: individual, companies, consortia of companies, publicly listed companies, and government corporations. The U.S. Education Commission of the States (ECS) refers to enterprise colleges, super-systems, and Internet institutions in a classification that utilizes both size and ownership to draw distinctions among for-profits (Kelly, 2001). South Africa's small, locally-owned for-profits mostly fit the ECS enterprise college type, as "agency" institutions or as technical and vocational education training institutions, with a small transnational and corporate university presence (Kruss, 2003). In the U.S., for-profits are often grouped according to level of degree offered: these include degree granting two- and four-year universities, non-degree granting training and technical institutes, and industry specific institutions commonly referred to as "corporate universities." With the exception of this last group, all are included in U.S. government-sponsored tabulations of the for-profit sector (NCES, 2003a).

Drawing off the U.S. and other cases, what follows begins to sketch for-profit types for potential international elaboration. Although mutual exclusivity is not possible, this approach highlights some important characterizations of the for-profit sector to demonstrate its variety and complexity. The discussion begins with four categories, but will then break down the fourth, degree-granting, in further detail, while leaving aside Internet institutions—contrary to some stereotypes, for-profit education is overwhelmingly conducted face-to-face.

1. *Corporate universities* mostly train employees of the sponsoring business, though some have developed programs or curricula for a wider population, or have developed relationships with other educational institutions to provide joint degree programs. Where they train "their own" the immediate purpose may not be profit but rather building their human resource capacity to sustain long-term profit. Thousands of U.S. companies have these "universities" dedicated to employee training, though likely no more than a couple of hundred offer curricula comparable to other postsecondary institutions (Jarvis, 2001; Meister, 1998). Some U.S. corporate universities also operate abroad. Domestic corporate universities exist in an undetermined number of countries, including, for example, South Africa (Fehnel, 2003).
2. *Corporate-owned universities* (or colleges) are different. Increasingly prominent, they are institutions owned by corporations that seek to make profits from providing educational services. The corporations tend to expand their holdings aggressively, either by opening branch campuses of a flagship campus (e.g., DeVry), or by purchasing existing institutions in other regions or countries (e.g., Laureate, formerly Sylvan⁵), or both (e.g., Apollo). A related phenomenon occurs, as in Chile and Mexico, where the corporation may purchase existing institutions, which remain legally nonprofit.⁶ Leading examples of U.S.-based corporations with an

international presence in higher education include Laureate (Europe and Latin America), Apollo (Brazil, Netherlands, and India), and Career Education Corporation (France, England, and the United Arab Emirates). These corporations, along with companies such as Education Management Corporation, Corinthian Colleges, and Kaplan Higher Education also have a substantial presence in the U.S. and Canada. Non-U.S. corporations include Educor, a corporate group that owns several private higher education institutions in Southern Africa, most prominently the Midrand Graduate Institute. Corporate-owned universities may be large or small, well-known or obscure. For example, Education Management owns both the huge 29-campus Art Institute system as well as little Kee Business College in Virginia.

3. *Non-degree granting institutions*, which account for half the U.S. for-profit enrollment and 82% of its institutions (NCES, 2003a), obviously do not offer degrees. They commonly provide relatively short duration programs, typically less than a year, and are associated with entry-level training in trades such as welding, as well as with truck-driving or beauty schools. Such institutions seem common in other countries, whether formally recognized as higher education or not. Some later “move up” into formal higher education status.
4. *Degree-granting institutions* are the ones most often recognized and counted as for-profit higher education worldwide. This is particularly true for those that clearly deal with a postsecondary curriculum. Most institutions, and the degrees they award, are at the non-university level. In the U.S., there are about 800 degree granting for-profits in operation; 500 of these are two-year (non-university) institutions. Nevertheless, substantial advanced education is provided by the remaining 300 four-year universities, half of which offer graduate degrees. In 2001, nearly 120,000 degrees were awarded at U.S. for-profits: 65% were associate degrees, 22% bachelor’s, 12% master’s, and less than 1% doctoral degrees (NCES, 2003c). Chile’s for-profits operate both degree and non-degree programs, and given that no Chilean universities are for-profit, the concentration of for-profits at non-university levels again becomes clear. Even when for-profits award university level-degrees, however, it should be understood that the curriculum does not typically show the scope or depth of the public university.

It is important to emphasize that many institutions offer both degree and non-degree programs. Corporate universities can offer non-degree programs, and corporate-owned universities include both degree and non-degree-granting institutions. Like some counterparts elsewhere, most U.S. degree-granting for-profit institutions also offer non-degree programs, and several U.S. for-profits offer a full range of awards, from non-degree certificates through graduate degrees. Many U.S. for-profits classified as four-year institutions award more two-year degrees than four-year degrees (Bailey, Badway, & Gumport, 2003). Counting is therefore complicated, as it is in other countries, by the institutional mix of different levels, mostly lower than the standard undergraduate degree level.

At least as important as the overlap between types of for-profit is the variation within each type. Because of its special importance and adapting the ECS model, this analysis

divides the fourth category, the degree-granting for-profit, into two parts: (A) super-systems and (B) enterprise colleges.

- A. *Super-systems* are higher education institutions with branch campuses across a wide geographical area. These institutions are comparatively large and tend to offer a much wider array of programs than do other for-profits. Some range from basic career training and specialized technical programs to graduate degrees in business, law, education, and psychology. In the U.S., super-systems such as the University of Phoenix, ITT, DeVry University, Bryant and Stratton, Strayer University, and National American University have grown spectacularly in recent years. In China, CIBT School of Business has six campuses with plans for 12 more. South Africa's Damelin College has 36 campuses, including two in Namibia and one in Swaziland. Like Educator-owned Damelin, many super-systems are also corporate-owned universities, including American InterContinental University (Career Education), the Art Institutes International (Educational Management), and the University of Phoenix (Apollo). Others, like Bryant and Stratton College, are family-owned institutions that have expanded into new regions. A few super-systems have locations around the world—like Hotelconsult César Ritz College with campuses in Switzerland, Australia and the U.S.—but most do not branch out beyond their home country or immediate neighborhood (e.g., DeVry University has campuses in the U.S. and Canada).
- B. *Enterprise colleges* (or “universities”) are locally-oriented institutions, owned and managed by an individual, family, or corporation. This category appears to encompass all of Chile's indigenous for-profits, none of which issue stock. Enterprise colleges are usually quite small, often with just a few hundred students at a single campus or small group of campuses. The curriculum is limited and usually job-focused. In fact, these institutions are generally narrow in most respects, including mission, undertakings, and (except for those owned by large corporations) financial base. On the other hand, the U.S. shows the international potential for access-based for-profits that are in some respects like public community colleges. Given the commonality of no or low tuition at public institutions outside the U.S., however, such for-profit options depend on demand exceeding public supply or on student perceptions that the for-profits are more efficient routes to decent jobs. At the same time, the super-system/enterprise college distinction blurs when corporations purchase small campuses and add them to a super-system (as Education Management has done with the Art Institutes).⁷ For the most part, enterprise colleges would appear to overlap with what are often called proprietary institutions, and some have emerged from what were correspondence courses. South Africa shows how such institutions can move up to higher education, often after long histories as a country's only private higher education (Mabizela, 2000). At any rate, by one name or another, enterprise colleges are by far the most common form of for-profit higher education outside the U.S., sometimes the only kind.

More complete classifications of the for-profit sector should consider many factors. One would be delineation from other higher education and non-higher education

sectors. Others could include level and weight of programs, accreditation status, form or ownership, size, geographical distribution of campuses, and the extent to which “face” or distance delivery modes are employed. A combination of such factors could help identify and analyze the diversity of for-profit institutions. For example, Jones International University is a regionally accredited virtual university, owned by a private corporation, that offers bachelor’s and master’s degrees. ITT Technical Institute is a nationally accredited institution, with campuses across the U.S. and a joint program with a Canadian-owned for-profit business school in China. ITT shares trade on the stock exchange, and it awards two-year, four-year and graduate degrees, as well as non-degree certificates. Analysis should reflect such differences and certainly avoid any stereotype about the for-profit sector as a single entity.

Additionally, a classification must track and come to grips with private-public partnership (meaning more than just collaboration between separate institutions, but rather, formal affiliations). Often this involves a public university—bringing the academic status, social legitimacy, curriculum, and facilities—and a private college, bringing efficient ways of capturing a paying market, providing access to less privileged groups, and so forth. Most of South Africa’s private enrollments are in private-public partnerships (Levy, 2003), and most partnerships involve for-profit institutions on the private side. There is a bewildering array of private-public (often at least functionally for-profit) partnerships in China, India, Malaysia, Russia, and other countries. Some involve international relationships. In the U.S., formal articulation agreements exist between the for-profit and public sectors to funnel graduates of two-year programs of one sector into the four-year degree programs of the other sector.

Final Observations

For-profit higher education is a multidimensional phenomenon that cannot be described in simple terms. *No single form or pattern dominates globally*, or even just in the U.S., and generalizations should be made with caution. Nevertheless, this discussion concludes by highlighting a few discernible tendencies about these institutions:

1. Information on the sector is sketchy. Even where substantial statistical information exists, as in the U.S., significant gaps inhibit our understanding of who is participating, what curriculum is like, effectiveness, etc. The for-profit sector often flies under the radar of those who study higher education, and though this is beginning to change, evidence is still largely anecdotal.
2. Though it is far smaller than nonprofit private (and, of course, public) higher education, and remains prohibited in many countries, for-profit higher education is growing remarkably. Sometimes the growth is almost stealthy, sometimes it ignites noisy debate. Identification of for-profit size and scope depends on various definitional issues, including what is training versus what is higher education.
3. While international expansion is occurring, most for-profit higher education is indigenous. Local regulation and control remain significant barriers to for-profit expansion, even where an individual country’s regulatory environment becomes more favorable than before. The U.S. case suggests a trend toward mass for-profit

higher education in terms of super-systems, but multinational super-systems are rare.

4. For-profit curricula vary in terms of their level and focus, though generally the majority are below university level and focus on a few high-demand, business-friendly subjects. In some countries, this has limited competition with (and awareness by) the public sector, and has resulted in at least a temporary safe harbor for the development of a for-profit sector. In most countries, however, public universities are skeptical of the for-profit sector as legitimate institutions of higher education.
5. Particularly outside the U.S., by far the most common type of for-profit institution is the enterprise college or university. The term enterprise helps underscore the kinship between the for-profit phenomenon and the commercial tendencies of nonprofit private higher education (and even some public higher education).
6. Owners and/or investors are typically powerful and determine the nature of the for-profit institution. Faculty are typically weak and deliver the curriculum, rather than create it. Students and employers are ostensibly at the core of the for-profit model, but this is debatable by country, type of for-profit, and individual case. The roles of public actors—including public universities, accrediting agencies, and ministries—are quite variable, and often pivotal.
7. For-profit growth powerfully (and often extremely) underscores some major recent findings about private higher education expansion in general. Two broad confirmations deserve particular mention. One is the unanticipated nature of the growth, usually unplanned by public policy and unforeseen by scholars (Levy, 2002). Another is the sharp distinctiveness between this form of private higher education and traditional public higher education (Levy, 2004).

In sum, this chapter has highlighted salient factors from the U.S. system and related them to for-profits in other countries. A comparative analysis illustrates where certain U.S. tendencies echo elsewhere and which do not, or echo less. Much that characterizes U.S. for-profits characterizes for-profits elsewhere, as it also characterizes many legal nonprofits elsewhere. In other words, the for-profit sector in the U.S. seems to be a prototype for private expansion of higher education, more so than is the large, well-developed nonprofit U.S. private sector with its research universities and prestigious liberal arts colleges. From a variety of such global perspectives, for-profit higher education is much more significant than a simple count of for-profit enrollment around the world would suggest. Clearly, the growing presence of for-profit higher education worldwide—and its evolving impact on traditional nonprofit sectors—will remain an important topic of research for the foreseeable future.

Notes

1. Much of our information on non-U.S. cases comes from a survey conducted of the PROPHE network of scholars, and the authors are grateful for the responses.
2. Statistical information on the U.S. case comes from the National Center for Education Statistics, U.S. Department of Education and summarized by PROPHE (2004); Additional data presented here are drawn directly from NCES reports (2003a, 2003b, 2003c).

3. The sharp trend toward for-profits is certainly not irreversible. Turkey banned its heavily for-profit private higher education sector in the 1970s. (In the 1980s Turkey again allowed privates, but insisted they be nonprofit, though recent provisions have liberalized this policy once again.)
4. India's NIT—prominent in information technology—is registered as a for-profit with the Ministry of Trade.
5. In May 2004, Sylvan Learning Systems was renamed Laureate Education.
6. Therefore, large for-profit businesses may operate corporate-owned universities in countries that do not allow for-profit higher education institutions.
7. It is more common, however, for the corporation simply to add a newly acquired institution to its portfolio without merging it with others to form a super-system. For example, Corinthian's Kee Business College is both a corporate-owned university as well as an enterprise college.

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GLOBALIZATION AND THE UNIVERSITY: REALITIES IN AN UNEQUAL WORLD

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In the past two decades, globalization has come to be seen as a central force for both society and higher education.¹ Some have argued that globalization, broadly defined as largely inevitable global economic and technological factors affecting every nation, will liberate higher education and foster needed change. Technological innovations such as the Internet, the forces of the market, and others will permit everyone to compete on the basis of equality. Knowledge interdependence, it is argued, will help everyone. Others claim that globalization strengthens worldwide inequality and fosters the McDonaldization of the university. All the contemporary pressures on higher education, from massification to the growth of the private sector, are characterized as resulting from globalization. There is a grain of truth in each of these hypotheses—and a good deal of misinterpretation as well. This chapter will seek to “unpack” the realities of globalization and the related concept of internationalization in higher education and to highlight some of the impact on the university. Academe around the world is affected differently by global trends. The countries of the European Union, for example, are adjusting to new common degree structures and other kinds of harmonization that are part of the Bologna process and related initiatives. Countries that use English benefit from the increasingly widespread use of that language for science and scholarship. Of special interest here is how globalization is affecting higher education in developing countries, which will experience the bulk of higher education expansion in the next two decades (Task Force on Higher Education and Society, 2000).

From the beginning, universities have been global institutions—in that they functioned in a common language, Latin, and served an international clientele of students. Professors, too, came from many countries, and the knowledge imparted reflected scholarly learning in the Western world at the time. Since universities have always figured in the global environment, they have been affected by circumstances beyond the campus and across national borders. This reality is all too often overlooked in analyses of 21st century globalization. A long-term perspective when considering the university reveals the deep historical roots of the ethos and governance of universities. As Clark Kerr has noted, of the institutions that had been established in the Western world by 1520, 85

still exist—the Roman Catholic Church, the British Parliament, several Swiss cantons, and some 70 universities. The universities may have experienced the least change of these institutions (Kerr, 2001, p. 115).

Today's globalization, at least for higher education, does not lack precedents. From the beginning, universities have incorporated tensions between national conditions and international pressures. While English now dominates as the language of research and scholarship, in the 19th century German held sway, as did Latin in an earlier era. Students have always traveled abroad to study, and scholars have always worked outside their home countries. Globalization in the 21st century is truly worldwide in reach—few places can elude contemporary trends, and innovations and practices seem to spread ever faster due to modern technology. But again, similar trends have occurred in other periods as well.

It is also the case that all of the universities in the world today, with the exception of the Al-Azhar in Cairo, stem from the same historical roots—the medieval European university and, especially, the faculty-dominated University of Paris. This means that the essential organizational pattern of the contemporary university worldwide stems from a common tradition—this is an important element of globalization. Much of the non-Western world had European university models imposed on them by colonial masters—academic systems in India, Indonesia, Ghana, and the rest of the developing world stem from common Western roots. Even those countries not colonized by Western powers—such as Japan, Thailand, Ethiopia, and a few others—adopted the Western academic model (Altbach & Viswanathan, 1989). This is the case even where, as in China, well-established indigenous academic traditions already existed (Hayhoe, 1999).

The American university itself, so influential worldwide, constitutes an amalgam of international influences. The original colonial model, imported from England, was combined with the concept of the German research university idea of the 19th century and the American ideal of service to society to produce the modern American university. Foreign models were adapted to domestic realities in creative ways. As the European Union moves toward the harmonization of national higher education systems in the “common European space,” foreign influences again emerge—degree structures, the course-credit system, and other elements in modified form—to produce evolving academic patterns. Just as Japan adapted German academic models and some American traditions as it built its modern university system after 1868, the European Union is looking to “best practices” worldwide in 2004.

Given the centrality of the knowledge economy to 21st century development, higher education has assumed a higher profile both within countries and internationally because of its roles in educating people for the new economy and in creating new knowledge (Altbach, 1998a). As evidence, the world trade organization (WTO) is now focusing on higher education. Currently, a debate is under way concerning the General Agreement on Trade in Services (GATS). Multinational corporations and some government agencies in the rich countries are seeking to integrate higher education into the legal structures of world trade through the WTO. These developments indicate how important universities and knowledge have become in the contemporary world (Altbach, 2002; Knight, 2002; Larsen, Martin, & Morris, 2002).

Definitions

It will be useful to define some of the terms in the current debate about globalization. For some, globalization means everything—an inchoate catch-all for the external influences on society. For others, it includes only the negative side of contemporary reality. This chapter examines the international environment of higher education and seeks to analyze how that environment affects national higher education systems and individual academic institutions. Thus, the focus is not on the detailed issues of the management of academic institutions—changing administrative structures or changes in the specific nature of academic appointments, for example, although these may be influenced by global trends. Rather, we are concerned with how societies and universities have dealt with mass enrollments, privatization, and the new technologies, among others.

In this discussion, globalization is defined as the broad economic, technological, and scientific trends that directly affect higher education and are largely inevitable in the contemporary world. These phenomena include information technology in its various manifestations; the use of a common language for scientific communication; the imperatives of society's mass demand for higher education (massification) and for highly educated personnel; and the "private good" trend in thinking about the financing of higher education. Academe is affected by, for example, patterns in the ownership of multinational publishing and Internet companies, the investment in research and development worldwide, and international currents of cultural diffusion. These and other trends are part of globalization—they help to determine the nature of the 21st century economy and society. Although globalization is by no means a new phenomenon—even the medieval universities were affected by the global trends of the period—it has increased salience in the interdependent world of the 21st century. All are affected by these trends, and must take them into consideration as part of higher education policy and reality.

Internationalization refers to specific policies and programs undertaken by governments, academic systems and institutions, and even individual departments to support student or faculty exchanges, encourage collaborative research overseas, set up joint teaching programs in other countries or a myriad of other initiatives. Internationalism is not a new phenomenon and indeed has been part of the work of many universities and academic systems for centuries. With much room for initiative, institutions and governments can choose the ways in which they deal with the new environment. Internationalism constitutes the ways that contemporary academe deals with globalization. While the forces of globalization cannot be held at bay, it is not inevitable that countries or institutions will necessarily be overwhelmed by them, or that the terms of the encounter must be dictated by others. Internationalization accommodates a significant degree of autonomy and initiative (de Wit, 2002; Knight, 1997; Knight, 2005; Scott, 1998).

Another new trend in higher education is multinationalization, which refers to academic programs or institutions located in one country offering degrees, courses, certificates, or other qualifications in other countries. The programs are often sponsored jointly with local institutions, but this is not always the case (Teather, 2004). A joint-degree sponsored by institutions in two or more countries, often called "twinning,"

is an example of a multinational academic enterprise. Offshore institutions constitute one variation of the trend—this may be carried out through franchising (sometimes referred to as “McDonaldization”) or simply by opening a branch institution (Hayes & Wynyard, 2002). The American University of Bulgaria, offering U.S.-style academic programs in English in Bulgaria and accredited in the United States, is an example. Increasingly, the Internet is used in the delivery of multinational academic programs.

Globalization cannot be completely avoided. History shows that when universities shut themselves off from economic and social trends they become moribund and irrelevant. European universities, for example, ignored both the Renaissance and the Industrial Revolution and ceased to be relevant. Indeed, the French Revolution swept away the universities entirely. Napoleon established the *grandes écoles* in order to provide relevant training for the leaders of society and to contribute to science and technology. Von Humboldt had to reinvent the German university model in 1809 in order to make them relevant to the development of science and industry in Prussia (Ben-David & Zloczower, 1962). Institutions and systems possess great latitude in how they deal with globalization and other social influences—at times they have effectively coped with such changes. At other times, the innate conservatism of academe prevented this. Thus, those who argue that there is just one model for higher education in the 21st century are clearly wrong.

Centers and Peripheries

The world of globalized higher education is highly unequal. Concentrating on developing countries and on smaller academic systems immediately reveals the specter of inequality. While the Internet and other manifestations of globalization are heralded as disseminating knowledge equally throughout the world, the evidence is mixed on the outcomes. In some ways, globalization does open access, making it easier for students and scholars to study and work. But in many respects, existing inequalities are only reinforced while new barriers are erected. The debate in higher education mirrors analyses of globalization generally. Economists Joseph Stiglitz and Dani Rodrik, among others, have argued that in some respects globalization works against the interests of developing countries, reinforcing international inequalities (Rodrik, 1997; Rodrik, 1999; Stiglitz, 2002). Neither is opposed to globalization—and both see it as inevitable—but their critiques reveal critical problems that tend to be overlooked in the dominant perspectives on the topic.

The powerful universities and academic systems—the centers—have always dominated the production and distribution of knowledge. Smaller and weaker institutions and systems with fewer resources and often lower academic standards—the peripheries—have tended to be dependent on them. Academic centers provide leadership in science and scholarship and in research and teaching. They are the leaders with regard to organizational structure and mission of universities, and in knowledge dissemination. The centers tend to be located in larger and wealthier countries, where the most prestigious institutions benefit from the full array of resources, including funding and infrastructures—such as libraries and laboratories to support research, academic staff with appropriate qualifications, strong traditions, and legislation that supports academic

freedom. The academic culture fosters high achievement levels by individual professors and students, and by the institutions themselves. These top institutions often use one of the major international languages for teaching and research, and in general enjoy adequate support from the state.

The world of centers and peripheries is growing ever more complex (Altbach, 1998c). The international academic centers—namely the leading research-oriented universities in the North, especially those that use one of the key world languages (particularly English)—occupy the top tier. High quality universities do exist elsewhere—for example, in Japan and several smaller European countries. A number of universities in China, Singapore, and South Korea aspire to the status of top research institutions. Even within countries at the center of the world academic system in the early 21st century—the United States, Britain, Germany, France, and to some extent Australia and Canada—there are many peripheral institutions. For example, perhaps 100 of America's 3,200 postsecondary institutions can be considered research universities. These institutions receive more than 80% of government research funds and dominate most aspects of American higher education. The rest of the American higher education system lies on the periphery of the research centers—these segments, including the comprehensive universities, community colleges, and others play important roles in both the academic system and in society—but they are not considered to be leaders in the academic system. While hardly a new development, this stratification has probably become more pronounced in recent years. Countries that had relative equality among universities are fostering diversification—the U.K. has created a ranked system, and Germany is moving in that direction.

Other countries possess similarly stratified academic systems. There are also universities that play complex roles as regional centers, providing a conduit of knowledge and links to the top institutions. For example, the major universities in Egypt provide academic leadership for the Arabic-speaking world and are links to the major centers, while contributing relatively little themselves. China's key universities are significant producers of research, mainly for internal consumption, while at the same time serving as links to the wider world of higher education.

In many ways, it is now more difficult to become a major player in international higher education—to achieve “center” status (Altbach, 1998b). The price of entry has risen. Top-tier research universities require ever greater resources, and in many fields scientific research involves a large investment in laboratory facilities and equipment. Library acquisitions and information technology are also costly, especially when related to maintaining Internet connections and providing access to relevant databases. Universities in countries without deep financial resources will find it virtually impossible to join the ranks of the top academic institutions. Indeed, any new institution, regardless of location, will face similar challenges.

Academic institutions at the periphery and the academic systems of developing and some small industrialized countries depend on the centers for research, the communication of knowledge, and advanced training. The major journals and databases are headquartered at the major universities—especially in the United States and the United Kingdom—since international scholarly and research journals are largely published in English. Most of the world's universities are mainly teaching institutions—in

developing countries virtually all are in this category—that must look elsewhere to obtain new knowledge and analysis. Many smaller developing countries, for example, lack the facilities for research, do not provide degrees beyond the bachelor's, and are unable to keep up with current journals and databases due to the expense. Structural dependency is endemic in much of the world's academic institutions.

A New Neocolonialism?

The era of the Cold War was characterized by the efforts of the major powers to dominate the “hearts and minds” of the peoples of the world. The Soviet Union, the United States, and others spent lavishly on student exchanges, textbook subsidies, book translations, institution building, and other activities to influence the world's academic leaders, intellectuals, and policymakers. The goals were political and economic, and higher education was a key battlefield. The rationale was sometimes couched in the ideological jargon of the Cold War but was often obscured by rhetoric about cooperation (Altbach, 1971).

The programs included many that offered considerable benefit to the recipients—including scholarships to study abroad, high-quality textbooks, scientific equipment, and other resources. Participation in programs took place on an entirely voluntary basis, but in a context of scarcity assistance becomes difficult to decline. Acceptance meant increased ties to the donor countries and institutions and long-term dependence on the countries providing the aid. Installation of laboratory equipment or computers, for example, meant continuing reliance on the supplier for spare parts, training, and the like.

We are now in a new era of power and influence. Politics and ideology have taken a subordinate role to profits and market-driven policies. Now, multinational corporations, media conglomerates, and even a few leading universities can be seen as the new neocolonists—seeking to dominate not for ideological or political reasons but rather for commercial gain. Governments are not entirely out of the picture—they seek to assist companies in their countries and have a residual interest in maintaining influence as well. The role of the governments of such countries as the United States and Australia in advocating the interests of for-profit education providers and others in their countries in the World Trade Organization—with regard to the General Agreement on Trade in Services (GATS) and other matters—is but one example. As in the Cold War era, countries and universities are not compelled to yield to the terms of those providing aid, fostering exchanges, or offering Internet products, but the pressures in favor of participation tend to prevail. Involvement in the larger world of science and scholarship and obtaining perceived benefits not otherwise available present considerable inducements. The result is the same—the loss of intellectual and cultural autonomy by those who are less powerful.

The Role of English

English is the Latin of the 21st century. In the current period, the use of English is central for communicating knowledge worldwide, for instruction even in countries

where English is not the language of higher education, and for cross-border degree arrangements and other programs. The dominance of English is a factor in globalization that deserves analysis if only because higher education worldwide must grapple with the role of English (Crystal, 1997).

English is the most widely studied foreign language in the world. In many countries, English is the required second language in schools, and the second language of choice in most places. English is the medium of most internationally circulated scientific journals. Universities in many countries stress the importance of their professors' publishing in internationally circulated scientific journals, almost by definition in English, placing a further premium on the language. Internet websites devoted to science and scholarship function predominantly in English. Indeed, English serves as the language of Internet academic and scientific transactions. Majority of international students go to universities in English-speaking countries.

English is the medium of instruction in many of the most prominent academic systems—including those of the United States, the United Kingdom, Australia, Canada, and New Zealand—all of which enroll large numbers of overseas students. Singapore, Ethiopia, and much of Anglophone Africa use English as the primary language of instruction as well. English often functions as a medium of instruction in India, Pakistan, Bangladesh, and Sri Lanka. Other countries are increasingly offering academic programs in English—to attract international students unwilling to learn the local language and to improve the English-language skills of domestic students and thus enable them to work in an international arena. English-medium universities exist in many countries—from Azerbaijan and Bulgaria to Kyrgyzstan and Malaysia. In many countries—such as Japan, the Netherlands, Germany, Mexico, and so on—universities offer English-medium degree programs and courses at local universities. Many European Union nations offer study in English as a way of attracting students from elsewhere in the EU. English is clearly a ubiquitous language in higher education worldwide.

The role of English affects higher education policy and the work of individual students and scholars. Obviously, the place of English at the pinnacle of scientific communication gives a significant advantage to the United States and the United Kingdom, as well as to other wealthy English-speaking countries. Not surprisingly, many scientific journals are edited in the United States, which gives an advantage to American authors—not only are they writing in their mother tongue but the peer review system is dominated by people accustomed to both the language and methodology of U.S. scholars. Others must communicate in a foreign language and conform to unfamiliar academic norms. As mentioned earlier, in many places academics are pressured to publish in internationally circulated journals—the sense being that publication in the most prestigious scientific journals is a necessary validation of academic work. Increasingly, international and regional scientific meetings are exclusively in English, again placing a premium on fluency in the language.

English-language products of all kinds dominate the international academic marketplace, especially journals and books. For example, textbooks written from a U.S. or U.K. perspective are sold worldwide, influencing students and academics in many countries and providing profits for publishers who function in English. The English-language databases in the various disciplines are the most widely used internationally.

Universities must pay for these resources, which are priced to sell to American or European buyers and are thus extraordinarily expensive to users in developing or middle-income countries. Nevertheless, English-language programs, testing materials, and all the other products find a ready market in these countries.

Countries that use “small languages” may be tempted to change the medium of instruction at their universities entirely to English. A debate recently took place in the Netherlands on this topic, and it was decided to keep Dutch as the main language of instruction largely out of concern for the long-term survival of the Dutch language and culture—although degree programs in English are flourishing in the country. Where collaborative degree programs are offered, such as in Malaysia, the language of instruction is almost always English and not the language of the country offering the joint degree.

English is supplanting such languages as French, German, and Spanish as the international medium of scholarship. These other languages are in no danger of disappearing in higher education, but their world role has shrunk. The use of English tends to orient those using it to the main English-speaking academic systems, and this further increases the influence of these countries. Regardless of the consequences, however, English will continue as the predominant academic language.

The Global Marketplace for Students and Scholars

Not since the medieval period have such a large proportion of the world’s students been studying outside their home countries—more than 1.5 million students at any one time—and some estimate that the number of overseas students will grow to 8 million by 2020. Large numbers of professors and other academics travel abroad temporarily for research or teaching, and substantial numbers of academics migrate abroad as well to pursue their careers. Aspects of globalization such as the use of English encourage these flows and will ensure that growth continues. As academic systems become more uniform and academic degrees more accepted internationally, immigration rules favor people with high skill levels, and universities look to hiring the best talent worldwide, the global marketplace will expand.

The flow of academic talent at all levels is directed largely from South to North—from the developing countries to the large metropolitan academic systems. Perhaps 80% of the world’s international students come from developing countries, and virtually all of them study in the North. Most of these students pursue master’s, doctoral, and professional degrees. Many do not return to their countries of origin. Close to 80% of students from China and India, two of the largest sending countries to the United States, do not return home immediately after obtaining their degrees, taking jobs or postdoctoral appointments in the United States. The years since the collapse of the Soviet system has also seen a flow of scientists from Russia to Western Europe and North America. Students from industrialized countries who study abroad typically do not earn a degree but rather spend a year or two in the country to learn a language or gain knowledge that they could not acquire at home.

Most international students pay for their own studies, producing significant income for the host countries—and a drain on the economy of the developing world. According

to estimates, the money spent abroad by students from some developing countries more than equals incoming foreign aid. These students not only acquire training in their fields but also absorb the norms and values of the academic systems in which they studied. They return home desiring to transform their universities in ways that often prove to be both unrealistic and ineffective. Foreign students serve as carriers of an international academic culture—a culture that reflects the major metropolitan universities, and may not be relevant for the developing world.

In 2002, universities in the United States hosted almost 85,000 visiting scholars. Although statistics are not available, it is estimated that visiting scholars number 250,000 worldwide. The predominant South-North flow notwithstanding, a significant movement of academics occurs among the industrialized countries and to some extent within other regions, such as Latin America. As part of the Bologna initiatives of the European Union, there is more movement within Europe. Most visiting scholars return home after their sojourns abroad, although a certain number use their assignments as springboards to permanent emigration.

The flow of highly educated talent from the developing countries to the West is large—and problematic for Third World development. For example, more Ethiopian holders of doctoral degrees work outside of Ethiopia than at home, and 30% of all highly educated Ghanaians and Sierra Leoneans live and work abroad (Outward Bound, 2002, p. 24). Many African countries experience this pattern. South Africa is losing many of its most talented academics to the North, while at the same time it is recruiting from elsewhere in Africa. This migration has seriously weakened academic institutions in many developing countries.

Migration does not affect only developing countries. Academics will go abroad to take jobs that offer more attractive opportunities, salaries, and working conditions, as illustrated by the ongoing small but significant exodus from the United Kingdom to North America. To combat this trend, U.K. authorities have provided funds to entice their best professors to remain at home. Being at the center of research activity and having access to the latest scientific equipment sometimes lures scholars from small but well-endowed academic systems, such as those in Denmark or Finland to the metropolises. In some fields, such as engineering specialties and computer science, the percentage of professors from other countries working at U.S. universities is very high—reflecting the fact that almost half the doctoral students in these fields are foreigners. Academic migration takes place throughout the academic system, especially in the sciences, engineering, information technology, and some management areas. Such migration occurs both at the top of the system, with some world-famous scholars attracted abroad by high salaries, and at the bottom, where modest salaries are able to draw foreigners to jobs that are unappealing to local applicants.

Academic migration follows complex routes. Many Egyptian, Jordanian, and Palestinian academics work at Arabian Gulf universities, attracted by better salaries and working conditions than are available at home. Indians and Pakistanis are similarly drawn to the Gulf as well as to Southeast Asia. Singapore and Hong Kong attract academics worldwide. Mexico and Brazil employ scholars from elsewhere in Latin America. South Africa, Namibia, and Botswana currently recruit Africans from elsewhere on the continent. Some of the best scholars and scientists from Russia and a

number of Central European countries have taken positions in Western Europe and North America. The existing traffic among member states will likely grow once the EU implements policies to harmonize academic systems, a process now underway.

The most significant “pull” factors include better salaries and working conditions and the opportunity to be at the centers of world science and scholarship (Altbach, 2003, pp. 1–22). The discrepancies in salaries and conditions between North and South mean that in most developing countries academics cannot aspire to a middle-class lifestyle or have access to the necessary tools of research and scholarship.

One of the many “push” factors involves the limited extent of academic freedom in many developing countries. Academics can be subject to restrictions and even arrested if they stray from officially approved topics. Favoritism and corruption in academic appointments, promotions, and other areas further erode the environment of the university. In many higher education systems, job security or stability are unattainable. Conditions at Third World universities stem largely from the scarcity of resources and the pressure of increased student numbers on overburdened academic institutions. While the “pull” factors at the centers will retain their influence, the “push” factors can be moderated. Overall, however, the migration of academic talent will continue in the current globalized environment.

People have long equated the migration of talent with brain drain. The life stories of emigrants have changed (Choi, 1995). Many academics now keep in close contact with their countries of origin, maintaining scientific and academic relationships with colleagues and institutions at home. Growing numbers of academics have even gone back after establishing careers abroad as economic and political conditions at home have changed. Some academics from South Korea and Taiwan, for example, left the United States to accept senior academic appointments in their home countries once academic working conditions, salaries and respect for academic freedom had improved. More commonly, expatriate academics return home for lecture tours or consulting, collaborate on research with colleagues in their country of origin, or accept visiting professorships. Facilitated by the Internet, these links are increasingly accepted as appropriate and useful. Such trends are especially strong in countries with well-developed academic systems, such as China, India, and South Africa, among others.

The migration of academic talent is in many ways promoted by the industrialized countries, which have much to gain. Immigration policies are in some cases designed to encourage talented personnel to migrate and establish residency—although at least in the United States security concerns in the aftermath of 9/11 have changed the equation to some extent. In many countries, academic institutions make it easy for foreigners to fit into the career structure. Countries that place barriers to foreign participation in academe—such as Japan and now perhaps the U.S.—may find it more difficult to compete in the global knowledge sweepstakes. Industrialized countries benefit from a large pool of well-educated scientists and scholars—people educated by developing countries—who choose to take their talents and skills to the highest bidders. In this way, the developing world has supported the North’s already overwhelming lead in science and scholarship. The renewal of links between academics who migrate and their countries of origin mitigate this situation somewhat, although developing countries, and

some smaller industrialized nations, still find themselves at a disadvantage in the global academic labor market.

The Curriculum

The field of business administration exemplifies the global dominance of ideas by the major English-speaking academic systems. In most countries, business administration is a new field, established over the past several decades to prepare professionals for work in multinational corporations or in firms engaged in international commerce as well as in local business. The dominant pattern of professional studies is the M.B.A. degree—the American-style master’s of business administration. This degree originated as the way to prepare American students for work in U.S. business, based on American curriculum ideas and American business practices. A key part of many M.B.A. programs is the case study, again developed in the U.S. context. The M.B.A. model has been widely copied in other countries, in most cases by local institutions, but also by American academic institutions working with local partners or setting up their own campuses overseas. While the programs sometimes are modified in keeping with the local context, the basic degree structure and curriculum remain American.

Another example of the export of the curriculum is the proposed incorporation of some general education in first-degree programs. Part of the U.S. undergraduate curriculum for two centuries, general education provides a broad background in the disciplines along with critical thinking skills. *Higher Education in Developing Countries: Peril and Promise*, an influential report sponsored by the World Bank and UNESCO, advocates general education as an alternative to the existing largely specialized undergraduate curriculum common in higher education worldwide (Task Force on Higher Education and Society, 2000). The future of general education as a curriculum reform is not clear.

There is an increasing use of common textbooks, course materials, and syllabi worldwide, stimulated by the influence of multinational publishers, the Internet, and databases, as well as the growing number of professors who return home after their study abroad with ideas concerning curriculum and instructional materials. These materials originate mainly in the large academic systems of the North—especially the United States, the United Kingdom, and France.

Disciplines and fields vary in terms of how globally homogenous they have become. Such fields as business administration, information technology, and biotechnology are almost entirely dominated by the major academic centers. Other fields—such as history, language studies, and many areas in the humanities—are largely nationally based, although foreign influences are felt in methodology and approaches to research and interpretation. The internationalization of the curriculum, like other aspects of globalization, proceeds largely from North to South.

The Multinationalization of Higher Education

The emergence of a global education marketplace exhibits itself in the form of a variety of multinational higher education initiatives, ranging from “twinning” programs—linking academic institutions or programs in one country with counterparts in

another—to universities in one country setting up branch campuses in another. Cross-border higher education ventures include many that use the Internet and other distance education means to deliver their programs. Many for-profit companies and institutions have invested in multinational educational initiatives, as have a range of traditional higher education institutions (Observatory on Borderless Higher Education, 2004).

History shows that the export of educational institutions and the linking of institutions from different countries generally represented a union of unequals. Earlier “export models” involved colonialism—the colonial power simply imposed its institutional model and curriculum, often diluted and designed for intellectual subservience, on the colonized (Ashby, 1966). In almost all cases, the institution from the outside dominated the local institution, or the new institution was based on foreign ideas and nonindigenous values. Examples include the British in Africa and Asia, the Dutch in what is now Indonesia, and French initiatives in Africa and Asia. The Spanish monarchy asked the Roman Catholic Church to set up universities in Latin America and the Philippines; religious orders such as the Jesuits undertook what might now be referred to as multinational higher education. In the 19th century, American Protestant missionaries established universities based on the U.S. model in Lebanon, Egypt, Korea and Turkey, among other places—for example, the American University of Beirut. During the Cold War, both the United States and the Soviet Union exported their academic institutions and ideas, mainly to the developing world, generally tied to foreign aid, and in some cases set up universities reflecting their views—such as the University of Nigeria-Nsukka (Hanson, 1968).

The same inequality is characteristic of the 21st century, although neither colonialism nor Cold War politics impels policy. Now, market forces, demands for access, and monetary gain motivate multinational higher education initiatives. When institutions or programs are exported from one country to another, academic models, curricula, and programs from the more powerful academic system prevail. Thus, programs between Australian and Malaysian institutions aimed at setting up new academic institutions in Malaysia are always designed by Australian institutions. Rarely, if ever, do academic innovations emanate from the periphery out to the center.

The export of academic institutions from one country to another is a growing but not entirely new phenomenon. Of course, both traditional colonialism and the government-sponsored foreign assistance programs of the Cold War era exported institutional models, practices, and curriculum from the metropole to developing countries. In the past decade, the number of institutional exports based on non-governmental programs have risen, usually on the initiative of the exporting country. In the 1980s, for example, American colleges and universities directed their attention to Japan as a higher education market. Several hundred U.S. institutions explored the Japanese market, and more than a dozen established campuses—usually in cooperation with a Japanese institution or company (Chambers & Cummings, 1990). A small number of Japanese institutions looked into the feasibility of a U.S. connection, with a few even setting up branch campuses. However, most Japanese programs involved bringing Japanese students to the United States for study, while U.S. programs focused on educating Japanese students in Japan. Generally, the institutions engaging in export activities were not the

most prestigious schools. By 2000, very few of the branches were still operating. In Japan, the difficulty of obtaining Ministry of Education certification for U.S. programs proved overwhelming, and the initiatives on both sides were affected by the protracted economic slowdown in Japan. The U.S.-Japan initiatives were unusual in that both sides were industrialized countries.

Some of the export initiatives taking place today are indicative of global trends. A small number of prestigious American universities are establishing campuses worldwide, usually in popular professional fields such as business administration. The University of Chicago's business school now has a campus in Spain that offers Chicago degrees to Spanish students and students from other European countries, using the standard Chicago curriculum—taught in English mostly by Chicago faculty members—with an international focus. It includes a period of study at the home campus as well. Some other U.S. universities have developed similar programs.

An unusual but interesting model of multinationalization is being undertaken by Singapore, which is inviting a number of prestigious foreign universities—such as the University of Pennsylvania's Wharton School—to start programs in Singapore. The government carefully selects the institutions and provides incentives to encourage them to come to Singapore. Another trend has been the establishment of U.S.-style universities in such countries as Kyrgyzstan, Qatar, and Bulgaria, among other places. These schools typically originate through local initiative, and many have strong links to American universities. Some are supervised by the U.S. partners and accredited in the United States. The language of instruction is English and the curriculum U.S. based. The quality of these American clones varies considerably, with some simply capitalizing on the cachet of an American-style education.

In keeping with the standard export model, a university in an industrialized country will set up a program abroad, often but not always in a developing country, at the invitation of a host institution. The host may be an educational institution or a corporation without any link to education, or some combination of the two. Many examples of these arrangements have been set up in Malaysia to satisfy unmet demand by local students. Universities from Australia and the United Kingdom are most active in Malaysia, but the new programs have generated complaints of low quality, poor supervision, or inadequate communication between the providers and the hosts. In Israel, a number of small American colleges and universities (some of lesser quality) began to offer academic degrees when the market was opened up in the 1990s by the Israeli government. After considerable criticism, restrictions were later placed on the programs—many of which have ceased to exist.

In another export model, foreign academic degree programs are “franchised” by local institutions. The foreign university lends its name and provides the curriculum, some (often quite limited) supervision, and quality control to a local academic institution or perhaps business firm. The new institution is granted the right to award a degree or certificate of the foreign institution to local students. Unfortunately, these franchising arrangements have led to many abuses and much criticism. Many articles have appeared in the British press charging that some U.K. institutions, mostly the less prestigious ones, involved in overseas programs are damaging the “good name” of British higher education. Meanwhile, “buyers” (fee-paying students) overseas think that they are

getting a standard British degree, when in reality they are receiving the degree but not the level of education provided in the United Kingdom.

There are a large number of “twinning” programs worldwide. This arrangement links an academic institution in one country with a partner school in another. Typically, the university in the North provides the basic curriculum and orientation for an institution in the South. In such arrangements, academic degrees are often jointly awarded. Twinning has the advantage of aiding institutions in the South in developing new curricular offerings, with the stamp of approval of an established foreign university. Again, the higher education “products” come from the North, often with little adaptation to local needs.

As can be seen in this brief discussion, there are many facets to the 21st century multinationalization of higher education. However, some common perspectives and motivations can be identified. With few exceptions, a central goal for all of the stakeholders, especially those in the North, is to earn a profit. Institutions in the South that are attracted to multinational initiatives may also be interested in making money, but they also want to meet the growing demand for higher education and for new degree programs that may not be available in local schools. As with other aspects of globalization in higher education, multinational arrangements between institutions are marked by inequality.

Information Technology

The information age carries the potential of introducing significant change in higher education, although it is unlikely that the basic functions of traditional academic institutions will be transformed. The elements of the revolution in information technology (IT) that are transforming higher education include the communication, storage, and retrieval of knowledge (Castells, 2000). Libraries, once the repositories of books and journals, are now equally involved in providing access to databases, websites, and a range of IT-based products (Hawkins & Battin, 1998). Scholars increasingly use the Internet to undertake research and analysis and to disseminate their own work. Academic institutions are beginning to use IT to deliver degree programs and other curricula to students outside the campus. Distance education is rapidly growing both within countries and internationally. IT is beginning to shape teaching and learning and is affecting the management of academic institutions.

IT and globalization go hand in hand. Indeed, the Internet serves as the primary vehicle for the globalization of knowledge and communications. As with the other aspects of globalization, significant inequalities exist. Inevitably, the information and knowledge base available through the Internet reflects the realities of the knowledge system worldwide. The databases and retrieval mechanisms probably make it easier to access well-archived and electronically sophisticated scientific systems of the advanced industrialized countries than the less networked academic communities of the developing countries.

For scholars and scientists at universities and other institutions that lack good libraries, the Internet simplifies the obtaining of information. This change has had a democratizing effect on scientific communication and access to information. At the

same time, however, many people in developing countries have only limited access to the Internet (Teferra, 2003). Africa, for example, has only recently achieved full connectivity to the Internet. However, while each African nation now has at least some form of network connection, the telecommunications infrastructure throughout the continent resembles a narrow footpath rather than an information highway, and thus relatively few Africans have meaningful access to the resources available online.

The Internet and the databases connected to it are dominated by the major universities in the North. The dominance of English on the Internet also affects access and usage of information. Multinational publishers and other corporations have become key players, owning many of the databases, journals, and other sources of information. Academic institutions and countries unable to pay for access to these information sources find it difficult to participate fully in the networks. Tightening copyright and other ownership restrictions through international treaties and regulations will further consolidate ownership and limit access (Correa, 2000).

Distance education, while not a new phenomenon, comprises another element of higher education profoundly affected by IT. The University of South Africa, for example, has been offering academic degrees through correspondence for many decades. The Open University in the United Kingdom has effectively used a combination of distance methods to deliver its highly regarded programs. IT has greatly expanded the reach and methodological sophistication of distance education, contributing to the growth of distance education institutions. Of the ten largest distance education institutions in the world, seven are located in developing countries, and all use IT for at least part of their programs. Universities and other providers in the industrialized nations are beginning to employ IT to offer academic programs around the world, a significant portion of which are aimed at developing countries. Entire degree programs in fields such as business administration are offered through distance education on the Internet, and many providers view the international market as critical for the success of their programs. These providers include corporations, such as some of the major multinational publishers, for-profit educational providers like Sylvan Learning Systems (which became Laureate Education in May 2004), and others. Some universities now offer degree and certificate programs through the Internet to international audiences. Firms such as Microsoft, Motorola, and others are offering competency certificates and other training programs in fields relating to their areas of expertise.

As with the other aspects of globalization discussed in this analysis, the leading providers of IT consist of multinational corporations, academic institutions, and other organizations in the industrialized nations. The Internet combines a public service—e-mail and the range of websites to which access is free—with a commercial enterprise. Many databases, electronic journals, e-books, and related knowledge products are owned by profit-making companies that market them, often at prices that preclude access by those in developing countries.

Nevertheless, developing countries have been able to take advantage of IT. For example, most of the largest universities using distance education are located in developing countries. The African Virtual University (AVU) is an effort by a number of African nations to harness the Internet and other distance education techniques to meet their needs. AVU's success so far has been limited, and many of the courses and programs are

based on curriculum from the North. E-mail is widely used to improve communication among scientists and scholars and to create networks in the developing world. While the information revolution will neither transform higher education, nor is it a panacea for the higher education needs of developing countries, it is one of the central elements of globalization in higher education.

International Agreements and Frameworks

In the new era of globalization in higher education, new international agreements and arrangements have been drawn up to manage global interactions. The arrangements between countries range from bilateral agreements on student and faculty exchanges to the mutual recognition of degrees—for example, the many binational commissions governing the American Fulbright scholarship and exchange programs. Of the current international agreements in higher education, perhaps the most comprehensive are the European Union's, including the Bologna framework—designed to introduce changes to harmonize the higher education systems of all EU member states—and specific exchange and scholarship programs such as ERASMUS and SOCRATES. In contrast, international entities such as the North American Free Trade Agreement (NAFTA), the Association of Southeast Asian Nations (ASEAN), and others have few implications for higher education.

An indication of the potential impact of globalization is the debate over the inclusion of knowledge industries (and higher education in particular) within the framework of the WTO through the GATS proposal. While GATS has not yet been fully formulated and is not part of the WTO framework, it is relevant not only because of its influence but also for what it reveals about the reality of globalization. GATS seeks to establish “open markets” for knowledge products of all kinds, including higher education. The idea behind GATS and—for that matter, the concept of globalization—is that knowledge is a commodity like any other and should be freely traded around the world. The proponents argue that free trade will benefit everyone by permitting competition in the marketplace of ideas and knowledge products.

GATS and related arrangements also seek to provide a legally binding framework for the circulation of educational services and for the protection of intellectual property (Knight, 2004, p. 3–38). Thus, GATS and the WTO are very much related to Trade related intellectual property (TRIP) arrangements and copyright regulations. The motivating force behind all of these regulatory frameworks is to rationalize the global trade in knowledge and to ensure open markets and protections for the owners of knowledge products. The WTO and its related agreements, as well as international copyright, have the force of law—they are international treaties supported by a legal enforcement regime. These arrangements were created to protect the sellers and the providers, not the buyers and users, and as a result they have negative implications for developing countries (Raikhy, 2002). For example, copyright laws have been further strengthened to protect the owners of knowledge, while failing to open access through “fair use” provisions or meaningful special arrangements for developing countries.

Those favoring GATS and the regulatory framework in general are the sellers and owners—multinational knowledge companies, governments focusing on exports, and

others (Organization for Economic Cooperation and Development, 2002). Testing companies such as the U.S.-based Educational Testing Service, multinational publishers, information technology and computer firms, for-profit educational providers such as Sylvan Learning Systems, and others are examples of businesses involved in global education that see GATS as benefiting their interests. In many countries, government agencies most focused on GATS include not the ministries of education but rather departments concerned with trade and export promotion. In the United States, it is the Department of Commerce that has taken the lead and not the Department of Education. In the United Kingdom, the Department of Trade and Industry has been in the forefront. Education groups in the United States, Canada, and a number of other countries have been skeptical or opposed to the GATS proposal. For example, the American Council on Education—which represents most university presidents in the United States—has spoken out against GATS. Developing countries have generally not yet taken a position on the concept of free trade in education and knowledge products.

While the complicated details of a GATS treaty have not been worked out, the basic issues are straightforward. Should education in all of its manifestations be considered as a commodity to be traded in the marketplace, regulated in the same fashion as are automobiles or bananas? As Lawrence Summers, the former U.S. treasury secretary and current president of Harvard University put it in a recent interview, “I’m skeptical as to whether bringing educational issues under the auspices of trade negotiations would be helpful . . . To start with, many educational institutions are nonprofit, their motivations are different from the motivations of commercial firms that we think of in a trade context. There may be some egregious practices that should be addressed, but I would be skeptical about treating education in a way that had any parallels with financial services, with insurance, or with foreign investments” (*The World According to Larry*, 2002, p. 38).

While GATS would bring developing countries into a global framework of commerce and exchange in higher education, it would remove aspects of autonomy from educational decision making. Extending the principle of free trade to education would open national markets in signatory countries to testing companies, providers of distance education, and many other organizations. Regulation or control of these entities would prove difficult if not impossible to achieve. Institutions or companies could, in principle, count on having access to foreign education markets. Since developing countries typically import rather than export their educational products or institutions, it is unlikely that GATS would promote their exports. Developing countries represent the markets that sellers from the industrialized world are eager to target. Most developing countries, having few educational “products” to export, would be at the mercy of the multinational providers.

Current arrangements—in which all countries retain authority over educational imports and exports, subject to some regulatory arrangement such as international copyright, patent treaties, local accreditation and licensing arrangements, and the like—nonetheless permit a great deal of international higher education exchange, as this chapter illustrates. It can be argued that international education markets are already appropriately open, and additional legal requirements to open them further are not needed. Cross-border educational transactions of all kinds are being actively pursued

worldwide. At present, the developing countries are the main importers of products and services from abroad—and they would be most directly affected by GATS.

Conclusion

Globalization in higher education and science is inevitable. Historically, academe has always been international in scope and has always been characterized by inequalities. Modern technology, the Internet, the increasing ease of communication, and the flow of students and highly educated personnel across borders enhances globalization. No academic system can exist by itself in the world of the 21st century.

The challenge is recognizing the complexities and nuances of the global higher education context—an academic world fraught with inequalities in which market and commercial forces increasingly dominate. The traditional domination of the North over the South remains largely intact. The task of ameliorating inequalities in the context of mass higher education is not an easy one. Yet it is important to ensure that globalization does not turn into the neocolonialism of the 21st century.

Note

1. This chapter is revised and updated from Philip G. Altbach, (2004), “Globalization and the University: Myths and Realities in an Unequal World,” *Tertiary Education and Management* 10, p. 3–25.

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GOVERNANCE AND ADMINISTRATION: ORGANIZATIONAL AND STRUCTURAL TRENDS

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Colleges and universities belong to the oldest type of organizations in the world. They have survived turbulent periods and epochs of different values, beliefs, and cultural norms. It can be assumed that their administration and governance have unique features which enabled successful adaptations to changing environments (Gumport & Sporn, 1999; Van Vught, 1995).

Still, many argue that institutions of higher education need to profoundly alter their behavior in order to guarantee long-term sustainability (Chevaillier, 2002; Jeliaskova & Westerheijden, 2002; Sporn, 2003). The history of higher education (Rothblatt & Wittrock, 1993) shows that the most recent challenges are very complex and dense. Contrary to past situations, colleges and universities are facing simultaneous threats (and opportunities) which need their full attention. Among these are financial constraints, the proliferation of information and communication technology, competition and marketization in the higher education sector, as well as increasing professionalization of academic administration.

Higher education systems worldwide are confronted with different dynamics. Whereas the Anglo-Saxon (and especially the U.S.) model seems to prevail, many systems—especially in Europe and Asia—are undergoing major reforms. Driven by the need to increase the number of tertiary education graduates while simultaneously cutting costs, these reforms tend to point to the U.S. model for solutions. Hence, issues like deregulation and privatization as well as new public management and neo-liberal policies have been used as a basis for changes both at the system and institutional level (Altbach, 2004; Clark, 2003; Slaughter, 1998; Sporn, 1999). Taking these trends together, they have had a strong impact on the governance and administration of modern institutions of higher education.

Financial constraints of public funding for higher education have been dominating much of the public discourse in Europe and elsewhere for many years. The money spent per student has been declining in most European countries and even the U.S. (Rhoades & Sporn, 2002a). At the same time, national policies—especially in countries with very few natural resources—have been emphasizing the need to invest in tertiary education

and high-level research in order to stay internationally competitive (OECD, 1998). As a result, universities have been asked “to do more with less,” develop a favorable market position, and “produce” attractive graduates as well as research results.

With finances declining, many colleges and universities started to look for other sources of funding. The introduction or rise of tuition fees as well as the creation of new businesses and fundraising strategies have been successful responses. With the rise of private higher education in many countries, the pressure to reform has increased and created new types of competitive markets to which all institutions had to respond. In the U.S., the policy of high tuition and high aid has had a long tradition. In Europe, tuition has not been standard practice and aid policies needed to be developed.

Another strategy in times of constrained resources has been the development of entrepreneurial activities. Colleges and universities start investing in technology and knowledge transfer, and businesses are created in the form of spin-offs or start-ups. This helps institutions earn additional money through patents and joint ventures. Especially successful are universities with a technical or business administration background or specialization, and with the motivation and engagement of “entrepreneurial faculty” (Birnbaum, 2000; Clark, 1998; Dill, 1995; Etzkowitz & Leydesdorff, 1997; Gibbons et al., 1994; Harman, 1999).

The role of fundraising in financing higher education is quite different depending on the specific philanthropic culture of a country. In the U.S., giving to one’s alma mater has a long tradition and is part of the personally felt obligation of any successful manager. In a system which is less stratified, the value placed on being a graduate of a specific school is less important. Hence, fundraising at European universities has to start from scratch with long-term friend raising, alumni activities and eventually campaigns. Only slowly can institutional advancement be seen as an area of increased activity at European colleges and universities (Shattock, 2000).

Besides financial constraints, new technologies have affected the functioning of colleges and universities. Information technology (IT) can enhance student learning, research productivity and institutional functioning. Courses and academic programs have been supported by the Internet with tools like groupware, communication software, and end-user tools. Research has been enhanced through providing electronic access to the scientific community globally and to databases as well as publications online. A new world of work for faculty has meant increased competition for ideas and more transparency in the search for collaboration. Technology has also changed the way universities and colleges are run. Enrollment management, accounting, reporting, international relations, and decision support can be done via the computer (Green & Gilbert, 1995).

Competition and marketization are important features of modern colleges and universities (Dill, 1997a; Dill & Sporn, 1995). The U.S. and Anglo-Saxon systems have been used to the market-orientation in higher education for some decades. In Europe and other parts of the world, competition for students, faculty and resources created new dynamics and change strategies. Universities and colleges are expected to position themselves in the market for higher education. Their “business model” defines unique

characteristics ranging from being local, international or global and/or to concentrate on applied or basic research. The decision on the profile of the institution is a key element in establishing a market-orientation. Rankings and accreditation add to competitive forces by asking for external evaluation and assessment (Dill, Massy, & Cook, 1996).

The consequence of more competitive forces in higher education has been the rise of strategic management, new mechanisms of decision-making, and a professional administration. The objective is to make organizational structures more flexible, reflecting the modern market for higher education (Dill, 1999). Governance needs to be lean enough to respond quickly to changes in the environment (Weiler, 1998). “Professionals” are increasingly involved in managing the institution (Rhoades, 1998). A shift from a representative to a professional model of management evolved over the years. Professors decide to leave their faculty position to take over the role of dean, rector or president. Slowly a new market for university and college managers is developing in Europe, for which the evidence has been the emergence of management programs for university administrators.

As mentioned above, the challenges for universities are manifold. Governance and administration are especially affected by these changes. This chapter provides a closer analysis of the structural and organizational trends of college and university governance and administration. For this, a definition of terms is needed.

Governance refers to the structure and processes by which decisions are made at institutions of higher education. This includes the role of certain groups within the institution as well as the specific decision-making style being practiced. Shared governance has been substituted by consultative governance. The role of leadership (those responsible for managing the institution), the faculty (those responsible for providing the core “business”—teaching and research) and the administration (those responsible for implementing and handling the support services inside the institution) is of major importance. The governance structure needs to involve all those groups in order to make tough decisions in times of turmoil (Eckel, 2000).

Administration refers to the structure and processes by which the institution is led and managed. In this sense, it is important to distinguish between the leaders and the administrators. Leaders are the ones who are elected by some governing body for a period of time and who are accountable for the overall strategic positioning and success of the institution. The leadership group (e.g., vice-rectors, associate deans, deputy provost) forms the management or executive team to whom all administrative units have to report. The team’s responsibility usually includes functional areas like marketing, finance, or infrastructure. The administrators are employed by the college or university for a very specific job (e.g., marketing manager or enrollment officer) for which they receive a yearly budget, personnel, and support. They report to the university leaders and are accountable for their results.

In summary, governance and administration are one of the central features of colleges and universities. They connect the many constituencies and support the core activities of teaching and research. In order for governance and administration to work effectively, it is necessary to understand the tradition of the respective institution.

Theory and Practice of Governance and Administration

In order to understand recent changes in the organization and structure of administration as well as governance of institutions of higher education, theoretical approaches and empirical studies have provided valuable insights. Three approaches seem to be most prominent: new public management, entrepreneurialism, and academic capitalism (Clark, 1998; Ferlie, Ashburner, Fitzgerald, & Pettigrew, 1996; Gumpert, 2000; Slaughter & Leslie, 1997).

New public management (NPM) has been created to restructure the public sector in order to make it more efficient and effective. The common objective has been to reduce state spending and to initiate organizational transformation in many sectors like health care, education, social services, and criminal justice (Ferlie et al., 1996).

During the 1980s and 1990s, changes in the public sector—especially in the U.K. but also elsewhere in Europe—included trends towards privatization, increased managerialism and marketization, attempts to establish quasi-markets, the rise of cost-consciousness (i.e., providing “value for money” or doing “more with less”), the use of performance indicators, auditing systems and central monitoring, and the management of change by high-profile chief executive officers in charge of public institutions. As a consequence, the political economy of the public sector shifted, entailing a loss of power among unions; erosion of the power of professionals; a rise in importance of managers and non-executive, non-elected directors; and the unclear role of the user (Ferlie et al., 1996).

New public management applied to higher education took yet a different pathway. For example, in Sweden state policymakers used the total quality movement to restructure higher education (Bauer, Askling, Gerard-Martón, & Martón, 1999). This meant granting institutional autonomy to institutions which would enhance their self-regulating capacity and eventually turn Swedish institutions into learning organizations. Quality has been defined as the result of indicator-based performance measurement and constant improvement. In this sense, through NPM Sweden has been trying to establish a continuous quality improvement process. Competition was created by expansion and differentiation of institutional forms (Askling, Bauer, & Martón, 1999; Bauer et al., 1999).

In Norway, new public management fell on fertile grounds in higher education (Bleiklie, Hostaker, & Vabo, 2000; Stensaker, 2001). Efficiency measures, decentralization of authority to the institutions, and performance targets were used to enhance higher education institutions. As a consequence, much of the planning and budgeting process has been standardized in order to respond to specific requirements. Management by objective has been implemented to redesign the relationship between the state and universities. In both Sweden and Norway, the reforms have still only touched the core of the academy. As research has shown, much of the behavior at the department and individual faculty level remained unchanged (Kogan, Bauer, Bleiklie, & Henkel, 2000).

One last example of NPM for higher education is the UK, one of the more prominent reform models in Europe (Kogan & Hanney, 2000). In the UK, the quality movement has been especially powerful. Quality assurance involves both teaching and research

(Yorke, 2000). Through regular external audits and peer reviews, teaching has been assessed on a regular basis. Research quality has been ensured by implementing the "Research Assessment Exercise (RAE)," a comprehensive evaluation of research output of all U.K. universities. Through clear indicators and resource allocation based on research performance, academic cultures and managerial values have changed dramatically. Hiring faculty and promoting senior professors have changed towards requiring a rigid publication record at all levels. Research shows that those reforms have only been implemented superficially, and the intended shift in values has not happened (Henkel, 2000; Kogan, 1999).

As these examples show, NPM meant a macro-change of the context for higher education. With it came contract management, evaluation and assessment, as well as institutional autonomy and accountability. At the level of governance and administrative structures, the colleges and universities adapted sufficiently to survive a changing environment. Those demand and response reactions have been the subject of many research projects (Clark, 1998; Dill, 1997b; Slaughter & Leslie, 1997; Sporn, 1999; Tierney, 1998). The emergence of the entrepreneurial, responsive university became obvious.

The concepts of entrepreneurialism and the entrepreneurial university were especially informed by the work of Clark (1998) in Europe. He investigated five benchmark institutions (Strathclyde University, Scotland; University of Twente, the Netherlands; University of Warwick, England; Chalmers University, Sweden; Joensuu University, Finland) regarding their capacity to respond successfully to new external demands. Five factors turned out to be vital for the development of an entrepreneurial university: a strengthened steering core, an integrated entrepreneurial culture, a diversified funding base, an expanded developmental periphery, and a stimulated academic heartland (Clark, 1998).

Institutions in Europe have gained considerable autonomy and capacity for self-steering through their administrative structures. Governance and responsibility are clearly defined. A professional management approach provides support structures and enhances a division of labor between the central leadership and the academic units. A balance can be reached between the needs of the internal and external constituencies.

An entrepreneurial culture works as a basis for the identification of all university members. Individual activities are rewarded as long as they serve both the person and the institution. Leadership is defined as allowing large degrees of freedom for members of the academic community. The culture ideally integrates different interests by putting the overall institutional benefits in focus. Individual and institutional autonomy can be balanced.

A diversified funding base is an absolute prerequisite for autonomous and entrepreneurial universities. Only through different sources of funding can institutions of higher education reach a necessary independency from one sponsor (mostly the state). Innovative projects and programs can be cross-subsidized or financed.

Universities and colleges increasingly invest in technology transfer, start-ups and spin-offs through an expanded developmental periphery. Interdisciplinary research and partnership with external organizations are supported and housed in centers. Results can be used, for example, to improve the lifelong learning portfolio.

All these factors can only develop to their full potential within a stimulated academic heartland. This is where the core activity of universities is provided, i.e., teaching and research. Faculty need to be part of any change strategy in order for it to be successful. These academic units can be organized as traditional departments or as matrix forms with double affiliations. The overall goal should be to have a structure where administration and faculty can work as partners for the well-being of the institution.

Clark shows in his work how academic values and traditions are important, and he puts it in context with the modern challenges of higher education, and especially of European universities. In his work, the focus lies on the history and context of the institution in order to develop a viable vision for the future. His work has been confirmed by related studies of European and U.S. universities (Sporn, 1999).

One last approach emphasizes academic capitalism, or the shift of higher education from a social institution to an industry (Gumport, 2000; Slaughter & Leslie, 1997). Public colleges and universities and their changing role in modern society are especially vulnerable to these trends (Rhoades, 2000). Public higher education has been shifting from a social institution to a competitive industry. Universities as social institutions have a specific role in society to educate large parts of the population, a role which served as the legitimizing idea for a long time. In an industry model, public higher education is seen as a competitive sector or market.

A social institution “may be seen as an organized activity that maintains, reproduces, or adapts itself to implement values that have been widely held and firmly structured by the society” (Gumport, 2000). For higher education, this implies the interconnectedness with other social institutions like family, government, industry or religion. Most importantly, higher education in this respect is value-driven by the development of individual learning and human capital, the socialization and cultivation of citizens, the preservation of knowledge, and the fostering of the nation-state. From this perspective, the terms institution and organization do not have the same meaning.

Higher education as an industry views colleges and universities as quasi-corporate entities producing a wide range of goods and services in a competitive marketplace (Gumport, 2000). Accordingly, organizations of higher learning are managed based on values of economic rationality, which means to price services by the laws of supply and demand. Students and other constituencies are seen as consumers with diverging preferences and needs. Management then includes all measures to stay competitive, plan strategically, scan the environment, cut costs, correct inefficiencies and maximize flexibility. This trend is pushed by the increased pressure from non-traditional providers like private or online education. Colleges and universities have to respond to certain demands and develop programs by students served, geographic location or degrees granted. Production, resources, comparative advantage and strategy have become synonyms for these developments in the U.S. and increasingly in Europe.

The consequences of higher education’s shift from a social institution to an industry have three characteristics: management, consumerism, and stratification (Gumport, 2000). Academic management includes the areas of resource allocation and resource acquisition. Both areas are extremely important for the long-term sustainability of institutions. Forecasting environmental changes, attaining new resources to reduce dependencies, and compliance with demands are necessary foci. Academic consumerism

stresses the rise of consumer sovereignty with special focus on students. Underlying this notion is the idea of well-informed customer decisions, free choice for school or college, the student's role (not as members of a community but as consumers of services), and consequently, the dominant goal of consumer satisfaction. Academic stratification is based on the knowledge processing perspective of higher education. Universities specialize and differentiate their mission based on the type of knowledge they want to develop and distribute. Consequently, new forms of modules develop which cater to very different audiences. The notion of a common world of learning is eroded. The organization of colleges and universities is changed.

Having reviewed some of the more important theories and research underlying the current structural and organizational trends of administration and governance, the following sections provide a closer look at the issues of governance and administration with special attention to the most recent developments in the U.S. and Europe.

Governance: Its Current Form and Future Trends Toward a Market Model

The roles and responsibilities for governing institutions of higher education have been changing substantially over the last decade. Especially at European universities, senior faculty and the state ministries have played a very important role in decision-making. Over the years, with a shift towards marketization and deregulation, the institutional or middle level (i.e., deans, rectors, presidents) has gained increased power. A new distribution of power and responsibility has been established between the state, the board, the senate and the institutional leadership. Governing bodies remain a key element in institutional governance. A partnership between different groups represented in these bodies can improve institutional efficiency and effectiveness. At the same time, "over-governing" can discourage innovation and enhance academic opportunism and quick decision-making (Shattock, 2003). The art of finding the right balance is a crucial factor of successful university management.

The role of the state has changed with the 1990s and new policy agendas in Europe. Financial constraints triggered the shift from a state control to a state supervision model (van Vught, 1999), targeted towards steering from a distance. Ex-ante control has been replaced by ex-post control and the rise of the evaluative state (Dill, 1998). Contracts between universities and the state define funding and output. Basic funds are allocated based on performance indicators for core services in teaching and research. Additional financial resources are project and competition based.

Boards have been created to oversee institutional activities. In many countries they serve as representatives of the general public and of the owners of public universities. Many different models exist for the composition and authority of boards in Europe (Morgan, 2000). Although the U.S. board model emphasizes the importance of lay membership, the European model is often a mixture of lay and academic membership. Their power can reach from purely advisory to the state bureaucracy to a supervisory function similar to the corporate world. In Europe, boards are becoming increasingly important (Shattock, 2003). In the U.S., their role has been contested given the very political nature of their appointment or election (Gumport & Pusser, 1999).

In general, boards have evolved into an important management component of modern universities in Europe. In the past they have been supporting fundraising. Nowadays, their functions include the resolution of university problems, financial forecasting (and sometimes control), and advising in strategic choices. For the institution, boards can provide technical and professional advice, take a long-term perspective, act as the referee for internal arguments, audit and oversee university activities, scan the environment, and appoint institutional leaders. The nomination process of board members is clearly important. The owner (mainly the state) has a right to select board members and shares this with senate or institutional representatives.

Another very important governing body is the senate or academic board. Senates are certainly internally focused and make institution-wide decisions, mostly in academic and programmatic matters. The composition of academic boards or senates resembles a democratic or representative body. Only very few *ex-officio* members are allowed. Basically, a senate should represent the overall faculty and its departments. Although senates tended to be very large in the early 1990s (sometimes even 200 members), their size has been constantly reduced by introducing a delegate model. With this came election procedures for its members. The group shrunk to a level where efficient meetings could be held. Still, the senate lost much of its decision-making authority, and in some cases (like the Netherlands) became purely advisory (De Boer, 2001).

Changes have led to the increasing power of the management team—or, like it is often called, the executive committee—which consists of the head of the institution (e.g., rector, president, vice-chancellor) and deputy leaders. This body incorporates the key academic and administrative officers. It is essential to bring together those persons who are directly responsible for the core activity of the college or university. In this sense, this is Clark's "strengthened steering core"—"steering the weekly business of the university to those bodies best qualified to deal with it and tackling some of the most difficult and sensitive issues itself" (Shattock, 2003). A management team can consist of the leadership team, the deans and some of the most important senior administrators. It can also be the hub for a governing body structure in close touch with other bodies within the institution. It must act speedily and decisively on behalf of the university and should coordinate business, settle contented issues and monitor implementation of decisions. Participation in this executive committee should be active, dynamic, resilient and enjoyable. It should be a stimulating experience for everybody (De Boer, 2001; Shattock, 2003).

Given the very complex nature of academic governance, it is important to stress the need for keeping the governing powers in balance. The relationship between the senate, the board and the leadership/executive committee is extremely important. Very often this balance is achieved by very accurately defining the different areas of responsibility. For example, the senate is responsible for all academic matters, like study programs and academic evaluation. Boards are mostly charged with overseeing academic activities and appointing institutional leadership. Executive bodies are meant to manage the institution and see after resource allocation, personnel issues, student service, and the like.

In this context it is most important to maintain a climate of collaboration. Different governance structures need to actively work together. A climate of protest or destruction

has adverse effects on all parts of the institution. Even though many areas of academic governance have changed, one key issue remains: the need to find a productive and trusting relationship between the administration and the faculty in order to move the institution forward. Otherwise, quick successes will turn into failures and destroy the willingness of members of the academic community to become involved (Shattock, 2003; Sporn, 1996).

Three models can help to better understand modern governance structures and trends: shared governance, corporate/entrepreneurial approaches, and flexible/learning architectures.

Shared governance refers to the political aspect of academic organization. It stresses the importance of negotiations as well as the role and power of different stakeholders. Decision-making under this shared approach prescribes participation of all relevant groups with their different goals and values. Conflicts are an integral part of this system and limit the formal authority of institutional leaders. Political groups and their interests impede a rational and objective decision-making process. Important and renowned researchers like James March or Karl Weick have explored this characteristic and developed the notion of an organized anarchy or loosely coupled system to describe colleges and universities (Cohen & March, 1974; Weick, 1976).

Corporate models of governance emphasize the entrepreneurial character of colleges and universities. Like Clark pointed out in his seminal work, the entrepreneurial university looks different from the traditional "Humboldt University." Basically, only a few layers of governance exist within higher education organizations. The role of the state is purely supervisory. Policy and strategy are delegated to the institutions. A board of supervisors serves as a buffer between the institution and the state. The real power lies at the executive board level, with the rector or president as the leader. The senate has purely advisory functions, especially for academic issues. All academic leaders, like deans or department heads, are represented in the executive committee. With this new structure, governance has become faster and more efficient. At the same time, it has become more contested (Askling, 2001; De Boer, 2001; Trow, 1998; Weiler, 1998).

Another approach is that of a *flexible governance structure* which enhances learning and adaptation (Dill, 1999). Over the years, more flexibility was necessary to compete in (and adapt to) an increasingly dynamic environment and market. As a result, ad-hoc project structures emerged, serving as governing or working groups and preparing important decisions for the institution. Applying the learning framework (Senge, 1990) to higher education, learning is defined as systematic problem solving, learning from own experience, learning from others, experimentation with new approaches, transferring knowledge and measuring learning. Governance would take a different form. A joint committee overseeing teaching and learning experiments, external advisory committees to comment on curricula, university-wide evaluation committees or a committee of associate deans of teaching are among the examples which describe the new architecture (Dill, 1999). The participation of different stakeholders is important, but should focus on outcomes rather than on political consensus (Kezar & Eckel, 2002).

To summarize, governance structures are changing and should support fast reaction times of colleges and universities. Nevertheless, ample opportunity needs to be guaranteed for involvement and engagement of all important groups of the university. The

challenge seems to be to find ways to reconcile shared governance models with the recent need for flexible actions. Colleges and universities are increasingly developing answers to this question in order to stay successful for many years to come.

Administration: The Role of Leadership and Management

The administration of academic organizations has been a complex task given their idiosyncratic nature. Colleges and universities have ambiguous goals, are “people-processing” institutions, engage in problematic technologies, involve professionals to provide core services, and are vulnerable to a changing environment (Baldrige, Curtis, Ecker, & Riley, 1977). Consequently, they cannot be defined as standard bureaucracies.

Academic organizations seem more fluid and fragmented through their ambiguous and often contested goals. Clients not only consume services but also have a voice in the decision-making process. Lines of authority are blurred and professional employees (i.e., professors) demand a high degree of autonomy for their work. Administrative processes are designed as support units for teaching and research (Baldrige et al., 1977). Basically, these characteristics are still valid for describing colleges and universities of the 21st century. Recent changes in the environment of higher education show that it is necessary to adjust these models in order to explain organizational leadership structure, governance and administration of today (Gumpert & Snyderman, 2002).

As to the leadership and management models which comprise administration, different approaches can be taken. From a more bureaucratic perspective, institutional leaders are “heroes” with good problem-solving skills. Scientific management is seen as the basic concept to run the institution based on skills, routines, and control. Expectations are high, in the sense that institutional members believe that the “hero” can solve problems. In a more collegial approach, the leader is seen as “first among equals,” and skills stress interpersonal dynamics. Management is based on consensus building. Expectations are modest, and the leader is seen as a developer of consensus among professionals. From a political perspective, the leader is viewed as a “statesperson.” Skills emphasize the need for a political strategy, interpersonal dynamics, and coalition management. Management is based on strategic decision-making, where a modestly powerful leader marshals political action but is constrained by the counter efforts of other groups (Baldrige et al., 1977).

Again, these ideal type approaches are meant as a heuristic to understand academic leadership. In reality, a specific leadership type depends on the specific nature of the institution and its challenges or opportunities. Although these descriptions of leadership were developed some 30 years ago, it is surprising how accurate they still are. Changes mainly encompass the role of quality, professionalization, mechanisms of control, and the shifting power of administration as well as leadership.

Quality has been evolving as a powerful tool for university administration, especially in Europe. Countries like Sweden, the Netherlands and Denmark have built their policies around the concept of quality and self-evaluation. The U.K. has linked resource allocation to performance indicators (Cave, Hanney, Henkel, & Kogan, 1997; Jeliazkova & Westerheijden, 2002; Maassen, Goedegebuure, & Westerheijden, 1993).

U.S. colleges and universities have been autonomous and market-oriented for decades, and hence have a longer tradition in “total quality management” (Dill, 1993; Rhoades & Sporn, 2002b). The meaning of quality assurance and assessment, particularly as they relate to the strategic management of institutions in the U.S., are quite different from their counterparts in Europe. Context matters in terms of long-standing political and professional structures, such as the strength of campus administrations and weak state governments in the U.S. versus the power of national ministries, civil servant status (of professors), and corporatism in Europe. In Europe, quality assurance has been linked to resource allocation to an extent that it has not in the US. Yet strategic management at the institutional level has been undertaken in the U.S. in ways that have not yet been done in Europe (Rhoades & Sporn, 2002a).

As mentioned earlier, new mechanisms of control have been created by the introduction of new public management in the sector of higher education. Management by objectives and contract management are among the more prominent examples. With increased autonomy, institutions of higher education have been accountable for their performance by setting specific goals through contracts. As a consequence, the funding is connected to specific output indicators. As the examples of the U.K. and the Netherlands show, these contracts and indicators have three purposes. First, basic funding remains a major responsibility of the state. Second, investments are financed based on tenders, project plans, and bids. Third, national policymakers stress the importance of strategic funding based on the specific profile of institutions. Hence, control and finances are tightly connected at the modern university. Contracts are used to define performance and to exercise some power over strategic matters. Academic institutions can autonomously manage their enterprise and are accountable for the results.

The role of administration and leadership vis-à-vis the faculty has seen some major shifts as well (Clark, 2003; Gumpert & Pusser, 1999; Marginson & Considine, 2000; Rhoades, 1996; Sporn, 2001). In Europe, the delegation of authority to the institutional level has meant the need to increase capacity to manage and lead the university. In the U.S., this trend has been in place for many decades, and the capacity of administration shows in its size (often twice that of faculty). In general, leaders and administrators gained more authority in speaking and deciding for the institutions. Conflicts with the faculty have been a natural consequence.

Recent developments show the push away from the importance of academics. In the U.S., the traditional professoriate is being decentered in numbers and power. The U.S. is moving not only to a managerial model, but to a model that depends on the growth and activities of full-time managerial professionals, whose ranks are doubling in size compared to the academic staff. In Europe, faculty are being decentered in terms of influence or power, with a push to increase the number of full-time administrators. Europe has been moving away from a collegial model of professors as administrators to a structure with more permanent administrators and fewer full professors. As a consequence, a new class has been emerging as non-faculty professionals. These personnel (and their activities) have led to a growing cost of production; they are also seen as increasingly important factors of production, working with professors to create higher education’s “output.” Thus, it becomes important to focus on managerial professionals’ productivity (Rhoades & Sporn, 2002a).

Modern administration needs to be held accountable as well. Not only teaching and research but the services produced by administration have to be assessed. In the area of quality assurance, a “quality quotient” could calculate the cost of quality assurance divided by gains in quality. Institutions, or higher education systems, must determine various gains, how they might be measured, and how they could be translated into a scale. They must also ensure the gathering of data on non-faculty personnel and on the work of academic personnel that is disaggregated enough to isolate the costs surrounding quality assurance (Rhoades & Sporn, 2002a).

For all entrepreneurial activities, an “entrepreneurial venture net” could define the yield of any entrepreneurial activity minus the cost of the investment. Generated revenues should be compared to the costs incurred for fundraising. Again, these should include personnel, time, capital, and opportunity costs. Strategic managers must focus not only on revenues and gains, but costs (Rhoades & Sporn, 2002a).

In relation to customer-orientation or marketization, a “service productivity ratio” could be used. It should measure gains in units of service outcomes divided by the costs of the service units. Costs should include personnel, time, capital, and opportunity costs. Institutions should also consider developing a “social investment index.” The aim of massification, and of services accompanying it, is to increase access and enhance opportunity for under-represented groups, particularly the poor and working class, students of color and immigrants, and women. Institutions and systems should implement mechanisms that enable service activities enhancing access (Rhoades & Sporn, 2002a).

Administration and governance of higher education have become complex tasks. On the one hand, institutional autonomy provided the necessary flexibility to design and manage the enterprise in an environment of constraints and opportunities. On the other hand, the funding of higher education has become increasingly more competitive. Public institutions can no longer count on the state to “pay the bill.” Private institutions need to constantly refine and renew their mission. Colleges and universities in general need to apply strategic management, management by objectives, and quality management to create a sustainable future for the institution. Administrators and institutional leaders are at the heart of the operational functioning of the institution. Through board control they are accountable for success or failure of any one academic year. Faculty need to concentrate their activities on the core academic “product”—research and teaching—and need to be involved and engaged in institutional management through efficient and effective governance structures. Departing from the past, this would mean leaner teams or structures and delegates representing the interests of specific groups. Only through a balance and a viable (as well as productive) working relationship are colleges and universities able to succeed.

Conclusion: Trends for the Structure and Organization of Governance and Administration

Recent developments in higher education have shown some interesting trends for the future of governance and administration of modern colleges and universities. Three issues seem to be most prominent in the current discourse: organization, personnel, and management.

The organization of higher education has changed substantially. New leadership structures are accompanied by a new organization of teaching and research. Boards have been introduced at many institutions. On the one hand, European colleges and universities have a board of overseers which is responsible for approving most budgetary and programmatic decisions. Additionally—and most importantly—the board is often responsible for selecting leaders and their management team. Hence, the composition of the board can be a contested issue. Board members, especially at public institutions, represent the state ownership and/or society at large. The university has no or very few representatives who are appointed by the senate.

An additional prominent element of modern colleges and universities is their leadership. With autonomy, deregulation and decentralization, the power of rectors, presidents, and deans has increased. They gained more responsibility but also more accountability for their actions. Rectors or presidents can decide independently over budgetary and personnel issues. In general, the management team has more degrees of freedom to design and position the institution internationally. The board oversees their activities.

The senate lost its power (more or less) in governance. A concentration on core issues of teaching and research and a change of the senate's role towards an advisory function has been the result. The challenge has been to reconcile administration and faculty. Some cases show the development of new executive boards which have dual representation of faculty and administration. Others try to involve faculty in management positions (e.g., deans, program directors) at the university. A balance is necessary between the needs of the faculty and the goals of leadership to help the institution move forward with its innovative strategies.

This can only be evened out by mechanisms of nomination and election. The concept of a “double legitimacy” (Müller-Böling, 1998) has been emerging in this context. Leadership positions should be filled by having both the ones being led and the supervisors involved. For example, a rector gets appointed by the board but the senate has the right to submit a short list of candidates. The same is conceivable for all leadership positions within the institution. The idea is to involve all different constituencies and to make leaders slightly more independent from the unit being led.

The organization of teaching and research itself is changing as well. Universities and colleges are increasingly structured based on a matrix or parallel structures. Basically, the idea is to separate teaching and research structurally in order to help define clear responsibilities. Programs in teaching and in research are created for which program directors are responsible and accountable. In general, teaching needs relatively stable and clear structures, while research calls for fluid flexible structures which can change easily according to projects and teams. Faculty have dual affiliation and a defined engagement in different programs and areas. The matrix reaches far beyond traditional disciplinary boundaries and forms a platform for new, more innovative programs. Examples range from new areas for continuing education and lifelong learning, to technology transfer, to interdisciplinary research groups.

The role of administrators and professional managers at colleges and universities shifted also. The professionalization of higher education has meant the rise of “professional managers” (Rhoades, 1998). Institutions have extended their mission to include technology transfer, new teaching methods based on new information technology, fundraising activities due to decreasing public funding, and far-reaching

student services to increase customer orientation. Professionals with adequate training have been hired to provide these new areas of service. Examples for the establishment of professional support are teaching centers meant to help professors improve their course development and teaching styles, or technology transfer officers who advise faculty in translating their research into marketable products. Professionals are becoming powerful in influencing core competencies of professors.

The management of higher education has been shifting at the core of the institution. Different new instruments have been created to help make colleges and universities more efficient and effective. These instruments include management by objectives through contracts, goal setting and strategic planning as a basis for resource allocation, as well as output and ex-post control.

Contracts as steering modes have become more popular. They are designed to define the core contributions of all academic and administrative units in a college or university. For departments, the services will focus on teaching and research. Administration will be divided into functional areas like IT, library, or marketing. Contracts define a certain outcome, and can range from one year to a multi-year period. Control is exercised through assessment and evaluation. Goals need to be defined in order to set up a contract between the leadership and basic units. Service level agreements and customer focus can be a focal area of these goals.

Departing from past practices, colleges and universities are using management by objectives, strategic planning and output control. It is important to view administrative functions in terms of results. The use of output control needs to include the whole institution, i.e., faculty and administration. Indicators include the number of graduates, patents, and publications. For the administration, measures include the level of entrepreneurial activities, quality improvements, and services provided.

To summarize, the organizational and structural trends for administration and governance in higher education show a clear—but also contested—direction. As institutions move towards more market-oriented, entrepreneurial models, governance will be concentrated more in the hands of the top leadership. Administration will move towards professional management. The balance between the authority of the faculty and the power of administration is at stake. Only if both groups are accountable, based on well-accepted and objective measures, can this be achieved. Governance and administration need to address these issues for institutions of higher education to stay competitive. With constrained resources, the future of higher education will only become more competitive. Colleges and universities need to be flexible and strong enough to meet these challenges. Shared governance and professional administration could be possible success factors.

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HISTORY OF UNIVERSITIES

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All advanced civilizations have needed higher education to train their ruling, priestly, military, and other service elites, but only in medieval Europe did an institution recognizable as a university arise: a school of higher learning combining teaching and scholarship and characterized by its corporate autonomy and academic freedom. The Confucian schools for the mandarin bureaucracy of imperial China, the Hindu *gurukulas* and Buddhist *vihares* for the priests and monks of medieval India, the *madrasas* for the mullahs and Quranic judges of Islam, the Aztec and Inca temple schools for the priestly astronomers of pre-Columbian America, the Tokugawa *han* schools for Japanese samurai—all taught the high culture, received doctrine, literary and/or mathematical skills of their political or religious masters, with little room for questioning or analysis.

The same might be said for the monastic schools of early medieval Europe that kept alive biblical studies and classical learning in the Dark Ages between the fall of Rome and the 12th century Renaissance. The *athenaeums* and *lyceums* of ancient Greece had some of the characteristics of the medieval European university, free speculative thought and the challenge to authority, and for much the same reason, the fragmentation of authority and possibility of escape for the dissident philosopher to another city, but they never achieved the corporate form that gave the university its permanence.

Only in Europe from the 12th century onwards did an autonomous, permanent, corporate institution of higher learning emerge and survive, in varying forms, down to the present day. The university was the accidental product of a uniquely fragmented and decentralized civilization. The Europe that emerged out of the violence and chaos of the Germanic and Viking invasions was fractured and divided on every dimension: between church and state, and within them between multiple layers of authority from emperor and pope through baron and bishop. These demanded the allegiance of society and imposed two systems of law, canon and civil, with equal jurisdiction over the faithful. In the mutually destructive strife between empire and papacy, power was “up for grabs” and fractionated out in a hierarchy of competing authorities: king and archbishop, duke and abbot, free county and free city, manorial lord and parish priest. In the interstices of power, the university could find a modestly secure niche, and play off one authority against another. Unintentionally, it evolved into an immensely flexible institution, able

to adapt to almost any political situation and form of society. In this way, it was able to survive for eight centuries and migrate, eventually, to every country and continent in the world.

Designed originally for a cosmopolitan world in which scholars from every part of the Christian West could gather at key centers and communicate in Latin, it outlived that world and adjusted itself to a succession of divergent social and political systems. After helping to destroy the medieval world order at the Reformation, the universities were “nationalized” by the emerging nation-states in the religious wars between Catholic and Protestant, which they served as instruments of propaganda warfare. During the 18th century Enlightenment they declined to such an extent that they were bypassed by the Scientific Revolution and the rise of new philosophies and social sciences, and were in danger of disappearing altogether. Indeed, the French Revolution abolished them in France and the conquered territories, but resurrected them again in the form of the *grandes écoles* and the Napoleonic University of France.

At the same time the old universities were revitalized in Scotland and, above all, in Germany, where a new model of professorial organization combining teaching and research emerged and came to be emulated all over Europe and, eventually, in countries overseas, including the United States and Japan. That form of university was especially suited to the needs of the new society produced by the Industrial Revolution, to which it belatedly but brilliantly adjusted.

Meanwhile, the expansion of Europe by conquest and colonization spread the university to other continents, from the 16th century to the Spanish empire, from the 17th to the English and French colonies in North America, and later to other continents, including India, Australia and New Zealand, Africa, and even to China, the Middle East, and Japan. It became an instrument not only of modernization on the Western model but, in the shape of nationalist ideology and student unrest, of the anticolonial reaction against Western domination of Asia and Africa.

Finally, in the worldwide expansion of higher education that followed World War II, it transformed itself once again, into the pivotal institution of a new kind of society. In this new post-industrial or professional society, agriculture and manufacturing became so efficient, partly with the help of the scientific research produced by the university and its offshoots, the technical colleges and research institutes, that most people came to work in service industries, increasing numbers of whom would require specialized high-level training.

This entailed the transition from elite to mass higher education, from a system catering to less than 5% of the student age group to one catering to more than 15%, and even for as much as 30 to 50% in the most advanced countries. Not all of these were in universities but in increasing numbers of technical colleges, community colleges, short-cycle institutions, and the like, which had first arisen to serve the needs of industrial society, and now came to train the second tier below the university level. In most countries, however, the university and its institutional offspring became so large and expensive, so dependent on the state for resources, and, like the state itself, so bureaucratized, that it was once more dominated by superior authority. The cost of becoming the axial institution of modern post-industrial society is that the university has become, or is in danger of becoming, an integral organ of the state or the corporate

economy and so of losing its autonomy and academic freedom. The history of higher education, therefore, is largely the history of the European university and its evolution into an institution, or congeries of institutions, flexible enough to serve the needs of enormously different societies in every part of the world, culminating in its universal acceptance as the key institution of modern and developing societies everywhere. Its history can be told in five stages:

1. the rise of the cosmopolitan European university and its role in the destruction of the medieval world order at the Reformation (12th century–1530s);
2. the “nationalization” of the university by the emerging nation-states of the Religious Wars, and its decline during the 18th century Enlightenment (1530s–1789);
3. the revival of the university after the French Revolution and its belated but increasing role in Industrial Society (1789–1939);
4. the migration of the university to the non-European world and its adaptation to the needs of developing societies and the anticolonial reaction (1538–1960s); and
5. the transition from elite to mass higher education and the role of the university and its offshoots in post-industrial society (1945–present).¹

The University and the Medieval World Order

The first universities grew out of the cathedral and municipal schools of the reviving cities of 12th century Europe (Hastings, 1895; Haskins, 1957; Cobban, 1975; Rudy, 1984; Stone, 1975).² As life surged back to urban centers after the Germanic and Viking invasions, a demand arose for trained elites to serve the bureaucracies of church and state and the emerging professions of the clergy, law, and medicine. These urban schools supplemented or replaced the monastic schools that had kept Biblical studies and ancient classical learning alive during the Dark Ages. Education had always been a lesser concern of the monasteries, whose main function was, and remained, the salvation of souls by prayer and mediation of the saints, but they needed to train their own novices and, sometimes, also trained neighboring magnates’ children. Where they were established in or near towns, they were only too willing to take advantage of the more specialized teaching of these new schools. The Franciscan and Dominican friars, after they came into existence in 1209 and 1215, often gravitated to cities with schools and provided students and teachers for them, especially in theology and philosophy.

The new urban schools, called *studia*, came to serve the needs of a more secular, if still profoundly religious society, more settled if still warlike, for parish and diocesan clergy, lawyers and administrators, and medical practitioners. Most of them never became universities but taught the basic skills needed for the literate professions: grammar (the Latin used in all the business of church and state), rhetoric (persuasive reasoning used in sermons, lectures, and political speeches), and dialectic (logic, and by extension philosophy for analyzing texts and making policy). These three arts made up the *trivium*. The seven liberal arts were completed by the *quadrivium*—music, arithmetic, geometry, and astronomy—making up all that an educated man needed for the business of life. Such a man became a *magister*, a master qualified to teach others and to proceed to the higher faculties of theology, law, or medicine. An arts *studium* that added one or

more of the higher faculties and attracted students from far and wide could claim to be a *studium generale* and, in the course of time, petition the emperor or the pope to confirm its status by imperial charter or papal bull and grant it the *jus ubique docendi*, the right of its masters to teach anywhere.

Salerno

The first school to enjoy this status, at least in medicine, was at Salerno. In southern Italy, at the crossroads of Christian, Arab, Greek, and Jewish influences, it had a well-known medical school from the 9th or 10th century, teaching the works of Galen and Hippocrates through translations from the Arabic, some made by Constantine the African who settled there around 1177. Although given a monopoly of medical teaching by Frederick II, king of Naples, in 1231 and recognized as a *studium generale* by his successor Charles II of Anjou in 1280, it faded in the 13th century and its claim to be the first university is still disputed.

Paris and Medieval Scholasticism

The first comprehensive universities in Europe were Paris and Bologna. In the 12th century renaissance of Greek philosophy, recovered through translations from the Arabic, the fame of the church schools of Paris—the schools of Notre Dame cathedral, St. Genevieve, and of the regular canons of St. Victor—attracted students from all over Northern Europe. They came to sit at the feet of great masters like William of Champeaux, Hugh of St. Victor, John of Salisbury, and, above all, Peter Abelard. Abelard, a charismatic Breton Augustinian canon, transformed the traditional arts course, and especially dialectic, into a path-breaking instrument of philosophical analysis. The dialectic method of his book, *Sic et Non* (pro and con, thesis and antithesis) became the chief tool for deconstructing the meaning of sacred and classical texts and reconciling their contradictions. He and his followers set out to reconcile Holy Writ and the Christian Fathers with the recently recovered writings of Aristotle and, to a lesser extent, Plato. Scholasticism became the key to understanding the visible world of men and things and the invisible worlds of Christian revelation and Platonic ideas. Its promise of esoteric knowledge and wisdom and its training in intellectual analysis and subtle argument excited generations of young scholars who flocked to Paris and other universities to learn the meaning of life and eternity. It reached its apogee in the works of two Dominican doctors, Albertus Magnus (1193–1280) and his pupil Thomas Aquinas (1225–1274), who patiently reconciled the Arabic commentaries of Avicenna and Averroes on Aristotle with the Bible and the Fathers in two great syncretisms, the former's *De Unitate Intellectus* (On the unity of the intellect) and the latter's *Summa Theologiae* (Encyclopedia of Theology), still the foundation of Catholic exegesis today (Leff, 1958; Piltz, 1981; Burge, 2003).

The method had its dangers, physical as well as spiritual. Abelard was tried twice for his heretical questioning of church doctrine, as were many other academics down to Jan Hus and Giordano Bruno, some of whom were burned as heretics. For even the most abstruse philosophical argument could endanger the unity of the church. The

most perilous question of all, strange to modern ears, was the ancient Greek dispute between realism—not commonsense realism but the reality of the (Platonic) universals that underlay particular objects in the material world—and nominalism—the (more Aristotelian) belief that such ideas were mere names or abstractions. When applied to the theology of the mass, the dispute over the reality or mere symbolism of Christ's body and blood in the bread and wine became the cause célèbre of theological disputes and heresy trials. Both realists like the proto-protestants, John Wyclif of Oxford and Jan Hus of Prague, and nominalists like Marsiglio of Padua, Rector of Paris University, and William of Ockham, the skeptical doctor of both Oxford and Paris, could become irreconcilable critics of papal orthodoxy.

At the Reformation, belief in transubstantiation (the profoundly realist interpretation of the Mass) would become the litmus test between Catholic and Protestant. The intellectual daring and occasional martyrdom of the schoolmen established the tradition of academic freedom that was to shake the medieval church to its foundations.

By the 13th century, the schools of Paris had grown into a single *studium generale* with its privileges confirmed by the Pope (1194) and the French King (1200). Royal and papal patronage were necessary to protect the scholars from the overbearing cathedral chancellor and the hostile citizenry of Paris. In 1200, for example, a tavern student riot that provoked the townsfolk to murder ended with the King imprisoning the Provost (mayor) of Paris, hanging or banishing the murderers, and enforcing an oath on the citizens to respect the privileges of the university. In 1229, a carnival riot inciting the killing of students, in which the murderers were supported by the queen-regent Blanche of Castille, provoked the “great dispersion,” a university strike and migration of students and masters to Orleans, Reims, and Angers (incidentally starting up universities in those cities) and causing an economic depression in Paris. Only after the Pope ordered the young King in 1231 to punish the murderers, recalled the hostile papal legate, and granted the university a Great Charter of privileges did the scholars return.

With good reason, therefore, the university began to take on corporate form or, rather, forms. Both masters and students organized themselves against the cathedral clergy, the citizens, and against each other. The word *universitas* meant no more than a society or guild, like the contemporary guilds of craftsmen or merchants in most medieval towns. The university originally signified not the *studium* but, in Paris and Northern Europe, the guild of masters and, in Bologna and the Italian universities, the guild of students. North of the Alps it followed the normal guild form, with the lowliest students, the undergraduates, equivalent to the apprentices of the crafts; those who passed the *trivium* became bachelors, equivalent to the craft bachelors or journeymen; and those fully qualified in all seven arts became masters, licensed to practice, that is, to teach the bachelors and apprentices. Later, elsewhere in France and in Italy, the arts would be taught outside the university and the baccalaureate would become a prerequisite for admission. The term university, meaning the organization of masters and/or students, eventually became attached to the *studium* itself.

In Paris, a guild of masters was in existence by 1170, with formal statutes from 1210, whose main concern was to limit the control of the cathedral chancellor, who had the right to license masters. His claim to withhold the license and control the masters was

denied by the Pope in 1219 and 1222, who also abolished the archbishop's right to imprison scholars or excommunicate the university. At the same time the arts students began to organize in four "nations": the "French" (of the Ile de France), the Normans, the Picards, and the English (who included the Germans and other northerners). Each nation elected its own rector and two proctors, who took charge of discipline and finance, including funding the important appeals to Rome and setting lodging rents with the Parisians. By 1245, they had agreed to elect a single rector, usually a young master, who became, by the weight of supporting numbers, the effective head of the university. In time, the nations—dominated by the young regent masters obliged to teach for the first two years while studying in a higher faculty—were able to impose their own rector upon the masters and doctors as the representative of the university to the outside world. Despite this anomaly, Paris became a "university of masters," unlike the Italian "university of students" discussed below. The college system also evolved in Paris. Originally students lived in a lodging, hostel, or hall rented by one of them or a resident master. To maintain discipline and prevent quarrels with the locals, such a residence might be rented or purchased by a benefactor, for his kin or neighbors or clients, as Jean de Sorbon, chaplain to King Louis IX, endowed the "House of Sorbonne" about 1257. A model for such colleges already existed in the houses that the friars often maintained for their own scholars. The college tended to become a permanent society of masters and students, in which the older members tutored the younger, at first to supplement the university lectures and later to replace them. The college system, in varying forms, came to be imitated at Oxford and Cambridge and at many other universities in Italy, Germany, Scotland, and elsewhere, though it often took different forms in different places. In this and other ways, Paris became the model for most universities north of the Alps.

Bologna and the Student University

Bologna was the rival model. In the more advanced and sophisticated civilization of Italy, there was a greater demand for lawyers and administrators, and the university emerged from the municipal schools that taught the civil law of ancient Rome and the canon law of the papacy. Bologna, halfway between Ravenna—the last foothold of the Byzantine emperors in the West—and papal Rome, taught the *Corpus Juris Civilis* of the Emperor Justinian and the law of the supreme ecclesiastical courts in contemporary Rome. In the 12th century, it had two doctors of genius: Irnerius, who between 1116 and 1140 revived the study of the civil law, and Gratian, who codified the canon law in his great *Decretum* of about 1140. The two systems of law battled for supremacy down to and beyond the Reformation, when in Protestant countries canon law was abolished. Meanwhile, pope and emperor vied for the universities' support in their struggle for supremacy. The Emperor Frederick *Barbarossa's Autentica Habita* (1158) came to be regarded as the founding charter of Bologna University, and the Pope granted the *jus ubique docendi* in 1291.

Like Paris and the Northern universities, Bologna had its problems with the local townsfolk. Quarrels and riots led to migrations of scholars to Modena and Montpellier in the 1170s, to Vicenza in 1204, Arezzo in 1215, and Padua in 1222, thus establishing

universities in those cities. In their quarrels with the city, the “foreign” (non-Bolognese) students were the first to organize effectively, since under Italian law they were legally aliens unprotected by rights of citizenship. As law students, rather older and wealthier than the arts students of the north, they were better placed to seize the initiative. They organized themselves into student guilds, somewhat like the Paris nations, for mutual protection but also to oppose their professors, who as Bolognese citizens shortsightedly took the side of the city. There arose four student “universities,” representing the Lombards, the Tuscans, the Romans and Campanians, and the Ultramontanes for those from beyond the Alps. Later they were reduced to two, the Cismontane for the Italians and the Ultramontane for the rest. Only in 1245, after many town and gown quarrels and migrations, were the students conceded equal civil rights by the city authorities and had their statutes and privileges recognized by the commune and the papacy (1252–53).

The power acquired by the students, although falling short of control over the curriculum, was used to impose the most draconian discipline upon their teachers. The student rector and proctors determined the doctors’ fees, levied fines on them for starting or finishing their lectures late, not keeping up with the syllabus, leaving the city without permission or without giving sureties for their return, and forced them to deposit large caution moneys from which to deduct the fines. Again, as in the university masters¹ parallel with the craft guilds, the student university reflected the late medieval bachelor guilds which emerged in competition with the craft masters, but which faded away or were absorbed in the early modern period.

This extraordinary system lasted, despite professorial protest, until the late 14th century, when income from student fees came to be supplemented by salaries paid by the commune (to discourage professorial emigration). Henceforward, Bologna and the other Italian universities gradually converged with the Parisian model, with power shared between professors and the student rector, but with an ongoing tradition of student protest that has lasted down to the present day.

Oxford and Cambridge

The brilliant success of Paris and Bologna led to emulation, often by the classic process of migration. Oxford arose spontaneously about 1167 from one of the many arts studia in English towns, helped by the return of English students from France around 1167 as a result of Henry II’s quarrel with the Pope and the French King over his recalcitrant archbishop, Thomas Beckett. Cambridge originated with a migration from Oxford after town and gown riots in 1209. Later migrations, to Northampton, Salisbury, Stamford, and other towns, failed to take root against the opposition of Oxford and Cambridge, backed by king and pope, and the two remained the only universities in England, as distinct from Scotland where four had appeared by Queen Elizabeth I’s day, down to the 19th century. Distant from their diocesan bishops in Lincoln and Ely, they elected their own chancellors and became more independent than most continental universities. They never developed formal student nations, but acquired well-endowed colleges, like Merton (1264) and Peterhouse (1284), which gave the fellows and especially the heads of colleges great power and, eventually, wealth.

Oxford and Cambridge came to play a considerable role in the intellectual controversies of the later Middle Ages, especially in the disputes between realism and nominalism, with the renowned European figures of John Wyclif and William of Ockham, and between scholasticism and humanism, the revival of the Greek and Latin literary classics in the original languages, popularized by William Grocyn and Richard Foxe of Oxford and John Gunthorpe and the great Dutch humanist Desiderius Erasmus at Cambridge (Stone, 1975).

Other French Universities

In France, where Paris jealously guarded her supremacy in theology, her daughter universities, Orleans, Angers, and Toulouse, all benefiting from the great dispersal of 1229, tended to concentrate on law. Toulouse was founded that same year by Pope Gregory IX to support his crusade against the Catharist heretics of Aquitaine. Other French schools were recognized by the Pope as *studia generales* at Montpellier (1289), Cahors (1332), Grenoble (1339), Orange (1365, but suppressed by the Pope in 1475 at the insistence of Montpellier), Dole (1422), Poitiers (1431), Caen and Bordeaux (at the instance of the occupying English in 1437 and 1459), Valence (1459), Nantes (1460), and Bourges (1464). They were in fact mostly royal foundations, confirmed by the Pope, and somewhat less independent than Paris, Oxford, or Bologna. The bishop counted for more, but as in Paris, internal government was shared by the masters and doctors and a student-elected rector. As in Italy, arts students tended to be downgraded or taught outside, so that the baccalaureate was taken before entry.

Other Italian Universities

Many Italian cities competed for the honor and economic benefits of a university, and wooed scholars to set up schools. In 1188, Reggio contracted with a master, probably Bolognese, to import scholars, and acquired a *studium generale* in 1276, but it had disappeared by 1313. Migrations from Bologna founded Vicenza (1204), Arezzo (1215, defunct by 1373), Padua (1222), Pisa (1343), and Florence (1349, merged with Pisa, 1472). Scholars from Padua founded Vercelli (1228) and Siena (1246). Naples was founded in 1224 by the Emperor Frederick Barbarossa, who tried to suppress Bologna and transfer its scholars there, but his authoritarian university failed to attract many students until it was reformed by its Spanish rulers in 1507. A similar "pocket university" founded by the Pope at the Roman Court about 1244 also languished, except as a home for professors of oriental languages, with the forlorn object of converting the Jews and the Turks. Other Italian universities were recognized, usually by the city authorities who petitioned the Pope for a bull, at Piacenza (1248), the City of Rome (1303), Perugia (1308), Treviso (1318), Pavia (1361), Ferrara (1391), Turin (1405), and Catania (1444). Nearly all the Italian universities followed the Bologna model of student government, but also reverted to professorial control in the later Middle Ages, when municipal salaries and magnificent buildings liberated the professors from student control.

Spain and Portugal

The universities of the Iberian peninsula were nearly all royal foundations, endowed by the various monarchs with church revenues and taxes from their own estates. Although recognized by the Pope, they were, with one famous exception, *studia generales respectu regni*, drawing students only from the king's territory. The first, Palencia, founded and refounded by the kings of Castille in 1178 and 1208, proved abortive and had disappeared by 1250. Valladolid was a more spontaneous civic growth, endorsed by the king of Castille in 1293. The most famous, Salamanca, was founded by the King of *Leon* in 1218 and granted by the Pope in 1255 the privileges (a common seal, the right to award degrees, the *jus ubique docendi*, and so on) which, with the help of the university clauses of the general law code of Alfonso the Wise of Castille in 1263, were to make it a convenient model for university charters throughout the later Spanish empire. In 1298, it was recognized by the Pope, along with Paris, Oxford, and Bologna, as one of the great universities of Christendom.

The single university in Portugal was founded by the king in 1290 at Lisbon, but was continually shuttled between there and Coimbra before finally settling in the latter city in 1537. Aragon was especially prolific in foundations, and the kings established universities at Lerida (1300), Perpignan (1350), Huesca (1354), Barcelona (1450), and Palma, Majorca (1483). Alcala was projected by the king of Castille in 1293 but not raised to a *studium generale* by the Pope until 1499. Valencia, a municipal foundation, was projected in 1246 and recognized by the Pope and James I of Aragon but came to nothing. In 1374, when the city hired a teacher he was promptly excommunicated by the bishop on the grounds that he was infringing the monopoly of neighboring Lerida. It led a checkered life, opposed by Lerida and the bishop, until Alexander VI, the famous Borgia Pope and a Valencian citizen, granted it a bull in 1500. Spain was to become the parent of many institutions of higher education worldwide, as the Spanish conquerors exported the European university to other continents.

Germany and Beyond

Until the 14th century, students from beyond the Rhine and the Alps went to France or Italy for higher education, a result of the slower development of city life in Northern and Central Europe. Arts *studia* came into existence to prepare them, but the first *studium generale* in the empire was established only in 1347, by Charles IV, King of Bohemia and emperor-elect, in Prague. German as well as Czech students, poorer perhaps than those who went to France and Italy, flooded there, and by 1400 it was said to have two thousand or more "foreign" students alone, and four "nations" drawn from Bohemia, Poland, Bavaria, and Saxony.

Unfortunately, the Czechs and the Germans began to quarrel, exacerbated in the 15th century by the religious and philosophical disputes between the followers of the Bohemian reformer and realist Jan Hus and the more orthodox and nominalist Germans. When the Bohemian King Wenceslas IV tried to impose Czech hegemony on the university in 1409 the Germans seceded to Heidelberg, Cologne, and, above all, to Leipzig, adding to the new universities in the first two and causing a university to

spring up in the third. From 1419 Prague became in effect the first Protestant university in Europe, protected by the kings of Bohemia. For two centuries it was disputed between the reformers and the orthodox, until it was finally handed over to the Jesuits in 1622. Vienna, the first wholly German university, was founded by the Hapsburg Duke of Austria, Rudolf IV, in 1365 and soon took over the academic lead from Prague. Other German rulers joined in the competition with universities at Erfurt in the prince-archbishopric of Mainz (with papal bulls in 1379 and 1389 from the rival schismatic Popes in Avignon and Rome), Heidelberg in the Rhine Palatinate (1385), in the free city of Cologne (1388), in the prince-bishopric of Wurzburg (1402, closed after town and gown riots and the murder of the rector in 1413), in the Hanseatic city of Rostock (1419 by the Duke of Mecklenburg; it migrated to Greifswald in 1443–73 and again in 1487–90 because of urban uprisings, leading to a university there recognized by the Pope in 1456), at Leuven (Louvain) in Brabant (in modern Belgium) which became one of the most famous universities of Europe (1425), at the free city of Basel (1432, confirmed by Pope Pius II, a Basel citizen, in 1459), in Freiburg-im-Breisgau by the Archduchess Machtildis of Austria (1455), at Ingolstadt near Munich by the Duke of Bavaria (1459), at Mainz by the Prince-archbishop (1476), at Tübingen by the Count of Württemberg, son of the Archduchess Machtildis of Austria (1477), and finally at Wittenberg in Prussia by the Elector of Brandenburg (1502), just in time to give Martin Luther a platform for the Reformation.

With the increasing dynastic nationalism of the later Middle Ages, other nations vied with each other to found their own universities. The kings of Poland, Casimir the Great and Ladislaus, founded and refounded Cracow in 1364 and 1397, later to be made famous by the revolutionary astronomer Copernicus. Kings of Hungary founded Pecs (Funfkirchen) in 1367 (but teaching had ceased there by 1400), “Old Buda” at Budapest in 1369, and Poszony (Pressburg) in 1467. In Scandinavia, the Swedish bishops petitioned Pope Sixtus IV for a university on Bolognese lines at the archdiocese of Uppsala in 1477, and King Christian I obtained a bull for one in Copenhagen in 1478. Scottish students commonly went to France and England for their education, but whenever the English were at war with Scotland or France (which was often) and travel became difficult, their thoughts turned to founding their own universities. The three medieval Scottish universities were founded at St. Andrews, Glasgow, and Aberdeen by their bishops with royal backing in such periods in 1409, 1450, and 1494. They were much influenced by French and German examples and were, like them, to play a considerable part in the theological and philosophical disputes that led to the Reformation.

The Destruction of the Medieval World Order

The four original universities that emerged in the 12th century, Salerno, Paris, Bologna, and Oxford, grew to 16 by 1300, 38 by 1400, and 72 by 1500. By that time, they were highly organized institutions with a rector or chancellor, a common seal and corporate personality that enabled them to own property and make contracts. They also had formal faculties—usually of arts, theology, law, and medicine, often with student nations, and increasingly with endowed colleges—and enjoyed privileges guaranteed by the Pope

and/or secular ruler that protected them from arbitrary interference by bishops and civic authorities and from sporadic violence by their urban neighbors. Though some of them were very small, like St. Andrews or Naples (with a few score students), others—like Paris, Bologna, or Vienna—were very large, with several thousand. As the main service industry of many cities and as the alma mater of most popes, bishops, judges, and high administrators in church and state, they were influential at all levels of medieval life. They were also powerful enough to challenge the very bases of the medieval world order and shake it to its foundations (Leff, 1958; Olin, 1994; Baigrie, 2001).

This was because both lay and ecclesiastical authorities looked to the universities as their chief instruments of propaganda in their unending struggles for supremacy. They were the ideological heavy artillery in the intellectual wars between church and state. At times when the protagonists were more than usually divided, the universities and their academic stars might go beyond mere influence and become arbiters in their own right.

During the Great Schism of 1378–1417, when the whole of Western Christendom was divided in allegiance between rival popes at Avignon (supported by the powerful French and English kings and many Northern rulers), and at Rome itself, elected by the corrupt Italian cardinals, the theologians of Paris were appealed to for a solution. Their proposal that both popes should resign and make way for a fresh election led to the Conciliar movement—a series of ecumenical church councils of bishops and university theologians that nearly overturned the autocracy of the papacy and established a more democratic, or at least oligarchic, church. The Parisian theologians' solution was accepted at the Council of Pisa in 1409 and implemented, with the help of the balancing vote of the English delegates, at the Council of Constance in 1414. The papacy, reunited under the compromise Pope Martin V in 1417, reestablished autocratic rule, but its defenses were fatally weakened. For a century the doctrine and organization of the church were disputed by reformers at Paris, Oxford, Louvain, Prague and many other universities, who condemned the power, greed, luxury, and corruption of the Pope and the higher clergy and demanded a return to the poverty and simplicity of the early apostolic church.

The universities thus became almost a separate “intellectual estate,” a third force between church and state. They were themselves divided several ways, between reformers and conservatives, realists and nominalists, Aristotelian schoolmen and the new humanists who challenged scholastic logic-chopping and introduced the “new learning”—the rebirth of the ancient Greek and Latin literary classics—of the 14th century Renaissance.

These intellectual currents often flowed in contrary directions. Corrupt popes like Alexander VI of the Borgia family could be patrons of humanism and reforming humanists like Erasmus of Rotterdam and Sir Thomas More could become defenders of the unity of the church, while antipapists like Philip Melancthon, Ulrich Zwingli, and Jean Calvin were also dedicated humanists. Ultimately, however, it was the schoolmen, both realists and nominalists, whose logic-chopping arguments exposed the church not only to reform but to the perpetual schism of the Reformation. Both the realists like Wyclif and Hus and the nominalists like Marsiglio of Padua and William of Ockham challenged the pretensions of the Pope to control the keys of heaven, to sell forgiveness

of sins through indulgences, to shorten purgatory through prayer and the intercession of saints, to excommunicate individuals and interdict communities for disagreeing with the Pope—in short, to use all the supernatural sanctions that had given the spiritual sword its power. The academic schoolmen thus prepared the way for the revolutionary reformers of the 16th century—Luther, Zwingli, Calvin, John Knox, and the rest.

When Martin Luther, a student of William of Ockham, nailed his 95 theses to the church door at the University of Wittenberg in 1517, he was in a sense hammering home the triumph of the university over the unity of the church and with it the demise of the medieval world order. What the university had given—the ideological defense of church against the state—the university had taken away. At the same time it took away one of the foundations of its own independence, the divided authority that had enabled it to survive by appealing to two swords instead of one. Its triumph paved the way for the monopoly of the temporal sword, the secular nation-state, which was to become a greater threat to academic freedom than the heresy-hunting church. Only by doing the bidding of the state while skillfully exploiting its by now traditional claim to freedom of thought and scholarship could the university survive for the next three centuries.

Reformation, Resurgence and Decline

The university's experience in the Reformation of the Church was ambivalent. On the one side it helped to defeat the papacy and rend the Church apart. On the other it helped to bring about the resurgence of the Roman Church in the Counter-Reformation. On both sides it became an instrument of the embattled states in the religious wars of the 16th and 17th centuries, and many new colleges and universities were founded for that purpose, before they declined into a complacent somnolence in the ensuing reaction against "enthusiasm" in the 18th century Enlightenment (MacCulloch, 2003; Baldwin & Goldwithe, 1972).

A Pyrrhic Victory

The power of intellectual thought has no better material example than the dissolution of the monasteries in Protestant countries. The Reformation was about many theological disputes: the means of grace; salvation by faith, works, or the inscrutable will of God; the two or seven sacraments; communion for the laity in one or both kinds; the implications of the omniscience and omnipotence of God for the predestination of the soul; and so on—all fought with weapons forged by the universities. None had such implications for a thousand-year-old way of life and the ownership of great concentrations of property as the destruction by the Reformers of the doctrine of purgatory. Monasteries existed for the salvation of souls by prayer and the mediation of saints. If there was no purgatory, there was no point in praying for the souls of the dead, since their time there could not be shortened. Ergo, no purgatory, no monastery. Out of its collapse came, in England for example, the biggest land grab since the Norman Conquest, when Henry VIII and his young son Edward VI confiscated the monasteries and chantries (and their possessions), one-sixth of the land of England, and sold or gave away most of it to their secular aristocratic supporters.

Yet the Reformation was a Pyrrhic victory for the universities. They forged the weapons but the secular nation-state took the spoils, not only in Protestant countries but in Catholic ones too, like France, Spain, and Austria, where the monarchs were able to impose tighter control over the Church and its property and taxes, and squandered them on war, royal favorites, and a luxurious way of life. The only thing that saved the universities from complete subjection was the persisting pluralism of Europe, now divided more ferociously between rival dynastic states that strove to attract academics to their side.

The universities in England, for example, came within an ace of the fate of the monasteries. The Oxford and Cambridge colleges were quasi-monastic institutions and were often obliged by their foundations to say prayers for the souls of the founder and his kin and successors. They were saved from the covetousness of their neighbors by King Henry VIII himself, who declared: "I judge no land in England better bestowed than that which is given to our universities, for by their maintenance our land will be well-governed when we be dead and rotten" (Mansbridge, 1923, p. 50). And he founded rich new colleges—Christchurch, Oxford, and Trinity College, Cambridge—partly on the spoils of the nearby monasteries. But the price of survival was a loss or change of function. In 1535, the teaching of canon law was banned, thus abolishing the largest graduate faculty. With civil law already concentrated in the Inns of Court in London, the two universities, apart from a handful of unpractical physicians, were relegated to teaching arts and theology to the Anglican clergy. Their solution was to annex the training of the lay and often amateur administrators of the state and the localities, drawn increasingly from the landed gentry. From the Reformation of the 1530s to the Civil War of the 1640s, sons of the gentry and the wealthier middle classes began to go in large numbers to Oxford and Cambridge, more for the general training in manners and political awareness than for intellectual improvement, for they often did not stay long enough to take the degree. Thus in England, as elsewhere, the universities adapted themselves to a new social function, the general education of the ruling elite.

Under the principle of *cuius regio, eius religio* (the ruler determines the religion), confirmed by the Peace of Augsburg, 1555, lay rulers everywhere turned the universities into instruments of propaganda for their particular faith and training schools for statesmen and civil servants. Those in Scandinavia and north Germany became Lutheran, and those in Switzerland, Scotland, and the northern Netherlands (after they achieved independence from Spain from 1580–1604 onwards) Calvinist. The Prince of Transylvania even converted an old college at Cluj-Napoca (now in Romania) in 1556 to Unitarianism.

The Catholic Counterattack

Both Catholic and Protestant rulers rushed to found new educational institutions to reinforce their hold on their subjects' minds. The Emperor Charles V, chief lay protagonist on the papal side, and his successors in his Spanish dominions founded nine new Catholic universities in Spain itself, from Granada (1526) to El Escorial (1587); five in Italy, from Genoa (1513) to Cagliari in Sardinia (1606); two in the Spanish Netherlands, including Douai (1560), the chief training school of Catholic missionaries to England,

and Maastricht (1617); Besancon in Franche-Comte (1564, later annexed by Louis XIV of France); and the first universities in the New World, in Santo Domingo (1538), Lima, Peru, and Mexico City (1551), and Bogota, Colombia (1580). Charles V and his successors at the Austrian end of his divided dominions founded six new universities, including Dillingen (1553), Innsbruck (1562), Graz (1585), and Lubljana (1595). Other German Catholic princes founded their own, such as Duke Julius of Braunschweig-Wolfenbützel at Helmstedt (1575) and the prince-archbishop at Salzburg (1617) (Neff, 1958; MacCulloch, 2003).

The spearhead of the Catholic counterattack was the Society of Jesus, which infiltrated or took over many of the older universities and founded many new ones (Schwickerach, 1904; Campbell, 1921; Mitchell, 1980; Olin, 1994; Wright, 2004). The Jesuits, founded by Ignatius Loyola, a Spanish ex-soldier dedicated to following Christ's path, in 1504, were "the shock troops of the Counter-Reformation." They fought on three fronts: as confessors to royal families and courts to stiffen their resistance to reforming subjects; as overseas missionaries across the globe from the Americas to the Philippines and Japan; and above all as educators of the young, in gymnasia, seminaries, colleges, and universities. With their numbers rising from about a thousand at Loyola's death in 1556 to 15,544 in 1626, and to 22,589 in 1749, they became by far the largest organized bodies within the Roman Church, and dominated education at all levels until the order was suppressed by the Pope in 1773.

From their three great centers—Cologne, where they began to lecture in 1542; the Gregorian University, founded at Rome by Loyola himself in 1553; and Ingolstadt, near Munich, taken over by them in 1556—they spread throughout Europe. They established or took over institutions as far afield as Evora, Portugal (about 1559), Olomouc, Bohemia (in 1566), Vilnius in Polish Lithuania (in 1579), the great University of Vienna (in 1622), Breslau, Silesia (in 1659), and Lvov, Poland (in 1661). Even Paris was not immune: they founded two colleges there in 1540 and 1561 which were incorporated into the university in 1564, but they were unwelcome guests and were expelled in 1594. Overseas they founded colleges in Argentina in 1613, Ecuador and Bolivia in 1622, Colombia in 1623, and Quebec in 1635. Their infiltration tactics, aggressiveness, and sophistry made them unpopular not only with Protestants but also with their own co-religionists. In the skeptical 18th century, they were to be expelled from Portugal and Spain and their colonies, the Hapsburg Empire, France, and the Two Sicilies, and were suppressed by Pope Clement VII in 1773. (The Order, however, was revived again in 1814, after the atheistic excesses of the French Revolution and Napoleon's Concordat with Rome.)

The Dark Age of the Enlightenment

As long as the religious wars lasted and required the ideological support of the universities, they thrived, and student numbers surged to new heights down to the mid-17th century. From then onwards a period of decline set in, as students and their elders wearied of the religious disputes of the last century and began to repudiate "enthusiasm." By the 1680s, Oxford (for example) was "very dead for want of students," fewer than at any time before the Civil War. By the 18th century, universities everywhere were in the

doldrums, confined to the training of priests or pastors, a few civil servants, and those gentry too poor to educate their sons by private tutors and the increasingly popular “grand tour” of the European Continent. In Germany, student numbers in the 1780s, at about seven thousand, were smaller than a century and a half earlier.

One reason was the sheer exhaustion with religious controversy, but the principal cause was the rise of a new skeptical outlook associated with the “Enlightenment,” a critical, rationalistic view of the world that eschewed the emotional fanaticism, as they saw it, of the old doctrinal wars. It was associated with the new “cooler” view of the universe attributed (perhaps mistakenly) to Newton and the Scientific Revolution, in which God had made the world like a perfect clock that needed little or no intervention by the great Clockmaker, and man’s role was not to quarrel over it but to understand it by tracing out His work through the application of scientific reasoning. This rational cosmology undermined the universities as the homes of outmoded theoretical knowledge, still based largely on Aristotle and the medieval schoolmen and increasingly out of touch with observed reality. Why go to a university, it was argued, to learn old doctrine of little use outside a career in the Church? (Outram, 1995; Bouwsma, 2000; Porter, 2001; Israel, 2002).

The Enlightenment affected life at all levels, from the new monarchs like Frederick II of Prussia, Catherine II of Russia, and Joseph II of Austria who took their political methods from Machiavelli (“whatever works is right”) to the *philosophes* and *savants* who scoffed at the Aristotelians of the universities and pursued scientific truth outside them. The Scientific Revolution, except for a few aberrant geniuses like Galileo and Newton, took place outside the universities, in new and mainly amateur institutions like Gresham College, London (1575), where Francis Bacon, the great empiricist, and Humphrey Gilbert of magnetism fame operated; the Academia del Lincei in Rome (1603), where Galileo and his disciples disputed; the Royal Society of London (1661), where Sir Robert Boyle demonstrated his vacuum experiments; the French *Academie des Sciences* (1666); and other scientific societies in Berlin (1700), Uppsala (1710), Peter the Great’s new capital at St. Petersburg (1724), Stockholm (1739), Gottingen (1742), Copenhagen (1743), and Munich (1759). In France, the *philosophes* and *encyclopedistes* led by Voltaire, Rousseau, and Diderot set out to challenge all traditional interpretations and collect from scratch all practical and useful knowledge. Their scorn for the ancient regime and its supporting academics culminated in the French Revolution and its abolition of the universities. In England, pioneers of modern knowledge like Richard Price, Joseph Priestley, and John Dalton developed unorthodox ideas like Unitarianism, the chemistry of gases, and the atomic theory of matter at new dissenting academies at Warrington, Daventry, and Northampton. The Society of Arts (1754) gave prizes for “the encouragement of arts, manufactures and commerce,” and in 1799 the American adventurer Count Rumford founded the London Institution, where Humphrey Davy and Michael Faraday demonstrated their experiments in gases and electricity (Jacob, 1988; Christianson, 1998; Baigrie, 2001; Russell, 1983; Gilpin, 1968).

The universities could not escape the new developments altogether, and a few pioneers of modern science operated there, though often under difficulty. Fabrizio and Vesalius pioneered observational anatomy at Padua; La Ramee, mathematics at the College de France (but was expelled for his Protestantism); Galileo and his pupil

Toricelli at Pisa and Florence (under constant persecution from the Aristotelians); and Newton in optics and astronomy, as well as alchemy and the prophecies of the Book of Daniel at Cambridge. At Glasgow and Edinburgh the “Scottish historical school of philosophy,” including Adam Ferguson, David Hume, Dugald Stewart, Adam Smith, and John Millar, virtually founded modern skeptical philosophy and the modern social sciences. In the Netherlands, Leyden and other universities pioneered new, more practical systems of teaching medicine and the natural sciences and sent scientific missionaries out to Edinburgh, Vienna, and Göttingen. In Germany, Halle (refounded in 1694), Göttingen (1734), and Erlangen (1743) tried to update the curriculum and let the Enlightenment into the ivory tower. For the most part the Scientific Revolution passed the universities by, and managed to conquer them only after their reform in the 19th century.

Apart from the few exceptions in Scotland, the Netherlands, and Germany, most universities in 18th century Europe were moribund, with idle professors feebly teaching a medieval curriculum without much relevance to modern life, and despised by the intellectuals of the Enlightenment. In England, the historian of the Roman Empire Edward Gibbon described his student days at Oxford as “the fourteen months the most idle and unprofitable of my whole life,” and his teachers, “the monks of Magdalen,” as “decent, easy men who supinely enjoyed the gifts of the founder” (Gibbon, 1907, pp. 36, 40). In Germany, civil servants and politicians seriously discussed whether universities did more harm than good and ought to be abolished. Even the students lacked the energy to protest: perhaps because there was so little to protest against, there were fewer student riots in that century than before or after. In France, the revolutionaries did abolish the universities, and all those in the territories they conquered. Paradoxically, however, the French Revolution, which temporarily abolished the universities, paved the way for their revival, not only in France but also in the rest of Europe.

The University and Industrial Society

The Industrial Revolution, which started in 18th century Britain and spread from there to Europe, America, and the rest of the world, began outside the universities and for a long time was ignored by them. In the first half of the 19th century, most universities were still seminaries for the clergy and a few lawyers and administrators of the nation-state. The medieval curricula in the arts, theology, law, and medicine were still largely intact, if somewhat updated, and Aristotle and Plato were still more important than Newton or Kant. So much was this the case that the applied science and technology needed for the new manufacturing, mining, and transport industries had to be taught in new institutions: mechanics’ institutes in Britain, *technische hochschulen* in Germany, and *grandes écoles* in France, where Napoleon’s new University of France (1806) embraced the whole education system down to the *lycées* (secondary schools) but still did not modernize the syllabus. Only gradually did the old universities catch up with the new natural and social sciences, and only then when they had been shamed into it by new institutions, including a new wave of universities.

Industrial society, nevertheless, eventually recreated the university in its own image. It invented (or took over the accidental invention of) the modern research university,

the technical college, and the research institute. New natural sciences like chemistry, biology, and geology, new applied sciences like engineering, mineralogy, electricity, and practical medicine, and new versions of the humanities like archive-based history, modern languages, and vernacular literature, came into the curricula of new universities and spread to the older ones. In the later 19th century, student numbers expanded all over Europe from Britain and France to Germany and Russia, and dramatically in the United States, and for the first time women students began to appear in more than token numbers. Higher education at its widest was still very elitist, but in the 20th century the change was large enough to bring in some students from the lower layers of society. Taking every kind of tertiary institution, numbers in Europe expanded from less than 1 in 200 (0.46%) of the student age group in 1860 to nearly 1 in 100 (0.88%) in 1900, and to 1 in 50 (2.07%) in 1940. In the United States, from this time onwards ahead of Europe in education, they increased from 1 in 90 (11%) in 1860 to 1 in 44 (2.3%) in 1900, and to 1 in 11 (9.1%) in 1940. Of these, women formed an increasing proportion—in Europe, from negligible percentages before 1900 to 14% in 1920 and 22% in 1940, and to about 30% in the United States. These figures reflected the changing social function of higher education in industrial society, from educating the ruling elite and its religious supporters to training a much wider range of leaders in industry, commerce, finance, expanding state bureaucracies, and the growing professions, including many kinds of engineering, accountancy, social administration, and education itself (Sanderson, 1972; Perkin, 1969; Henderson, 1961, 1969; Landes, 1970).

The Emergence of the Research University

The modern university combining teaching and research (rather than the conservation of traditional knowledge) began almost by accident in two poor and at that time marginal countries, Scotland and Germany. Each independently invented the same device for saving money; the specialized, single-subject professor, replacing the traditional regent master who taught the whole syllabus. In time, the demands of industrial society would have necessitated this anyway, but the new approach began before industrialism took hold. The unintended by-product was that the specialist professors, like Adam Smith's specialist craftsmen in the industrial division of labor, became not only more skilled but active innovators in their specialized fields (Geiger, 1985, 1986; Hawkins, 1960).

In 18th century Scotland, the new professors revolutionized old disciplines and pioneered new ones, like Colin Maclaurin, Newton's pupil, in mathematics, David Hume and Dugald Stewart in philosophy, William Robertson in history, Adam Smith in political economy, John Millar in sociology, Joseph Black in chemistry, the Hunter brothers in surgery, and so on. The Scottish historical school became renowned throughout Europe and America for its pioneering social science, including Smith's political economy and Millar's economic interpretation of history and social structure, both of which influenced Ricardo and Marx (Davie, 1964; Rendall, 1978; Phillipson, 1975; Anderson, 1983).

The Scottish model had a profound influence on the new English universities of the 19th century. University College was founded in London in 1826 by Henry Brougham, Thomas Campbell, and other Edinburgh graduates, with a slate of single-discipline

professors in medicine, jurisprudence, political economy, chemistry, physics, modern languages, logic and philosophy, with others planned in engineering, mineralogy, design, and education. Its example was followed by its rival, King's College (1833), united with it in the federal University of London (1836), by Durham University (1832), and the colleges at Manchester (1851), Leeds (1874), Bristol (1876), Sheffield (1879), Liverpool and Nottingham (1881), and Birmingham (1891) which eventually became the great civic universities of England (University of London, 1926; Harte, 1986; Harte & North, 1991; Thompson, 1990).

The University of London acted as midwife and nurse to many of these provincial universities, as it was also to do to many colonial universities, especially in Africa, India, the West Indies, and Malaya. From 1858 it offered external degrees to individual and college students anywhere in Britain or the Empire, and enabled colleges to earn their university status by awarding its degrees for a generation or more before becoming independent. Its admission of women to the external degree in 1878 was a landmark in women's education, not only enabling women's colleges to follow the same path but setting the precedent for other universities to admit them. Other new universities—in Ireland, Wales, India, South Africa, New Zealand, and elsewhere—were founded on the same federal principle with affiliated colleges. London thus became the mentor or the pattern for a very large number of universities throughout the Empire and Commonwealth. The Queen's University of Ireland was founded on the London model by the Westminster government in 1850, with affiliated colleges at Belfast, Cork, and Galway. The rival Catholic University of Dublin was founded in 1854, with John Henry Newman as its rector. The three colleges at Aberystwyth, Bangor, and Cardiff united in the federal university of Wales in 1893. All these new universities adopted the cheap and effective Scottish and London device of the single-subject professor, and many of them pioneered new departments of civil, mechanical, chemical, mining, and electrical engineering, textile sciences, dyestuffs chemistry, brewing, agriculture, architecture, and other technologies, and acted as innovators and consultants for their local industries.

The older universities at Oxford and Cambridge dragged their feet but were eventually shamed by external critics, internal reformers, and royal commissions in the 1850s and 1870s into modernizing themselves. With the building of the Clarendon and Cavendish Laboratories in 1870 and 1872 Oxford and Cambridge began to play a leading role in science and technology. But the professorial system never became as dominant there as in Scotland, Wales, Ireland, and the English provinces. The English tradition of liberal education by college tutors, as much concerned for the moral character as for the intellectual development of a governing elite, was intensified by famous tutors like Benjamin Jowett at Oxford and Oscar Browning at Cambridge, and continued to influence university education throughout Britain and the Empire, as it had already done in the United States (Tyacke, 1997; Rothblatt, 1968; Engel, 1980).

The German and French Models

Most German universities in the 18th century were as moribund as elsewhere, and were lucky to escape abolition like the French. A few, led by the elector of Brandenburg-Prussia's foundation at Halle in 1693, George II of England's at Göttingen in 1733,

and the elector of Bavaria's at Erlangen in 1743, were revitalized by the device of the specialist professor and soon drew students from all over Germany. When Halle was suppressed after Napoleon's victory at Jena in 1806, King Frederick William III of Prussia declared: "The state must replace by intellectual powers what it has lost in material ones." He appointed Wilhelm von Humboldt, brother of the famous scientist-explorer Alexander von Humboldt, to reform the Prussian education system and found the University of Berlin (1810). Humboldt saw the university as the moral soul of society and the source of the nation's culture and survival. To ensure the highest form of knowledge (*wissenschaft*), absolute freedom of teaching and learning (*lehrfreiheit* and *lernfreiheit*) was imperative. Thus began one of the paradoxes of the modern university, that it increasingly came to depend on the state both for material support and for defense of its freedom from its most dangerous threat, the state. The paradox was intensified by the fact that academic freedom was most self-consciously proclaimed in Germany, the most authoritarian state west of Russia. Dependence was to cost it dear, not only in Hitler's Germany and Stalin's Russia but elsewhere, even in democratic countries, where democracy could be turned against the elitism of a privileged profession (Harte, 1986; Armytage, 1955); Pattison, 1984).

Wissenschaft meant something broader than science. It was an approach to learning, a method of scholarship aimed at active intellect, sound judgment, and moral feeling. So "pure" was it that German medical professors were not allowed to treat patients, and applied science and technology were hived off into *technische hochschulen* and *gewerbe instituten* (technical college and trade schools). In practice, however, the individual professors with their separate research institutes and unpaid assistants (*privatdocenten*) produced a surge of research with far-reaching consequences. Professors like Liebig in chemistry, Thaer in agricultural economics, Wundt in experimental psychology, even Ranke in history, had an effect on German development that was the envy of other countries. The new model attracted students in large numbers, far more than in any other country in Europe, though less than in the United States. German university students increased from 12,188 in 1860 to 33,739 in 1900 and 97,692 in 1930 (an 8-fold rise), compared with from 3,385 to 17,839 and 37,255 at the same dates in Britain (a 16-fold rise), and from 5,000 to 16,357 and 43,600 in Russia (a 9-fold rise at less than half the level in a population over four times the size of Germany). To these should be added non-university students in technical and teachers colleges, who multiplied in Germany over 6 times, from 5,797 in 1860 to 37,199 in 1930, compared with over 13 times in Britain, from 2,129 to 28,954, and in tsarist Russia 8 times, from about 3,750 in 1860 to 30,990 in 1910 (and grew to 247,300 by 1930 under the Soviet regime). With good reason, the German research university became the model for advanced higher education in Northern Europe, Russia, the United States, and Japan (Scott, 1961; McClelland, 1979; Turner, 1975; Jaraus, 1982; Thwing, 1928).

It was not the only continental model. The French also had one to offer, which was much admired in Southern Europe (especially Italy and Spain) and Latin America, and some of its elements—like the *grandes écoles* and the research institutes—had influence as far afield as Russia and Japan. The French model after the Revolution was a two-tier system, with an upper tier of *grandes écoles*—like the *école des mines*, the *école Polytechnique*, the *école des langues orientales vivantes*, and other specialized

schools of elite studies—to which high-status research institutes were later added, over a lower tier of the Parisian and regional faculties of the Napoleonic University of France. Although originally not so intended, it was a logical solution to the problems of industrial society, and led to the intensely competitive and meritocratic French system of education, tempered as elsewhere by privileged middle-class access to the secondary *lycées*, by the “cultural capital” of the bourgeois family, and by the special tutoring required to get into the *grandes écoles*. It deserved better results than the slowing up of French economic growth during the 19th century, though it began to pay off in the 20th (Brockliss, 1987; Anderson, 1975; Musselin, 2003).

The German model was more widely followed in other countries, especially later in the century when German industrialization began to overtake that of Britain and France, and the military strength of the newly united German empire (1871) began to be feared and emulated. All over Northern and Eastern Europe, from Scandinavia to Greece (Athens University, 1837) and Turkey (the Istanbul House of Science, 1863), and into Tsarist Russia, the German specialized professor and the single-discipline department were imitated, and universities became geared, to varying extents, to the combination of teaching and research. During the migration the model often suffered a sea change, and was modified to meet the differential political, social, and cultural ethos of the importing society. In the United States, Russia, and Japan, for example, the results were very different from the intentions, and their universities took over the professorial principle and the research function without the German professors’ independence or domination of the university, which in the first case belonged to the university president and trustees or regents, in the second to the state, and in the third was divided between the state and the private university board (Jarausch, 1982; Ringer, 1979).

The Tsarist Russian Solution

In Russia, the tsarist autocracy always had an ambivalent attitude toward higher education, as it did toward modernization which for them meant Westernization, in general. Education and research were necessary for Russia to catch up with the wealth and military power of Western rivals, but students and intellectuals were a disruptive force that might become dangerous to the regime. They were well aware that students had taken a leading role in the French Revolutions of 1789, 1830, and 1848 and in the German and Austro-Hungarian risings of 1848, and were apprehensive—rightly, as it turned out in 1905 and 1917—that they would do the same in Russia.

Academies existed in Kiev from 1627 and in Moscow from 1681, and Peter the Great’s widow Catherine I proposed a university attached to her imperial Academy of Sciences in 1726, but at the opening of the 19th century Russia had only one university, Moscow, founded by the Empress Elizabeth in 1755. Alexander I refounded Dorpat in conquered Finland in 1802 and Vilnius in captured Polish Lithuania in 1803, and established new ones at Kharkov and Kazan in 1804 and St. Petersburg in 1819. But the next century added only five more, at Kiev (1835), Odessa (1865), Warsaw (1869), Tomsk (1880), and Saratov (1909), though no less than 105 technical institutes. University education became mandatory for promotion to the higher levels

of Peter the Great's famous table of ranks in 1809, and in 1834 all ranks were close-coupled to levels of education. Tsar Nicholas I imposed severe restrictions on enrollments in the state universities in 1850 but exempted a dozen specialized technical institutes. Even the educational-reforming Tsar Alexander II closed down the universities in 1861, but gave them new charters granting a measure of self-rule in 1864, which began a new period of expansion. Later expansion in Vyshnegradsky and Witte's industrializing period (1885–1903) was concentrated in the technical institutes and polytechnics which came to hold nearly as many students as the universities. By 1914, there were about 58,000 students, mostly men, in technical institutes, compared with about 35,000 men in universities and about 34,000 women in "higher courses."

If the universities followed the German model, and produced many eminent scholars and scientists, the technical institutes followed the French model, at a less prestigious level. But tsarist higher education was a tiny elite system, with about 127,000 students perched on top of a huge population of 174 million, two-thirds of whom were illiterate. This combination led not to modernization but to revolution: as Count Witte, architect of Russian industrialization, said, "Education foments social revolution, but popular ignorance loses wars." The tsarist regime was impaled on both horns of that dilemma (McClelland, 1980).

The German model was most admired and emulated in the United States and Japan, but this was part of the spread of the European university to the wider world, discussed below. Meanwhile the modern university, the technical college, and the research institute had, belatedly but successfully, been created by and helped to create that industrial society which, until Europe nearly destroyed itself in two World Wars, gave the West almost complete mastery over the rest of the world.

Higher Education for the Excluded

One of the most important features of industrial society was its opening up of higher education to groups of the population previously excluded. This was partly because, even at the level of elite education achieved by the end of the period, talent needed to be sought wherever it could be found. More directly, the Industrial and French Revolutions combined to accelerate the trends toward democracy and equality, as working-class and feminist movements claimed rights denied them in earlier societies. In Europe, down to and including most of the 19th century, students from the classes below the landed gentry and the professions were rare indeed, usually less than 1% of enrollments, and women were excluded altogether. By 1910, working-class students were still only 1% of the student body in England, 3% in Denmark, 5% in Italy, and 11% in Sweden. By 1930, the proportion had changed little, except in Sweden with 16%, and England where it had suddenly surged to 29% due to new state and local government scholarships (Kaelble, 1985).

The widening of access was only a small beginning, but it laid the foundations for the post-World War II expansion of higher education. There was better hope for the disadvantaged student in non-university and part-time education, particularly in vocational education, which expanded in most countries in the early 20th century,

though very erratically, and foreshadowed the massive expansion of non-university education after World War II. Before the mid-19th century it was almost unheard of for women to go to university. The best they could hope for was attendance at finishing schools or seminaries, where academic work was discouraged. In the second half of the century, beginning in Britain and the United States, normal schools, teachers colleges, and academic women's colleges were founded and the universities for the first time began to admit women, though often under restrictive conditions as to studying alongside men and taking full degrees. In England, Bedford College for women was established in 1849 by feminists and later incorporated in London University. Girton College moved to Cambridge in 1869, but although sharing teaching and, from 1922, "titular degrees," women were not accepted as full members of the university until 1948. Four women's colleges were founded at Oxford between 1878 and 1893, but women were not formally admitted to the university until 1920. London was the first university to admit women, via its external degrees in 1878, and was soon followed by most provincial, Welsh, and Scottish universities, often against the wishes of many professors and most male undergraduates.

In the United States, women were confined to seminaries, mostly founded between 1820 and 1850, until the last quarter of the century, when the leading women's colleges like Vassar and Mount Holyoke evolved from them. In 1880, there were sixty-two women's seminaries and twenty-nine colleges; by 1920 there were twenty-two seminaries and 191 colleges, plus 291 coeducational colleges awarding degrees to both sexes. In Western Europe as a whole, including Britain, women in 1910 averaged about 12% of university students—12 times more than working-class men—ranging from 4% in Germany and 9% in France to 17% in Italy and 22% in Switzerland. By the eve of World War II, they averaged 20%, ranging from 12% in Spain to 27% in Britain and 34% in France. The extension of higher education to sectors of the population other than the male governing and professional elites was an expanding feature of industrial society, driven by the need for talent and the demands of the excluded. It was still, however, very limited until after World War II when, in a different, post-industrial society, the demand for much larger numbers of highly educated personnel would raise it to a higher level (Kaelble, 1985).

The University in the Wider World

The university first spread to the non-European world on the backs of conquerors and colonists, and only later by the force of its own double-edged attraction. Its initial function there was to educate the priests and ministers of the colonists and their governing and merchant elites. When it was later adapted to the education of the subject peoples, it imposed on them European intellectual and cultural values that they welcomed for the wealth and employment opportunities they promised but resented for the threat to native culture and values they imported. They had an unintended effect, however, which was to train and empower the local people to demand their own independence and reject European domination. This operated differently at different times in different places, according to the mix of settlers and indigenous peoples and the prior strength and literacy of the native culture. But everywhere the university and its preparatory

schools and satellites became the instruments of nationalism and anti-colonialism, and heralded the demise of four hundred years of Western hegemony.

Latin America

Spain, the first European power to achieve world supremacy, began to export education to its colonies from the beginning. Unlike the English, French, and Dutch in North America, the conquistadores sought not to drive out the native peoples but to convert them to Christianity and European culture. Soon after the conquest of the Americas, the Spaniards founded universities in Santo Domingo on the island of Hispaniola in 1538, Lima, Perú, and Mexico City in 1551, and Bogotá, Colombia, in 1580, along with Jesuit and Dominican schools in virtually all their colonies. The Jesuits also founded a Philippine university in Manila in 1629. There were soon said to be more institutions of higher education in Spanish America than in Spain itself. At least another 16 universities were founded there, from Córdoba, Argentina (1613), to Panamá (1749), as well as numerous other colleges and seminaries, before Latin America achieved independence in the early 19th century. The universities were modeled on the charter and statutes of Salamanca, which supplied many of them with professors and administrators, and were open equally to Indians, creoles, and Spaniards (Jimenez Frau, 1971; Kagan, 1975; Levy, 1986; Liebman et al., 1972).

The last century of Spanish rule, with cities larger and more splendid than any in contemporary North America, was the golden age of Latin American higher education, with chairs of Indian languages as well as arts, philosophy, theology, and medicine. The native Americans, though exploited by the Spanish landlords and missionaries, were better protected by the Spanish crown than they were to be under the successor republics and, officially at least, were eligible for the same honors, dignities, and appointments as the natives of Castille. Portugal was less active in colonial education than Spain, and the first Brazilian university, at Rio de Janeiro, was not founded until 1920, nearly a century after independence. The Latin American universities after independence mainly served the European elites, landlords, and the priesthood; the emerging professional schools in agriculture, forestry, veterinary medicine, engineering, and so on were mainly for a second level of technicians and administrators who rarely aspired to high rank. The Latin American republics became, for all intents and purposes, economic colonies of Britain, whose entrepreneurs developed their towns, railways, mines, and oil fields, until after World War I. From 1918, their universities became famous for student unrest, with demands for participation that anticipated the 1960s student movement elsewhere, but in 1950 they were described as untended gardens of obsolete learning, and only later blossomed into their current liveliness.

The French and Dutch Empires

Apart from the Jesuit college at Laval (1635) in Québec, the French founded no universities in their colonies until one for French pied-noirs in Algiers in 1879, which was considered an integral part of France and therefore merited a regional campus of the Napoleonic University. A new policy was adopted from 1945, when the other colonies

became part of Metropolitan France and institutes of higher education were founded in Tunisia, Morocco, and Senegal, those in Dakar and Tunis becoming universities in 1957 and 1960, just before and just after independence (Musselin, 2003; Manning, 1986; Moumouni, 1968; Yesufu, 1973; Behr, 1988).

The Dutch were also slow to export higher education. In the Dutch East Indies (Indonesia), no university was founded until independence in 1947, when the University of Indonesia in Batavia (Jakarta), projected in 1942 but delayed by the Japanese invasion, was formed by the amalgamation of various colleges, including the Engineering College at Bandoeng (1920), the Law, Medical, and Literary Colleges at Batavia (1924, 1927, and 1940), and the Agricultural College at Buitenzorg (1940) (Hoong, 1973; Murray, 1973).

The Protestant Response

On the Protestant side, the north German principalities, the Swiss cantons, the Dutch provincial estates, and the monarchs of Scotland and England also founded new educational institutions to spread the gospels of Luther, Zwingli, Calvin, and the Arminian Anglicans. German Protestant universities were founded by the Duke of Prussia, at Königsberg (1541); by the elector of Saxony, who had already turned Leipzig Lutheran, at Jena (1539); by the Margrave of Baden, at Durlach (1586); by the Margrave of Hesse-Darmstadt, at Giessen (1605); by the free city of Hamburg (1613); by the great elector Frederick William of Brandenburg-Prussia (where Luther's own University of Wittenberg had been taken over by his rival Melanchthon), at Duisberg (1664); and by his successor, Frederick III, soon to be King of Prussia, at Halle (1685).

Swiss Protestant academies were established at Zurich by Zwingli (1525), at Bern by the city authorities (1528), and at Lausanne and Geneva by Calvin (1537 and 1559). Although the Protestant Netherlands did not have a university by name until 1876, every Dutch province founded an *illustre* school, from Leiden (1575) to Zutphen (1686). England's Queen Elizabeth I founded Trinity College, Dublin, in newly conquered Ireland (1592), her successor-to-be James VI of Scotland chartered the Tounis College, later Edinburgh University (1583), and Protector Oliver Cromwell tried unsuccessfully to found a university in Durham (which was to be resurrected as England's third university in 1832). The Kings of Sweden, then heading a considerable empire, founded colleges at Dorpat (Tartu) in Esthonia (1632), Abo (Turku) in Finland (1640), and at Lund in southern Sweden (1668), but later lost the first two to the Russians.

The Frontier Zone

Meanwhile, as the religious wars swayed back and forth, many universities found themselves in the frontier zone between the armies and changed their political and religious allegiance, some more than once. The Hussite University of Prague, where the Jesuits founded a college in 1556, was finally handed over to them in 1622 after the suppression of the Protestant Bohemian rising by the Hapsburg Emperor Ferdinand III. Heidelberg, turned Calvinist by the elector palatine in the 1550s, was Romanized by the Catholic League in 1631, converted to Lutheranism by the Swedes in 1631,

and after a twenty-year suspension was finally returned to Calvinism by the returning elector in 1652. Protestant colleges established at Klagenfurt and Linz by local estates in Austria in 1552 and 1574 were handed over to the Jesuits by the Hapsburgs in 1604 and 1629, as was the Protestant university at Eperles (1665) in Upper Hungary in 1685.

In France, the large number of Huguenot colleges tolerated by the early Bourbon kings, like Nimes (1539) and Die (1601), were suppressed by Louis XIV in 1685, as were the Protestant institutions, like Montauban (1598), Montbeliard (1598), and Sedan (1599), in provinces annexed by the French. The only exception was the University of Strasbourg (1621) which, after the French conquest of Alsace, was confirmed by Louis XIV as the only Protestant university in France.

British North America

The British were quick to export higher education to their North American colonies, not because of the home government's policy but because the English colonists, often dissenters in religion, needed to train their own pastors, as dissident and intolerant as themselves. All nine colonial colleges founded before the American Revolution began as religious seminaries, instruments of the community and its faith: Harvard College at Cambridge, Massachusetts (1636); William and Mary College at Williamsburg, Virginia (1639); Yale College at New Haven, Connecticut (1701); Princeton College, New Jersey (1748); King's College (later Columbia), New York (1754); the University of Pennsylvania at Philadelphia (1754); Brown University at Providence, Rhode Island (1764); and Dartmouth College at Hanover, New Hampshire (1769). They naturally followed the models they knew, Oxford and Cambridge and the Scottish universities, emphasizing general education and the training of moral character. In time, they evolved from seminaries into liberal arts colleges, educating young gentlemen of the planter and business classes as well as of the cloth, and set the pattern for that general education that has been the mark of the American undergraduate experience down to the present.

In English-speaking Canada, the first universities seem to have been stimulated by the need of Canadians, reinforced by Loyalist refugees from the infant United States, to safeguard their offspring from the republicanism of their large and growing neighbor. The University of New Brunswick was founded as the Provincial Academy of Arts and Sciences at Fredericton in 1785, the first state institution in Canada, and received a royal charter as King's College in 1828. Another King's College was founded by United Empire Loyalists at Windsor in 1789 and given a royal charter in 1802 (it moved to Halifax, Nova Scotia, in 1920), and another at York, Ontario, in 1827, which became the University of Toronto in 1849. St. Mary's College, the first Catholic institution apart from French-speaking Laval (1635), was founded at Halifax in 1802 (becoming a university in 1841), where the two most famous, Dalhousie College (University since 1863) was founded by the governor of Canada, the 9th Earl of Dalhousie in 1818, and McGill University in Montreal was founded by the will of James McGill, fur trader, in 1821.

When Canada achieved Dominion status and virtual internal independence in 1867 there were 18 degree-awarding institutions (including the French ones), most of them

religious foundations; only Dalhousie and McGill were lay foundations. By 1939, there were 38 universities with 35,903 students, about a quarter of them women. By 1987, there were 38 universities, 61 English-speaking, 17 French-speaking, and five bilingual, with about three-quarters of a million students, more than half of them women, representing over 50% of the age group (Flexner, 1930; Veysey, 1965; Herbst, 1982).

The United States

After the American Revolution three overlapping developments built on the foundations laid by the colonists. First was the rise of the state university, beginning with the Universities of North Carolina and Georgia, opened in 1795 and 1801, secular institutions with all the strength of public funding behind them but also under the monitoring eye of the state legislature. Second was the creation, under the Morrill Act of 1862, of the land-grant colleges, among the earliest being Ezra Cornell's college at Ithaca in upper New York State (1869), where "any person can find instruction in any study," particularly in those applied sciences so useful to a newly industrializing society as agriculture and engineering.

American education had an eye for the practical as well as the intellectual and moral, but the great leap forward resulted from the third development, the import of the German model of the research university, beginning with Johns Hopkins in 1876 and soon to be imitated by Harvard, Yale, Columbia, Northwestern, Michigan, and other universities, state and private, all the way across to Stanford and Berkeley on the West Coast.

Yet the American research university bore little resemblance to the German model. Its highly funded research professors with their large teams and departments were able to bring to bear much larger resources than elsewhere on scientific and technological problems, with spectacular results. The United States in the 20th century became the mecca for scholars from the whole world over, especially for European refugees from Hitler's Germany and Stalin's Russia.

The overwhelming features of American higher education have been its diversity and its restless expansion. Not only could any person find any study but, particularly after the U.S. Supreme Court ruled against New Hampshire's attempt to impose state control on Dartmouth College in 1819, any individual, group, church, city, state, or private firm could found a college and open its doors to anyone willing to pay the tuition fees. The American cornucopia—born after the Civil War of free or cheap land, mass production, and endless opportunity—poured out part of its riches into hundreds and later thousands of colleges and universities across the continent. Every state and large city had its state-funded university, often with several campuses, and private universities sprang up to suit every kind of student. The nine colleges at the American Revolution grew to 560 in 1870 and to 1,220 in 1928, and students in higher education as a whole increased from 1,237 in 1800 (about 1% of the white males between 18 and 21) to 32,364 (3.1%) in 1860, 256,000 (5%) in 1900, and 1,174,400 (15% of both sexes aged 18 to 21) in 1928—over five times the average percentage in Europe. Of these, women constituted an increasing proportion, from 28% in 1870 to no less than 49% in 1928, although many more were in teachers colleges and the like than in universities.

Today there are over 3,500 institutions of higher education, with more than twelve million students, over 70% of the age group (Veblen, 1954; Hofstadter & Smith, 1961; Ashby, 1971; Clark, 1983).

Nor were African-Americans left out altogether, though they were far behind the rest. There were no black colleges, as distinct from vocational and secondary schools, before the Civil War. Emancipation from slavery precipitated the founding of black colleges in Atlanta, Nashville, and Washington, D.C., between 1865 and 1867. Others followed, and the Morrill-McComas Land Grant Act of 1890 added 17 more. In 1900, there were only 750 black students, rising to 3,500 in 1910 and 22,000 in 1930. Despite the long campaign of the National Association for the Advancement of Colored People from 1909, in 1938 97% of the black students were in segregated colleges. It would take a Supreme Court decision in 1954 and the Civil Rights Movement of the 1960s to open up white universities, particularly in the South, to African-Americans, and even then to less than their share in the population. During the 1980s, African-Americans constituted about 8% of American students, compared with their 11% share in the population (MacPherson, 1975).

The White Dominions

In the white settler colonies of Britain (which became virtually independent dominions between 1867 and 1910), the Europeans wanted their own higher education, as they did in North America. In Australia, the government of each colony (later federated state) set up its own university. New South Wales founded Sydney University in 1850; Victoria, Melbourne University in 1853; South Australia, Adelaide University in 1874; Tasmania, its University at Hobart in 1890; Queensland, Brisbane University in 1909; and Western Australia, its own at Perth in 1911. Apart from the Australian National University (founded as Canberra University College in 1930) and a handful of offshoots of state universities like Armidale, New South Wales (1938), progress was slow until after World War II, when in 1947 students numbered 28,558, over a quarter of them women. By 1987, there were 181,000 students, nearly half of them women, over a quarter of the age group. New Zealand was quick off the mark with the University of Otago at Dunedin in 1869, 21 years after the first European settlement, which soon merged with Canterbury College to form the federal University of New Zealand, on the London University pattern, in 1874. Affiliated colleges followed, at Auckland (1882), Wellington (Victoria College, 1898), and Canterbury and Massey Agricultural Colleges (1870 and 1926). By 1947, there were about 12,000 students in the seven colleges, only about 15% of them women. In 1987, there were 62,000 students, just over half of them women, over a quarter of the age group.

In white South Africa, higher education began with the South African College in 1829, 15 years after the Dutch ceded the Cape of Good Hope to the British, which in 1918, after the Union of South Africa achieved Dominion status (1910), became the University of Cape Town. Grey College at Bloemfontein followed in 1855, later (in 1935) the University College of Orange Free State. In 1873, the federal University of the Cape of Good Hope, patterned on the University of London, was set up, to which most of the South African colleges became affiliated: Cape Town (1873), Grey College

(1916), Potchefstroom (1869, affiliated 1921), Rhodes College (1904, affiliated 1916), Pretoria (1908), Natal (1909), and Pius XII Catholic University in Basutoland (1945), the first university institution for black Africans. Only the University of Stellenbosch (1874) remained outside the federal University, until the latter was broken up in 1951.

The only black college within the Union was the African Native College at Fort Hare, founded by the Free Church of Scotland in 1916. In 1947, there were about 16,000 white students, of whom about a quarter were women. After the election of the Nationalist government in 1948, apartheid was imposed on higher education in 1951. In 1960, black Africans were no longer allowed at Cape Town and Witwatersrand universities, the only mixed-race institutions, and were confined to the three Bantu colleges of Fort Hare, the College of the North at Turfloop, and Zululand College, and to a non-European Medical School at Durban, while colleges were provided for “Coloreds” at Cape Town and Indians at Durban.

Though neither tropical nor technically a Dominion, Southern Rhodesia was an internally independent white settler territory from 1924 until 1980 when it became the African Republic of Zimbabwe. It did not have a university college (of Rhodesia and Nyasaland) until 1955, and the white settlers generally sent their children to South Africa or Britain for their higher education. After the breakup of the Central African Federation in 1964 and the unilateral declaration of independence in 1966, the college threw off its link with London University and became the University of Rhodesia in 1970. It always accepted both black and white students, as its successor the University of Zimbabwe (1980) does under the African republic. It now has about eight thousand students, about one-fifth women. Zambia (Northern Rhodesia) and Malawi (Nyasaland) set up their own universities after independence in 1964, with about 2% of the student age group in 1981 (Williams, 1978; Toombs & Harman, 1988; Sheffield et al., 1982; Behr, 1988).

The Non-White British Empire

Outside the white Dominions and white-dominated Southern Africa, there were two kinds of colonies in the British Empire. In all of them, there were few white settlers, as distinct from officials, soldiers, and missionaries, to lobby for higher education or provide their own. In Africa, the West Indies, and other tropical areas, where most of the indigenous peoples were preliterate, the main concern of the colonial officials and missionaries was to teach literacy for the purpose of preaching Christianity and the virtues of work rather than higher forms of learning, and the natives too could only progress to higher education through basic preliminary schooling.

India and Southeast Asia

The ancient civilizations of India and South Asia, on the other hand, had a long history of advanced education going back to Buddhist monasteries of the 7th century B.C., to the 3rd century A.D. Hindu Nalanda, and to the 11th-century Islamic madrasas, although by the time of the British Raj such colleges were in low water. Both kinds of colony developed a love-hate relation with their imperialist rulers, however. Both wanted the

advantages of education, at different levels, the more literate to compete for positions, however lowly, in the conquerors' system of administration and business, the illiterate to grasp at whatever means of gaining a living they could find in a poverty-stricken environment. At the same time they both sought ways of conquering the conquerors, of learning from them ways to turn the tables and throw them out. Schools and colleges provided the most promising way to arm themselves ideologically and acquire the necessary intellectual and moral means to gain independence (Ashby, 1964, 1966; Hinchcliffe, 1987; Wandira, 1978).

India under the British possessed at least three traditions of advanced scholarship, in the Hindu *gurukulas*, the Buddhist *vihares*, and the Quranic *madrasas* of her three great religions. In the 18th century, the British encouraged native culture, and Warren Hastings founded a new Islamic madrasa at Calcutta in 1781 and John Duncan a Hindu college at Benares in 1792. In the early 19th century, however, the influential James Mill and the English Utilitarians dismissed Indian culture as moribund and doubted the utility of "teaching mere Hindoo, or mere Mohammedan literature," and, after a generation-long dispute between the "Westerners" and the "Orientalists," persuaded the Indian government to found colleges of Western learning. The British Raj developed a policy, based on Lord Macaulay's famous minute of 1835, of educating the Indians in English language, literature, and science with a view to state employment and perhaps a distant prospect, expressed as early as 1865, of self-government.

After much debate between the home and Indian governments, the Raj set up in 1857, after the Mutiny and the transfer of rule from the East India Company to Westminster, three federal examining universities on the London pattern in Calcutta, Bombay, and Madras, surrounded by affiliated colleges. Others, including the Muslim universities at Aligarh (1875) and Lahore (1882), followed, 19 in all by independence in 1947, plus scores of affiliated colleges.

The Indian universities became immensely popular, with about 60,000 students by 1921, and twice that number by 1936. They served two major purposes, that of educating Indians, especially Brahmins and Muslims, for the professions and for minor posts in the Indian Civil Service, and that of preparing the way for independence. That preparation came most forcefully in ways not anticipated by the British rulers. As an Indian academic put it in 1917, "The University of Calcutta is a foreign plant imported into this country, belonging to a type that flourished in foreign soil . . . the new system was introduced in entire ignorance and almost in complete defiance of the existing social order regulating the everyday life of an ancient people." The unintended effect was to provide recruits for the Indian Congress Party and the Muslim League and to fuel the nationalist movements that agitated for independence from before World War I until after World War II.

By independence in 1947, there were nearly 200,000 students in India. In 1987, there were 3.6 million students, nearly a third of them women, about 8% of the age group. At independence Pakistan had three federal universities, Panjab (1882), Dacca (1921), and Sind (1947), with 106 affiliated colleges and perhaps 100,000 students, mostly men (Ashby, 1966; Singh & Altbach, 1973; Singh & Sharma, 1988; Rudolph & Rudolph, 1968; Krejci, 1990).

Outside British India itself, Rangoon College (1920, affiliated to the University of Calcutta), became the University of Rangoon after the separation of Burma from India in 1937, with over 4,000 students, a quarter of them women, at independence in 1948. Ceylon University College (1921), affiliated to the University of Calcutta, amalgamated with the Ceylon Medical College (1870) to form the University of Ceylon in 1942, six years before the independence of Sri Lanka in 1948, when there were 1,577 students, including 251 women. In the University of Sri Lanka and its associated institutions, there were in 1987 almost 20,000 students, nearly half of them women, about 3% of the age group. In Malaya, the King Edward VII College of Medicine (1905), Raffles College (1928)—named for the founder of Singapore—and the College of Agriculture at Selangore were combined into the University of Malaya in 1949, when there were 696 students, 94 of them women. The affiliated college at Singapore became a separate university shortly before Malaysia and Singapore became independent in 1963 and 1965. In 1981, they had about 5% and 8% of the age group, respectively, in higher education.

The University of Hong Kong was founded by the colonial government in 1911, and refounded in 1946 after its destruction by the Japanese. In 1947, it had 507 students, 125 of them women, and there were another 784 in other colleges of agriculture, teacher training, engineering, and commerce. A separate Chinese University was founded in 1963. In the two universities in 1987, there were 15,795 students (two-fifths of them women), about 10% of the relevant age group (Silcock, 1964; Altbach, 1985).

Thailand, the only independent country in Southeast Asia, did not escape Western influence, and its universities were based on the English model: Chulalongkorn (1917), the University of Moral and Political Sciences (1933), Kaesetsart (1943), and the University of Medical Sciences (1943), all four in Bangkok, with about 16,000 students in 1947. By 1981, no less than 20% of the age group were in higher education (Silcock, 1971; Watson, 1980).

British Tropical Africa and the West Indies

Long before the Europeans arrived, Africa had famous Muslim colleges in the mosques of Sankore in Timbuctu, Oarawiyin in Fez, and Al-Azhar in Cairo, but they were naturally conservers of tradition rather than instruments of modernization. Until after World War I, British governments took little interest in higher education in the tropics, believing that what largely nonliterate societies needed first was elementary and vocational education. Most schooling of any kind was provided by missionaries, the (Anglican) Church Missionary Society, the Wesleyan Methodists, and the Scottish churches. The first and, until after World War I, only college in British West Africa was Fourah Bay College near Freetown in Sierra Leone, the British colony for slaves recaptured from the banned slave trade. It was founded in 1818 as a seminary for prospective clergy by the Church Missionary Society to serve students from all over West Africa. Many attempts were made during the 19th century to raise it to university status, including a vigorous campaign in the 1870s by the Reverend Edward Blyden, a West Indian of African descent, who later (1881) became president of Liberia College in the American-sponsored republic for ex-slaves. It finally succeeded in 1876 with its affiliation for

examination purposes to the University of Durham, but it averaged only between four and 14 degree students a year from then until 1926.

Technical schools or departments were founded at Freetown in Sierra Leone, Accra on the Gold Coast, and Lagos in Nigeria in the 1890s, but nothing more was done before World War I. In East Africa, where school education was even more backward, the only higher education institution was Gordon Memorial College in Khartoum, founded by General Kitchener after defeating the late Mahdi's forces in 1898. It was only after World War I that Britain began to take seriously the question of higher education for Africans (Ashby, 1964; Hinchcliffe, 1987; World Bank, 1988).

Between the wars colonialism came under increasing attack from both liberal Westerners and the subject peoples themselves, and the principles of national self-determination and trusteeship proclaimed by President Wilson's Fourteen Points and the League of Nations made the imperial powers think more carefully about their responsibilities. After a critical report by the American missionaries' African Education Commission in 1922, the British Colonial Office decided to appoint a permanent advisory committee on native education in tropical Africa, and later extended its scope to all the British colonies. This led to a white paper on Education Policy in British Tropical Africa (1925) and to a series of official inquiries, including the Currie Report (1933) which recommended that the existing colleges in Uganda, Sudan, Sierra Leone, the Gold Coast, and Nigeria be raised to university status. Against the reluctance of the local governors, however, nothing was done until the Asquith and Elliot Commissions (1943–45) recommended a full scheme of higher education for East and West Africa, with university colleges at Makerere, Khartoum, Fourah Bay, Achimota, and Ibadan in Nigeria. These "Asquith colleges" were duly established after the war, with British government finance and the help of London University, which tailored its examination offerings to African needs.

With the independence of Ghana in 1957 and most other African colonies in the 1960s, their university colleges threw off the tutelage of London and Durham universities and became full universities. Unfortunately, their British constitutions only worked when operated by British conventions, and some of the newly independent politicians, like Kwame Nkrumah in Ghana and Nnamdi Azikiwe in Nigeria, did not appreciate the need for academic freedom and university autonomy, and interfered rather too readily in appointments and day-to-day operations. (The French, who maintained an interest in their ex-colonial universities, argued that state-employed professors had better safeguards for their freedom.) This was partly due to the African politicians' frustration with the British and, increasingly, American traditions of academic studies which still dominated their institutions, an inevitable by-product of their foreign origin, and to their anxiety for rapid economic development. In 1981, Ghana and Sierra Leone had 1% of the student age group in higher education and Nigeria 3% (Ashby, 1964, 1966).

In the West Indies, the only institution of higher education before World War II was the Imperial College of Tropical Agriculture in Trinidad (1921), which had only 51 students in 1948. As a result of a British educational commission in 1938, it became a constituent of the University of the West Indies, founded in 1949 to offer University of London-sponsored external degrees to students from the 14 islands, eventually

with three campuses in Jamaica, Trinidad, and the Bahamas. Despite the immediate dissolution of the West Indies Federation after independence (by the withdrawal of Jamaica and Trinidad) in 1962, it became a separate university still serving the whole archipelago. It grew to 7,621 students, about half of them women, by 1987, about 5% to 6% of the age group (Commonwealth Foundation, 1973; Armitage, 1968).

China

By the early 20th century, very few areas of the globe outside Europe and its offshoots in the Americas and Australasia were still independent, and those few were heavily penetrated by European economic, cultural, and intellectual influences. Even China, pioneer of professional education for two millennia, saw the collapse of the imperial examination system in 1905 and the creation (before the 1911 Revolution) of three Western-style universities and 38 other institutions of higher education. By 1928, there were 74 university institutions, and by 1937, when the Japanese invaded, 108. Despite the destruction of the war, at the beginning of the Communist Revolution in 1948 there were 55 universities, 79 independent colleges, and 81 technical institutes, a total of 215 institutions with about 130,000 students—in a population of 450 million. As in Soviet Russia the Communist government harnessed education to modernization and propaganda, but decoupled it by closing the universities during the Cultural Revolution, whose effects have become a negative proof of the connection between education and development. In 1981, there were still only 1% of the student age group in higher education (Schurmann & Schell, 1972; Grieder, 1981; Krejci, 1990).

The Middle East

In the Middle East, where most countries in the early 20th century were only nominally free, Iran, divided into British and Russian “spheres of influence,” established Western-style universities in Tehran in 1934 and Tabriz in 1947, with about 5,000 students in 1948 and 50,000 in 1970. Iraq, a British mandated territory, did not have a unified university but founded modern faculties of law, commerce and economics, agriculture, music, and fine arts in the 1930s, with about 3,000 students in 1948 and 35,000 in 11 institutions by 1967. Even remote Afghanistan established a Western-style university at Kabul in 1932, another in Jalalabad in 1963, and the Kabul Polytechnic in 1968. In 1981, Afghanistan had 2%, Iran 5%, and Iraq 9% of their respective student age group in higher education.

Turkey, which had a Quranic university in Istanbul since its conquest of the Byzantine Empire in 1453 and a naval engineering school since 1773, which developed other engineering faculties during the 19th century, built the “House of Science” in Istanbul in 1863 and acquired the same year Robert College, an American institution with Western staff, and an American College for Girls in 1890. Only after the overthrow of the sultan and the establishment of Ataturk’s republic in 1923 did modern higher education take off in earnest, with the use of the Roman alphabet in 1928 and equality for women. By 1950, there were three universities and nine technical and professional schools, with about 20,000 students, about a fifth of them women, and by 1969

nine universities and 80 other colleges, with about 120,000 students. Between 1960 and 1980, the percentage of the student age group in higher education rose from 2% to 5%.

Egypt broke away from the Turkish Empire under Mehemet Ali Pasha in 1830 and began to Westernize education but, apart from the Al-Azhar *madrassa* in the great mosque of Cairo, no modern university was founded before the American University in 1919. That was followed, after official independence from the British in 1922, by Fouad I University in 1925, Farouk I and Alexandria Universities in 1942, and Asyut University in 1957. By 1969, there were about 125,000 students, plus 18,748 at Al-Azhar, where they covered the whole span from primary to higher education. The proportion of the student age group in higher education rose from 5% in 1960 to 15% in 1981.

In Syria and Palestine, there was little higher education under the Turks, and the first universities came after World War I under the British and French Mandates, the Syrian University at Damascus in 1923 and the Hebrew University in Jerusalem, first projected by the Zionist movement in the 1880s, in 1925. The *Technion*, the Hebrew Institute of Technology at Haifa founded in 1912, was also raised to university status in 1925. By 1970, the two Syrian universities, at Damascus and Aleppo, had about 39,000 students, and the proportion of the age group in higher education rose from 4% in 1960 to 18% in 1980. In the new State of Israel, the two universities at independence in 1948 grew to four plus two university colleges and a research institute by 1973, with over 50,000 students, rising from 10% of the age group in 1960 to 26%, a very Western level, in 1980 (Bashshur, 1985; Majali, 1971; Makdisi, 1981; Krejci, 1990).

Japan

The most spectacular example of Westernization in higher education, as in much else, was of course Japan. The revolutionary samurai who restored the Emperor Meiji in 1868 eagerly imported Western science, technology, and education, in Prime Minister Ito's words "to maintain the nation's strength and to guarantee the welfare of the people." "A rich country and a strong army" was the watchword, and the *han* schools for samurai bureaucrats were replaced by imperial universities, at Tokyo (1886), Kyoto (1897), Fukuoka on Kyushu (1903), Sapporo on Hokkaido (1903), and Nagoya (1939). They were followed by many other colleges and institutes, more of them private than public.

Initially on French lines with attached but separate research institutes, they soon ostensibly followed the German model of the combined teaching and research university. But the German model, like everything Western, was quickly modified to fit Japanese culture and society. *Wissenschaft* became purely practical and harnessed to Japanese development, *lehrfreiheit* and *lernfreiheit* were unknown, and the professorial chair, in the spirit of Japanese teamwork and group psychology, was transformed into a sofa. Student numbers surged, and on the eve of American reorganization in 1947 there were nearly half a million in 648 institutions; only 15% were women, most of them in non-university institutions. Since World War II they have soared still higher, with 1,645,000 students, 28% of them women, in 1970, in 1,345 institutions. With 30% of the age group going to college in 1985, Japan was one of the first countries to reach

mass higher education, as befits the most successfully developed nation outside the West.

In higher education—as in technology, management, and industrial relations—Japan set the pattern for post-industrial society. By the end of World War II, most advanced and some developing nations had adopted or were in the process of adopting, if in a highly modified form, the Western type of higher education that had done so much to reinforce, and in later cases to midwife, industrial society, with its promise of wealth and power but its heavy costs in drudgery and maldistribution of rewards. The world, unknowingly perhaps, was poised for another great leap forward, into a post-industrial phase in which the university and its satellites would become the key to further the development of human society (Blewitt, 1965; Cummings, 1979; Nagai, 1971; Kitamura, 1985).

The University and Post-Industrial Society

The period since World War II has seen the greatest expansion of higher education since the 12th century. Three-quarters of all universities, even in Europe, have been founded in the 20th century, 75% of them since 1945 (Enders & Fulton, 2002; Teichler, 1988). Everywhere old universities have expanded in size, new institutions have come into existence in practically every country in the world, and student numbers have increased to embrace ever larger proportions of the relevant age group. In the leading countries, which already educated most of the children of their elites, the percentage of the student age group rose dramatically from under 10% in 1960 to a half or more by 2000. In the United Kingdom, the percentage rose from 9% to 60%, in Germany from 6% to 54%, in Russia from 11% to 64% (before the dissolution of the Soviet empire), in Japan from 10% to 48%, and in that pioneer of post-industrialism, the U.S., from 32% to 73% in 1990 and no less than 81% by 2000. Even the leaders of the second rank countries made spectacular gains: Argentina, the leading Latin American country, increased its enrollment from 11% to 48%, while Colombia increased from 8% to 23% (World Bank, 2000; Altbach, 1991).

Most Third World countries were too poor and dependent on agriculture and craft industries to afford large expansions of higher education, but even they showed some increase. Malawi progressed from 5% to 7%, Morocco from 1% to 10%, and Egypt from 14% to 17%. The huge countries of India and China, with a third of the world's population, began to move in the same direction: India from 3% to 10% of the age group, China from under 2% to 22%.

Only the richest and most advanced countries have reached the post-industrial stage, but the pattern of development is clear. Even poor countries, like Malaysia, Indonesia, and the Philippines, have begun to move from the agricultural stage to the industrial, with the help of outsourced industries, not only of textiles and clothing but of sophisticated ones like cars, television sets and computers, for the West and Japan. In some cases, this has led to graduate employment in IT industries and the like, which require skilled managers and engineers, so that higher education is required on a growing (if still modest) scale. India with its tradition of speaking English, has even begun to supply call centers for British railways and computer suppliers, processing of credit cards transactions, and the running of medical tests for health centers in the

West. None of this could occur without advanced education for selective minorities of graduates.

The University and the Third Revolution

This unprecedented expansion is due to the onset of what has been called the Third Revolution in human history, the transition (after the first two, the neolithic agricultural and the more recent industrial revolution) to a society based on professional expert services. Usually called the post-industrial society, a negative definition that only tells what it is not, it entails the majority of the occupied in the most developed countries working not in growing food or manufacturing consumer and capital goods, but in services, and especially in the ever more specialized services based on advanced training and education (Perkin, 1996a, 1996b).

Often called the “information society,” emphasizing the significance of electronic communications and digital technology, or the “knowledge society” involving the application of many varieties of knowledge, notably in biology, medicine, arts and science, leisure and culture, strictly depends on the professional who serve it, and therefore should be called the professional society. The professions include not only the traditional ones of clergy, law and medicine and the new sciences and technologies created by industrialism, but also the bureaucrats who run central and local government and the executives who have largely replaced the owner-managers of traditional industry. All these are now educated and qualified in the universities and business schools attached to them. This has made the university, in Daniel Bell’s phrase, the axial institution of post-industrial society (Bell, 1973). It is for this reason that academics have become the key profession, the profession that educates the other professions (Perkin, 1969).

The role of higher education in post-industrial society can be gauged from data collected by the World Bank (see Table 1), which reveals the relationship between economic growth, the swing to services, and tertiary education in most of the world’s countries in the second half of the 20th century.

Table 1 shows that economic growth, the swing to services, and tertiary education are all positively correlated and that high income countries are far ahead of the rest in the service sector and advanced education as well as in wealth. Correlation is not a cause, and it may operate the other way: wealthy countries can afford to spend more on education, while poorer countries also have large numbers of workers in low paid services such as domestic work, retail outlets, garbage collection, catering for tourists, etc. While this is true, the experience of countries that began after the War at much the same level in all three categories but invested differentially in higher education ended it far apart.

This suggests that educational investment was the crucial factor. Morocco and South Korea, for example, began after World War II at much the same level of development but the first barely made it into the middle group while the second leaped into the top. Morocco’s GNP began at \$162, its service sector at 24%, and its advanced education at 1% of the age group; South Korea’s equivalents were \$143, 25%, and 5%. By 1999, the figures were miles apart: Morocco, with a per capita GNP of \$3,500, service workforce at 30%, and tertiary education at 10%, compared to South Korea’s GNP per

Table 1. Countries Grouped by National Income Per Capita

| | 1960 | 1977 | 1990 |
|----------------------------------|---------|---------|----------|
| <i>Low Income Countries</i> | | | |
| GNP (US\$ per capita) | \$100 | \$170 | \$350 |
| Services (% workforce) | 3% | 5% | 16% |
| Tertiary education (% age group) | 2% | 3% | 5% |
| <i>Middle Income Countries</i> | | | |
| GNP (US\$ per capita) | \$290 | \$1,140 | \$2,390 |
| Services (% workforce) | 24% | 32% | 41% |
| Tertiary education (% age group) | 4% | 10% | 20% |
| <i>High Income Countries</i> | | | |
| GNP (US\$ per capita) | \$1,360 | \$6,940 | \$24,930 |
| Services (% workforce) | 45% | 54% | 66% |
| Tertiary education (% age group) | 16% | 34% | 56% |

Note. These statistics are misleading in three ways: 1) Inflation distorts the rate of change in GNP per capita in all countries between 1960 and 1990. 2) GNP measures different bundles of goods and services in different countries, especially as between rich countries which buy processed foods and labor saving services which then enter into GNP, and poor countries which often grow their own food and make their own consumables, which do not so enter. 3) Services are of very different kinds, and can include low-paid domestic and similar services, especially in poor countries, and also include high-paid professional services of the kind predominating in post-industrial society. Nevertheless, the statistics clearly show the direction of change as between the developing and advanced countries. Since 1990 the World Bank no longer gives the statistics in comparable form, but the trends in all categories have continued and indeed accelerated. (UNESCO publishes more recent statistics on tertiary education for individual countries, but these are grouped by continent, are not strictly comparable with the World Bank figures and do not correlate with GNP per capita or the percentages of workers in the service sector.)

Sources. World Bank, *World Development Reports*, for appropriate years; United Nations Statistical Yearbooks, ditto; UNESCO Global Educational Digests, ditto; Altbach, Philip G. (Ed.), *International Higher Education: An Encyclopedia* (Garland, 1991), vol. 1, p. 96, table 1

capita at \$15,712, services at 47%, and tertiary education at 78%, one of the highest in the world (World Bank, 2000). We can of course see this on the ground: Morocco is still comparatively poor with an enhanced but mainly non-professional service sector sustained by tourism and serving the rich, while South Korea increasingly looks like Japan and is competing in advanced goods and services exported to the West.

Again, it is not just the amount of investment in advanced education but the kind—religious, ideological, cultural or scientific and technological—that determines the pace of economic growth and social progress. The World Bank, while no longer measuring the proportion of the student age group in tertiary education, has changed to reporting the percentage of the student body studying science, mathematics and technology. Typically, in 1994–97 the advanced countries had up to a third of the students in that category, while the middle ones in terms of human development had a quarter or less, and the less developed averaged percentages in the teens.³

Universities normally adjust to meet the demands of their societies, sometimes with a time lag. Before the modern universities came into existence few of them were interested in economic growth. Medieval universities were more concerned with theology and Aristotelian philosophy than with economic development, while early modern ones took little part in the Scientific or Industrial Revolutions. They came in the 19th century to pioneer training for new professions including science, engineering and technology, company law and accountancy, but it was only in the 20th that they came to educate almost every profession required by the new society, including the social sciences and business management. Even then, across the Developing World especially, higher education still meant preserving the old traditions of thought and culture.

Many countries, in the Muslim or the old Soviet world, for example, spend (or spent) a large part of their investment and academic manpower in religious or ideological education. That is their right of course, but it certainly detracts from rapid economic growth. Most of the Muslim countries—except for a group of small but rich oil states like Kuwait, Qatar and Bahrain—have remained in the middle income group. Since the collapse of the Berlin Wall in 1989 and the break-up of the Soviet empire in 1991, both Russia and its ex-satellites, which spent lavishly on higher education but on the less productive kinds, have made considerable progress. Some, like the Czech Republic, Hungary and Poland, are already in the top group, though as yet in its lower half. Even in the low income group, which India and China dominate, targeted education has enabled the first to compete in the information field, with the development of credit card and accounting processing and electronic call centers linked directly to customers in the West. China meanwhile is enjoying economic growth rates of 8% or 9% per annum and promises to become the Japan of the 21st century. Though both still have low percentages in advanced education—10% in India and 22% in China in 2000—in populations of a billion-plus they produce even larger numbers of highly educated students than in most countries in the West. In 2000, China had 9.4 million students, a third of them women, in 1,225 tertiary institutions; in 1996 India had 7.7 million in 33,741 institutions.⁴

*From Elite to Mass to Universal Higher Education*⁵

In the developed countries, this unprecedented expansion has achieved what T.R. McConnell and his colleagues have called the transition from elite to mass higher to universal higher education, to accompany a transition from aristocratic to meritocratic society (McConnell, Berdahl, & Fay, 1973). This means, first of all, a shift from higher education for the top 5% or less of the age group, mainly for the children of the rich and influential, to a system educating at the postsecondary level from a third to a half of the relevant age group. In the last three decades, the most advanced countries have already achieved mass higher education and some have gone beyond it: Britain, with 60% of its relevant age group in tertiary education by 2000; Russia, with 64%; Sweden, with 70%; and the United States, with no less than 81%. That is probably as far as one can go in the direction of universal higher education, since all societies need skilled and unskilled workers with little use for or interest in higher as distinct from further education. For

the latter, more relevant perhaps is vocational education, as in Germany, where skilled apprenticeship is the norm for the non-student teenagers, now being copied elsewhere, as in the United Kingdom, France and other European countries.

The Globalization of Higher Education

Universities have always operated in an international context, as the European ones in the Middle Ages exchanged teachers, students and ideas through the lingua franca of Latin, and the early modern ones eventually came to cooperate in the recovery of ancient learning and the scientific discoveries of the Enlightenment. The universities of post-industrial society, however, have raised this interchange to a higher plane to match the needs of a more global society. New ideas and discoveries are spread at the speed of light via the Internet, students are exchanged (e.g., through the ERASMUS and SOCRATES programs in Europe) or are educated in other countries than their own, especially those from developing countries seeking degrees in the West. Academics in practically all disciplines collaborate through international journals, conferences and visiting professorships. Indeed, as we have seen, the very foundation and expansion of universities in the developing world have been carried out by colonizers from the imperial West or by imitation of Western models. The academic world has become a series of federations of faculties in a global meritocracy, served by international associations for each discipline and by institutions like UNESCO, the Council of Europe, and the Council of European Rectors (Enders & Fulton, 2002; Blight, Davis, & Olsen, 2000; Enders, 2001; World Bank, 2000; Altbach, 1996).

Higher Education and Social Mobility

Universities, while as educating elites, have always provided ladders for poor boys to climb to success in church, state and business. In post-industrial society, the need for expertise and the emphasis on meritocracy have had profound effects on social mobility for children of the working class and also on the expanded access to higher education for women of all classes. For women this began in the advanced countries soon after World War II. Between 1950 and 1975, women as a proportion of the student body in Western rose from 21% to 37%, in Eastern Europe from 34% to 48%, in Japan from 11% to 32%, and in the United States from 30% to 48%. Since then, women students have reached parity with men, and in many cases surpassed it, especially in female dominated professions like teaching, social work and nursing (Kaelble, 1985). The same applies to the middle group of countries, if at somewhat lower levels of enrollment. Only in the bottom group and at still lower levels of enrollment do women students lag behind.

The enrollment patterns reflect the character of demand for graduates in the more advanced societies. In a society no longer based mainly on industries demanding brawn (where men excel) but on brains (where educated women merit and demand equality, though they often fall behind men in income and promotion), women have proved they can fill the same jobs in the service sector as men.

While women are a very visible component of the student body, working-class (and peasant) students of either sex are less distinguishable. Increased access by the children of all classes has been one of the main aims of the expansion, and this has certainly increased the numbers of workers' children on the campuses. Paradoxically, expansion seems in most countries to have benefited the wealthy and middle classes even more, through their knowledge and manipulation of the system and possession of material and social capital. Records are poor across the developing countries, and even in the advanced countries the manual working class is shrinking, but working-class students at the postsecondary level in some Western European countries increased between 1950 and 1970 as follows: in France and West Germany from 4% to 13%, in the Netherlands from 1% to 14%, in Denmark from 7% to 16%, in Italy from 11% to 20%, and in Sweden from 14% to 23%. Britain led the way between the World Wars with competitive state scholarships open to all classes, including brighter working-class children who reached 29% of the student body in 1930, but the numbers actually shrank after World War II to 23%, and still less (about 12%) at the most prestigious universities, Oxford and Cambridge (Kaelble, 1985).

In Western Europe, working-class students began to make modest inroads into the student body after World War II (e.g., 2.1% of the relevant population in a student body that equaled 13.5% of the age group in Germany by 1970; in Britain, 3.1% out of 14.1% of the age group; in France, 4.5% out of 15.8%; and in Sweden, 7.3% out of 21.3%) (Kaelble, 1985).

Their share of the student body, however, remained quite low. In Britain—according to the Oxford Social Mobility Project by A.H. Halsey and John Goldthorpe, culminating in 1970—the proportion of working-class boys increased from 0.9 to 1.4%, and of girls from 0.1 to 0.2%. A boy from the managerial and professional classes then had 13 times the chance of going to university as a working-class boy; a girl from the top socioeconomic group had no less than 60 times the chance of going to university. And that was in a country which had pioneered access to university since World War I, with scholarships to the selective high school and on to the university. Nevertheless, despite the small percentages of working-class children who went to university, being bright and ambitious they climbed to be larger fractions (from a quarter to a third) of the much smaller upper and middle classes, and could be found as sizable minorities in most of the professional elites in a study of social mobility in the 1970s (Halsey et al., 1980; Goldthorpe et al., 1980).

No doubt other advanced countries experienced similar social mobility via higher education in the last century, since the demand for educated expertise affected them all. In France, the *grandes écoles* provided a ladder by which a clever boy could climb into the governing and business elites. In Soviet Russia and its satellites, the sons of peasants and workers like Krushchev, Brezhnev and Gorbachev could join the *nomenklatura* and reach the very top. And in Japan clever boys—rarely girls—could compete for the four great universities, pay less for their education than those at the ordinary state and private universities, and be guaranteed a high status job for life. Higher education everywhere was becoming the high road for social climbing, replacing the self-made social climbers of the Victorian age. Thus, higher education became an instrument

of social engineering, as the new professional society drew educated specialists, in unequal proportions of course, from all levels of the population.

Distance Learning and the Internet

An unforeseen avenue of educational social mobility came in the mid-20th century with the founding of distance learning through such institutions as the British Open University founded in the 1960s, Deakin University in Australia, and similar institutions accessible to the adult populations in California, Singapore, Hong Kong, Unitar in Malaysia, and so on. An even freer development came with online degree education through the Internet in the late 20th century, which culminated in the UNESCO-affiliated International Council for Open and Distance Learning based in Norway representing 145 countries. These paths to a degree—and the imitative fraudulent degree certificates sold through the Internet—might suggest that earthbound universities might become obsolete, but there seems to be no substitute for face-to-face learning, and least of all for the universities' role in research (Bell & Tight, 1993; Tiffen & Rajasingham, 2003; Taylor et al., 1985).

These avenues of mobility did not mean that social climbing was confined to the highly educated. Traditional entrepreneurs without university qualifications still appeared, notably in new industries, as they had always done. Bill Gates and Steve Jobs could become computer billionaires, Richard Branson a music, airline and railway tycoon, and the Hinduja brothers polymath merchants, and were imitated across the corporate world. They were joined there by even less academically qualified celebrities: pop stars like Kylie Minogue, Michael Jackson, Paul McCartney, Madonna, and Victoria Beckham, sports stars like Michael Jordan, David Beckham and Boris Becker, and film stars like Nicole Kidman, Barbra Streisand and Harrison Ford, who emulated the old aristocracy by buying mansions and landed estates and “lived like lords.”

Leaving celebrities aside, higher education in an increasingly meritocratic society has become the chief means of acquiring social capital and moving up the ladder of income, status and wealth. Social mobility has increased in all the countries moving towards post-industrial society. The higher classes have themselves expanded, making room for climbers from below, leaving the lower reaches short of the natural leaders who used to head the trade unions and left-wing political parties or to rise via small business. And everywhere the meritocracy is still skewed by the social and material capital that affluent parents can still give to their children and by the unequal access to high grade secondary schools and to the more prestigious universities. And there are other drawbacks to post-industrial society that militate against the meritocratic utopia it might otherwise become.

The Drawbacks to Post-Industrial Society

Post-industrial or professional society is the most productive society in the history of humankind, giving not only the elite but most of its members longer life, better health, greater comfort, more consumer goods and services, more leisure and holidays, more enjoyment of the arts and sciences, more access to education and social climbing, than

any previous society. To that extent it owes its success mainly to higher education, which produces the research and professional experts on which most new industries and technology are based as well as the trained experts to service them. But it is not all gain. There are three drawbacks as far as the universities are concerned.

First, higher education has become far more expensive. The advanced countries generally spend between 5% and 8% of GNP on public education, of which they spend between about a fifth and a third on tertiary education (World Bank, 2003; Glenny, 1979). This has to be paid for by someone, and taxpayers and governments are less and less willing to increase their share of the cost. Hence the debate in almost every country on raising contributions from the private sector, either from business, alumni donations or from student fees in the shape of parental support or deferred student loans. The last, in countries like Britain or Western Europe—used to state-supported, even free university entrance—is bound to be unpopular. When a third or half of the age group go into tertiary education, the tax burden is so great that it is bound to provoke resistance from both students' parents and taxpayers. Moreover, the beneficiaries and the funders have conflicting interests in the process. Academics, students and their parents make claims upon the government and the public which the taxpayers, the half or more who do not go to university, those past the educational stage of life, including pensioners, may resent paying. To meet their complaints, the universities must convince them that they give value for money, by training up useful citizens and specialized experts, and by producing the scientific and cultural research and services that benefit the whole of society, which they have often in the past neglected to do.

The second drawback is that universities have themselves become large-scale bureaucracies and subject to the threat of centralized, bureaucratic state control. This has had profound consequences for the status of the faculty and for academic autonomy and freedom. Firstly, increased state interference, audit, inspection, and threatened control of the curriculum and research have undermined the autonomy and independence which the medieval European universities had fought so hard to achieve. The ivory tower which had produced so much independent thought to challenge the power of both state and church has been eroded, and higher education is in danger of becoming an adjunct of the overbearing state. In some places, such as Britain, academic tenure, that most powerful defense of academic freedom both of teaching and research—what the Germans since Wilhelm von Humboldt's time have called *lehrfreiheit* and *lernfreiheit*—has been abolished and replaced by short-term contracts. Even in the United States local state universities, through the power of the purse, are subjected to at least local state control, while the private universities are equally subject to the corporate trustees on their boards and to the more subtle pressures of research grants from the federal government. In other words, the very freedom and independence for which the university had been invented is subjected to the will of a single authority, the state.

A consequence of their increased dependence on the state (and the business corporations in America) was to extend the power of the administrators over the academics. European professors, in contrast to their American counterparts, had long had a dual role, of academic work on the one hand and managing the university on the other. This may have led to inefficiency through the committee system, but it ensured academic

control. The increasing size of the university made the system burdensome, so that full-time administrators took over the bulk of the management. The increased demand of the state for audit, inspection and a stream of paper returns also accelerated the trend to full-time managers, who naturally expanded their role, and indeed began to think of themselves as “the university.” A career in permanent non-academic administration, long known in the United States, began to spread to Britain, Europe and beyond (Clark & Youn, 1976; Van de Graaff et al., 1978).

At the same time, the academic profession, grown to far greater numbers and therefore less prestigious, began to lose status and comparative income. Whereas professors had once been on a par with doctors, lawyers, top civil servants and similar professions, they now found themselves slipping down the hierarchy and losing ground on the income ladder. A few academics kept up with other celebrities through journalism, publishing textbooks, radio and television, but these are the prima donnas of what is becoming a jackpot profession in which a few stars outshine the rest. In a world where some pop stars, sports personalities, stock exchange dealers and dot.com millionaires earned great fortunes, the average professor is now an also ran. Like the clergy before them, they retain a certain respect but have declined in status and income (Halsey, 1992).

The third drawback of increased numbers and bureaucracy, provoking outrage in the West in the 1960s but subsiding in more recent decades, was student unrest. This was by no means new. It had accompanied the early days of the universities from the 12th century, and welled up from time to time throughout their history as at the Reformation, the English Civil War of the 17th century (which Hobbes blamed on the students and dons of Oxford and Cambridge), the various revolutions in 19th century Europe, Russia and South America, and the demonstrations against globalization and world capitalism today.⁶

However, student generations are short and student rebels few, and the unrest in the West subsided as fast as it had risen. Moreover, in a society based on educated merit the siren call of the career brings most students back to earth in the advanced countries where paper qualifications for most determine destiny. Student unrest is more likely to break out in the developing countries, playing a leading part in colonial uprisings as in East Germany, Vietnam, the Philippines, in many African countries, and in the fundamentalist anti-western movements in the Middle East. It has not always come from the left. In Nazi Germany and Fascist Italy, students joined the forces of the extreme right, while the role of students in the Chinese “cultural revolution” of the 1980s or the Tiananmen Square confrontation of 1989 shows them on opposite sides of the trend to democracy (Lipset & Altbach, 1969; Lipset, 1976; Altbach, 1981).

Can the Autonomous University Survive?

Despite the drawbacks, the university and its offshoots are essential to post-industrial society. If it did not exist it would have to be invented under another name. We have seen that in its origins the university owed its autonomy and creativity to its dual responsibility to state and church which, by playing one power off against the other, gave it the flexibility and productivity to think new and sometimes dangerous thoughts.

No institution so flexible or so productive of new knowledge and adaptable experts has yet been discovered. Yet this flexibility and productivity still depend—as in the days of Abelard, Aquinas, Luther, Galileo, Newton, Descartes, Adam Smith, Kant, Humboldt and Einstein—on the academic freedom to teach and to pursue knowledge wherever it can be found. If the overbearing state, the all-mighty corporation or the heresy hunting churches crush that freedom, it may well kill the goose that lays the golden eggs. Without the ability to protect themselves from the threat of these powerful forces, the university may well suffer the fate of those institutions in the non-European world that never enjoyed the autonomy and freedom that the medieval division between church and state unintentionally bequeathed to academe.

Notes

1. The literature on the history of universities is vast, and even a limited selection would occupy far more space than the whole of this article. An Internet general inquiry revealed over 1.4 million entries, and a further History On-Line search for individual universities added thousands more. The notes and references of this chapter therefore give only the leading references for general periods and regions of the subject, and for more recent times when the number of higher education institutions and students grew by leaps and bounds the main sources are the statistics of international bodies like the United Nations *Statistical Year Book*, the UNESCO *Global Educational Digest*, the World Bank's *Annual World Development Reports*, *Europa World Year Book*, and so on. These notes are meant only to guide the reader to the major sources.
2. These are the main sources for the medieval origins and development of the European universities; however, each and every individual university has several publications devoted to it.
3. World Bank, *Human Development Report*, 2001, pp. 174–75. table 11.
4. *Europa World Year Book*, 2003, under countries listed.
5. For more on the massification of higher education, please see the chapter by Martin Trow in this volume.
6. For more on this topic, please see the chapter by Philip Altbach in this volume of the *Handbook*.

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INTERNATIONALIZATION: CONCEPTS, COMPLEXITIES AND CHALLENGES

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Internationalization is a term being used more and more to discuss the international dimension of higher education, and more widely postsecondary education.¹ It is a term that means different things to different people and is thus used in a variety of ways. While it is encouraging to see the increased use and attention being given to internationalization, there is a great deal of confusion about exactly what it means. For some, it means a series of international activities such as academic mobility for students and teachers; international linkages, partnerships and projects; new international academic programs and research initiatives. For others, it means the delivery of education to other countries through new types of arrangements such as branch campuses or franchises, and using a variety of face-to-face and distance learning techniques. To many, it means the integration of an international, intercultural and/or global dimension into the curriculum and teaching learning process. Still others see international development projects and alternatively the commercial trade of higher education services as internationalization.

Finally, there is continuing debate and exploration on the relationship of internationalization with globalization. Is internationalization the same as globalization? If so, why and how and to what end? If not, how is it different or what is the relationship between these two dynamic processes? Clearly internationalization is interpreted and used in different ways, in different countries and by different stakeholders. This reflects the realities of today and presents new challenges in terms of developing a conceptual framework that can provide some clarity on the meaning of the term and some principles to guide policy and practice.

This chapter focuses on the meaning, rationales, approaches, and strategies for internationalization and identifies core issues and challenges at both the institutional level and national/sector level. The national/sector level has an important influence on the international dimension of higher education through policy, funding, programs and regulatory frameworks. Yet, it is usually at the institutional level where the real process of internationalization is taking place. Therefore this analysis of internationalization uses a bottom-up (institutional) approach and a top-down (national/sector) approach and looks at the dynamic relationship between these two levels.

A few words about terminology are necessary, as the language of internationalization is changing and differs within and between countries and regions. Even though one of the objectives of this chapter is to examine the meaning and definitions of internationalization, it is important to be clear at the outset how key concepts are interpreted and used. The terms international, transnational and global are interpreted and used in ways that differentiates one from the other (Knight, 1999a, 1999b, p. 10). The term international emphasizes the notion of nation and refers to the relationship between and among different nations and countries. Transnational is used in the sense of across nations, usually in terms of borders, and does not specifically address the notion of relationships. Transnational is often used interchangeably and in the same way as cross-border. Global, on the other hand, refers to worldwide in scope and substance and does not highlight the concept of nation.

The Context: Changes and Challenges

It is impossible to look at the concept of internationalization without considering the realities of the environment in which higher education is operating. Needless to say there are many changes and new challenges in terms of how the environment is impacting internationalization and how the growing international dimension of higher education is an agent of change itself. Globalization is probably the most pervasive and powerful feature of the changing environment.²

Globalization is a term and a phenomenon which is on the minds of policymakers, academics and professionals/practitioners no matter what the sector or discipline. Education is no exception. The role of education—particularly postsecondary education—as both agent and reactor to globalization is a critical area of debate and study. The discussion, in terms of the nature, causes, elements, consequences and future implications of globalization on education is prolific, rather controversial and very important (Altbach, 2004; Breton & Lambert, 2003; Enders & Fulton, 2003; Marginson, 2001; Scott, 2000). For the purposes of this discussion, a neutral definition of globalization is purposely adopted, and secondly, globalization is positioned as a key environmental factor that has multiple effects—both positive and negative—on education.

It is important to note that the discussion does not center on the “globalization of education”—rather, globalization is presented as a phenomenon impacting internationalization. In fact, substantial efforts have been made during this past decade to maintain the focus on the “internationalization of education” and to avoid using the term “globalization of education.” This has had mixed results, but some success has been achieved in ensuring that these two terms are not seen to be synonymous and are not used interchangeably.

Globalization is defined as the “the flow of technology, economy, knowledge, people, values, and ideas . . . across borders. Globalization affects each country in a different way due to a nation’s individual history, traditions, culture and priorities” (Knight & de Wit, 1997, p. 6). This definition acknowledges that globalization is a multi-faceted process and can impact countries in vastly different ways, but it does not take a position as to whether this impact has positive and/or negative consequences.

There are a number of factors that are closely related to this flow and which are seen as integral elements of globalization. These include the knowledge society, information and communication technologies, the market economy, trade liberalization and changes in governance structures. It can be debated whether these are catalysts for globalization or whether they are consequences of globalization, but for this discussion they are presented as elements or factors of globalization which have an enormous impact on the education sector.

Table 1 describes each of these five elements of globalization and notes some of the key implications for postsecondary education in general and the international dimension in particular. This table presents highlights only, not a complete analysis. Its purpose is to illustrate several of the major environmental changes that are shaping the responses and actions of internationalization to globalization. It is important to note that these implications relate to all aspects of internationalization—the curriculum and teaching process, student and academic mobility, cross-border delivery of education programs, international development projects, study of foreign languages, commercial trade, staff development, and others. The table includes three columns, which are not intended to be aligned because the impact of globalization is not linear. The elements of globalization listed in the first column have implications for many different aspects of higher education and in turn the international dimension.

New Providers

Given the increase in demand for higher education, there are new providers, new delivery methods and new types of programs. As a result, there are new types of higher education providers active in the delivery of education programs both domestically and internationally. These new providers include media companies such as Pearson (U.K.) and Thomson (Canada); multinational companies such as Apollo (U.S.), Informatics (Singapore) and Aptech (India); corporate universities (Corporate University Xchange, 1999) such as those run by Motorola and Toyota; and networks of professional associations and organizations. Generally, these new commercial providers are mainly occupied with teaching/training or providing services, and do not focus on research per se. They can complement, cooperate or compete with public and private higher education institutions, whose mandate is traditionally the trinity of teaching, research and service. Because many of the new providers are focusing on delivering education across borders, they must be included as actors in the internationalization scene.

Diversification of Funding Sources

It would be a major oversight if funding and support for higher education were not acknowledged as a key change and challenge for internationalization. There are a number of trends which are converging and having a major impact. The growing demand for further postsecondary education opportunities is putting significant constraints on governments' ability to provide public funding to meet this growth. There are indications that on a global level, the rate of funding for education from private investment is rising more rapidly than from public funding (Levy, 2003). This has resulted in several

Table 1. Implications of Globalization for Internationalization

| Element of Globalization | Impact on Higher Education | Implications for the International Dimension of Higher Education |
|--|--|---|
| <i>Knowledge Society</i> Increasing importance attached to the production and use of knowledge as a wealth creator for nations. | Growing emphasis on continuing education, lifelong learning and continual professional development creating a greater unmet demand for postsecondary education. | New types of private and public providers delivering education and training programs across borders. For example, private media companies, networks of public/private institutions, corporate universities, multi-national companies. |
| | Need to develop new skills and knowledge resulting in new types of programs and qualifications. | Programs more responsive to market demand. Specialized training programs being developed for niche market and for professional development purposes and distributed on worldwide basis. |
| | Role of universities in research and knowledge production is changing and becoming more commercialized. | Increased international mobility of students, academics, education and training programs, research, providers and projects. Mobility is physical and virtual. |
| <i>ICTS</i> New developments in information and communication technologies and systems. | New delivery methods used for domestic and cross-border education, especially on-line and satellite based. | Innovative international delivery methods such as e-learning, franchises, satellite campuses require more attention given to accreditation of programs/providers and recognition of qualifications. |
| <i>Market Economy</i> Growth in number and influence of market based economies around the world. | Greater commercialization and commodification of higher education and training at domestic and international levels. | New concerns about appropriateness of curriculum and teaching materials in different cultures and countries and the potential for homogenization as well as new opportunities for hybridization. |
| <i>Trade Liberalization</i> New international and regional trade agreements developed to decrease barriers to trade. | Import and export of educational services and products increased as barriers removed. | Increasing emphasis on commercially oriented export and import of education programs and diminished importance to international development projects. |
| <i>Governance</i> Creation of new international and regional governance structures and systems. | The role of national level education actors both government and non-government is changing. New regulatory and policy frameworks being considered at all levels. | New international/regional frameworks under consideration to complement national and regional policies and practices especially in the areas of quality assurance, accreditation, credit transfer, recognition of qualifications, mobility of students. |

Source: Knight, 2004

important trends including the diversification, privatization, and commercialization of higher education and its funding sources.

It is increasingly common and necessary for institutions—both public and private—to search for alternative sources of income. These sources include funding from social foundations and the private corporate sector, income from commercialization of research findings, and revenue from fee-based education for domestic and international students as well as from other types of cross-border education delivery. In fact, income generation from the importing/exporting of education programs is expected to increase at a significant rate in the next decade (Larsen et al., 2001). It should be noted that trade in higher education services is expected to be highly competitive, and the presence of new commercial providers may have an impact on public and private nonprofit higher education institutions that are active in this area.³

These are just some of the macro-level societal changes that are having an impact on the internationalization of higher education around the world. Of course, there are other important global issues related to terrorism, war, health, and the environment, which have an indirect or direct impact on education, but not all can be identified or discussed in this chapter. The most critical point to be made is that internationalization is happening in a time of great turmoil and transformation, and it has never been more important to be cognizant of how internationalization is impacted by these changes, or is a factor of change itself. It is therefore both prudent and necessary that one thinks about the long-term effects of internationalization—both the intended and unintended consequences.

Meaning and Definitions of Internationalization

When exploring the issues discussed in this chapter, it is particularly useful to look closely at the vocabulary related to the international dimensions of higher education. Given the various interpretations and uses of the key concept internationalization (and its related terms), this discussion will provide an updated definition, appropriate for today's realities and challenges.

For over 20 years now, there has been much discourse and debate about defining internationalization. Internationalization is not a new term. It has been used for centuries in political science and governmental relations, but its popularity in the education sector has really only soared since the early 1980s. Prior to this time, international education and international cooperation were the favored terms, and still are in some countries. In the 1990s, the discussion on using the term international education centered on differentiating it from terms like comparative education, global education and multicultural education.

Today, in the first decade of the 21st century, another set of related terms is emerging which includes transnational education, borderless education, offshore education and cross-border education, as well as transnationalization, multinationalization and regionalization. It is interesting to note that these descriptors relate to the concept of border and differ substantially from the previous descriptors of comparative, multicultural, intercultural.

Transnational education is a term that has been used by UNESCO and the Council of Europe in the Code of Practice on Transnational Education that they have developed. The term is defined to mean all types of higher education study where the learners are located in a country different from the one where the awarding institution is based (UNESCO & Council of Europe, 2001). This definition acknowledges the trend of institutions sending the program to students in other countries but it does not adequately address the trend where the institution/provider is moving to set up a branch campus, or even purchase existing institutions in foreign countries. Australia uses the term transnational to depict the movement of programs and providers as opposed to students.

The term borderless education first appeared in an Australian report by Cunningham et al. (2000) and was followed by a similar type of study in the United Kingdom commissioned by the Committee of Vice Chancellors and Principals. Basically, the term borderless education refers to the blurring of conceptual, disciplinary and geographic borders traditionally inherent to higher education (Committee of Vice Chancellors and Principles, 2000). It is interesting to juxtapose the terms borderless education and cross-border education. The former term acknowledges the disappearance of borders while the latter term actually emphasizes the existence of borders. Both approaches reflect the reality of today. In this period of unprecedented growth in distance and e-learning education, geographic borders seem to be of little consequence. Yet, we can detect a growing importance of borders when the focus turns to regulatory responsibility, especially related to quality assurance, funding and accreditation. Offshore education is still used to denote education delivered abroad, but its use is decreasing due to the more recent introduction of the term cross-border. Cross-border seems to be emerging as the more widely used phrase and is one subset of internationalization activities.

Yet another related term is the phrase “internationalization at home” which some believe is a direct response to the current emphasis on mobility and “internationalization abroad.” It is certainly a sign of the times that internationalization “at home” has emerged into the lexicon. Wachter (2003) believes that the term has developed from two pillars: a mature concept of internationalization and an adaptation of intercultural studies to higher education. Internationalization “at home” attempts to forge a closer link between the concepts of international and intercultural in the education domain and represents an important stage in the development of the international/intercultural dimension of education.

The purpose of trying to develop a clear and somewhat comprehensive definition for internationalization is to help clarify the confusion and misunderstanding which currently exists. It is true and appropriate that there will likely never be a true universal definition. Yet, it is important to have a common understanding of the term so that when one discusses and analyzes the phenomenon, we understand one another and there is solidarity when advocating for increased attention and support from policymakers and academic leaders.

Evolution of the Concept

It is interesting to note how the definition of the term has evolved over the last decade. In the late 1980s, internationalization was commonly defined at the institutional level

and in terms of a set of activities. The definition proposed by Arum and Van de Water (1992, p. 202) is a good example of this approach. They proposed that internationalization refers to “the multiple activities, programs and services that fall within international studies, international educational exchange and technical cooperation.” By the mid-1990s, a process or organizational approach was introduced by Knight (1994, p. 7) to illustrate that internationalization was a process which needed to be integrated and sustainable at the institutional level. Internationalization was defined as the “process of integrating an international and intercultural dimension into the teaching, research and service functions of the institution.” Van der Wende (1997, p. 18) correctly pointed out that an institutional based definition had limitations and therefore proposed a broader definition, suggesting that internationalization is “any systematic effort aimed at making higher education responsive to the requirements and challenges related to the globalization of societies, economy and labor markets.” While this definition includes important elements, it only positions the international dimension in terms of the external environment—specifically globalization—and therefore does not provide a contextual framework for internationalization in terms of the education sector and its goals and functions.

de Wit (2002, p. 114) has concluded that “as the international dimension of higher education gains more attention and recognition, people tend to use it in the way that best suits their purpose. While one can understand this happening, it is not helpful for internationalization to become a catchall phrase for everything and anything international. A more focused definition is necessary if it is to be understood and treated with the importance that it deserves. Even if there is not agreement on a precise definition, internationalization needs to have parameters if it is to be assessed and to advance higher education. This is why the use of a working definition in combination with a conceptual framework for internationalization of higher education is relevant.”

An Updated Working Definition

It is interesting to look at the way in which definitions can shape policy, and also how practice can influence definitions and policy. Given the changes in the rationales, the providers, the stakeholders and the activities of internationalization, it is important to revisit the question of definition and ensure that the meaning reflects the complex realities of today and is able to guide and be relevant to new developments. It is increasingly clear that internationalization needs to be understood both at the national/sector level as well as at the institutional level. Therefore, a new definition is proposed which acknowledges both levels and the need to address the relationship and integrity between them.

The challenging part of developing a definition is the need for it to be generic enough to apply to many different countries, cultures and education systems. While it is not necessarily the intention to develop a universal definition, it is imperative that it be appropriate for use in a broad range of contexts and for comparative purposes across countries and regions of the world. With this in mind, it is important to ensure that a definition does not specify the rationales, benefits, outcomes, actors, activities, and stakeholders of internationalization, as they vary enormously across nations and also

from institution to institution. What is critical is that the international dimension relates to all aspects of education and the role that it plays in society.

The following working definition is proposed: Internationalization at the national/sector/institutional levels is defined as “the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education” (Knight, 2003, p. 2). This is intentionally a neutral definition of internationalization. Many would argue that the process of internationalization should be described in terms of promoting cooperation and solidarity among nations, improving quality and relevance of higher education, or contributing to the advancement of research for international issues. While these are noble intentions, and internationalization can contribute to these goals, a definition needs to be objective enough that it can be used to describe a phenomenon which is in fact universal, but which has different purposes and outcomes, depending on the actor or stakeholder.

Explanation of Key Concepts

Given the varying conceptions of international higher education described thus far in this chapter, it is important to explain why specific terms and concepts have been carefully chosen for the proposed working definition of internationalization articulated above.

To begin with, the term “process” is deliberately used to convey that internationalization is an ongoing and continuing effort. The term process denotes an evolutionary or developmental quality to the concept. Process is often thought of in terms of a tri-partite model of education—input, process and output. The concepts of input and output are carefully avoided here even though in today’s environment there is increased emphasis on accountability (and thus outcomes). If internationalization is defined in terms of inputs, outputs or benefits, it becomes less generic, as it must reflect the particular priorities of a country, an institution, or a specific group of stakeholders.

The concept of “integration” is specifically used to denote the process of infusing or embedding the international and intercultural dimension into policies and programs in order to ensure that the international dimension remains central—not marginal—and is sustainable.

“International, intercultural and global” are intentionally used as a triad. International is used in the sense of relationships between and among nations, cultures or countries. But we know that internationalization is also about relating to the diversity of cultures that exist within countries, communities and institutions, and so intercultural is used to address this dimension. Finally, global—a controversial and value-laden term these days—is included to provide the sense of worldwide scope. These three terms complement each other and together depict the richness in the breadth and depth of internationalization.

The concepts of “purpose, function and delivery” have been carefully chosen and are meant to be used together. Purpose refers to the overall role and objectives of higher education for a country or mission of an institution. Function refers to the primary elements or tasks that characterize a national postsecondary system or individual institution. Usually these include teaching, research and service/outreach to society.

Delivery is a narrower concept and refers to the offering of education courses and programs either domestically or in other countries. This includes delivery by traditional higher education institutions but also by new providers—such as multinational companies—who are often more interested in the global delivery of their programs and services than in the international or intercultural dimensions of a campus, or in the research and service functions.

As mentioned earlier, one of the previous definitions which has been widely used describes internationalization as the “process of integrating an international or intercultural dimension into the teaching, research and service functions of the institution.” This definition does not conflict with the new definition proposed in this chapter; in fact, the opposite is true—the definitions are very complementary. The new definition attempts to address the realities of today’s context, where the national/sector level is extremely important and therefore must be covered in a definition. Secondly, there are a growing number and diversity of education providers that have different interests and approaches to the international, intercultural and global dimensions. Therefore, the more generic terms of purpose, function and delivery are used instead of the specific functional terms of teaching, research and service. By using these three more general terms, the proposed definition can be relevant for the sector level, the institutional level, and the variety of providers—public, private, for-profit, nonprofit, local, international—in the broad landscape of postsecondary education.

Rationales Driving/Guiding Internationalization

The importance of having clear, articulated rationales for internationalization cannot be overstated. Rationales are the driving force for why a country, sector or institution wants to address and invest in internationalization. Rationales are reflected in the policies and programs that are developed and eventually implemented. Rationales dictate the kind of benefits or expected outcomes one would expect from internationalization efforts. Without a clear set of rationales, followed by a set of objectives or policy statements, a plan of strategies, and a monitoring/evaluation system, the process of internationalization is often an ad hoc, reactive and fragmented response to the overwhelming number of new international opportunities available.

Traditionally, the rationales for internationalization have been presented in four groups that reflect fundamental drivers: social/cultural, political, academic and economic (Knight & de Wit, 1997, 1999). In the past several years, much has been written about the changes in rationales both within and between these four groups (Altbach, 2004; de Wit, 2002; Knight, 2003; Van Vught, Van der Wende, & Westerheijden, 2003). These generic categories remain a useful way to analyze rationales; however, the blurring of the categories has led to the identification of cross-cutting rationales at both the national and institutional levels.

The first column in Table 2 presents the four categories of existing rationales as updated by de Wit (2002). These are still relevant but there seems to be more blurring or integration of the rationales across categories and thus perhaps less clarity on—for example—what constitutes a political or economic rationale. The four categories of rationales do not distinguish between national and institutional level rationales—a

Table 2. Rationales Driving Internationalization

| Rationales | Existing | Of Emerging Importance |
|------------------------|--|--|
| <i>Social/Cultural</i> | National cultural identity | <i>National Level</i> |
| | Intercultural understanding | Human Resources Development |
| | Citizenship development | Strategic Alliances |
| | Social and community development | Income Generation/Commercial Trade |
| <i>Political</i> | Foreign Policy | Nation Building/Institution Building |
| | National Security | Social/Cultural Development and Mutual Understanding |
| | Technical Assistance | |
| | Peace and Mutual Understanding | |
| <i>Economic</i> | National Identity | <i>Institutional Level</i> |
| | Economic Growth and Competitiveness | International Branding and Profile |
| | Labor Market | Quality Enhancement/International Standards |
| | Financial Incentives | Alternative Income Generation |
| <i>Academic</i> | Extension of Academic Horizon | Student and Staff Development |
| | Institution Building | Networks and Strategic Alliances |
| | Profile and Status | Knowledge Production |
| | Enhancement of Quality | |
| | International Academic Standards | |
| | International Dimension to Research and Teaching | |

distinction which is becoming increasingly important (Knight, 2004). Therefore, the third column in Table 2 presents rationales of emerging importance at both the national and institutional levels

National Level Rationales

Human resources development: brain power. An increasing emphasis on the knowledge economy, demographic shifts, mobility of the labor force and increased trade in services are all factors which are driving nations to place more importance on developing and recruiting human capital (or brain power) through international education initiatives. There are signs of heightened pressure and interest to recruit the brightest students and scholars from other countries in order to increase the nation's scientific, technological and economic competitiveness. Changes in recruitment strategies, incentives and immigration policies are examples of efforts to attract and retain those students and academics with potential for enhancing the human capital of a country. Similarly, there is more attention being paid to enhancing the international dimension of teaching and research, so that domestic students and academics can be better equipped to contribute to their countries' effectiveness and competitiveness on the international stage. Finally, there is increasing recognition being given to the need to further develop intercultural understanding and skills for personal, professional and citizenship development. It is important to note that the growing importance attached

to “brain power” is directly related to the increasing interest and concern regarding brain gain/brain drain and issues of migration.

Strategic alliances. Strategic alliances can be seen as both a driving rationale and a means (or instrument) of internationalization. Strategic alliances can be considered rationales for a variety of academic, economic, political or social/cultural purposes. The international mobility of students and academics, as well as collaborative research and education initiatives, are being seen as productive ways to develop closer geopolitical ties and economic relationships. There has been a definite shift from alliances for cultural purposes to those for economic purposes. This is especially true at the regional level, where countries are trying to achieve stronger economic and political integration with neighbors through increasing their international education activities on a regional basis. The development of strategic alliances through internationalization of postsecondary education is therefore being seen as a way to develop closer cooperation bilaterally or regionally and to gain a competitive edge.

Income generation/commercial trade. In the last decade, more emphasis has been placed on economic and income generating opportunities attached to greater cross-border delivery of education. New franchise arrangements, foreign or satellite campuses, on-line delivery, and increased recruitment of fee paying students are examples of a more commercial approach to internationalization. The fact that education is now one of the 12 service sectors in the General Agreement on Trade in Services is positive proof that importing and exporting of education and training programs and education services is a potentially lucrative trade area. It is estimated that in 1999, the global trade in postsecondary education was a \$35 billion business, and this is expected to increase significantly (Larsen & Vincent-Lancrin, 2002). Therefore, countries are showing increased interest in the potential for exporting education for economic benefit. The development of new international and regional trade agreements are now providing regulations which will help to decrease barriers to trade in an attempt to increase the commercial side of international cross-border trade in education (Knight, 2002; Sauve, 2002). This brings new opportunities and new risks.

Nation building/institution building. An educated, trained and knowledgeable citizenry and workforce—along with the capacity to generate new knowledge—are key components of a country’s nation-building agenda. However, many countries are lacking the physical/human infrastructure and the financial resources to offer postsecondary education opportunities to their citizens. Traditionally, international academic projects as part of development and technical assistance work have been considered an important contribution to the nation-building efforts of a developing country. International development work, based on mutual benefits for all partners, continues to be a key aspect of the internationalization of postsecondary education. However, there is a discernible shift (which is likely to become pronounced) from an aid/development approach towards international partnerships and relationships focused on trade for commercial purposes. While some countries are interested in the export of education for income revenue purposes, there are other countries that are interested in importing education programs and institutions for nation-building purposes.

These four emerging, yet primary, rationales are closely linked to the political and economic categories of rationales, whether for technological, economic or scientific development, advancement or competitiveness.

Social/cultural development and mutual understanding. The social and cultural rationales, especially those that relate to promotion of intercultural understanding and national cultural identity are still significant; but perhaps their importance does not carry the same weight in comparison to economic and political based rationales. In light of the pressing issues and challenges stemming from culturally based clashes within and between countries, it remains to be seen whether there will be more interest and importance attached to the social/cultural and mutual understanding based rationales. It may be optimistic, but it would be reassuring to think that social and cultural rationales for internationalization will be given equal importance as the economic and political ones. It is thus interesting to explore whether there is more emphasis given to the social and cultural rationales at the institution level than at the national level.

Institutional Level Rationales

Of course, there is a close liaison between national level and institutional level rationales, but not always as close as one would expect. This depends on many factors, one of which is how much the internationalization process is a bottom-up process or top-down affair within any given country. It is probably accurate to say that in countries where internationalization is not given much prominence at the national level (which is still very much the case in many regions of the world), then institutional level rationales have greater importance and may differ substantially from one institution to another. There are a myriad of factors which influence institutional level rationales, including mission, student population, faculty profile, geographic location, funding sources, level of resources, and orientation to local, national and international interests. Again, the four traditional categories apply to institutions, but it appears that the emerging rationales of greater consequence include institutional profile and reputation; quality enhancement; student and staff development; alternative revenue generation; networks and strategic alliances; and research and knowledge production.

International profile and reputation. Traditionally, prominence has been given to the importance of achieving international academic standards (however they may be defined). This motivation is still important, but it appears to have been subsumed by the overall drive to achieve a strong worldwide reputation as an international institution. This drive relates to the quest for international name recognition, in an attempt to attract the brightest scholars and students, as well as a substantial number of high profile research and training projects. So, academic standards are still important, but perhaps there is a perceptible shift from an emphasis on a high quality academic experience for students and teachers to one where high academic standards are part of marketing campaigns for branding purposes in order to compete domestically and internationally.

Quality enhancement. For most institutions, internationalization is not an end unto itself but a means to an end. The contribution that the international dimension makes

to improve the quality and relevance of higher education in relation to international standards is often articulated as a rationale and goal of internationalization. Given today's increasingly interconnected and interdependent world, it is important that higher education—through the strengthening of international dimensions in teaching and research—contributes to meeting the needs of individuals, communities, countries and society at large. At a more practical level, internationalization is proving to be a useful tool for institutions to benchmark and gain innovative solutions to ongoing management, academic and research related challenges. This is yet another aspect where internationalization can help to strengthen the quality of higher education institutions and the primary functions of teaching, learning and service.

Student and staff development. It appears that there is renewed emphasis on internationalization as a means to enhance the international and intercultural understanding and skills for students and staff. There are a number of factors contributing to this. The escalating number of national, regional, international and cultural conflicts are compelling academics to help students understand global issues and international/intercultural relationships. The growing emphasis on the knowledge society makes continuous upgrading and highly developed knowledge and skill-base important for students. The mobility of the labor market, and the increase in cultural diversity of communities and the workplace, require that both students and academics have an increased understanding and demonstrated abilities to work and live in a culturally diverse or different environment. On the other hand, the increased emphasis on accountability and outcomes-based education is resulting in a substantial effort towards identifying student and staff competencies developed through internationalization initiatives. Lastly, the development of information and communication technologies, especially the Internet, has highlighted the need for deeper knowledge and understanding of the world, and has provided new opportunities to do so. It is interesting to speculate whether the current attention being given to internationalization 'at home' is stimulating or responding to the growing importance of student and staff development as a motive for internationalization.

Alternative revenue generation. On the other side of the ledger from human (student and staff) development is the motivation of economic development. There is no question that more institutions are increasingly looking for internationalization activities as a way to generate alternative sources of income. Public institutions are caught in the squeeze of decreased public funding and increased operational costs, all taking place in an environment of increased accountability and competition. The motivation to undertake internationalization in order to generate income is a complex issue. The purpose or use of the income generated by such activity is often questioned not in terms of where or how the money is being spent, but in terms of whether it is profit-oriented or for cost recovery. This is not an issue that has clear answers, as most public institutions would argue that they are by definition not-for-profit and therefore any surplus from internationalization activities would be used to subsidize other initiatives on campus. Many would suggest that any income generated from internationalization activities should be reinvested to enhance under-funded aspects of internationalization, but of

course, this is an institutional matter. Another factor related to income generation is the emergence of new commercial corporate providers who are primarily in business to generate income on a for-profit basis. Thus, while there is more importance being attached to the economic rationale for internationalization at the institution/provider level, the issue is becoming more complicated, as it is part of the larger questions of commercialization, commodification and marketization of education, with cross-border delivery of education programs and services playing a major role.

Networks and strategic alliances. Once again strategic alliances can be seen as both a rationale and a means to achieve internationalization. There is no question that the number of bilateral or multilateral educational agreements has increased exponentially in the past decade. During the early stages of the internationalization process, institutions are often reacting to the multitude of opportunities to establish international institutional linkages. These linkages can be for different purposes—including academic mobility, benchmarking, joint curriculum or program development, seminars and conferences, and joint research initiatives. It is often the case that institutions cannot support a large number of agreements, and thus many are inactive and mainly paper-based arrangements. As institutions mature in their approach to internationalization, there is more effort put into developing strategic alliances with clear purposes and outcomes articulated. An important trend is the development of networks. Networks tend to have clearer and more strategic objectives but in many cases are more difficult to manage than bilateral agreements because of the complexities of working with so many different education systems and cultures. All in all, the rationale for developing key strategic international education alliances at both the national and institutional level is not so much an end unto itself but a means to achieving academic, scientific, economic, technological or cultural objectives.

Research and knowledge production. The role of higher education institutions in the production and distribution of knowledge should never be minimized. Given the increasing interdependence among nations, it is clear that there are global issues and challenges that cannot be addressed at the national level only. International and interdisciplinary collaboration is key to solving many global problems such as those related to the environment, health, and crime. Institutions and national governments are therefore making the international dimension of research and knowledge production a primary rationale for internationalization of higher education, and many institutions are articulating this as a key rationale for internationalization.

All in all, the rationales driving internationalization vary from institution to institution, from government department to government department, from stakeholder to stakeholder and from country to country. Differing and competing rationales contribute to both the complexity of the international dimension of education and the contributions internationalization makes. Overall, it is important to identify the values underpinning internationalization and recognize the shifts in rationales by examining the emerging key motivations reflected in this discussion. A final point to emphasize is that in spite of the complexity of rationales, it is of fundamental importance for an actor—whether it be an institution, provider, public or private stakeholder, non-government organization, governmental department or inter-governmental agency—to clearly articulate its

motivations for internationalization, as policies, programs, strategies and outcomes are all linked and guided by explicit and even implicit rationales.

Internationalization Strategies, Programs and Policies

Having examined a definition and rationales for internationalization, it is now possible to look in some detail at this phenomenon in terms of the actual strategies, programs and policies that are used at the institutional/provider, sector and national level. There is a hierarchical dimension to the use of these three terms. Strategies reflect the most concrete level, and include the academic program activities and organizational initiatives in an institution. Programs reflect a more comprehensive approach to internationalization, and are one of the tools used to implement policy at all three levels. It is also important to note that national and institutional values, perspectives and rationales underpin and frame strategies, policies and programs.

Strategies at the Institutional Level

It is helpful to refer once again to the conceptual frameworks which were developed for internationalization in the last decade (Knight & de Wit, 1995, 1997, 1999). The term “internationalization strategies” was deliberately used to go beyond the idea of international activities. The notion of a more planned, integrated and strategic approach was implied in the use of the word strategies. Table 3 provides information and examples of program and organizational strategies at the institutional level. This table reflects the

Table 3. Institutional Level Program and Organization Strategies

| Program Strategies | |
|---|---|
| <i>Academic Programs</i> | <ul style="list-style-type: none"> – student exchange programs – foreign language study – internationalized curricula – area or thematic studies – work/study abroad – international students – teaching/learning process – joint/double degree programs – cross-cultural training – faculty/staff mobility programs – visiting lectures and scholars – link between academic programs and other strategies |
| <i>Research and Scholarly Collaboration</i> | <ul style="list-style-type: none"> – area and theme centers – joint research projects – international conferences and seminars – published articles and papers – international research agreements – research exchange programs – international research partners in academic and other sectors |

Continued

Table 3. *Continued.*

| Program Strategies | |
|----------------------------|--|
| <i>External Relations:</i> | <u>Domestic:</u> |
| <i>Domestic and</i> | –community- based partnerships with NGO groups or public/private sector groups |
| <i>Cross-border</i> | –community service and intercultural project work |
| | –customized education and training programs for international partners and clients |
| | <u>Cross-border:</u> |
| | –international development assistance projects |
| | –cross-border delivery of education programs (commercial and non-commercial) |
| | –international linkages, partnerships and networks |
| | –contract based training and research programs and services |
| | –alumni abroad programs |
| <i>Extra-curricular</i> | –student clubs and associations |
| | –international and intercultural campus events |
| | –liaison with community based cultural and ethnic groups |
| | –peer support groups and programs |
| Organizational Strategies | |
| <i>Governance</i> | –expressed commitment by senior leaders |
| | –active involvement of faculty and staff |
| | –articulated rationale and goals for internationalization |
| | –recognition of international dimension in institutional mission/mandate statements, and in planning, management and evaluation policy documents |
| <i>Operations</i> | –integrated into institution-wide and department/college level planning, budgeting and quality review systems |
| | –appropriate organizational structures |
| | –systems (formal and informal) for communication, liaison and co-ordination |
| | –balance between centralized and decentralized promotion and management of internationalization |
| | –adequate financial support and resource allocation systems |
| <i>Services</i> | –support from institution-wide service units—i.e., student housing, registrar, fundraising, alumni, information technology |
| | –involvement of academic support units—i.e., library, teaching and learning, curriculum development, faculty and staff training, research services |
| | –student support services for incoming and outgoing students—i.e., orientation programs, counseling, cross-cultural training, visa advice |
| <i>Human Resources</i> | –recruitment and selection procedures which recognize international expertise |
| | –reward and promotion policies to reinforce faculty and staff contributions |
| | –faculty and staff professional development activities |
| | –support for international assignments and sabbaticals |

growth in the commercially oriented aspects of internationalization and the increased interest in internationalization “at home” activities. This framework is most applicable to the conventional public and private higher education institutions. It has less relevance for the new providers who are oriented more to teaching activities than to research or service and who are delivering by distance.

Strategies and a strategic approach are key to the institutional level, but because the national/sector level is now covered in the definition it is necessary to broaden the notion of organizational strategies to the national or sector level. Therefore, the terms policies and programs are introduced.

Programs and Policies

The new frameworks deliberately include policies and programs at all three levels as illustrated in Table 4. Programs can be seen in a more macro way than strategies and are used as one of the ways policy is actually translated into action. At the national level all policies that impact or are impacted by international dimensions of education are included. This can involve policies related to foreign relations, development assistance, trade, immigration, employment, science and technology, culture and heritage, education, social development, industry and commerce, and others. At the education sector or

Table 4. Policy and Programs at All Three Levels

| Level | Policy | Programs |
|----------------------|--|--|
| <i>National</i> | Education and other national level policies relating to international dimension of higher education i.e., cultural, scientific, immigration, trade, employment policies. | National or sub-regional programs, which promote or facilitate the international dimension of postsecondary education. Can be provided by different government departments or non-government organizations and be oriented to different international aspects i.e. Academic Mobility Programs, International Research Initiatives, Student Recruitment Programs. |
| <i>Sector</i> | Policies related to the purpose, functions, funding, regulation of postsecondary education. | International education programs offered by and for the education sector specifically. Can be provided by any level of government or by public or private organizations. |
| <i>Institutional</i> | Policies that address specific aspects of internationalization and/or policies which serve to integrate and sustain the international dimension into primary mission and functions of institution. | Programs such as those identified in the section labeled Academic Programs in Table 3. |

system level, all the policies that relate to the purpose, licensing, accreditation, funding, curriculum, teaching, research, and regulation of postsecondary education are included. These education-related policies have direct implications for all kinds of providers—public and private, for-profit or nonprofit institutions, and commercial companies.

The companies offering education programs and services are included in Table 4 because there is a growing commercial education industry which can be seen to complement, cooperate or compete with the non-commercial public and private education sector. The Observatory on Borderless Higher Education in the UK has developed a Global Education Index (Garrett, 2003, 2004) which lists companies that provide education and training programs or services and are listed on stock exchanges. There are more than 50 at this time, but it is expected that as trade liberalization of services increases, so will the numbers of these public for-profit companies as well as the private for-profit companies.

When discussing policies it is prudent to be aware that many of the policies related to the international dimension of education will impact both the public education institutions as well as the commercially oriented providers. This is why it is imperative that policies at both the national/sector and institutional levels are included in a conceptual framework.

At the institutional level, policies can be interpreted in different ways. A narrow interpretation would include those statements and directives that refer to priorities and plans related to the international dimension of the institution's mission, purpose, values and functions. This could include the institutional mission statement or policies on study abroad, student recruitment, international linkages and partnerships, cross-border delivery, international sabbaticals, and so forth.

A broader interpretation of policies at the institution level would include all those statements, directives or planning documents, which address implications *for* or *from* internationalization. If the institution has taken an integrative and sustainable approach to internationalization, then a very broad range of policy and procedure statements would be implicated—including quality assurance, planning, funding, staffing, faculty development, admissions, research, curriculum, student support, contract and project work.

Key Challenges and Questions

A number of key questions arose during the process of reviewing the meaning of internationalization, remodeling the frameworks and identifying the important trends and issues at the global level. The following questions are not listed in order of priority, nor is the list meant to be comprehensive. The questions merely attempt to illustrate the complexities and the challenges related to the phenomenon of internationalization. The purpose of this section is to raise several national and international level issues and place them on the agenda for further study and policy development.

As education/training programs move across borders, what are the implications for quality assurance and accreditation of programs and providers? What role do institutions, national quality assurance initiatives and accreditation agencies play in the monitoring of incoming and outgoing programs? Is there a need for regional or international

mechanisms to augment national/institutional efforts to monitor the increased cross-border delivery?

The emergence of new private sector for-profit companies brings new actors to the world of internationalization. How will these new providers of education programs and services collaborate, compete, complement and change the work of traditional public and private postsecondary institutions in the internationalization of teaching/learning, research and service?

How does internationalization deal with the intersection of international and intercultural? Is internationalization a vehicle for increased understanding and appreciation of cultural diversity and fusion, or is it an agent of cultural homogenization? How does the curriculum, teaching/learning process, research, extracurricular activities and academic mobility contribute to intercultural understanding and cultural hybridization/homogenization?

Is there a subtle but discernible shift away from the social and cultural rationales towards the economic and commercial interests of internationalization? Is this true in all regions of the world, and what are the implications for higher education policy in general—funding, access, quality, role in society, research, curriculum and regulatory frameworks?

What are the implications of increased academic mobility for the recognition of academic and professional recognition of credentials? What is the relationship between recognition of credentials and the trend towards validation of competencies? What is the role of the existing regional UNESCO conventions on credential recognition?

The international dimension of higher education is gaining a more prominent profile in policy arenas outside of education, such as immigration, trade and commerce, culture, and economic development. How can the education sector work collaboratively with these sectors at the national/regional level to ensure that internationalization is understood and contributes to human, social, cultural, scientific and economic development?

In concrete terms, how does internationalization facilitate regional integration and conversely, how does regional integration impact internationalization?

How is internationalization contributing to brain drain or brain gain? What mechanisms can enhance the benefits of increased academic and professional mobility, and yet mitigate the negative impact of the imbalances in the talent flowing out of countries?

What are the connections between academic mobility, labor mobility and temporary or permanent immigration? Are targeted international student recruitment campaigns linked to migration patterns?

Finally, in 2020, what will be seen as the major accomplishments of internationalization of the past 30 years? Are academic leaders, education policymakers and politicians taking a long-term perspective on the new opportunities and challenges inherent in globalization and its consequences for the internationalization of higher education? What are the key issues or questions that require further evaluation, research and policy analysis to address and guide the long-term impact and implications of internationalization at the institutional, national, regional and international levels?

How today's academic leaders respond to these pressing issues will define the university of tomorrow. Obviously, the importance of internationalization for contemporary

higher education policy and leadership cannot be underestimated. Neither, one could add, should we forget to pay close attention to the impact of internationalization on the traditional roles of faculty, the university's role in society, and—most importantly—the quality of the student learning experience.

Notes

1. This chapter is adapted from an article by Jane Knight (2004) "Internationalization Remodeled: Rationales, Strategies and Approaches" in the *Journal for Studies in International Education* 8(1).
2. For more on this topic, please see the chapter by Philip Altbach in this volume of the *Handbook*.
3. For more on this topic, please see the chapter by Kevin Kinser and Dan Levy in this volume of the *Handbook*.

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HIGHER EDUCATION MANAGEMENT: CHALLENGES AND STRATEGIES

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In the year 1416, Henry, the son of King John I of Portugal, established a base at Sagres in the southwestern part of that Atlantic coast country to foster exploration of Africa's western coast. In addition to constructing a naval arsenal Prince Henry started an innovative school to study and teach navigation and geography. The school enabled Portuguese sailors to explore West Africa, and, soon after, reach India, Goa, and Brazil. Within decades little, poor Portugal became a great and wealthy colonial empire.

Like Prince Henry, many national leaders today have been improving schools and building new universities to increase the quality of their workforce, or human capital, in order to improve economic growth, military security, public health, cultural vitality, and political sagacity (Bowen, 1977; Schultz, 1981). Intellect building is increasingly seen as essential to nation building. Higher education has become, and is likely to remain, a central activity of developed and many developing countries. It is now the preferred approach among national leaders to prepare a country's more able young people for tomorrow's Darwinian social environment. From Mexico, Brazil, and Poland to Malaysia, South Korea, and China the number of universities and specialized institutes has multiplied and enrollments have swelled (Altbach, 2002).

Naturally, questions have arisen about how these universities should be managed, and by whom. How should they be governed? Which students should be admitted? Who should be the teachers, and toward what ends should the students be taught? And how can they be financed, or who should pay for all this expanding advanced education?

The possible answers to these and other salient questions are complicated by the fact that the expansion of higher learning is proceeding at the same time that major social upheavals are erupting in most areas of the world. The questions that are largely internal to universities are assaulted by fundamental external changes in the societies in which the universities carry out their activities. This double load of pressures has contributed to the increasing demise of traditional patterns in the way universities are run (Keller, 2004a). The unhurried decision making, the inward-looking and preoccupied concerns, and the frail and unobtrusive administration by university executives have been forced to yield to stronger central management, swifter and deeper changes, and the creation

of new, more thoughtful strategies so that colleges and universities can respond more adequately to threats and opportunities.

The Forces of Change

Most universities are shaped appreciably by external factors and large shifts in their environment, though many professors believe they, not the external forces, are the principal architects of their academic lives. These external developments have become quite powerful and appear to be multiplying. A growing challenge for university faculty and administrators is the extent to which colleges and universities should yield or adapt to these new conditions.

An example is seen in the form of demographic changes. There have been massive waves of immigration from the poorer and war-torn nations to the richer nations. The United States, for instance, has absorbed an estimated 33 to 36 million immigrants since 1965, when the immigration law was altered. One in nine persons in America today was born in another country. Some scholars have begun to worry that the entire range of religious allegiances, languages, family patterns, and attitudes toward education in the country is being transformed (Huntington, 2004). The United States is not alone. In Australia, foreign-born people are 23% of the population; in Switzerland, 19%; in Canada, 17%; in France and Germany, 10%. University leaders have had to ask themselves a host of questions about their institution's residential arrangements, the breadth of the curriculum, their assistance for the non-native students, and the recruitment of faculty from other cultures and national origins.

Another radical development has been the rapid advance of digital technology, connecting the world through the Internet. Computers have become ubiquitous in much of the developed world, and are increasingly available in developing nations. The information and data obtainable from software programs now competes with that in venerable university libraries. How should universities incorporate the new technology? To what extent should they modify pedagogy and research, or increase collaboration with other academics, or deliver more courses online to new, enlarged audiences? Should nations follow India's lead in the field of software engineering? Or Great Britain's lead in distance education?

There have also been several shifts in the political atmosphere that affect higher education. These shifts differ greatly from country to country, but a few trends are discernible. One is the changing role of government in the patronage, financing, and control of their country's universities. As V. Lynn Meek observes, "Higher education is characterized by a common trend whereby governments increasingly refrain from detailed steering of their respective higher education systems in favor of more global policies that determine the boundary conditions under which institutions may operate" (Amaral, Meek, & Larsen, 2003, p. 1). Governments now prefer to concentrate on such matters as results, efficiency of operations, and service to national needs rather than giving more specific directions. This trend allows higher education institutions more freedom to design their own practices, but it compels them to become more strategic, better managed, financially entrepreneurial, and educationally productive and innovative.

Another political trend is the growing demand for egalitarian admission for women, minorities, and the able but poor. The number of females and students from minority and immigrant groups has increased at many universities, even in some Muslim countries. And numerous nations have programs resembling America's "affirmative action" program to give preference to African Americans and others. India has maintained a system of preferences for more than a half century for lower caste people, local tribal groups, and "other backward classes." Nigeria, where an overwhelming majority of university students are from southern Nigeria, has established ethnic quotas so that the heavily Muslim Hausa-Fulani young people of the north will have a larger representation. Since the Civil Rights Act of 1965, the United States has given special attention to including more African-Americans, Hispanics, and women in its student enrollment as well as its faculty and administration appointments (Sowell, 2004); and the federal government has provided opportunity grants and loans to those of modest family means for college study. As higher education becomes more central to each nation's future prospects, pressures are likely to continue so that colleges and universities become more inclusive and representative.

The Overriding Concern

Perhaps the most troublesome and anguish-producing challenge for anyone connected with higher education management is how to pay the bills. The costs of higher education have been increasing faster than rises in the cost of living in most countries. For governments that have built new colleges or universities and enlarged their existing institutions, there is the need for greater appropriations for higher education. More complex scientific equipment, larger libraries for the exponential growth of knowledge, the growing expenses for digital technology, rising costs of employee health benefits, greater financial aid for needy students, larger salaries for the faculty, and increased staff for management and student services have all contributed to the escalating costs of each university.

To add to the financial difficulties, some countries such as Finland refuse to charge tuition; and other nations believe that attendance at a university is a public good not a private benefit, and thus ought to be kept as inexpensive for students and their parents as possible. For instance, Oxford and Cambridge have astonishingly low fees even though many students come from leading families. In America, the state of California charges its public university students very little, even at its prestigious research universities with their noted and highly paid professors and expensive facilities.

At the root of the financial problem is the desire of more and more nation-states to have the most highly educated and trained population possible to compete in world markets and the new knowledge-based economy. They feel they must do so because in our increasingly post-industrial world knowledge is key. As social analyst Daniel Bell has observed, "An industrial society . . . is based on a labor theory of value, and the development of industry proceeds by labor-saving devices, substituting capital for labor. A post-industrial society rests on a knowledge theory of value. Knowledge is the source of invention and innovation" (1999, p. xvii). Bell (1999) also contends that "The post-industrial society is essentially a game between persons."

This recognition has had profound consequences for higher education. It has moved colleges, research institutes, and universities into a central position in society (Kerr, 1964; Keller, 2003). Governments worry more about the quality of these institutions, while students—flocking to enroll in classes—see them as pathways to position, wealth, and privilege. What used to be education for an elite minority has increasingly become higher education for the masses. The finest professors and scholarly researchers have gained new prominence, with some of the best professors—especially in the United States—now receiving six-figure salaries or being allowed to start up businesses based on their discoveries (Slaughter & Rhoades, 2004). Two economists point out that “A superstar phenomenon—albeit a relatively mild one—has emerged in academia. Top researchers’ salaries have escalated more rapidly than those of lesser-ranked rivals, even as the teaching loads of the top faculty have shrunk” (Frank & Cook, 1996, p. 13).

The new prominence of intellectuals and researchers has slowly altered their allegiance to (and role in) governance at universities. Professors often pay more attention to their scholarly disciplines, sponsoring agencies, or outside interest groups than to their home campus and its management. Some have become scholar-entrepreneurs (Powell & Owen-Smith, 2002). And as the demand for their talents in the emerging knowledge economy has risen, so have their salaries and benefits, contributing to the increasing costs of higher education and the financial stresses of institutions.

Rumbles from Inside

While this is certainly not the first time major social changes have impacted higher education, the multitude of demographic, technological, political, economic, and religious developments at the present time seems to demand a more penetrating analysis of the challenges that academic managers, faculty, and governments need to confront. Nearly every facet of higher education appears to be under scrutiny and even assault. This becomes evident if one probes a dozen of the basic questions surrounding higher education.

1. *Who is to be taught?* Should universities be reserved for the brightest and the best? Or should they reach out to and include mediocre students, young people from poor family households, and underrepresented minorities in their nation? What about talented artists, exceptional athletes, the devoutly religious, fine craftspeople and technicians, and gifted young entrepreneurs who may not be interested in book learning, the history of civilization, the methods of scholarly disciplines, contemporary science, or research techniques? How much diversity is helpful and how much inhibits the creation of a collaborative learning community? Should foreign students be accepted? If so, how many? Should universities be open to adults who want to continue learning, or to older retirees? Clearly, the issue—for whom a country should design its higher education system—is undergoing interrogation, and in some countries, angry debates and decisions in the courts.
2. *What should the colleges and universities teach?* Should the universities teach what the faculty thinks is best or what the marketplace of students wants to

learn? Should states, provinces, and national governments—or others, like religious groups—have a powerful say in what young people need to know? How global should teaching be? Can time be found to learn not only about a student's own heritage and modern conditions but also about the cultures of other nations around the world? Should religious studies and military studies be included in course offerings or graduation requirements? To what extent should science, engineering, and business be available to all students? Which extracurricular activities are complementary to rigorous study or necessary for recreation? Which foreign languages should be offered? Do recent immigrants require special introductory courses?

3. *How should students be taught?* Should there be large lectures or smaller classes and seminars? What role should technology play in today's pedagogy? How extensively should modern technology—film, tapes, the Internet, CD-ROMs, television, videoconferencing, and the like—be used? Should travel, apprenticeships, or work experiences help students learn? How much reading, writing, and speaking should be required?
4. *How long should students study at the level of higher education?* Should undergraduate study be for two, three, or four years? Should asynchronous online courses be available at any time? How long should training in the professions take? How many years of study should be required for a doctoral degree? Should brilliant students be able to progress faster? (In 1999 the nations of Western Europe agreed to the Bologna Declaration, imposing a two-tier Anglo-American structure of higher education—a three or four year bachelor's degree and a one or two-year master's degree—on the entire European community.)
5. *Who should teach?* Should professors be engaged largely full-time or mostly part-time, as in Latin America and China? Should they be mainly scholars and researchers with doctoral degrees or mainly skillful practitioners or former experienced workers or executives? What about those who teach poorly? Should faculties be balanced in gender, politics, or ethnicity? How much should university teachers be aided by auxiliary programs such as Britain's National Institute for Teaching and Learning or Canada's new Collège Boréal, a seven-campus high-tech institution serving 160,000 French speaking students which has weekly three-hour workshops for faculty so they can develop advanced skills in the use of technology and in multimedia presentations (Bates, 2000)? Should universities bring in famous persons as speakers or invite learned or expert practitioners to teach for short periods as scholars-in-residence? Should graduate students teach the basic courses, freeing professors for research, consulting, or advanced instruction?
6. *Where should the teaching take place?* Is it best to locate universities in the major cities or in more pastoral, less diversion-rich settings? Should contemporary universities establish branches in other areas of their region, or in other countries as an increasing number of American institutions have done? Or does a single large, secular, monastery-like campus better produce a learning community? How much learning should take place in homes, offices, or workplaces, either online or in off-campus deliveries?

7. *What facilities should be provided?* Should universities have abundant or sparse accommodations? What about residence halls, faculty housing, playing fields and clubhouses for sports, the latest scientific equipment, small shops for books, CDs and computer paraphernalia, in-house cafes or coffee houses, and a post office? Should faculty have a faculty club or students a student center to gather, or a fitness center?
8. *How much research?* Should most professors be expected to conduct research or engage in high-level scholarly activity, and publish? How much teaching should the best research faculty do? Is it best to carry out research on campus, during special leaves, or at separate research institutes? What are the main objectives of a nation's research (Boyer, 1990)? Should universities collaborate with industry in doing research? If so, to what extent?
9. *Who should pay for higher learning?* Should university costs be borne largely by the national government, or by the nation's provinces, states, or leading cities? Or should the costs be paid largely by the students and their parents (Johnson, 1986; McPherson & Schapiro, 1991; St. John, 2003)? Should corporations and the university's graduates be solicited to contribute? Is it wise to encourage students and faculty to work part-time to help cover expenses? How can institutions become more productive and efficient to reduce the rate of cost increases? Should universities seek to raise money through quasi-commercial enterprises, patents, faculty enterprises, sports events, and the like (Bok, 2003)? For the growing number of private universities in many countries, should governments help support them or their students?
10. *How should universities be governed?* Who should set policy for a country's universities? The central government? The regional or local political and business leaders? Each university? Who within each university should be involved in helping to shape the policies, programs, and practices of the institution? Should outside advisers, trustees, or overseers be appointed to help determine the major policies? What authority should the chancellor, president, or rector have (Ehrenberg, 2004; Hirsch & Weber; 2001; Keller, 2004a)? How can colleges and universities best adapt to the new conditions they face (Clark, 1998; Keller, 1983)?
11. *To whom should universities be accountable?* The national or state government? All those who help support the university? Some licensing or accrediting body? A board of trustees or overseers? The wider world of scholarship, past and present? How detailed and self-critical should the accounts be? What elements should be assessed to provide the accounts? What contributes to quality for an institution?
12. *How much independence should universities have?* Should public universities be free to establish their own programs and hire their professors? Or should the state limit the offerings and help screen the appointment and retention of teachers, as is happening, for instance, in the Arab states (Mazawi, 2004)? How free should professors be to teach what they believe is most important? Should universities be free to engage in politics? In religious discussions? In cultural and economic reform movements? Should the courts be able to proscribe the actions of universities?

Dealing with the Issues

Clearly, there is a plethora of management challenges for the increasingly important world of higher education in every nation. The combination of internal pressures and powerful external forces of change requires that each college and university create a satisfactory process for decision making and a strategy for survival, growth, and enlarging expenses. And the new importance—and rising costs—of higher learning, training, and research for a country's economy, polity, and culture has tugged numerous national governments into establishing fresh national policies for their universities. Also, as more corporate and commercial enterprises depend on research, special knowledge, and advanced training to be successful in the increasingly competitive global economy, the business sector of most nations has become more concerned with the management and content of their country's colleges, universities, and research institutes.

Thus, today's higher education is often engaged in a three-way tussle, with government, business, and academe battling for changes that each believes is vital. To make things more complicated, two other groups have entered the fray. In some countries, such as the United States and several Latin American nations, the students and their parents are becoming more influential in what the universities teach, how they teach, and how much they charge. In other countries, religious leaders are gathering an increasing arsenal of weapons to shape their nation's educational content in a more devout direction. To some extent, the struggle to dominate the operation of universities is an age-old one (Barker, 1930; Grendler, 2002; Marsden, 1984; Rashdall, 1936). But the intensity of the discussions and maneuvers seems to have grown considerably.

National governments and their leaders have chosen to manage their universities in different ways. South Korea, for instance, sensing expanded competition from China, the United States, and Japan, has decided to press its universities to be more research-oriented. Since 1993, the government has invested more than \$20 billion, and has prodded South Korean industry to invest even more, sending 24,000 graduate students to study in the United States in order to develop a new cadre of scientific and engineering faculty in "the six T's": biotechnology, environmental technology, information technology, materials technology, nanotechnology, and space technology. The "Brain Korea 21" project is also improving university research facilities, reforming graduate admissions and study in Korea, inviting more foreign scholars to study in Korea, and has designated three state universities to become research powerhouses, while also helping the private colleges, which constitute three quarters of all Korean higher education institutions. The education ministry has even enticed an American Nobel Prize winner, Robert Laughlin, to become president of its Korea Advanced Institute of Science and Technology (KAIST), the nation's equivalent of the world-renowned Massachusetts Institute of Technology (MIT) in the U.S. In Korea, the government has chosen to become the principal new manager of higher education (Brender, 2004), and has a well-defined strategy with priorities.

In Austria, on the other hand, the universities have long been regarded as state agencies, with faculty having lifetime civil service appointments. And the management of the universities, except for teaching and research, has been in the hands of legislators and government bureaucrats, in a kind of dualism. But in recent years a radically new higher education policy has been enacted. As one scholar put it, "Commencing in

2004, Austrian universities will cease to be state agencies and will acquire a kind of corporate autonomy unparalleled in the last 400 years” (Pechar, 2003, p. 109). Earlier, a second layer of vocational colleges, the *Fachhochschulen*, was introduced. Also, in 2002 the government decided that the universities will no longer be agencies of the state; the state will still fund the institutions, but 20% will be based on performance indicators; all faculty will have private contracts; each university will have a governing board of regents and a rector chosen by the governing board, with up to four vice rectors; and each institution will be free to shape its own profile and programs and organize its departments and faculties as it chooses. So, the Austrian government has cut its universities loose to compete, plan their own strategies, and contend for students, professors, and dollars. Management has shifted from state control and mandates to individual university rectors, governing boards, and faculty managers, who will exercise greatly enhanced powers.

Just as many colleges and universities have begun to set their own directions and decide on their own priorities, national governments from Brazil to Bulgaria have begun to re-examine their policies toward higher education. They are prodded by many of the same factors: the need for a better educated workforce, the desire for improved research and teaching, the growing demand from the young for higher education, the government’s diminishing ability to pay for the necessities, and a recognition that in-house managers and their faculty are more likely to build useful houses of intellect than government ministers. For many countries, the changes in state policy have meant a significantly enlarged role for the university’s leaders and an increased need for them to create an appropriate strategy to steer their academic vessels through more turbulent waters.

New Ingredients for a Strategy

Today, a growing number of academic institutions need to make hard choices. To do so, universities require what one sociologist of education calls “a steering mechanism” (Clark, 1998), a small group of academic executives and concerned faculty who can agree on a competitive strategy to pilot their institution. As the number of public and private institutions increases, the competition among them for students, faculty, and financial support intensifies. As external conditions change, universities must decide how to adjust to them. Strategic decision making has become imperative.

This trend toward stronger central leadership and proactive decision making is not popular with many faculty, who often deprecatingly label it “managerialism” in critical articles and books. They prefer to adhere to the old Humboldtian ideal of heavy faculty control and freedom, with weak administrative guidance and little regard for finances, institutional priorities, and major renovations. But outside stakeholders insist that organized anarchy and programmatic sprawl are no longer appropriate for higher education, especially given the universities’ new centrality in the knowledge-based society and the escalating costs of academic life.

If colleges and universities now need more focus, efficiency, and responsiveness to the rapidly changing environment, the question arises: Who should decide on the strategy? The prevailing opinion is that the efforts to make difficult choices and set bold, new

directions by consensus among the entire faculty, key staff persons, and the managers have been fruitless and time-squandering. However, there is almost equal disdain for corporate-like designs from the top by a strong-willed president, rector, chancellor, or governing board. Such designs have proven to be too idiosyncratic and difficult to implement. So contemporary strategy making and execution seems to demand more determined but skillful academic leaders who can solicit faculty contributions and win an acceptable degree of concurrence. Universities, like hospitals and high-technology firms, are entities in which the “workers” are highly talented, expert, and professional colleagues. Managing a university is largely a matter of managing intellectual talent and expertise.

This recognition has caused more institutions to change the requirements for their presidents. The appointment of politically connected, locally popular, or intellectually notable persons is yielding to a wider search for diplomatic change agents who are financially astute. For examples, America’s Cornell University chose a British geologist as president, and Roanoke College in Virginia has selected a German-born woman with a Ph.D. in environmental economics from the University of Göttingen as its new president. In Great Britain, Cambridge University named a former provost at Yale to be its vice chancellor (the chief position); and Oxford University has selected a former engineer and businessman from New Zealand’s Auckland University, where he engineered numerous structural changes in only four years as its vice chancellor.

In addition to improved central leadership, numerous universities are deciding that they need to engage in strategic planning, an activity that began in the early 1980s in countries such as the United States and Great Britain (Keller, 1983). Strategic policymaking was originally prompted by a multitude of developments that seemed to require decisions about future courses of action that were difficult to reach under the existing system of heavy faculty-led governance. Colleges and universities were facing increased financial strictures and new and increased competitive threats from the expanding number of other higher education institutions, many of which were scraping to climb in enrollment, quality, and prestige. Universities also needed to respond to the increased diversity of students, to demands by working adults for continuing higher education, to the rapid advance of computers and other technologies, to recent court decisions that were challenging some traditional campus procedures, and to new legislation—such as that of the United States forbidding automatic retirements at age 65. Government leaders Margaret Thatcher and Ronald Reagan pressed universities to become more productive in learning and research, less political, and more financially independent. Universities were expected to act and respond as institutions, not as separate collections of academic departments or schools, or as individual scholars.

What is strategic planning? It is a form of planning and priority action steps initiated to counteract threats (e.g., to a military force, a business firm, a university, a nation, etc.). The strategy positions an entity to protect itself or overcome those elements that are threatening. It is also a core or chain of strategic moves that allows a group or organization to seize new opportunities, to win a victory, gain market share, overcome discrimination, or achieve new stature. In recent years, many colleges and universities have either felt threatened or seen new opportunities for growth in the changes taking place in the higher education landscape. Or they were newly established and needed a

strategy to decide how to structure themselves, who to serve, what to teach, and how to finance their operations among the existing institutions.

Resistance and Experiments

However, colleges and universities have for centuries been largely faculty-driven collegial associations pursuing their own scholarly interests, unused to thinking about how their entire organization can and should respond to major societal shifts and needs, or how it might shrewdly maneuver the organization to a new and more prominent position in the constellation of higher education. So, stronger management and competitive strategies did not graft easily. Indeed, there is still considerable Luddite grumbling at numerous campuses about the departure from traditional norms. However, the notion of the 1970s that universities are, and are likely to always be “organized anarchies,” and the cynical view that strong presidents and strategic actions are inevitably doomed to fail (Cohen & March, 1974, esp. pp. 203–206), is being superseded by other notions and views. The older ideas about academic governance and management are also being refuted by an increasing number of successful college and university transformations (Clark, 1998; Graham & Diamond, 1997; Keller, 2004b).

To introduce strategy formulations, colleges and universities had to devise new processes for joint governance and management so that both the old tradition of faculty direction setting and the introduction of stronger management could be combined. There were no models to emulate, so institutions have had to experiment and sense their way. Some institutions have leaned heavily on maximum faculty input and wide participatory involvement, which numerous proponents of continued faculty autonomy advised (Bensimon & Neumann, 1993; Birnbaum 1991; Duke, 2002).

Others installed stronger management teams to tug the professors into collective decision making about their university’s future emphases, cheered on by advocates of stronger leadership and clearer purposes (Duderstadt, 2004; Fisher & Koch, 1996). Other scholars argued that the process of strategic design depends on the particular “culture” of the college or university, no two of which have similar histories and arrangements of decision making (Eckel & Kezar, 2003; Kuh & Whitt, 1988); thus, some universities have employed novel processes to select the future priorities that work best for their institutions.

Also, the process for a university’s strategic planning is complicated by the faculty’s nostalgia and reluctance to accept the resulting effects of their advocacy for more higher learning. As Oliver Fulton, one of the most astute observers of the professoriate, has noted that “English academics could almost be described as hankering after a long-lost collegial culture and style . . . British academics have now adopted the *principle* of mass higher education without faculty accepting or understanding the consequences that must surely follow” (Fulton, 1998, p. 193).

The substance of strategic planning and enactment is also undergoing renovation. The glacial shifts affecting society are prompting more universities to pay attention to conditions outside higher education such as demographics, technology, international developments, and cultural and political values. Strategists now engage in more reconnaissance and environmental scanning. A university’s strategy formulation must increasingly

consider other institutions in its ecosystem: local and national governments, important business firms, the media, its graduates and supporters, powerful interest groups, and its student markets. With modern transportation, the student markets have broadened. There are currently an estimated two million students who study outside their home countries, and international competition for these students has sharpened.

Financial worries are enlarging, so attracting monetary support from corporations, foundations, and affluent citizens has become a major consideration for colleges, universities, and research institutes everywhere, compelling everyone—rectors, deans, chairpersons of a faculty or department, and individual scholars—to become mendicants. And full-time, lifetime positions are being reserved for only a minority of the finest professors. In the United States, where full-time, tenure-track faculty appointments have been the norm, only one-fourth of all new faculty hires in 2001 were full-time positions with an opportunity for tenure (Finkelstein, 2003). Strategies increasingly have to be highly cost-conscious and revenue-seeking.

Given the pace of change, strategic decision making and implementation have become swifter; and given the growing number of discontinuities in modern times, the strategies should be more flexible and open to alteration (Keller, 1997). Such rapidly derived new strategies or modifications of an existing strategic set of actions call for better justifications and communication with all the persons affected or curious; and they should be abundant and honest.

Another recent element in strategic thinking has been a greater awareness of what a noted business strategist calls “clustering” (Porter, 1990). That is, no company or university can move toward greater excellence alone. A first-rate academic institution requires good schools to prepare its students; nearby museums, art and computer supply stores; highly educated persons close by who can assist as part-time instructors in (for example) foreign languages, music, or statistical methods; musical events; banks; a travel agency; construction workers and other skilled tradespeople; used bookstores; cafes; decent housing; and other complementary stores, facilities, and institutions. Such a cluster of supporting elements stimulates interest in advanced learning and aids in productivity and competitive advantage. Strategic thinking therefore should concern itself with more than a university’s own programs, campus facilities, and personnel. If it is not located in an area with such amenities, the university should plan to facilitate the development of such a network of facilities nearby that supports intellectual, cultural, and personal growth alongside its classroom explorations.

Finally, universities may need to look beyond strategic actions, which are primarily directed at competition against perceived rivals, and imagine and create structural changes in the way they conduct their operations. Technological innovations are forcing structural changes in pedagogy. The spread of mass instead of elite higher education is bringing a more engaged and practical kind of higher learning and creating new vestibules to college for immigrants or the inadequately prepared. Short institutes instead of traditional semesters are being introduced for certain areas of learning or for new adult constituencies of learners. I call this the “steam kettle effect,” whereby numerous quantitative changes (or increasing heat) result in a structural shift in the quality and arrangements of a university (water turns to steam). But a lesson strategists have learned is to avoid too huge a change or structural modification at one time.

Incremental steps within the framework of a strategic program are usually easier to digest and carry out (Weick, 1984).

Digging Deeper

What is likely to be more successful in meeting the new challenges and devising strategies to cope with them is a deeper understanding of the historical moment. A university's members can easily mistake attempts at appropriate adaptive change as an overthrow of tradition, a power grab by administrators, an expanding disrespect of faculty voice, a foolish attempt to predict the future, a dangerous increase in bureaucracy, a pandering to student demands, or an attempt to lessen the hard-won freedom of academic inquiry. Misdirected blame and allegations of sinister reforms need to be replaced by a more profound analysis of the new centrality of knowledge and the universities that dispense knowledge and of the novel elements and glacial shifts of 21st century societies. Numerous universities and governments are struggling to discern the new currents and find better ways to deal with them, while clinging to what is essential for free and higher learning. The challenges are many and real. The strategies need to be knowing and shrewd.

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REFLECTIONS ON THE TRANSITION FROM ELITE TO MASS TO UNIVERSAL ACCESS: FORMS AND PHASES OF HIGHER EDUCATION IN MODERN SOCIETIES SINCE WWII

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This chapter seeks to reflect upon and update a set of concepts, first introduced over 30 years ago, regarding the transformation of higher education (Trow, 1973).¹ The ideas of this original essay, as nicely summed up recently by British author Brennan (2004), illustrate three forms of higher education: (1) elite—shaping the mind and character of a ruling class, a preparation for elite roles; (2) mass—transmission of skills and preparation for a broader range of technical and economic elite roles; and (3) universal—adaptation of the “whole population” to rapid social and technological change. Table 1 provides a useful summary of these stages of higher education development.

Brennan observes that “While these may not capture all of the nuances of current higher education debates, they nevertheless appear to be remarkably prescient of some of the key issues that we face as we embark in the U.K. on the move . . . from mass to universal higher education.” Brennan also notes that the original essay did not put forward “these distinctions as empirical descriptions of real higher education systems, [but] rather as models or ‘ideal types’ to aid our comprehension of such systems.” Further, Trow stressed that while these forms can be seen as sequential stages, it is not inevitable that the later stages will completely replace the earlier ones. Indeed, “there are definite possibilities of examples of elite forms surviving in the mass and universal stages” (Brennan, 2004, p. 24).

Three decades later, this chapter revisits some of the concepts and models introduced in the original 1973 essay, exploring the question of their continuing usefulness in understanding modern systems of higher education, which are so much larger, more diverse and complex than the systems the earlier paper addressed. This discussion also raises the question of whether and where these concepts would need to be modified in order to illuminate contemporary conditions—and whether that is even possible—and highlights these themes within the context of recent developments in Europe.

Table 1. Trow's Conceptions of Elite, Mass and Universal Higher Education

| | Elite (0–15%) | Mass (16–50%) | Universal (over 50%) |
|--|--|---|---|
| (i) <i>Attitudes to access</i> | A <i>privilege</i> of birth or talent or both | A <i>right</i> for those with certain qualifications | An <i>obligation</i> for the middle and upper classes |
| (ii) <i>Functions of higher education</i> | Shaping mind and character of ruling class; preparation for elite roles | Transmission of skills; preparation for broader range of technical and economic elite roles | Adaptation of 'whole population' to rapid social and technological change |
| (iii) <i>Curriculum and forms of instruction</i> | Highly structured in terms of academic or professional conceptions of knowledge | Modular, flexible and semi-structured sequence of courses | Boundaries and sequences break down; distinctions between learning and life break down |
| (iv) <i>The student 'career'</i> | "Sponsored" after secondary school; works uninterruptedly until gains degree | Increasing numbers delay entry; more drop out | Much postponement of entry, softening of boundaries between formal education and other aspects of life; term-time working |
| (v) <i>Institutional characteristics</i> | - Homogenous with high and common standards - Small residential communities - Clear and impermeable boundaries | - Comprehensive with more diverse standards; - "Cities of intellect"—mixed residential/commuting - Boundaries fuzzy and permeable | - Great diversity with no common standards - Aggregates of people enrolled some of whom are rarely or never on campus - Boundaries weak or non-existent |
| (vi) <i>Locus of power and decision making</i> | 'The Athenaeum'—small elite group, shared values and assumptions | Ordinary political processes of interest groups and party programs | 'Mass publics' question special privileges and immunities of academe |
| (vii) <i>Academic standards</i> | Broadly shared and relatively high (in meritocratic phase) | Variable; system/institution 'become holding companies for quite different kinds of academic enterprises' | Criterion shifts from 'standards' to 'value added' |
| (viii) <i>Access and selection</i> | Meritocratic achievement based on school performance | Meritocratic plus 'compensatory programs' to achieve equality of opportunity | 'Open,' emphasis on 'equality of group achievement' (class, ethnic) |
| (ix) <i>Forms of academic administration</i> | Part-time academics who are 'amateurs at administration;' elected/appointed for limited periods | Former academics now full-time administrators plus large and growing bureaucracy | More specialist full-time professionals. Managerial techniques imported from outside academe |
| (x) <i>Internal governance</i> | Senior professors | Professors and junior staff with increasing influence from students | Breakdown of consensus making institutional governance insoluble; decision making flows into hands of political authority |

*From John Brennan, "The Social Role of the Contemporary University: Contradictions, Boundaries and Change," in *10 Years On: Changing Education in a Changing World*, Center for Higher Education Research and Information. Milton Keynes: The Open University, 2004, p. 24. The first full statement of these ideas was published in Trow, M. (1974). "Problems in the Transition from Elite to Mass Higher Education, in *Policies for Higher Education*, from the General Report on the Conference on Future Structures of Postsecondary Education (pp. 55–101). Paris: OECD, and were developed in later papers, as cited in the notes.

Aspects of Growth

World War II was the watershed event for higher education in modern democratic societies. Those societies came out of the war with levels of enrollment that had been roughly constant at 3–5% of the relevant age groups during the decades before the war. But after the war, great social and political changes arising out of the successful war against Fascism created a growing demand in European and American economies for increasing numbers of graduates with more than a secondary school education. And the demand that rose in those societies for entry to higher education extended to groups and strata that had not thought of attending a university before the war. These demands resulted in a very rapid expansion of the systems of higher education, beginning in the 1960s and developing very rapidly (though unevenly) during the 1970s and 1980s.

The growth of higher education manifests itself in at least three quite different ways, and these in turn have given rise to different sets of problems. There was first the *rate of growth*: in many countries of Western Europe, the numbers of students in higher education doubled within five-year periods during the 1960s and doubled again in seven, eight, or 10 years by the middle of the 1970s. Second, growth obviously affected the *absolute size* both of systems and individual institutions. And third, growth was reflected in changes in the *proportion of the relevant age group* enrolled in institutions of higher education.

Each of these manifestations of growth carried its own peculiar problems in its wake. For example a high growth rate placed great strains on the existing structures of governance, of administration, and above all of socialization. When a very large proportion of all the members of an institution are new recruits, they threaten to overwhelm the processes, whereby recruits to a more slowly growing system are inducted into its value system and learn its norms and forms. When a faculty or department grows from, say, five to 20 members within three or 4 years, and when the new staff are predominantly young men and women fresh from postgraduate study, then they largely define the norms of academic life in that faculty and its standards. And if the postgraduate student population also grows rapidly and there is loss of a close apprenticeship relationship between faculty members and students, then the student culture becomes the chief socializing force for new postgraduate students, with consequences for the intellectual and academic life of the institution—this was seen in America as well as in France, Italy, West Germany, and Japan. High growth rates increased the chances for academic innovation; they also weakened the forms and processes by which teachers and students are inducted into a community of scholars during periods of stability or slow growth. In the 1960s and 1970s, European universities saw marked changes in their governance arrangements, with the empowerment of junior faculty and to some degree of students as well. They also saw higher levels of student discontent, reflecting the weakening of traditional forms of academic communities.

Growth also manifested itself in the growing proportions of the relevant age groups enrolled in institutions of higher education. In many European countries, that proportion, just after World War II, was about 4% or 5%; only 25 years later it reached between 10% and 20%. By 2000, the figures in most European countries were up around 30%, and going higher.

The expansion of European higher education after WWII was both large and rapid. For example, Sweden had 14,000 university students in 1947. By 1960, the number had more than doubled to 35,000; by 1965, it had doubled again to about 70,000, with another doubling by 1971, when university students comprised about 24% of the relevant age group. France saw an equally dramatic growth in its university population, from 200,000 in 1960 to over 400,000 in 1965, with another doubling by the mid-1970s (reaching an enrollment of about 17% of the relevant age group). Denmark doubled its university student population between 1960 and 1966, from 19,000 to 34,000; by the mid-1970s, it had doubled again to 70,000, about 13% of the age group. In the United Kingdom, the Robbins Report anticipated university enrollments growing from about 130,000 in 1962 to 220,000 by 1973 and to nearly 350,000 by 1980. In reality, nearly 400,000 (about 13% of the relevant age group) were enrolled in all forms of full-time higher education by 1973, and somewhere between 800,000 and one million by 1981 (with roughly half in universities). By the year 2000, following the merger of the polytechnics and the universities, enrollments in all forms of higher education in the U.K. had reached over 2.1 million.²

Growth in the proportions of the population that have access to higher education raises a number of questions central to the issue of the nature and functions of higher education. For example, the proportions entering higher education in every country vary sharply in different regional groups, religious and ethnic groups, and socioeconomic classes. Everywhere the proportions from the upper and middle classes are still significantly higher than from the working classes or farmers, despite half a century of efforts to close that gap. When the proportions of an age group going into higher education were very small, the political issue of equality in educational opportunity was centered much more on higher primary and secondary education. But the higher the proportion of the relevant age group going on to higher education, the more the democratic and egalitarian concerns for equality of opportunity come to center on the increasingly important sector of tertiary education.

These differences in access to higher education, which were not reduced but rather increased during the early stages of expansion, become a sharp political issue within the context of the democratic and egalitarian values that are increasingly strong in Western European countries, and these values created strong pressures for reducing these differences in group rates of enrollment. In many countries governments introduced policies of "affirmative action" designed to increase the proportions of students from lower income strata. The more important access to higher education becomes for the life chances of large number of students, the stronger these pressures become. The persistent tendency of intellectually elite institutions such as the universities to be both the home and the source of the social and economic elite is a major source of tension between the institutions of higher education, still in principle meritocratic, and the increasingly strong egalitarian values of Western society. The irony, of course, is that while universities in Western democracies became increasingly meritocratic during the 20th century, especially after WWII, the societies around them became increasingly egalitarian.

The rising rate of enrollment of a particular age group has another important significance, one not so directly political. As more students from an age cohort go to college or university each year, the meaning of college attendance changes—first from being

a privilege to being a right, and then, as was true first in the United States and now in the EU, to being something close to an obligation for students in some class and ethnic groups. This shift in the meaning and significance of attendance in the tertiary sector has enormous consequences for student motivation, and thus also for the curriculum and for the intellectual climate of these institutions.

Phases in the Development of Higher Education

What the numbers (reflecting the rapid growth of higher education after World War II in all advanced industrial societies) conceal are two fundamentally different processes. One of these was the expansion of the elite universities—the growth of traditional university functions in the traditional, if somewhat modified, forms of universities. The other was the transformation of elite university systems into systems of mass higher education, performing a great variety of new functions (at least new to universities) for a much larger proportion of the university age group.

As enrollments in the higher education institutions of every rich democracy grew during the postwar years, from 5% just before and after WWII to 30–50% of the relevant age groups at the turn of the millennium, they passed through several phases. We can refer to these as the phases of elite and then mass higher education, phases which currently are opening up even further to become systems of universal access. Since this model of phases and phase transitions in higher education was first developed in the early 1970s,³ the proportions enrolled in higher education have become more and more difficult to define with any precision, for several reasons. First, the diversification of higher education—of students, studies and institutions—makes it more difficult to identify institutions as centering primarily on elite, mass, or universal access forms of higher education; many institutions provide recognizable forms of all three side by side in the same institution. Moreover, the possibility of enrolling for studies in higher education throughout life makes it impossible in principle, and increasingly difficult in practice, to ever determine what proportion of an age cohort has ever been exposed to some kind of postsecondary education or completed a degree program, until all the members of the age cohort have died.

Differences in the structure and traditions of different national systems make generalization across national lines suspect. For example, the universities of the U.K. and of Sweden would seem to resemble one another closely, in their attention to teaching *and* research, as well as in their concern for the welfare of the students in their institutions. Yet the tradition of British universities (with some exceptions) has been to encourage students to complete their studies toward a degree within three years. Those who leave before finishing their degree programs are treated as if they had never attended the university, and are referred to collectively as “wastage.” By contrast, in Sweden studies in colleges and universities are built around professional “programs” which may or may not have their roots in a single academic discipline, and which aim not so much toward earning a degree as for gaining a qualification in a specific profession or occupation. So it is not unusual, nor is it much decried, when students leave a Swedish university for a job upon completion of the professional course of study in a program, without gaining the academic degree provided by the same institution.

Nevertheless, it still remains useful, especially in looking back over the past half century, to refer to a model of growth—along with its sources and consequences for three different forms of higher education—of sufficient generality to apply to different national systems over this time period. But it is fair to question whether that model will be as useful in predicting developments over the next half century as it has been over the past half century.

In Britain, as on the European Continent, growth in the early years of expansion was achieved mainly by expanding the elite university system. But the old institutions could not expand indefinitely; they were limited by their traditions, organizations, functions, and finance. In European countries, an increased enrollment in higher education beyond about 15% of the relevant age group required not merely the further expansion of the elite university systems, but the rapid development of mass higher education through the growth of popular non-elite institutions. Systems of mass higher education differed from systems composed predominantly of elite higher education, not just quantitatively but also qualitatively. They differed obviously in the proportions of the relevant age group that they enrolled, but also in the ways in which students and teachers viewed attendance in university or college; in the functions of gaining entry for the student; in the functions of the system for the society; in their curricula; in the typical student's career; in the degree of student homogeneity; in the character of academic standards; in the size of institutions; in the forms of instruction; in the relationships between students and faculty; in the nature of institutional boundaries; in the patterns of institutional administration and governance; and in the principles and procedures for selecting both students and staff. In other words, the differences between these phases are quite fundamental and relate to every aspect of higher education. Let us look at each of these aspects of higher education in its several phases a little more closely.

On the Changing Nature of Elite Higher Education

To reflect on the changes over this past half century, it will be useful to consider the nature of elite higher education in traditional universities, before the great expansions of the 1960s and 1970s. American and British universities differed in certain important respects from those on the European Continent. They were similar in certain respects, such as in their function of training and educating a relatively small group of future leaders of the society—on the Continent, largely for the civil service, politics and the learned professions, while in the U.K., for the academic staffs of the universities and upper secondary schools, and for the Church, but not (by and large) for the learned professions, to which access was gained more commonly through apprenticeship. But both in the U.K. and on the Continent, the higher education of the elite in universities was defined both by its cultural content and also by the character of the relationships through which it was carried on. In much of traditional elite higher education, as at Oxford and Cambridge, the two were very closely linked: a certain kind of relation between teacher and student within a community of scholars was designed to teach gentlemen how to live a certain way of life; it was not meant to train young persons for specific occupations. Indeed, it rather looked down on that.

Elite higher education as the education of a gentleman for a style of life appropriate to a certain status in society was contrasted sharply with the training of experts for specific occupations. The education of a gentleman (U.K.) or of a broadly cultivated man (Continent) were both intended to prepare for a variety of leadership roles, the technical aspects of which could be learned on the job. Max Weber regarded this distinction between the education of the cultivated man and that of the expert as the source of the main conflict emerging in European higher education after WWI. The rise of mass higher education since World War II has been widely viewed as the ascendancy of technical and vocational education over liberal and general education.

The rise of science within the university challenged this conception of elite higher education, but there was no way of excluding it, since it was clearly linked to national economic and military power, even if indirectly. And science could be finally accepted as a somewhat subordinate member of the academic community, acceptable so long as it pursued “pure” or “basic” rather than “applied” knowledge. And science also borrowed from the long and established place of mathematics from classical and medieval times in the curriculum of the university.

But the growth of mass higher education since WWII has led to changes in the character of both liberal and vocational studies, and not merely to the expansion of the latter. The pronounced distinction between them—with elite higher education always taken to mean a form of liberal education, and mass higher education a form of vocational education—no longer obtains. There are many schools and programs, both undergraduate and graduate, which are very much oriented towards specialized training for careers in government or industry, and yet are carried on through a pattern of relations between students and teachers which is not much different from that which characterized the collegiate arrangements at Oxford or Cambridge. The emphasis on the transmission of a general culture and a style of life was a characteristic feature of the traditional forms of elite higher education. However, this may mislead us in our search for its descendants today. I think that we will still find forms of elite higher education in the *grandes écoles*; in the advanced research seminars of the German universities; in the graduate departments and some of the professional schools of American universities; in the undergraduate courses of study at the Massachusetts Institute of Technology as well as in the undergraduate colleges of Harvard University and the University of Chicago; in the leading American liberal arts colleges; and some of the undergraduate studies at British universities. In these schools and graduate departments, relationships are broad rather than narrow; the teachers are concerned with the values and character of the students; teachers and students often meet outside the setting of formal instruction; their concerns when they meet are not confined to what is contained in syllabus and lectures. They are places for socialization—for the shaping of mind and character, and not merely the transmission of information, skills and knowledge. Elite higher education today has more to do with the forms of teaching and learning, with the settings in which it is carried on, and with the relations of teacher and student, than it does with the content of the curriculum.

What do these quite varied kinds of elite higher education have in common today? Surely not a commitment to the cultivation of the particular qualities of mind and bearing which marked the traditional collegiate ideal at Oxford and Cambridge. The

higher education of elites over the 100 years between 1850 and 1950 rested on a broad consensus among educated persons about what kinds of knowledge were most valuable, and what qualities of mind and character should be possessed by the educated person. Before WWII, notions in Europe and America about what characterized an educated person changed over time, and differed to some extent from one society to another, and even to some extent between parts of the same society. Nevertheless, there was some agreement on the question. Today, there is no agreement on what is the irreducible and essential content of higher education for an elite, and we are required to describe it more by reference to its forms than to its content.

Under present-day circumstances, then, elite forms of higher education are no longer uniformly marked by attempts to infuse a general moral and cultural outlook, by efforts to shape qualities of mind and feeling, attitudes and character. It may try to transmit skills and knowledge, but that is not what makes it “elite higher education” in the sense that we have been using the term both to characterize a kind of education and a kind of institution in which it was most commonly experienced. This kind of education is still carried on through a relatively close and prolonged relationship between student and teacher, and depends on the creation and maintenance of settings within which such a relationship can exist. Whatever the specific content of the course of study and syllabus—and that indeed varies rather widely—this form of higher education conveys (and intends to convey) to students that they can accomplish large and important things in the world, that they can make important discoveries, lead great institutions, influence their country’s laws and government, and add substantially to knowledge. In this sense, institutions of elite higher education are arrangements for raising ambition and for providing social support and intellectual resources for the achievement of ambition. By contrast, mass higher education is centered on the transmission of skills and knowledge through relations between teachers and students which are briefer and more impersonal, and is designed to prepare students for relatively more modest roles in society, even in such occupations of high status as the learned professions, the civil service, and business management. (Of course, these two types of higher education often overlap or merge imperceptibly into one another.)

Elite higher education still makes large demands on students, demands that are implicit in its intention to prepare students, both morally and technically, to achieve high ambition. It is in severe competition with other formations and institutions in society which also make large demands on the young person—for example, the family, careers, groups of peers, and radical political movements. Elite higher education thus has placed students at odds with other kinds of obligations, and generated forms of tension in ways that mass higher education does not. It also tries to provide greater social and psychological support for students who are exposed to these normative demands and emotional strains. Thus, to perform its tasks, elite higher education has been more likely to be residential than is mass higher education, or at least to be experienced within a close and supportive academic community. For the same reasons, it was an activity to which the student was formerly expected to give all his time, at least during the school term. The financial burdens of university life, and the greater presence of students from modest homes in the university, has made paid work during

the university study year much more widely necessary and accepted. Similarly, as elite higher education was thought to be incompatible with paid work, it was also thought to be incompatible with student marriage (and in England, for much of the 19th century, for marriage by teachers.) Work and family present conflicting commitments and obligations, and interfere with the socialization most effectively accomplished in near totally encompassing social institutions.

In contemporary elite institutions we can see the survival of the forms and structures of the traditional university, though now much diluted and with less authority in the students' lives. Ironically, it is most closely approximated in the graduate schools and advanced seminars of American, British and Continental universities, which are now the centers of intensive socialization to the norms of scholarly and scientific life as well as to the highly specialized skills that now together comprise the professional training of the modern academic doctorate. Meanwhile, with some exceptions, undergraduate education (even in universities) comes more closely to resemble the education provided in parallel departments and subjects in institutions of mass higher education. And the growing demand for easing transfer between institutions and across national boundaries increases the significance and value of a standardized training in subjects, providing students with a basic knowledge and skills in the subject that can be recognized in similar institutions elsewhere.

But if the traditional forms and functions of elite higher education are increasingly attenuated, some special characteristics still attach to the institutions of highest status in every country. One of those is the encouragement of ambition, and the creation of personal ties and links that will help in the pursuit of ambition after leaving the university.

The encouragement of ambition is a central distinguishing characteristic of elite higher education. The institutions which offer this kind of education recruit students who are ambitious; they then nurture and focus that ambition, and their graduates are disproportionately successful in the competition for positions of leadership in the larger society. In the United States, this is the feature which distinguishes forms of elite higher education from the myriad small, often denominational, liberal arts colleges—institutions which also try to shape character through personal relations between students and teachers. In Britain, the new (formerly polytechnic) universities are now exemplars of the now common multi-functional institutions of higher education. In some are found undergraduate and graduate courses and programs of studies that can hardly be distinguished from their counterparts in Oxbridge, while nearby one can find programs for mature students in one or another of the new semi-professions. In this respect, these former polytechnics closely resemble the many public colleges and universities in the United States, which offer a first degree and a variety of vocationally linked master's degrees, often to mature students, in an atmosphere of serious study and learning but of limited genuine research. And just a little bit further away from some of the old and new British universities are their franchised programs in former further education colleges, largely open to nearly all upper secondary school graduates, and resembling 2-year community colleges (America's chief institutions of universal access). While these non-research universities (itself an unimaginable idea in 1974) have many strengths and virtues, it is fair to say that they do not encourage high ambition,

nor leave students with the sense that they have been prepared to gain the highest levels of leadership in the various institutions of society.

Ambition and its encouragement are only one of the cluster of features which links elite higher education to the status and function of elites in society. We see here how, in academic life as elsewhere, advantage engenders advantage, and through which elite institutions tend to become centers of academic distinction. In the United States, the relatively small numbers of scholars and scientists who later make significant contributions to their disciplines are disproportionately the graduates of a small number of graduate schools and departments of elite universities. The elements involved are very many, and very hard to disentangle. In general, certain departments of leading universities are known and favored by able and ambitious students, and departments can be highly selective in their admissions policies. In part by virtue of their attractiveness to leading scholars and scientists, these departments are able to give their students a superior education in their respective disciplines. They are then able to place their better graduates on the teaching staffs of their own and other leading departments in their disciplines, and this in turn gives those graduates access to better students, more stimulating colleagues, better resources (such as libraries and laboratories), and more congenial arrangements for learning. The prestige of a degree from a leading department, and of teaching in another such department, gives an individual scientist or scholar access to opportunities for research, which in turn help him or her to make important contributions to the discipline. A young person gains a heightened self-confidence from association with (and approval by) leading figures in the field, and this self-confidence is important in forming the individual's level of intellectual aspiration and heightening his capacity.

While there is surely a relationship between elite higher education, intellectual distinction, and the achievement of leading positions in society's institutions, it must be stressed that they are not identical. Higher education for an elite is not necessarily (or always) intellectually distinguished, nor its graduates uniformly highly successful, nor is academic excellence found only in the institutions which provide an education of the type described here.

Phases in the Development of Higher Education: Aspects of Transition

The transitions between phases in the development of modern higher education systems require changes in all aspects of their structures and functions. As reflected in Brennan's (2004) analysis (see Table 1, earlier in this chapter), important dimensions of change include the size of the system, institutional diversity, access and selection policies, governance and administration, the curriculum and forms of instruction, and academic standards.

Size of the System

Countries that develop a system of elite higher education in modern times seem able to expand it without changing its character in fundamental ways until it is providing places for about 15% of the relevant age group. At that point (or thereabouts) the system

begins to change its character; if the transition is made successfully, the system is then able to develop institutions that can grow without being transformed, until they start to admit over 30% of the relevant age group. Beyond that—and in this respect, also led by the United States—large sections of the population are sending nearly all their sons and daughters to some kind of higher education, and the system must again create new forms of higher education as it begins to move rapidly toward universal access. In our increasingly meritocratic societies, personal qualities of talent and initiative come to play a larger role in adult achievement than before. This, perhaps a welcome development, is further (and maybe the most significant) evidence of the decline of the importance of elite higher education in modern life.

Attitudes Toward Access

The ease of access to higher education is closely linked to conceptions that people—students and their parents, and increasingly college and university teachers and administrators—have of college and university attendance. When access is highly limited, it is generally seen as a privilege, either of birth or talent, or both. When more than about 15% of the relevant age group have access, people increasingly begin to see entry to higher education as a right for those who have certain formal qualifications. And when the proportion of the country's population entering some form of postsecondary education approaches 50% (and in some sectors of the society, it is then of course much higher), attendance in higher education becomes increasingly seen as an obligation: for children from the middle and upper middle classes—in European countries as well as in the United States—failure to go on to higher education from secondary school is increasingly considered a mark of some defect of mind or character that has to be explained, justified, or apologized for. Moreover, as greater numbers of people go on to higher education, the best jobs and opportunities (and, generally, the economic rewards in life) come to be reserved for people who have completed a university degree, and this greatly contributes to the sense of obligation that is felt by many students upon entry to a higher education institution.

Functions of Higher Education

The different phases are also associated with different functions of higher education, both for students and for society at large. Elite higher education has been concerned primarily with shaping the mind and character of the ruling class, as it prepares students for broad elite roles in government and the learned professions. In mass higher education, the institutions are still preparing elites, but a much broader range of elites that includes the leading strata of all the technical and economic organizations of the society. And the emphasis shifts from the shaping of character to the transmission of skills for more specific technical elite roles. In institutions marked by universal access, there is concern with the preparation of large numbers for life in an advanced industrial society; they are training not primarily elites (either broadly or narrowly defined), but the whole population, and their chief concern is to maximize the adaptability of that population to a society whose chief characteristic is rapid social and technological change.

The Curriculum and Forms of Instruction

The curriculum and forms of instruction naturally reflect changes in the definition of the meaning of being a student, and of the functions that higher education plays for students and for the society at large. The curriculum in elite institutions has tended to be highly structured, reflecting academic conceptions of the degree course or professional conceptions of professional requirements. The courses of study, shaped largely by the character of the final examination, were on the whole highly specialized, and governed by the professors' notions of what constituted an educated man or a qualified professional. In institutions of mass higher education, the curriculum becomes more modular, marked by semi-structured sequences of courses, with the focus on earning unit credits (the unit of exchange in modular courses), allowing more flexible combinations of courses and easier access and movement between major fields, and indeed among institutions. Unit credits and a modular curriculum are still more common in higher technical colleges than in European universities. Decades of discussion have had little influence on modularization in the universities; the Bologna process addresses that issue directly, with what success remains to be seen.

In universal higher education (as it emerges), there is a survival of the modular course, but increasingly instruction is relatively unstructured; the boundaries of the course itself begin to break down, as do required sequences of courses. It is very difficult to justify course requirements where no single conception of higher education obtains, and the rejection of academic forms, structures, and standards also extends to examinations and assessment, as distinctions between learning and life become attenuated. This is emphasized for the growing number of students who are studying at a distance, often online and directly or indirectly linked to their jobs. Attendance at the emerging institutions of higher education designed for universal access is merely another kind of experience not qualitatively different from any other experiences in modern society which give one resources for coping with the problems of contemporary life. And, in universal access institutions, since coursework does not clearly qualify people for specific jobs, it is less clear why assessment of performance is necessary.

There are parallel differences in the typical forms of instruction, and thus, in the relationships between student and teacher. In elite systems, the characteristic form of instruction is the tutorial or seminar, marked (on the whole) by a personal relationship between student and teacher. While the distance between the senior professor and the ordinary undergraduate may be very great, his research students are likely to be working with him in a close apprentice relationship. This is compatible with the central function of the shaping of character and the preparation of a broad or general elite, whose specific adult roles and activities would vary widely so that one could hardly train for them in the course of the university career. And the defense of these forms of instruction in the *grandes écoles* of France, during the period of rapid expansion that filled the lecture rooms of the universities to overflowing, made it clear where the elite functions in France are meant to survive. Under the conditions of mass higher education, the emphasis is on the transmission of skills and knowledge, with formal instruction carried on through large lectures often taught by teaching assistants or the growing number of part-time instructors without strong or long-term connections to the

institution. In universal access higher education, the direct personal relationship of the student and teacher is subordinated to a broad exposure of the student to new or more sophisticated perspectives. There is heavier reliance on distance learning and on other technological aids to instruction. As mass higher education becomes more focused on preparation for jobs and careers, it begins to resemble open access institutions. Open access institutions and teaching in turn come to resemble mass higher education, with even more focus on the vocational training of mature and part-time students by migratory instructors, often at a distance.

The Student "Career"

The academic careers of the students in different forms of higher education differ also. In elite institutions, the student ordinarily enters directly after completion of secondary schooling; the student is "in residence" and continues his work uninterrupted (except for holidays) until he gains a degree. He is in this sense "sponsored" and in competition only for academic honors. In the mass institution, some students attend immediately after finishing secondary school, although increasing numbers delay entry until after a period of work or travel, and even more return as mature adults. Easier access and a more heterogeneous student population lead to higher "wastage rates." But the students are now a mixed residential-commuting population, as vocational training becomes a larger component of their higher education. In institutions of universal access there is much postponement of entry, "stopping out" of enrollment in any college, and large numbers of students with experience in adult occupations. The emphasis on "lifelong learning" is compatible with the softening of the boundaries between formal education and other forms of life experience.

Moreover, in all the forms of higher education, but especially in the mass and universal forms, as student numbers from poor homes increase, a growing proportion are also working for pay at nonacademic jobs—first during vacations and then during the academic term. This trend has implications for the meaning of being a student, for the curriculum (less outside reading and study can be assigned or assumed), for student motivations, and for the relationships of students with their teachers. And it is hard to discourage this practice, especially when it is done out of necessity by needy students. It can be ignored when it is the occasional "poor but able" student who has to work for his fees and maintenance. But it is a different institution when the proportion of working students is 30%, 40%, or 50% or higher.

Institutional Characteristics and Boundaries

Systems at different phases of their development differ also in their diversity. Elite systems tend to be highly homogenous, with the component institutions in a single country very much like one another. They tend to be universities with high and common standards, though they also include highly specialized "technical schools" with special access to parts of the civil service. Mass systems began to be more "comprehensive," with more diverse standards, though with some linkages among the several segments of the system that allow mobility of students and staff. In systems of universal access,

there is great diversity in the character of component institutions, with no common standards among them. Indeed the very notion of standards is itself challenged and problematical.

Over time, as the number of institutions grew during the transition to a mass system, they became more diverse. The high and common standards that European systems claimed and tried to sustain broke down, despite heroic efforts (as in the U.K.) to maintain those characteristics of the old elite system of universities. But the effort under Anthony Crosland (1965–1966) to achieve diversity of cost as well as of function through prescriptive planning (the binary system) ran against the political forces of equality, the bureaucratic preferences for standardization, and the academic tendency of institutions to model themselves on the most prestigious. Under these pressures the “binary” policy in Britain broke down in 1992 with the merger of universities and polytechnics.

The inclusion in the university world of institutions created and designed for mass functions (as in the merger of universities and polytechnics in the U.K.) made the old assertions of equal or common standards, even within the same subjects, no longer credible. And when the subjects themselves diversified, recruiting different kinds of students on different criteria and teaching them different curricula, the efforts to claim common standards of excellence or quality in a mass system became derisory.

The typical institutions in the three systems differ in size and character as well. Elite institutions were commonly “communities” that ranged up to 2000–3000 students in residence. As they grew, they were likely to be “substructured” so that their component units, like the Oxford and Cambridge colleges, remained relatively small. The lower division “colleges” in big American research universities are examples of this tendency. The real size of units in those institutions differed from their nominal size as a result of the substructuring in small teaching/learning units; many of these had no formal existence, but were created spontaneously by students and teachers. In the European Continental universities, the communities were defined by membership in a department or program, or research lab, or in the advanced seminars led by a particular professor.

The comprehensive institutions that characterize mass higher education are less “communities” than they are “cities of intellect” with up to 30,000–40,000 students (or more) and staff making up a mixed residential and commuting population. Institutions of universal access are unlimited in size; they may be simply aggregates of people enrolled for “instruction,” most of whom are rarely or never on the central “campus” except to attend a specific class; they may share little in common and do not in any sense comprise a community rooted in frequent association, shared norms and values, and a sense of common identification. Today, we find “virtual communities” brought together online for a single course or a degree program. We have not yet found the limit to the size of institutions providing distance learning, if there is such a limit.

As we might guess from these trends, elite institutions were (and still tend to be) marked off from the surrounding society by clear and relatively impermeable boundaries, in the extreme case by physical walls. In mass institutions there are still boundaries, but they are more fuzzy and more permeable; there is relatively easy movement in and out of mass institutions, and a much less clear concept of “membership,” though there are still formal definitions of membership that are relevant for a variety

of academic and nonacademic purposes. In institutions of universal access, boundaries are very weak, shading off to none at all. At some point anyone who may sign on to an online course, or (as the case in most Open Universities) switch on a televised broadcast of a lecture, may be thought for that moment as being part of an “extended university,” and the question of whether he is submitting work regularly or has “matriculated” is of only marginal significance, except for purposes of credentialing.

The Locus of Power and Decision Making

The three types of systems differ in their source of ultimate authority; in the nature of their academic standards; and in their principles of recruitment and selection. With respect to both ultimate power and effective decisions, elite institutions have been governed by relatively small elite groups: leaders in significant institutions—political, economic, and academic—who know one another, share basic values and assumptions, and make decisions through informal face-to-face contact. An example of this would be the small number of leading civil servants, government ministers, university vice chancellors, and members of the University Grants Commission who shaped the face of the British university system for many years, through meetings in small committee rooms or around tables at the Athenaeum Club. The boards of trustees or regents of elite American colleges and universities are another example. In Europe, the powerful groups would be senior professors, senior ministers and civil servants, sometimes members of parliaments who took a special interest in the universities, and maybe (as in Italy) professors themselves. Democratic tendencies, more so in Europe than in the U.S., brought lower level administrative staff and students into the governing boards, but with more symbolic than real significance.

Mass higher education continues to be influenced by these elite groups, but is increasingly shaped by more “democratic” political processes and influenced by “attentive audiences.” These are parts of the general public who have special interests and qualifications, and develop a common view about higher education in general or some special aspect, such as the forms and content of technical education. Higher education policies for these kinds of institutions increasingly become subject to the ordinary political processes of interest groups and party programs, reflected among deliberations in state and governmental legislatures. One kind of attentive audience is the employers of the graduates of mass higher education systems, who are interested in the nature of their skills and qualifications. Another attentive audience is the body of “old graduates” who retain an interest in the character and fortunes of their old college or university. These groups often develop political instrumentalities of their own, such as associations with an elected leadership, and develop lines of communication to the smaller groups in government, legislatures, and in the universities themselves who make the actual decisions, both day-to-day and over the long range.

When the system moves toward universal access, increasingly large portions of the population begin to be affected by it, either through their own past or present attendance, or that of some friend or relative. In addition, the universities and colleges—what is taught there, and the activities of their staff and students—come to be of general interest, not just in the pages of the serious press and magazines, but also reported in

the popular journals and on television. They thus attract the interest of mass publics, who increasingly come to see themselves as having a legitimate interest in what goes on in the institutions of higher education, if for no other reason than their enormous public cost and obvious impact on society. And these mass publics begin to make their sentiments known, either through letters to public officials or through their votes in special or general elections.

The change in the size and character of the publics who have an interest in higher education and exert an influence on higher education policy greatly influences the nature and content of the discussions about higher education; particularly, who takes part in them, and the decisions that flow out of them. The claims of academics to a special expertise, and of their institutions to special privileges and immunities, are increasingly questioned; much of what academics understand by academic freedom, and the significance of the security of academic tenure for the protection of their pursuit of truth regardless of political interests or popular sentiment, are all challenged by the growing intervention of popular sentiments into these formerly elite arenas. The weakness of tenure or job security for the teaching staff of open access institutions is a reflection of the weakness of the autonomy of those institutions, which come increasingly to be seen as at the service of other institutions in the society.

Academic Standards

The implications of these transitions for academic standards are equally clear: in elite systems and institutions, at least in their meritocratic phase, these were likely to be broadly shared and relatively high. Currently, as some fields and subjects are increasingly politicized, they vary a good deal between institutions and subjects. In the systems and institutions of mass higher education, standards become variable, differing in severity and character in different parts of the system or institution, appropriately so since both system and institution have become holding companies for quite different kinds of academic enterprises. Again, this illustrates the convergence of elite and mass forms of higher education in modern societies.

In institutions of universal access, there tends to be a different criterion of achievement: not so much the achievement of some academic standard, but whether there has been any "value added" by virtue of the educational experience. That is the justification of universal higher education, as it is of the nonacademic forms of primary and secondary schools; obviously, this changes in a fundamental way the basis for judging individual or institutional activities. For example, if the criterion of success is "value added," it may be better to admit students who are academically very weak, rather than those with a strong record, since presumably it will be easier to raise the performance of those who start low than of those who are already performing well. That argument is in fact made for the principle of "open access." Whatever substance it has, it does suggest how fundamental is the shift to "universal access."

Access and Selection

The principles of student selection also differ in the different phases. In elite systems, the criterion of ascribed status gave way in most Western societies (more or less rapidly

over the past century and a half) to meritocratic achievement measured by secondary school performance or grades on special examinations. Meritocratic criteria are now modified by giving special advantage to what are seen to be disadvantaged sectors: minority ethnic groups, or new immigrants, or poor whites. But so much of the status and achievement of elite universities rests on their recruitment of the ablest students in the society that these marginal departures from the application of universalistic criteria have not yet had much effect on the character of instruction in those institutions, except in specific and especially vulnerable subjects.

In institutions of mass higher education, there is a general acceptance of meritocratic criteria; access is limited, though the criteria are ordinarily not as severe as in the elite colleges and universities. But this is heavily qualified by a commitment to equality of educational opportunity, leading to “compensatory programs” and the introduction of additional nonacademic criteria designed to reduce “inequities” in the opportunities for admission of deprived social groups and categories. Here, again, we see a narrowing of the differences between elite and mass institutions.

In the institutions of universal higher education, which by definition are wholly “open” either to anyone who wishes to enroll or to those who have certain minimal educational qualifications, the criterion is whether an individual has *chosen* to associate himself with the institution voluntarily. The aim of universal access is toward the *equality of group achievement* rather than an *equality of individual opportunity*, and efforts are made to achieve a social, class, ethnic, and racial distribution in higher education reflecting that of the population at large. And of course the more closely the system enrolls the entirety of an age group, the better it reflects the distribution of subgroups in the population at large. At the limiting case, of course, it is “democratic” in the same sense that compulsory forms of primary and secondary education are, with surviving variations in the character and quality of the education offered in different places and different kinds of institutions. We can already see hints of this philosophy of admissions—and of these criteria for access—even in the present transitional period between mass and universal higher education in European countries. Further education is where education meets social justice. Again, in the provision of universal access to its community colleges, the U.S. has led the way.

Forms of Academic Administration

The characteristic institutions in the three systems differ also in their forms of institutional administration. The typical elite university is governed by academics who are essentially amateurs at administration, whether they serve on committees, on boards, or in legislatures. In some countries, they may have the help of a full-time civil servant or registrar and a staff of experts to deal with matters of finance. But in elite institutions, the head of the administrative staff is commonly an academic elected or appointed to the office for a limited period of time. As institutions become larger and their functions more varied during the transition phase to mass higher education, their administrative staff becomes larger; there is now more commonly a top leadership of men who were formerly academics but who now are clearly full-time university administrators. And below them there is a large and growing bureaucratic staff of non-academics. As the

system grows even further towards universal access, the enormous costs of education generate pressures for greater financial accountability and more sophisticated forms of program management. Universities employ increasingly large numbers of full-time professionals, such as systems analysts and economists knowledgeable about program budgeting, specialists in financing capital growth, and so forth. In that phase, the centralization and rationalization of university administration generates problems. The functions of the institution itself become increasingly more diverse, and its “outputs” more difficult to quantify, just as the management procedures have become more dependent on quantified data for the assessment of costs and benefits. But the data for assessment have to be supplied by those being assessed, which raises questions common to every command economy about the reliability of information coming up from below.

The rationalization of university administration—based on the systematic collection and analysis of quantitative data on the costs of discrete activities, and on measures of the “outputs” or “benefits” of these activities—is a response to the growth in the size and cost of higher education, and to growing demands for public accountability regarding its “efficiency.” In their heavy reliance on quantified data, however, these managerial techniques become a powerful independent force working against the survival of elite institutions, and of those functions and activities which cannot be easily justified by reference to quantitative measures, either of their “costs” or “benefits.” There is a certain danger in the argument that the development of these managerial techniques and the increasing centralization of control are “inevitable,” given the growth in the size and cost of higher education. An emphasis on the “inevitability” of these trends and forces may preclude our asking the critical questions: how are these new techniques of administration being applied, what are their consequences, and what are the limits of centralization in relation to institutional autonomy? We should at least be aware of how these techniques may undermine those activities and functions of higher education that cannot be justified by reference to visible and easily measurable “outputs.”

The development of mass higher education does not necessarily involve the destruction of elite institutions or parts of institutions, or their transformation into mass institutions. Indeed, elite forms of higher education continue to perform functions that cannot be performed as well by mass higher education—among them, the education, training, and socialization of very highly selected students for intellectual work at the highest levels of performance and creativity. And as we observe the system of mass higher education in the United States, and the patterns of growth toward mass higher education elsewhere, we see that they involve the creation and extension of functions and activities and institutions rather than the disappearance of the old.

But while elite institutions and centers tend to survive and defend their unique characteristics in the face of the growth and transformation of the system around them, they are not always successful. Their special characteristics and integrity are threatened by those egalitarian values that define all differences as inequities; by the standardizing force of central governmental control; and by the powerful leveling influence of the new forms of rationalized management and administration. The rationalization of academic administration is a reflection and a product of the movement toward mass higher education; but it is not neutral toward other forms of higher education. In this respect,

it works against the diversity of the system that is also a characteristic—indeed, a central defining characteristic—of mass higher education. And this creates a dilemma for policymakers.

Internal Governance

The forms and processes of internal governance of higher education institutions vary enormously, from country to country and between institutions. But on the whole, elite institutions almost everywhere (except in the U.S. and U.K.) were formerly governed by their senior professors who elected a weak part-time rector to chair their meetings; those who did not hold chairs ordinarily played little or no part in major institutional decisions. As institutions grew, non-chair holding academics and nonprofessorial staff increasingly challenged the monopolistic power of what came to be seen as the “professorial oligarchy.” And, as seen in institutions of mass higher education as well, internal power in some countries and universities came to be shared to varying degrees with junior staff. Moreover, for a while, during periods of student activism, student leaders claimed a right to influence institutional decisions, and the forms and extent of student participation became a major issue in some places during the transition from elite to mass higher education. But the heavy focus of mass higher education—and of open access institutions—on vocational training and credentialing have muted the demands of activist students to be represented on the decision-making bodies. Students are commonly not enrolled in the same institution long enough to make their voices heard. The ones who do are likely to be deeply immersed in their research studies and dissertations. So the weakness of the academic community in the governance of institutions of mass higher education is filled less by students or junior staff than by agencies of government.

Matters are a bit different in elite universities, where the academics are still a force. But there, problems of institutional governance are greatly sharpened by the breakdown of the academic consensus that occurs with growth and the transition from elite to mass higher education. Elite universities, with their narrow traditional range of functions and homogeneous bodies of students and teachers, could formerly assume broad acceptance by their participants of the basic character and values of the institution. But for elite institutions, the move toward mass higher education—with its wider range of functions—means the recruitment of new kinds of students and teachers, from more diverse backgrounds and with more varied views and conceptions of what higher education and their own institutions ought to be. At the same time, junior staff—whose interests and attitudes often differ sharply from those of senior professors—may gain in power and influence. And student leaders, drawn from more diverse backgrounds and affected by radical political currents, sometimes challenge many of the traditional values and assumptions of the university. In many institutions, the old consensus upon which elite universities were based has broken down, both within the faculty and among the students. Relations among colleagues and between teachers and students no longer can be built on a broad set of shared assumptions, but instead are increasingly uncertain and a source of continual strain and conflict. The move toward participatory forms of governance in universities often presupposes the survival of the old consensus, or the

possibility of its re-creation. But more commonly, participatory forms of democracy may introduce into the institutions of mass higher education the conflicts of interest and ideology that are more familiar (and more effectively managed) in the political institutions of society.

This reference to student participation illustrates a general principle that emerges from this analysis: that the “same” phenomenon may have very different meaning and consequences in different kinds and phases of higher education. Thus, “student participation” in the governance of a small elite institution marked by high value consensus may in fact be merely the participation of the most junior members of a genuine academic community, held together by shared values regarding academic life. By contrast, “student participation” in a large mass institution marked by value dissensus may heighten the kind of interest and ideological conflicts that academic institutions, whatever their size or character, have great difficulty in containing or resolving. This is not always recognized; and the arguments for student participation drawn from experience in small elite liberal arts colleges are often applied indiscriminately to mass institutions. (This is true of other aspects of governance and forms of administration as well.)

The growth of numbers, in itself, begins to change the conception that students have of their attendance in college or university. When enrollment rates are 4% or 5% of the relevant age group, students naturally see themselves as part of a highly privileged minority. Though this does not mean that they are necessarily passive or deferential, it does make them feel—along with their professors and lecturers—that they are part of a small privileged institution with a very clear set of common interests embodied in common values, symbols and ceremonies, modes of speech, and lifestyle. All that affirmed the communal identity of the academic institution against the rest of society.

The growth of higher education toward and beyond 15% of the relevant age group—and, in the larger European countries, toward student numbers of a million or more rather than fifty thousands—inevitably changed that. Students have come to see their entry into a university as a right earned by fulfilling certain requirements. And for an increasing proportion, attendance is in part obligatory: larger numbers in all countries attend a university at least partly because people in their parents’ social strata send their children to a university “as a matter of course.” Such students feel less like members of a chosen elite upon arrival, and they enter universities that are larger (and in some cases very much larger) than their counterparts of 30 years ago. There is little question that the “communal” aspects of universities, which have grown without being able or willing to create smaller units internally, have declined, along with the sense on the part of the students and teachers of their being members of a special “estate.”

The growth of numbers and the shift in the conception of attendance from privilege to right is accompanied by changes in the principles and processes of selection. As the gates to higher education gradually open, the older, close links between the elite universities and a handful of elite preparatory schools, public schools, *lycées* (secondary schools), and *gymnasiums* (whether private or state supported) become attenuated, and new avenues of access to higher education begin to open up. Logically, if the move toward mass higher education were the result of state policy and careful planning, the development of a broad system of “comprehensive” secondary schools—carrying

larger and larger numbers from every social strata to the point of university entry—would precede the growth of mass higher education itself. In practice, however, the explosive expansion of higher education over the past two decades has almost everywhere preceded the move toward broad comprehensive secondary education aimed at preparing larger numbers for entry to higher education.

Caveats

The three phases of higher education transformation discussed in this chapter—elite, mass, and universal or open access education—are, in Max Weber’s sense, ideal types. They are abstracted from empirical reality, and emphasize the functional relationships among the several components of an institutional system common to all advanced industrial societies rather than the unique characteristics of any one. Therefore, the description of any phase cannot be taken as a full or adequate description of any single national system.

These ideal types are designed to define and illuminate the problems of higher education common to a number of countries. These problems are of three broad kinds:

- (a) The functional relationships among the various components or aspects of given systems; for example, the degree of compatibility or strain between a given pattern of student admissions and the dominant forms of university curriculum. In many European countries, university education is predicated on the assumption that a broad liberal education has been gained in the preparatory secondary schools—e.g., the *gymnasium*, the *lycée*, or the sixth form of British secondary schools. As the selectivity and rigor of education in those schools has declined with massification, students increasingly arrive at the university without the underpinning of broad cultural knowledge formerly assumed.
- (b) The problems arising during the transition from one phase to the next, when existing (more or less functional) relationships are progressively disrupted by uneven and differently timed changes in the patterns and characteristics of the system. An example might be the survival of the professorial oligarchy as a mode of institutional, faculty, or departmental governance, as the growth in the numbers and functions of junior staff increases their responsibilities, importance, and self-confidence.
- (c) The problems arising in the relations between institutions of higher education and the larger society (and the economic and political institutions within that society), as higher education moves from one phase to another. An example here might be the greater emphasis on the public “accountability” of funds spent on higher education, and the growing encroachment on the autonomy of higher education institutions in the allocation and use of these funds, as costs rise and the higher education system becomes more consequential and more significant to a wider range of social, political, and economic activities.

It must be emphasized that the movement of a system from elite to mass higher education, or from mass to universal higher education, does not necessarily mean that the forms and patterns of the prior phase or phases disappear or are transformed. On

the contrary, the evidence suggests that each phase survives in some institutions and in parts of others, while the system as a whole evolves to carry the larger numbers of students and the broader, more diverse functions of the next phase. Its newest—and gradually, its most important—institutions have the characteristics of the next phase. So, in a mass system, elite institutions may not only survive but flourish, while elite functions continue to be performed within mass institutions. Similarly, both elite and mass institutions survive as, beginning in the United States, nations move toward universal access to higher education.

But this observation points to a characteristic problem of all mixed-phase systems: the problem arising from the strains inherent in the continuing existence of forms of higher education based on fundamentally different principles and oriented to quite different kinds of functions. The question follows: how successfully, and through what institutions and mechanisms, does a system continue to perform elite functions, when the emphasis of the system has shifted to the forms and functions of mass higher education? How successfully can a system perform diverse functions that require quite different structures, values, and relationships—especially when central governing agencies are pressed, both by bureaucratic rules and egalitarian politics, to treat institutions and individuals equally and in standard ways?

The analysis of the phases of development of higher education should not be taken to imply that the elements and components of a system of higher education change at equal rates, and that a system moves evenly toward the characteristic forms of the next phase. In fact, development is very uneven: numerical expansion may produce a more diversified student body before the curriculum has been similarly diversified; the curriculum may become more diversified before the recruitment and training of staff has changed to meet the new requirements of the changed curriculum; the staff may become more diverse before the forms of institutional governance reflect the changes in the character of the teachers, and begin to distribute institutional authority to reflect academic responsibility more closely. A close analysis of developments in any given system must attend to (a) the sequence of change of its several parts and patterns; (b) the strains and problems arising there from; and (c) the extent to which the changes in different countries show common sequential patterns among the various parts and elements of their systems.

The model is not intended to be a simplified snapshot or overview of modern systems of higher education at different times and places. The stress is on the analysis of the strains created at the phase transitions. The model argues that these phase transitions create tensions and problems for the institutions undergoing change, for the systems of which they are part, and—in European countries especially—for the governments whose ministries make the fundamental policies regarding the size and shape of their systems of higher education. Much of the history of higher education in rich societies over the last half century has been driven by responses of the institutions and systems to the transitions from elite higher education to the much larger systems and their broader access that emerged in the second half of the 20th century.

The analysis of the phases of higher education in advanced industrial societies, of the developments of parts of the system during these phases, and of the problems that arise at the transition points between phases and among elements changing at different rates

within a phase, are designed to illuminate problems and patterns common to different societies and systems.

Quality, Equality and Expansion, and the Dilemmas They Generate

Higher education in the countries under review are linked to their national societies in three ways: by governmental policies, support and management; by the market for its products; and by a measure of societal trust in the integrity and competence of the institutions. These three forms of links vary in strength in different countries, at different times, and with respect to different kinds of institutions. The model discussed in this paper is a way of looking at the tensions generated among these forms of links over time, as the systems and institutions grew in modern democracies after WWII, and at the way governments and societies responded to those tensions.

In its predictions, the model assumed a certain range of weights among the three major links between higher education and their enviroing societies. One assumption was that growth, particularly in Europe, would create severe problems for societies in which, at the time of writing, the predominantly small elite institutions were wholly (or almost wholly) supported by governmental agencies. These tensions took many forms, but a central one was between the quality of higher education provided by the institutions, and the pressures for greater equality of provision under conditions of expansion-tensions linking quality to funding and governmental support.

At the beginning of the rapid growth era, the steady expansion of higher education appeared to some observers—especially in the U.K.—to constitute a serious threat to academic standards. The question of “standards” is nominally a question of the quality of an academic program, how rigorous and demanding on the one hand, and how rich and stimulating on the other. At one extreme we think of a group of learned and imaginative scholars and scientists teaching highly selected and motivated students in a situation of large intellectual resources—cultural, scientific and academic. At the other extreme are institutions staffed by less well-educated and less accomplished teachers, teaching less able and less well motivated students under less favorable conditions marked by lower salaries, a poorer staff–student ratio, a smaller library, fewer laboratory places, and all in a less stimulating and lively intellectual environment. Many countries, responding to the democratic spirit emerging from WWII, were at the beginning of the expansion period committed—at least in principle—to the growth of their systems of higher education in ways that did not lower the quality and standards of the higher education already offered. This would involve the achievement of education at a high and common standard of quality throughout the system, whatever the varied functions of the different institutions might be. And this dual commitment—to continued growth and also to high quality in all parts of the system—posed a dilemma.

The dilemma had, and still has, three components. First, there is the strong egalitarian sentiment that all provision in higher education ought to be substantially of equal quality (and thus of cost). In the absence of good or reliable measures of the effects of higher education on the adult careers of graduates, people tended then to assess the “quality” of education by reference to its internal processes, and this leads to equating quality

with cost. Governmental efforts at the evaluation of programs and departments of higher education in recent decades have tried to break this identification of quality with cost, but have been broadly unsuccessful.⁴ The second component of the dilemma is that the criteria against which new forms of mass higher education are assessed are typically those of the older, costlier forms of elite higher education. And third, a rapid and potentially almost unlimited growth of higher education—at the per capita cost levels of the former small elite systems—placed intolerable burdens on national and state budgets that were also having to cope with growing demands from other public agencies, such as social welfare, preschool education and child care, primary and secondary school systems, housing, transportation, and defense.

When applied to higher education, the egalitarian position—which cuts across class lines and party preferences—was and is highly critical of any tendency to institutionalize differences between one sector and another of higher education. Egalitarians in many countries were committed to closing the gulf between the several parts of their higher education systems, and to reducing the differentials in the status, quality, costs and amenities of its different segments and institutions. People with those sentiments—who might be called “unitarians” because of their commitment to a single system of institutions, governed by common standards of education throughout—were often also committed to reforming universities and making them serve more of the functions of the nonelite forms of higher education, while at the same time raising the quality of the nonelite forms of higher education (especially of higher technical education) to that of the university standard. This position—liberal, humane, and generous—argued that the formal differentiations between the several forms and sectors of higher education almost always led to invidious distinctions between them, and ultimately to very marked differences in the quality of their staff and students, and in other respects as well. People holding these views also observed that the weaker or low-status segments of the system are those characteristically associated with (and used by) students from working and lower middle-class origins, so that the status differentiation in higher education is closely linked to that of the class structure as a whole. They argued that any sectors of education outside the system that included the universities must necessarily be made up of second-class institutions for second-class (and most commonly working-class) citizens, as historically they have been. Essentially, their slogan is “nothing if not the best”—especially for youngsters from those strata of the society that have often gotten less or, if anything, second best.

But while this position is humane and generous in its concern for the equality of educational opportunities for working-class people, it is—in its insistence on a “leveling upward,” in cost as well as quality—inevitably in conflict with a continued and rapid expansion of access to higher education. No society, no matter how rich, can afford a system of higher education for 20% or 30% or 40% of the relevant age group at the cost levels of the elite higher education that it formerly provided for 5% of the population. Insofar as egalitarians insist that there be no major differentials in per capita costs among various sectors of the system of higher education, and yet also insist on expansion, then they force a leveling downward in costs, and perhaps in quality as well. The best example of this position has been the funding of higher education in the United Kingdom, where expansion coupled with strong egalitarian sentiments have

led to a decline in the per capita student support by government for institutions (what was called the “unit of resource”) of something between two-thirds and three-quarters between 1979 and 2004. Insofar as they are committed to a high and common support for universities throughout the system, governments were forced to face the necessity of imposing a restraint on expansion, or else lowering support levels for the institutions. The crucial question in this “unitarian” position is whether it is a commitment only to a common set of standards throughout the system, or to a common *high* set of standards as well.

This “unitarian” or “egalitarian” position is basically incompatible with the very marked differences between institutions in their staff-student ratios, research activity, need for support staff, libraries and laboratories, and other aspects of cost and quality. While it is possible in principle to argue that some institutions would be more expensive because they carry a larger research responsibility, it is very difficult in practice to argue for a genuine unitarian system while forbidding certain parts of that system or institutions within it to engage in research. And research is inherently highly expensive. Moreover, there is a tendency everywhere to identify research with the highest standards of higher education, an identification that has a strong component of reality in it. It is research that attracts the most able and creative academic minds, and the institutions that recruit those people gain higher status in any system of higher education. Therefore, a genuinely egalitarian policy must allow every institution to attract people who are innovative intellectually, and that means supporting their research and giving them the high degree of autonomy they need to create new knowledge, new fields of study, and new combinations of disciplines. These activities are very hard to rationalize and program closely, despite the new forms of academic management being introduced everywhere. For this and other reasons, a unitarian position that wants to raise standards in all institutions to that of the leading universities tends to constrain the growth of the system; if every new place, every new institution is potentially as expensive as the most costly of the old, then growth must be very carefully planned and sharply restricted, or alternatively, that state support per student (i.e., the “unit of resource”) be allowed to decline sharply. However, where the egalitarian spirit overrides that of a commitment to high standards across institutions and sectors, as in much of the United States, the slogan is not “nothing if not the best” but rather the expansionist slogan “something is better than nothing.” Under those circumstances there tends to be a leveling downward coupled with expansion, rather than a leveling upward with its inherent tendencies toward a constraint on growth. The major exception to this rule is where there are alternative sources of support for institutions other than the state. And that is, so far, almost exclusively in the United States, and for a relatively small number of elite colleges and universities, both public and private.

The key question in this dilemma is whether new forms of higher education can fulfill their functions at a standard that earns high status and satisfies egalitarians, while reducing per capita costs in ways that will allow genuine expansion toward mass higher education. The Open University in the U.K. is certainly one effort in that direction. But despite its name, the Open University is not a typical institution of universal access. On the contrary, it is a characteristically ingenious way of increasing access to an elite institution by substituting motivation for formal qualifications, and by allowing people

to combine university work with full-time employment. Some of the characteristics of an elite university have been discarded, but the University maintains the high standards of elite British universities and its very clear boundaries. The Open University is thus an interesting transitional institution between the elite and mass phases of British higher education.

Alternatively, a society may reject the arguments of the unitarians and egalitarians and develop a system that sustains internal diversity in costs and quality as well as in forms and functions, as per the American model. (As suggested later in this chapter, such an approach is much more difficult in systems that are financed, and thus ultimately governed, from a central government agency.) But in either case, the more ambitious and energetic the new institutions are, the more they will demand the libraries and research facilities, the salary schedules and other amenities of the old institutions, and the more likely they are to drive their per capita costs up. It may be worth exploring how the forms of this dilemma differ in different societies.

The effect of expansion on “standards” and “quality” is a complex and uncertain issue. In the early stages of the current phase of growth, beginning in the 1950s, there was widespread concern among academics and others—captured in the slogan “more means worse”—that the pool of talented youth able to profit from higher education was small and limited, and that expansion beyond the numbers provided by this pool would necessarily mean a decline in student quality. However, during the early years of expansion, the abilities of those segments of the student population that had not previously entered universities put those fears to rest. Nevertheless, some observers suggested that the new students were, if not less able, then less highly motivated—or less well prepared by their secondary schools—for serious academic work. This feeling was widespread, even if there was no good evidence to support the hypothesis, and some reason to suspect that real students in the (then) present were being compared with idealized students in some mythical Golden Age located variously in the past, depending on the age of the speaker.

Concerns about the academic quality or promise of the “new” students coming to universities were also damped down by the emergence of alternative non-university forms of higher education—the polytechnics and colleges of further education—which admitted students on lower (or at least different) criteria than did the traditional universities.

There was a somewhat more persistent and plausible concern held by many that the rapid expansion of higher education lowered the average quality or the adequacy of the preparation of college and university teachers. Still others feared that growth was affecting the relations between teachers and students adversely, making them more remote and impersonal (where they were not so already). And others suggested that mass higher education must affect the intellectual climate of colleges and universities, introducing into them the vulgarities of the marketplace, of vocational training, of mass politics and popular culture.

Whatever the validity of those fears—and they were not wholly without substance—no society could make the political and financial decision to radically restrain expansion in order to maintain an equality of cost and provision at high standards across the board. That would have precluded the emergence of mass higher education, and that was unstoppable for a variety of social, political and economic reasons. The solution

everywhere was a combination of the creation of cheaper alternatives to the elite universities, plus a reduction in per capita support for higher education institutions of all kinds by central governments. But in all European countries, the problems were made more acute by the commitments of governments (in varying degree) to resist both the creation of private forms of higher education⁵ and the imposition of levels of student tuition at anywhere near the economic costs of tuition, along with the parallel failure of these governments to introduce adequate programs of student loans and grants for poorer students. And only a handful of European institutions have found ways to gain substantial support through services to (and joint projects with) the private sector, or have gained the support of their graduates in any way comparable to American colleges and universities.

American Higher Education as a Model

Despite all the difficulties, and with some reservations chiefly arising from a reluctance to surrender ultimate governmental control and finance, European systems of higher education are moving toward American models. The Bologna agreements make this manifest: the commitment to a fixed-term first degree, the transferability of credits, and common criteria for access are only the most visible of the tendencies toward convergence on American models. European systems move in that direction not because the United States is rich and a superpower, or because of the power of American popular culture—elements in the Americanization of so many other institutions in other countries. It is because American higher education as a system is simply better adapted, normatively and structurally, to the requirements of a “post-industrial” age, which puts a great premium on the creation and wide distribution of knowledge and skill, and is marked by such rapid social and technological change that decision makers in all countries begin to see (or at least believe in) the necessity for broader access to postsecondary education.

But even while European universities are still trying to adapt their organizational, governance and funding arrangements to their relatively new mass numbers, the United States, by contrast, had the structures for mass higher education in place long before they actually had mass higher education, which came with the GI Bill just after World War II. And the structures for universal access, in the form of open access community colleges, were already in place during the first decades of the 20th century, even before the enrollment numbers signifying mass education had arrived.

The First System of Mass Higher Education

Why is it, then, that the United States developed a system of mass higher education so much earlier than anyone else? What have been the impediments to the transformation of elite European systems into systems of mass higher education now? And how are the United States and other countries moving towards universal access, lifelong learning or “the learning society?” These phrases all point in the same direction—towards the breakdown of the boundaries between formal learning in the institutions

of postsecondary education and the rest of life, the assimilation of postsecondary education into the ordinary life of the society.

The modern system of higher education in the United States was already in place over a century ago; in contrast, the emergence of modern European systems of higher education is still under way. By 1900, when only 4% of Americans of college age were attending college, almost all of the central structural characteristics of American higher education were already evident: the research university alongside liberal arts colleges and various forms of vocational institutions, each of them governed by a lay board of trustees, led by a strong president and his administrative staff, with a well-defined structure of faculty ranks; and in the selective institutions, promotion through academic reputation linked to publication and a readiness to move from institution to institution in pursuit of a career. In terms of the curriculum, the elective system, the modular course, and credit accumulation and transfer based on the transcript of grades were all in place by 1900, as were the academic departments covering the known spheres of knowledge, as well as some not so well known.⁶

Indeed, if World War II was the watershed in the history of modern European higher education in its move toward mass provision, then the American Civil War was the watershed for American higher education. For it was during the Civil War that the Congress passed the Morrill Act (1862), which provided federal funds for the creation of universities, or of additions to existing universities. The creation of what were called “land-grant colleges”⁷ (referring to the sources of the money allocated to the new institutions) greatly increased institutional diversity in American higher education, combining (in the same institutions) technical and higher vocational subjects with the liberal arts. The land-grant colleges also brought with them the spirit of public service, the obligation of the university to serve the larger society and not just government, the church and the learned professions. That commitment to service served American universities well when, over time, the costs of higher education exceeded the state or federal government’s capacity to support them; it gave legitimacy to the universities to turn for help and support to the groups and institutions in the larger society whom they have been serving. Today, European higher education suffers from the inability of central governments to adequately fund their growing needs. It is rarely noticed in national comparisons of funding that in the U.S., the substantial support from governmental sources is matched by private giving to colleges and universities, public and private.

In addition to the political and organizational innovations that gave the U.S. an advantage in responding to the growth of enrollments that followed WWII, underpinning all was the spirit of competition, institutional diversity, responsiveness to markets (and especially to the market for students), and institutional autonomy marked by strong leadership and a diversity of sources of support. The United States had the organizational and structural framework for a system of mass higher education long before it had mass enrollments. And it had the framework for universal access long before those numbers appeared in the system. Only growth was needed. That happened in plenty, and with surprisingly little strain on a system already adapted to growth and change. Indeed, the only major structural change in American higher education over the past century was the invention and spread of the community colleges, linked easily and casually to 4-year institutions through credit transfer and, in some places, through strong encouragement to strengthen those ties by state and local governments. The current expansion of distance

learning, some of it provided by for-profit institutions, is another major addition to the American diversity of provision, and of special significance for universal access.

Of course American higher education differs in many ways from what it was in 1865 or 1900, but growth and development have not required changes in the basic structure of the system. It is those structural changes that are now taking place, with great difficulty, in Europe and the United Kingdom.

Current (2005) Problems for European Higher Education

All European systems are currently struggling with adaptations of their own, often very old, organizational and curricular arrangements to the requirements of mass higher education. And the central response of the European Union to these demands has been the agreements embodied in the “Bologna process” as they were enunciated in that city in June 1999. Bologna is very much a part of broader EU policy, and aims at constructing a European Higher Education Area. Central to the “reforms” embodied in those agreements are a movement toward the English/American degree pattern of three years to an undergraduate degree, whatever its title (in the U.K. and U.S., it is the bachelor’s degree) and two further years to a master’s degree, the now familiar 3/2 plan. Other reforms are also part of the agreement, but basically what is aimed at is a degree of rationalization—or as the Bologna process puts it, a “harmonization”—of the disparate curricular and academic time arrangements of different countries, in part to allow a greater degree of movement of students among them, and in part to reduce the prolonged periods of study (or at least of formal enrollment) that students undergo in some countries before a degree is earned.⁸ What the policy did not have was much input, if any, from the European academic community, whose members were presumably going to implement the new arrangements. Bologna until now has been very much a “top-down” politically driven process, and in noted scholar Guy Neave’s view, likely to lead to resistance at the institutional level in many countries.

Neave (2004) points to the distance between the planners of Bologna and the academics who are being asked to

“embed—that is, actually implement—it in their own institutions. Policy implementation is a reiterative process. It is re-negotiated, and very often sadly mangled as The Word from On High works its way down through successive levels in the great chain of decision making. Institutions—and beneath them Faculties, Schools and Departments—reinterpret the Divine Message, according to their particular theology and sectarianism. Each interprets the directive—or the policy—to its own advantage, emphasizing its strengths and shoveling whatever weaknesses it is prepared to admit to itself, beneath the rug.”

“Viewed by those who sit in authority—whether in Rectorate or Ministry—what emerges as ‘policy response’ bears only a distant relationship to what the Authority had originally in mind. It is greatly frustrating. Naturally, such frustration has its very own scholarly terminology—‘resistance to change,’ ‘Ivory Tower-ism’ or even, as I have seen from time to time, ‘Humboldtian’ attitudes. What is perceived as obduracy by reformers reflects that basic feature students of higher education have long noted and dissected—namely,

that higher education may, depending on national administrative culture, be top driven. It is also 'bottom heavy.' Thus, the assumption of linearity that underpins the Bologna process, viewed from within the *Pays politique*, is questionable indeed when viewed from what we know about institutional behavior seen from the standpoint of [the academic world]. It is precisely the 'bottom heavy' nature of higher education that Bologna has chosen to leave aside. Or, to discount it, at least. It is, I think, a very grievous error."⁹

Whatever the state or fate of the Bologna process, the actual condition of European university systems (with some exceptions) does not seem to hold great promise for early or successful reform. Perhaps the most intense interest has focused on developments in British higher education, in part because it is England (not the U.S.) which provides the template for the academic timetable at the heart of the Bologna process—the 3/2 model toward which other countries are to be "harmonized."¹⁰

The multiple problems of higher education in the U.K. have been more visible than those on the European Continent for the past two decades because the British have traditionally linked the quality of the education provided in their universities to the "unit of resource,"—the state support for the universities as measured on a student per capita basis. This also defines the student–staff ratio, whose steady deterioration has been a matter of concern to the English, if less so for Continental universities. The unit of resource links growth to funding to quality in a visible way, and while it did not prevent a very deep decline in British support for their colleges and universities over the past several decades, the evidence of underfunding has finally persuaded the British government to permit the universities to charge a tuition of up to 3,000 pounds per student.¹¹ And the ability of universities to charge that sum depends on whether their students are prepared to pay it. Thus, it is bound to be imposed differentially between selecting and recruiting universities. Still, even where it can be put in place, that figure is still quite inadequate, and most observers assume it will have to go higher. By contrast, Continental nations during their period of rapid growth simply added institutions and allowed enrollments to grow without demonstrating great concern for declining staff–student ratios.

To take Germany as an example, the vice president for academic affairs at International University Bremen illustrates Neave's point from the perspective of an administrator of an institution who would have to "embed"—i.e., implement—the Bologna reforms: "The main but unstated purpose of the German bachelor's degree is to reduce the overcrowding in the universities and thereby to save money in the federal higher education budget. A second purpose is to conform to the new European wide standardized-degree structure budget that will allow greater mobility among students internationally. Yet there is no coherent pedagogical or intellectual basis for the initiative. Not once in the debate in Europe about the introduction of the bachelor's degree have I heard an argument about how it improves what or how students learn, how it strengthens the student's ability to cope in the rapidly expanding marketplace of ideas and information, or how it provides a more solid basis for the student's further education, either in the professions or in research. It's all about saving money and getting students out of the classroom and, it is hoped, into the workforce."¹²

But behind and beyond the problems posed by the Bologna process lies the chronic underfunding of almost all the European systems, rooted partly in their deep reluctance or refusal to charge realistic fees to students. “The reluctance of the German people to pay fees to their universities—which, with very few exceptions are all public institutions and therefore supported almost exclusively by tax revenues—reflect deeply held beliefs about the state’s responsibility to educate the citizenry. Germans pay tax rates that by American standards are exorbitantly high, and in return, they expect things in the public domain—including university education—to be free, or at least very inexpensive.”¹³ And this is not merely a strongly held belief, but is written into the nation’s Federal Constitution.

Add to the European commitment to “free” university education the near absence of endowments for institutions. “[T]he tax laws are such that it is highly unlikely that a tradition of giving endowed funds will ever take root.”¹⁴ Underfunding is likely to remain a chronic problem for most European nations, particularly the newest (and poorest) members of the EU that have just joined the club.

The defenses by higher education systems and institutions against most reforms are multiple and overlapping. For example, Germany has been notorious for the difficulties it creates for gaining a chair in a university. According to one observer, “The process of becoming a professor in Germany has traditionally involved completing what amounts to a second dissertation after obtaining the doctorate. The so-called “habilitation,” which all applicants for professorships must finish, requires postdoctoral candidates to pursue research for several years under the supervision of an established professor and to write another thesis. As a result, most German academics are in their early 40s by the time they become full professors [if they ever do so]. [A new law] would have phased out the habilitation by 2010 and made junior professorships—available to candidates who had completed their Ph.D.s within the previous six years—the sole path to full professorships . . . [But] an eight-judge panel of the Federal Constitutional Court ruled five to three against the government in July 2004, invalidating a 2002 statute that created new junior-professor positions at German universities.”¹⁵

The conservatism of the German system—marked by the diversity of arrangements among the Länder, the requirement that they all agree on many issues, the conservative and powerful educational bureaucracies and courts, and equally powerful *ordinarius* (chaired) professors who substantially govern their universities—is perhaps extreme. But while other European countries have somewhat greater flexibility, none of them has created the funding base plus the level of institutional autonomy plus the strong institutional leadership with extended tenure that is required to create and sustain universities of great quality under conditions of mass higher education.¹⁶

The issue of institutional diversity, and of the emergence of a group of elite universities that can challenge the leading American research universities, was involved in the closely contested political decision in the U.K. to allow the differential imposition of student tuition fees.¹⁷ Such a policy comes up squarely against strong national and ideological commitments to equality among the institutions of higher education in a nation-state.

As if the universities didn’t have enough problems getting a measure of common reforms of the degree structures within the EU, they have also run into problems in

getting agreement from American universities for the new arrangements. "Europe's grand plan to harmonize the Continent's disparate systems of higher education is coming up against an unexpected obstacle: many American graduate schools say they won't accept Europe's new 3-year undergraduate degree."¹⁸ While American universities make an exception in favor of the English 3-year degree, on the grounds that they know the quality of that degree and have had long experience with its holders, American elite research universities are not prepared to be as tolerant of the new 3-year degree on the European Continent. And yet, a major motivation of the reform of the degree structure was to encourage and make possible mobility among universities, both within the EU and with American universities.

Of course, the actual progress toward the reforms of national systems differs widely among the members of the European Union. And despite the deep conservatism of European academics and university systems, there is a growing recognition of the necessity to introduce a pattern for change of the systems and their constituent institutions that would increase the probabilities of a successful transition from elite to mass higher education, while preserving (or creating) a group of world-class universities.

Necessary reforms include the further diversification of the types of institutions of higher education in both form and function, mirroring the growing diversity in the origins and destinations of students as the systems have grown. Some of the emerging mass systems have provided, under different names and arrangements in different societies: (a) a sector of research universities, awarding degrees up through the doctorate; (b) a sector of colleges, devoted primarily to teaching and the awarding of first professional degrees; (c) a system of open door institutions, giving access to working and mature students, awarding certificates and, for a very small minority, enabling transfer to a college or university; and (d) an Open University, allowing students at various levels of proficiency to study at a distance for a variety of awards.

Additional reforms associated with the transition to mass higher education require granting the institutions greater freedom from governmental regulation. This involves enabling or permitting the institutions to supplement support from the public purse by raising funds through tuition and through services provided to the private sector, as well as through the more traditional sources of support for research and private gifts.

Among other necessary reforms are the strengthening of the role of the institutional president, under whatever name; the creation of strong, regular and recurrent procedures for quality control within the institution; and the creation of procedures for the external monitoring of the adequacy of the internal quality control procedures in each institution and department, through regular and periodic audit of those procedures.

Every society with a growing system of higher education shows some of these changes; few show them all. The absence of some or most of them have created severe problems for countries whose systems are making the transition to mass higher education, or moving toward universal access.

This chapter does not discuss two large and important systems of higher education, one growing rapidly, the other contracting. Japanese society is experiencing a very large demographic decline, felt strongly among this generation of college age youth. During its period of growth after WWII, Japanese educators showed great interest in the ideas sketched in this chapter, an interest reflected in the Japanese translation of two

collections of previously authored works on higher education transformation (Trow, 1976, 2000a). Currently, more salient issues have to do with the relations between the universities and the Ministry of Education than with the management of growth. The impact of the demographic decline in Japan is felt by the very large number of private institutions, and especially by the less prestigious ones, some of which have already closed their doors.

Matters could not be more different in China, whose higher education system is growing rapidly from a very small base, trying to keep up with the rapid growth of the economy, and with the full support of a government that can focus resources where it wishes without much concern for public sentiment or the views of the academic community. Chinese academics have also shown a keen interest in the ideas sketched in this chapter, as reflected in the translation into Chinese of some recent analyses of higher education system growth and transformation (Trow, 2001).

A Look Ahead

The fact that the Western university has survived in recognizable form for 800 years, and the modern research university for 150, is no guarantee that it will survive in much the same form for the next 25. Some trends in higher education can be predicted with some measure of confidence, rooted in deep-seated forces in Western society that are not likely to be reversed in any foreseeable future. Chief among these are what Max Weber saw over 80 years ago as the master secular trends of our time—democratization and rationalization, processes which in higher education take the special forms of massification and universal access. What does that mean, and how might those trends play out over the next quarter century? Some guesses, based on the foregoing analysis of trends in the higher education systems of modern societies, are as follows:

- In the higher education landscape of 2030, there will be more of everything: more institutions, more kinds of institutions, more students and teachers, and more diversity among both institutions and participants.
- The development of the economy in advanced societies will continue to increase the demand for a labor force with more than a secondary school education, and reduce the size and numbers of the occupations that do not. But the demand for higher education will increase what is “required” by the occupational structure. Higher education’s chief characteristic is that it gives its recipients a capacity to adapt to change; it will continue to be one of the few advantages parents can give to their children in a rapidly changing world, and more and more people will become aware of that.
- The technical upgrading of jobs, and the link between the success of a business and the training and skill of its labor force will accelerate the interest of industry in supporting and continuing the education of their employees. A good deal of advanced education already takes place in the private sector; this will grow rapidly, as will the creation and development of “learning centers” inside and outside of industry, serving a growing demand for the continuing education of the labor force.

- Private business and industry, as well as individuals, will increasingly pay for what they want and need by way of further and adult education. Government at every level will be contributing a smaller proportion of the total costs of higher education; there are too many other demands on public money to support the continually growing demands of “education” of all kinds. As a result, colleges and universities will become even more successful at selling their services—and the knowledge their research generates—to individuals and business interests. But governments will continue to be significant (even where inadequate) for their support of certain kinds of higher education, particularly that which continues to be provided in universities insulated from market forces.

We are moving toward a situation which might be described as a “learning society,” with very large parts of the population more or less continually engaged in formal education of one kind or another. Under those circumstances, education becomes more highly distributed, taking many different forms in different locations, offering a variety of certificates and degrees. The growing distribution of continuing and distance education will increasingly blur the distinction between education and the rest of society. Distinctions that we make today between “higher” or “continuing” or “adult” or “remedial” or “further” education will be increasingly difficult to make as these activities are carried on—without being so identified or distinguished—as part of the ordinary activities of economic, political, military, and leisure institutions. Moreover, the “success” of such education will be attested not through examinations and certificates, but through an individual’s performance on a job, or of a unit performing a function or service. And that will make increasingly irrelevant government-sponsored external assessments and evaluations, which will come increasingly to be confined to subjects not responsive to market forces.

More generally, the broad movement from elite to open access systems of higher education is associated with, and in part defined by, the increasing permeability of boundaries of all kinds—between institutions and the surrounding societies; between departments and disciplines, as both teaching and research become more interdisciplinary; between universities and private business and industry; and between formal education and the informal learning that goes on in a learning society, which depends on the constant accretion of new knowledge.¹⁹

The uncertainty factor in this scenario is technology, especially the technology of communications. Education in recent decades has seen many announcements of abortive “technological revolutions” to be properly skeptical of new announcements of yet another. Yet it seems likely that in the near future much of what is done today among people working in physical proximity may be possible to approximate through electronic links among people who are physically separated. And that will be an educational revolution.

But teachers and students will continue to come together in places called colleges and universities, for longer or shorter periods, to study and learn together even when the same learning might be carried on at a distance. The wish of people to be in each other’s presence, and the spontaneity of interaction and relationship that physical proximity allows, cannot be duplicated through technology, or at least any that we are likely to see in place in the next quarter century.

Some kinds of education, perhaps the most important kinds, involve the shaping of mind and character, not only the way we think but also the way we feel and see the world. That kind of education, we have learned, requires that people care about one another beyond their usefulness to one another as carriers or recipients of bodies of information and skill. It is uncertain whether that kind of relationship can develop properly through electronic links.

Moreover, some of the most important kinds of knowledge are “tacit,” not fully articulated or rationalized, gained through apprenticeship and direct association with those who possess it. If that is true, then institutions much like the colleges and universities we are familiar with will survive at the center of educative webs, surrounded by all the other kinds of advanced learning and education that will characterize the learning society of the future.

The institutions, structural conditions and attitudes that define a learning society are already in place in the United States, just as the institutions of mass higher education were already in place in America a century ago, waiting for the mass expansion of enrollments into them. But a learning society developing spontaneously, in response to the demands of their societies and economies, will be hard for European governments and institutions to accept. In all of them, higher education has been a provision of government, largely central government, and it is (and will continue to be) hard for them to give more of the power over these systems to the market.

The broad effect of direct governmental authority over higher education is a tendency toward the further democratization of their systems, and that means in effect efforts to level the institutions in their claims on resources. That, together with strong resistance in European nations to introducing tuition charges or private institutions, leads to the chronic underfunding of European elite institutions and programs. We already see that higher education is being asked to provide advanced and continuing education for everyone without the intellectual resources of elite higher education to draw on. Elite universities and their functions are vulnerable, both politically and financially; under enough pressure, their research activities can move to industry and research laboratories, and their humanistic scholarship can migrate to think-tanks, museums and foundations. One scenario is that the great European research universities will survive, but with poorer staff–student ratios and with more external accountability and management—becoming more and more the servants of other institutions, public and private, and less able to define their own roles and missions. They would thus come increasingly to look like other institutions of mass higher education, different only in their historical and cultural pretensions. Alternative scenarios require European universities to raise more money and exercise more autonomy.

Democratization has as one of its major characteristics cultural and institutional leveling, powered by the passions and forces behind the concept of equality. This is much more the case in the public than in the private realms, thus more visible in Europe than in the U.S., and within the U.S., more in the public than in the private universities. If this process of leveling proceeds apace in the realm of higher education, it will tend to reduce the difference between elite and mass higher education, at the same time that mass higher education tends to become more diverse and increasingly open to universal access. Studies of high culture—i.e., humanistic scholarship, the liberal arts—are to some degree insulated from the market, and will be most resistant

to these developments. But apart from some exceptional subjects and places, higher education may over time come to reflect the simultaneous standardization and marginal differentiation of commodities in the global market. All this might happen just slowly enough, masked by the traditional forms, titles and ceremonies of university life on the one hand, and the revolution in communications on the other, so that our children and grandchildren may not even notice.

Notes

1. The paper, "Problems in the transition from elite to mass higher education," was originally presented at the Conference on Future Structures of Postsecondary Education in Paris, 1973, and subsequently printed in the conference General Report, *Policies for Higher Education* (Paris: OECD, 1974, pp. 55–101). It was also reprinted in 1973 by the Carnegie Commission on Higher Education in Berkeley, California. This chapter also draws on other works published subsequently, including: "Elite higher education: An endangered species?" *Minerva*, 14(3) (Autumn 1976), pp. 355–376; "Elite and mass higher education: American models and European realities." In *Research into higher education: Processes and structures*. Stockholm: National Board of Universities and Colleges, 1979, and "Comparative perspectives on access" in Oliver Fulton, ed., *Access to higher education*, Guildford, England: Society for Research into Higher Education, 1981, pp. 89–121.
2. Gareth Parry, "British higher education in the prism of devolution," in Ted Tapper and David Palfreyman (Eds.), *Understanding mass higher education: Comparative perspectives on access*. London, RoutledgeFalmer, 2005. The age participation rate had climbed to 33% (though it varied from 45% in Scotland to 28% in Wales), having doubled in a decade. But the age participation rate loses analytical value everywhere as the numbers of mature and foreign students grow.
3. See Table 1, provided earlier in this chapter.
4. External "evaluation" in all countries has mostly found academic excellence to be present in the old elite universities that conducted research. The requirements of research—big libraries and laboratories, and low academic teaching loads—are what drives the cost of universities up, as compared with non-research institutions of higher education. "Evaluation" doesn't change that.
5. The church-related universities in various European countries have a measure of autonomy, but are dependent on state support to almost the same degree as the secular institutions.
6. On the emergence of the American system from its colonial roots, see Trow, "In praise of weakness: Chartering, the University of the United States, and Dartmouth College," in *Higher Education Policy*, 2003, 16, 9–26; and "From mass higher education to universal access: The American advantage," *Minerva*, 37 (Spring 2000), 1–26. Also, see the chapter by Harold Perkin in this volume.
7. The terms "university" and "college" have been more loosely and promiscuously applied in the U.S. than is customary in Europe. Most of the land-grant colleges were or shortly became research universities, while some were and remain 4-year colleges. The language of the Morrill Act referred to "colleges."
8. For an informed, critical and skeptical view of the Bologna process, see Guy Neave, Presidential Address to the 26th Annual Meeting of the European Association for Institutional Research, Barcelona, September 5, 2004. See also the chapter by Hans de Wit in volume 2 of this *Handbook*.
9. *Ibid.*
10. Recent moves toward devolution in the U.K. permits the Scottish university system to deviate from the English model. Scottish universities start with a 4-year bachelor's degree and will resist a move to a 3-year degree. It currently can refuse to follow the English move toward tuition payments, making up the difference in revenue from its own power to raise taxes. See Parry, *op. cit.*

11. See M. Trow, "The decline of diversity, autonomy and trust in postwar Britain, *Perspectives*, 8(4) (October 2004), 7–11. Summary of a paper prepared for a conference on the White Paper of 2003, sponsored by The Center for Studies of Higher Education, UC Berkeley, and New College, Oxford, September 28–30, 2004.
12. Thomas John Hochstetler, "Aspiring to steeples of excellence at German universities," *The Chronicle Review*, July 30, 2004.
13. Ibid.
14. Ibid.
15. Aisha Labi, "German court overturns law designed to streamline path to professorship," *The Chronicle of Higher Education International*, (August 13), 2004.
16. Europe's difficulties in competing with American universities arise in part from the weight of European egalitarianism "which strives to provide a solid education to as many students as possible while refraining from rewarding exceptional talent." Martin Enserink, "Reinventing Europe's universities," *Science*, 304(5673) (May 14, 2004), 951–953. On the poor international standing of French universities, see Gilbert Bereziat, "Université Pierre et Marie Curie: France's number one university in the Top 500 higher education institutions in the world." Béréziat, President of the *Universitaire Pierre* and Marie Curie University notes that his university is "the leading higher education institution in France," though it ranks only 65th among world universities.
17. For a brief overview of Europe's difficulties in competing with American universities, which emphasizes the weight of European egalitarianism "which strives to provide a solid education to as many students as possible while refraining from rewarding exceptional talent," see Martin Enserink, *op. cit.* On the current unhappiness in French universities, see Michael Balter, "Reform plan seen as halting step." *Science*, 292 (May 4, 2004).
18. Burton Bollag, "Many American graduate schools are cool to Europe's new 3-year diplomas," *The Chronicle of Higher Education International*, (October 15), 2004.
19. On the emergence (or reemergence) of learning situations outside of colleges and universities, see M. Gibbons et al., *The New Production of Knowledge*, 1994.

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THE PRIVATE FIT IN THE HIGHER EDUCATION LANDSCAPE

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This chapter explores the relationship of private higher education to several of the main topics highlighted in this *Handbook*, including access, graduate education, research and scholarship, the academic profession, and globalization. Obviously, variations by region, country, and type of private higher education can be only sporadically sketched in such a brief essay. Thus, this chapter will at best provide an introductory sense of how generalizations about higher education fit—or need to be adapted—when it comes to higher education’s private sector. Particular attention is given to tendencies of higher education change, outlining whether the private sector adapts to that change or even leads it in certain crucial respects. Overall, due to its large and increasing share of total enrollments, the private sector must be reckoned with in any work attempting to deal with higher education overall. (For further general sources on private higher education, see <http://www.albany.edu/~prophe>, including its background paper and Levy (2002), and see Altbach (1999), Levy (1992), and the extensive bibliography: Maldonado, Cao, Altbach, Levy, and Zhu (2004)).

History

Higher education boasts a history of many hundreds of years, and for most of the nation-state era it has been mostly public. Of course, the nature of public higher education has changed over time, and the modern period has involved great differentiation of public forms. In fact, it is a mistake to assume that public higher education is old while private higher education is new. A reasonable distinction between private and public is mostly a product of the last two centuries, particularly related to a separation of church and state. Prior to that, institutions were often more “pre” private or public or were “fused” private-public entities. Only when a sense of publicness versus privateness sharpened did one form or the other clearly emerge. Outside the U.S. that form was usually public. Where types of private higher education existed alongside the public dominant forms, they were usually peripheral to higher education or at least to higher education’s academic core. Seminaries are the major example. Over time, a variety of

borderline higher education entities would emerge on the private side, such as Africa's correspondence schools or institutional forms previously considered to be "below" higher education.

For the most part, the creation of private universities did not occur until after the creation of public universities or the evolution of private-public fused institutions into public ones. The quintessential and common case is the emergence of religious private universities after religion was largely pushed out of the traditional institutions. Whereas some countries then prescribed that all higher education must be secular, other countries allowed religious higher education outside the publicly owned and financed public sector.

Latin America was the main private pioneering region outside the U.S. (Levy, 1986). Some Asian countries also pioneered, but other Asian countries did not start private sectors until the 1980s or later. With rare prior examples, the main growth of Latin American Catholic universities began in the 1930s and then picked up steam into the 1960s. Indeed, religious organizations often form a kind of first wave for a non-profit sector. They have a rationale, a following that provides "demand," and an infrastructure and actors that offer the "supply" of funds and personnel. Though less markedly than in Latin America, there is a religious first wave sense in the creation of an African private sector—mostly a product of the last decade—in addition to other regions. Moreover, a major difference between the contemporary period and historical reality lies in the plurality of religious forms whereas (outside the U.S.) the predominant private form had been Catholic. However, private sectors or institutions sometimes emerge with a cultural rationale that is not primarily religious. Language and ethnicity are examples, as seen in recent decades in Africa and in Eastern and Central Europe.

But the bulk of private higher education growth during the private boom of recent decades has been in secular institutions that absorb the demand that the public sector could not or would not accommodate. Most private institutions are or claim to be commercially-oriented, preparing graduates for the job market. Neither prior nor contemporary history has brought many non-U.S. examples of academically prestigious secular private higher education. Most of the prominent cases were traditionally Catholic universities or institutions drawing students from especially privileged backgrounds. Today, an increasing number of private institutions strive for good if not top academic standing, particularly in certain niche fields of study.

Access and Massification

Clearly, the private sector has been a major part of one of the most salient of higher education realities in recent times: expansion. Most expansion has been and continues to be on the public side. This has meant growth in pre-existing or classical universities but it has also meant growth through new or less prestigious public institutions. The roots of growth are much noted in the higher education literature: population growth, large increases in secondary school numbers, economic growth, and social mobility or a clamoring for it. Access has been a much declared and also real policy, to one extent or another, in most systems. Many systems have moved into the conventionally designated realm of "mass" higher education by enrolling at least 15% of the age cohort.

While some developed countries have pushed enrollments well over 50%, even some developing countries have gone over 30% and many more are headed that way.

Outside Japan, developed countries have almost always massified through the public sector. Private higher education has played only a sporadic role in access. But the situation has been different in some countries of the post-communist region and especially in developing countries. We might broadly identify three developing country patterns. One is where the private sector plays a marginal role in the level of access provided. A second is where it fills a notable and usually increasing role but still less than its public counterpart; this might be called private demand-absorption without massification toward a private majority. The third is where the private sector is the main venue for access and massification. Whereas the post-communist region fits mostly in the second pattern, with some in the first, developing countries fall overwhelmingly into patterns two and three.

In post-communist Eastern and Central European countries, the private share of enrollments varies between just 1% (Czech Republic, Croatia) to a mid-range (e.g., 10% Russia, 13% Bulgaria) to around 30% (Poland, and higher in Latvia). In Africa, the figures are more or less similar but with several countries with no private enrollments and yet also examples where private growth outstrips public growth. The Ivory Coast and Kenya are among the leaders, while a country like Ghana is less than one-tenth private. Most Latin American countries (with the exception of Cuba) have a significant minority of private institutions, while privates comprise the majority in Brazil, Colombia, Chile, the Dominican Republic, and El Salvador. And all these regions have seen an increased private role in providing student access since the 1980s. Asian countries with the majority enrolled in private institutions include Bangladesh and Indonesia, and over three-quarters are enrolled in privates in Japan, Korea, and the Philippines.

Public policy is often crucial to this private access but it is largely public policy by default. That is, public policy does not finance public expansion adequate to rising demand. So, in some cases it takes measures to enable, promote, or even steer the private growth but in others it just allows it to happen.

Outside the Americas, the private sector is rarely the number one choice for aspirants. Public universities tend to retain their hold on the most prestigious slots—and they are still mostly tuition free or at least heavily subsidized. This contributes to the perception of the private higher education sector as being less prestigious and primarily demand-absorbing. Yet, in fact and increasingly in all regions, we see private-public overlap and access-choice overlap. The number one option in a particular country may be the leading public university, but failing that some students choose a fee-paying private option over another public institution they could be qualified to enter.

Where private sectors have allowed massification without public sectors having to expand cost and relax standards more than they have, the private access role has been mostly complementary, though still controversial regarding quality and cost. But where private and public sectors struggle over sometimes decelerating demand, matters may get more sensitive. And recently, as in Eastern and Central Europe and Africa, we see public institutions opening private paying slots, jeopardizing the private institutions' role in the provision of access to higher education. To date, however, the main reality about private higher education in relation to access is that it has greatly facilitated it. For

many countries, higher education access and massification could not be nearly what it has been were it not for the private sector role.

Graduate Education and Research

Higher education's involvement in graduate work and research has clearly grown spectacularly (Clark, 1995). Yet at least two qualifications are crucial and help guide us in analyzing the role of private higher education. One is that the bulk of higher education remains concentrated on first-level teaching and training, both because much of that higher education has not added graduate education and research and because the majority of new higher education has not focused on these activities. The second qualification is that a major share of graduate education and research is not of the academic leadership variety. Much is specialized job training or applied analysis.

Among the three noted types of private higher education and reasons for its growth, clearly elite academic standing is the least common. The U.S. remains unique for the disproportional presence of privates at the top of graduate education and research. Attempts to establish similar institutions have been made or contemplated from Australia to Argentina to South Asia to Turkey, with mixed results to date. Usually, most private institutions are really not universities, though some use the nomenclature. Malaysia and Poland show the tendency for privates to be much less represented in the "university" than in the overall higher education sector, but even where private "university" representation is not much below a nation's private higher education share, those universities rarely mark the academic top. Yet more private institutions have gained a kind of middle rung, often making niche contributions, particularly in commercially oriented fields. Chile is a fascinating case of several new private universities joining a handful of old private ones as "real universities" with graduate education and research (Bernasconi, 2003).

Mostly, the role of private higher education is either nonexistent or lies in the kind of graduate education and research that cannot be considered academic leadership (or at the very least is not broad academic leadership). Private institutions have moved substantially into the provision of specialization diplomas and master's degrees in job-relevant fields. Some of their departmental or organizational units have engaged in applied research, often for revenue. At the same time, many freestanding private research centers, not typically considered in analyses of higher education, make major contributions in applied research and some related graduate education, especially in the social sciences (Levy, 1996). Although the contribution of most private institutions to graduate studies, research, and scholarship has been weak, it is increasingly prominent at some. And this prominence lies largely in a type of effort that often leads the way, or at least fits tendencies of change within the public sector.

Academic Profession and Curriculum

As expansion and differentiation of higher education has meant a proliferation of institutions with little academic research and graduate education, it has also meant a transformation in the academic profession. The classic academic profession remains,

and indeed grows, whether as the standard in developed countries or as the exception and aspiration in developing ones. Full-time professors with advanced degrees and considerable autonomy are increasingly joined by part-timers with less academic advanced preparation and status. The part-time phenomenon is common even in the most prestigious universities. Regarding curriculum, the traditional combination of national rules and considerable autonomy for chaired or other professors has likewise been changing.

Again the private sector has been light on the traditional, idealized side and heavy on the growing alternatives. The private reality has almost always involved part-timers. Whatever the percentage of part-timers in the public sector (high in most Mediterranean and Latin American countries, for example) it is almost invariably higher in the private sector. This is particularly true for the commercially and professionally-oriented privates and those with limited resources, while some older, religious, or elite efforts have been made for a viable core of full-timers. Cost remains a major obstacle. Typically, private institutions have taken advantage of the public universities by hiring their ostensibly full-time professors. On the other hand, some of the relatively well-funded and ambitious private universities now offer competitive or even superior financial packages to fill their own full-time positions. However, most privates—with a slim presence in the academic profession, graduate education, and research—continually fend off charges of low or even disreputable quality.

Contract rights are usually much more limited for private than public professors. This is true even when both are full-time and it is true even in Chile, an exceptional case where a true academic profession emerges in the heart of the private university subsector (Bernasconi, 2003). Administrative command and flexibility is a hallmark of private institutions.

Naturally, too, a low percentage of full-timers in the private sector usually means limited faculty control over curriculum. Curriculum has been more likely a collection of individual courses and programs designed by professionals journeying in to teach the courses. Of course, this suggests that private institutions have greater institutional autonomy than their public counterparts, and are able to offer less mandated and standardized curriculum. This is often true but for two crucial qualifications. One is that public universities and the state often impose curriculum rules on private institutions—sometimes more stringent than those operating for public universities boasting the tradition and legitimacy of both status and autonomy. The other qualification is that many private institutions mostly just copy the curriculum offered at the public institutions, for reasons including convenience and the drive for legitimacy. In such cases, they are usually not seeking curricular distinctiveness, or if they are it is perhaps only on some other dimension, like religion. Their professors may teach or have taught at public places, or at least they were educated there.

Other private places, however, are interested in curriculum alternatives. They lead the way into new fields of study linked to the privatizing economy. In many cases, the aim is to attract students ready to choose distinctive curricular content, usually distinctly job-oriented. Such private places may innovate in content and methods. An extreme example comes with for-profit providers that create a packaged curriculum, leaving faculty more as transmitters than creators (Kinser, 2002). Even in

more common cases, there are instances of public following private ones into new fields, with or without academic professionals, and thus signs of fresh public-private competition.

Student Politics and Social Activism

Student politics and social activism have ranged widely over time and place. There is an overall sense of decline, partly reflecting reality (certainly in developed regions and Latin America) but partly reflecting memories of the aberrant 1960s–1970s, and, again, a fixation on one type of politics and activism while largely ignoring others. The first type concerns matters of broad national or international interest while the second concerns more self-interested matters within higher education, such as tuition and various living subsidies and the stringency of academic requirements.

But when it comes to student politics and activism, our generalization can be strong about the private sector: there is much less than in the public sector. This is especially true regarding broad political issues that go beyond one's own institutional sphere. Where private students protest it is likely to be over proposed tuition hikes, especially if the government has a regulatory role in that regard. Naturally, prospective closing of a private institution can prompt protest.

The roots of the general lack of politics at private institutions are easy to discern. By and large, the relationship between student and institution is a voluntary one, with a degree of choice—i.e., students opting into a certain institutional profile. Voice is often limited to viewpoints rather than claims, and certainly not to action. In fact, private institutions often emerge or grow in part because of student disruption at public institutions. This is a point mostly for developing regions—and disproportionately for women. Moreover, like their professors, private students are much more vulnerable to discipline than are their public counterparts, who often can count on at least a pardon if they give up their disruption. Much less than public students do private ones imagine they have a right and responsibility to speak for the conscious of the nation or humankind.

Religious institutions are often notable attractions for students (or at least their parents) seeking tranquility and security (Collier, forthcoming), though some of the more venerable Catholic institutions have seen social activism and student movements somewhere in between the more active public and less active private norms. Other nonprofit institutions may also show a visible pursuit of social purpose. But as the bulk of private institutions are rather demand absorbing and often job-oriented, their students are more oriented to their own bottom line than to the broader politics or society. They are pragmatists and they are paying, often while they are also working outside their studies, so delays and social or political causes get limited play. To use a term painful to most in the public sector and even to some in the private sector, students tend to stick to their status as “clients” purchasing a particular product (Education Commission of the States, 2001).

The private-public distinction regarding student politics and social activism has been and remains strong. It blurs in rather modest degree where private students act

exceptionally. It blurs more as the public sector differentiates and loses some of its vaunted social voice.

Governance and Accountability

Much of the proposed reform for public higher education involves moving away from traditions of state control and also away from traditions of ivory tower autonomy. Institutions are supposed to wield a new or invigorated autonomy to get results in an increasingly competitive environment in which they should be held accountable for results. The main tension or ambiguity here is between a kind of centralized accountability, usually to the funding state, with a set of performance indicators, versus a kind of much more decentralized accountability, each institution to its own stakeholders.

This second form of accountability is the form basically compatible with private sector dynamics and governance. To be sure, governments (and public universities) have often imposed rules and regulations on all institutions or even sometimes just on private ones, especially in countries that lack strong traditions of private nonprofit action. Often, public authorities have imposed regulations after the initial spurt of private growth occurs rather by surprise and often seen as grotesquely without public vigilance. In Europe, Africa, Latin America and elsewhere a major push for a degree of regulated standards has come through the creation of accreditation systems, often including private as well as public institutions; how far this will progress in practical terms is still difficult to know. But usually, as private institutions are privately owned and financed, they are governed less by the state and owe it less direct accountability. Meanwhile, they are owned and financed by private interests and it is these that govern and demand accountability.

A key point is that the particular rulers typically vary from private institution to private institution. There is little by way of the sort of governing umbrella and sector centralization found on the public side. Nonprofit status and accompanying tax benefits naturally suggest a rationale for accountability to the public but the meaning and dynamics of insuring this are usually vague. Instead, for most private institutions the main accountability is through the market: showing they can attract students and, in more demanding settings, put them on the road to jobs. State regulation has often arisen only after major private growth has occurred (Levy, 2002; Yan, 2004), or private transformations have brought a cry for legal restraints (Gupta, 2004).

Much of what has been said about accountability, as well as about students and professors, speaks to a pattern at private institutions in which the institutional governance structure is tighter and more hierarchical than typically found at public institutions. Often the privates are rather small or family operations but even the larger ones tend to be more tightly governed than their public counterparts, in which power is much more widely dispersed among states, students, and much in between (Levy, 1992). As in other areas, there are formidable private-public distinctions to keep in mind, and a blurring appears less likely from private transformation than from public transformation. Further,

such a public transformation would involve a considerable amount of “privatizing” in governance and accompanying patterns of accountability.

Finance and Economics

Similarly in finance and economics, and in fact more clearly than in governance and accountability, a blurring between sectors appears to be a result of changes in the public sector more than the private sector. Perhaps the most dramatic cases (e.g., Kenya) involve public institutions’ admission of “private,” paying students alongside their subsidized ones. Yet the main 20th century and persisting public norm is state funding of public institutions. Until recently, tuition and other forms of “cost recovery” were non-existent or limited. As to the economics of expenditures, systems have varied and sometimes mixed bureaucratic centralism in matters like salary, with autonomy in other matters. With increased access in a time of soaring market theories requiring a leaner state, public expansion and even maintenance is supposed to rely increasingly on private income, with a declining state share of the financial burden for higher education. To offset rising costs to students, the main answer has been loans, but outside the U.S. and few other cases, they remain more idea than practice (particularly in the developing world).

Private higher education, on the other hand, has been and remains overwhelmingly funded by private sources. The majority of privates are in fact fully or almost fully tuition-dependent, particularly in the commercially oriented or demand-absorbing sub-sectors. Religious institutions often get church contributions, as seen today in Africa. Some private institutions generate funds through sales and contracts but significant philanthropy or alumni giving is still rare, as are endowments.

Major state subsidies for private institutions are rare (Salerno, 2004). Where they are prevalent, as in India, Belgium, and the Netherlands, the designation of private is called into question. In other cases, older private universities may garner some ongoing support. More common and part of a prominent reform agenda is state funding for targeted purposes, perhaps on a blind private-public basis, as in research and graduate education in the U.S. and Brazil. The same holds for student aid. But in most cases these remain proposals more than policy.

And so the private sector remains basically private in finance as the public sector remains largely, though decreasingly, public in finance. Arguably a major private higher education benefit to the state, linking finance and access, has been to pay for enrollment growth without having state expenditures expand further. An intriguing recent development, as seen in South Africa and Russia, has been a partnership between public universities and private colleges, the former bringing power, academic resources, and standing, the latter bringing tuition paying students.

Globalization and Internationalization

One hears much about globalization and internationalization mostly because these are real trends, once more reflecting broader tendencies in the political economy beyond higher education. Also like other changes, they are arguably still agenda more than

reality for much of higher education. Although some institutions develop international connections and some new ones are born within an international setting, the proliferation of low-end higher education institutions in recent decades has meant that most institutions are quite local in scope and purpose. Moreover, the terms in question carry very dispersed meanings. Concretely, we could be talking about tangible forms of international structure or practices, but globalization can also mean an international flow of ideas and influence, particularly from the U.S.

All the general points in the last paragraph apply to private higher education. The great majority of private higher education institutions are local in activity and standing, usually unknown more widely. The large number and small size of these institutions is often both reflection and cause of this localism. Obviously, the local sense is associated with demand-absorbing privates, whereas religious and rare elite alternatives strive for and have accomplished a more international presence.

If we “control” for the number, size, and academic standing of institutions, however, we see a certain natural affinity between privateness and internationalization (Lee, 1999). In fact, in ideology and self-image—and often in ownership—most public places belong to a given government. The geographical scope is specified and circumscribed, usually at the national level, sometimes at the state level, and occasionally at the local level. Private institutions, in contrast, attach less to particular governments or political entities. One sees the contrast even between private and public in the U.S., where privates pointedly eschew the geographical favoritism (e.g., lower tuition for students from nearby, higher if from afar or “out of state”) championed at public institutions. At the academic top this means even more extolling of international scope than at top public places. But of course the privates are rarely at or near the academic top and thus continue to trail greatly in some traditional and continuing types of international flows, particularly in the area of research, scholarships for advanced study abroad, etc.

Whereas public places generally enjoy their legitimacy traditionally or as conferred by their publicness, including state establishment, ownership, degree recognition, and so forth, private institutions usually have to build their legitimacy largely through other means and places (Suspitsin, 2004). Many pursue accreditation from a non-national agency, often a U.S. one. Many more highlight their roots, models, and validity on the international scene. Conspicuous cases include featuring the name “American” or the like in one’s name, teaching in English, boasting of replicating or adapting advanced forms from beyond one’s national borders, and so forth. Related is the use of a globalizing job market; if private graduates are handicapped regarding public employment, they may be especially trained or welcomed by the expanding private global market, including as it penetrates their own home arena.

And then there are the most plain, clear manifestations of higher education globalization as institutions from one country penetrate another country. Such penetration occurs on both the private and public side, particularly as far as the status of the institution that penetrates or opens a branch campus. Usually, the penetration is from a more developed to a less developed country and many of the institutions in the less developed country are private. An interesting manifestation is the partnership between a foreign university and a domestic private college. But the most dramatic manifestation of globalization

through private action is the spreading of for-profit institutions across borders. Large operators or systems like Sylvan (renamed Laureate, in May 2004) and Apollo can buy up institutions and turn them into for-profits tied to their international network. Further potential exists for various for-profit institutions from developed countries to try to make a mark through prestigious local affiliates, but sometimes those efforts provoke a sharp reaction from local public universities or governments, as with Australian providers in South Africa.

As globalization and internationalization are multi-faceted and sometimes nebulous concepts, the role of private higher education can be analyzed in different ways, and we lack the same sense of decisive general private-public tendencies notable in matters such as finance and governance. Nonetheless, certain private-public differences are discernible and it is clear that private higher education is a participant in globalization, and at times a leader in some types of globalization.

Conclusion

Various scenarios and blends are possible regarding the public and private sectors and their subsectors. Private institutions that do not fit much into the higher education system overall might be deprecated for their isolation or praised for the alternative choices they offer. Private institutions that fit tightly might be deprecated for their non-distinctiveness or praised for offering additional access. Another possibility, indicated several times in this chapter, is that parts of private higher education may not be tightly aligned with the bulk of public higher education, precisely because private institutions can adapt better than their public counterparts into certain non-higher education spheres, particularly the marketplace.

Where the private higher education sector fits most closely with the broader higher education landscape is less with traditional public patterns than with emerging trends and agendas. Certain salient characteristics of private higher education show tendencies that some reformers in the public sector would like to emulate, though with significant adaptations. Most of these measures are controversial. Examples from this chapter include enhanced access without increased public subsidies, a variety of private finance mechanisms, increased autonomy with accountability to selected actors and markets, tighter governance structures with less disruptive dissent, more inter-institutional differentiation, marketable research, a premium on efficiency in expenditures, and greater openness to global market trends. So, the role of private institutions in the overall higher education landscape will depend very much on how—and how much—the public sector changes. Further, our understanding of the private phenomenon will also depend greatly on which dimension of private higher education we gauge alongside its corresponding dimension in public higher education.

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BEYOND PRIVATE GAIN: THE PUBLIC BENEFITS OF HIGHER EDUCATION

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Governments have provided longstanding support for higher education in the United States and elsewhere. The original justification for such support was that higher education, like primary and secondary education, confers critical and sizable benefits on the public. This justification was supported by philosophical reasoning and backed by qualitative and anecdotal evidence.

In the decades after World War II, economists devised a more precise analytical method for assessing whether private and public investments in education are justified. Building on Adam Smith's original conception of human capital, economists such as Milton Friedman, Gary Becker, and Jacob Mincer developed the "human capital" theory as a way of understanding and estimating the value of education to both individuals and society. This framework, which focuses on comparing the costs of education with the wage gains that accrue to individuals when they acquire more education, lends itself quite naturally to quantitative analysis.

Guided by this framework, empirical work on human capital has been extremely influential in encouraging the view that the benefits of higher education are mainly private, for which the individual should, in large measure, pay. This perspective, championed by economists, has overshadowed the view of higher education as conferring sizable public benefits.

This chapter revisits the public benefits of higher education, with particular (but not exclusive) emphasis on the U.S. experience. It focuses on the nature and magnitude of these benefits and the extent to which they have been inadequately addressed. We are careful to define social benefits to include the *private* benefits enjoyed directly by the individual, such as a higher trajectory of post-school earnings. But social benefits also include *public* benefits: those benefits that society derives from higher education beyond those enjoyed by the individual himself or herself.¹ Note that "social" does *not* mean "non-economic." It refers, instead, to all benefits (economic or other) that accrue to society as a whole (including the portion of those benefits that accrue to individuals).

The first section of this chapter reviews aspects of American history concerning the public purposes served by higher education. It also critically examines the economic

arguments purporting to document that most of the benefits of higher education are private in nature, or captured through private action. The second section examines evidence concerning the range of public benefits of higher education.

These topics, while long important in AND of themselves (in both developed and developing countries), have received greater attention in recent years because of the proliferation of private universities, particularly in developing countries. That education may be delivered effectively and efficiently by private entities has long been understood, but the greater share of it (in developing countries) that now takes place in private institutions must not be confused with the question of who ultimately benefits from higher education, because graduates of all schools benefit. We do not address these issues here, but the many issues raised by the increasing privatization of higher education throughout the world are addressed in Daniel Levy's chapter in this volume.

The Benefits of Higher Education: A Short History

Public Spirited

All forms of education potentially serve both public and private purposes. When one looks at the history of American higher education, however, it is quite clear that the founding impulses—in public and private institutions—stressed broad public benefits and civic virtues, in addition to the economic gains achievable by individual students.

For example, Harvard University's founding fathers affirmed, in 1636, the need "... to advance learning and perpetuate it to posterity; dreading to leave an illiterate ministry." Yale's initiators, in the early 18th century, wrote of instructing youth in the arts and sciences to make them fit for public employment, both in "church and civil state." Thomas Jefferson, in founding the University of Virginia in 1819, expressed the goal of training "America's natural aristocracy" for the responsibilities of national leadership.

In 1862 and 1890, the U.S. Congress passed the Morrill Land Grant Acts, assigning large tracts of federal land to the states to be used for the creation of public universities "to teach agricultural and mechanical arts, not excluding general sciences and classical studies."² The Acts emphasized the teaching of trades as well as the application of scholarship to the practical needs of the community. In attempting to resolve the problems of local farmers, for example, the new land-grant universities expanded knowledge about agriculture for the benefit of all. They exemplified the ideal of the institution of higher learning as a solver of local problems and a servant of the people. In Wisconsin, during the late 19th century, this philosophy came to be known as a combination of "soil and seminar,"³ focusing academic resources on improving the lives of farmers and citizens across the entire state.

Government involvement in American higher education expanded throughout the 20th century as access widened. Highlights include the GI Bill in 1944, the National Defense Education Act of 1958, and the Pell Grants (an outgrowth of U.S. President Lyndon Johnson's War on Poverty) starting in 1972.⁴ The work of the Truman Commission on Higher Education resulted in the establishment of a community college system during the 1950s. The Commission's report underscored that the purpose of higher

education was to promote “equal opportunity to differing individuals and groups,” and to enable citizens to understand their responsibilities as members of a free society. These policies and views coincided with the expansion of higher education in the U.S. The proportion of high school graduates attending college more than tripled from 4% in 1900 to 15% in 1940. Between 1940 and 1970, it tripled again, to 45%, following successful government efforts to create opportunities to open higher education for the economically disadvantaged and for men and women of color. By the end of the 20th century, the proportion attending college exceeded 60%.⁵

The Perspective of Economists

Adam Smith, the father of economics, highlighted the public benefits of education when he wrote in 1776 that “The expense of the institutions for education and religious instruction, is . . . beneficial to the whole society, and may, therefore, without injustice, be defrayed by the general contribution of the whole society.”⁶ But Smith then went on to note that the public might enjoy those benefits as a by-product of the behavior of private individuals seeking to invest in education as a path to their own financial betterment: “This expense, however, might perhaps with equal propriety, and even with some advantage, be defrayed altogether by those who receive the immediate benefit of the education.”⁷

Many years later, Milton and Rose Friedman (1980) developed these ideas further. They argued that there is no hard evidence that “higher education yields ‘social benefits’ over and above the benefits that accrue to the students themselves” (p. 178–180). Furthermore, they posited that any public benefits associated with higher education will be substantially captured as a by-product of private behavior in pursuit of the higher earnings associated with higher education. They suggest that higher education may even have, on occasion, negative public benefits insofar as unemployed college graduates may promote “social unrest and political instability.” Finally, they argue that public subsidies of higher education do not improve the distribution of economic opportunity and well-being because the benefits are disproportionately enjoyed by those who are well off.

We address several of these points in this chapter, presenting evidence that questions some of their conclusions. In particular, our evidence suggests that (a) public intervention can increase the number of individuals who obtain higher education,⁸ and (b) there are beneficial spillovers resulting from the expansion of higher education. Taken together, this evidence supports the position that public subsidies of higher education benefit society at large. Whether the benefits are sufficient to justify the public expense is an economic issue worthy of further examination and ultimately a matter for public policy debate.

Human capital theory represents a somewhat different—though related—line of inquiry concerning the public benefits of higher education. It focuses on estimating the rate of return to investments in education, which involves comparing the immediate costs with the subsequent benefits of schooling. The *private* rate of return reflects the direct costs to individuals of their schooling (i.e., out-of-pocket costs of education plus earnings foregone while in school), and the increases in earnings that can be attributed

to having received education. By contrast, the *social* rate of return compares the full cost to society of more schooling, including public subsidies, with the benefits to the entire society of having a better educated populace.

As a practical matter, rates of return on investments in education are calculated in ways that are not entirely faithful to the concepts at hand. One method follows the work of Becker, Mincer and others, and involves the use of regression analysis to relate individuals' wages to their productivity-related characteristics (e.g., years of schooling and years of labor market experience) in a manner that aims to generate an estimate of the economic return on investments in schooling (analogous to the return on the purchase of a bond or investment in physical capital). This method measures the benefits of education as the incremental earnings enjoyed by those individuals who receive it (ignoring any other sources of public benefit). However, it takes no account of out-of-pocket educational costs or public subsidies.⁹ For these reasons, this method yields neither a purely private nor a purely social rate of return, but rather some ambiguous hybrid of these.¹⁰

Figure 1 reports estimates of the regression-based rate of return on investment in schooling in the U.S. from 1964 to 2003. The figure shows that the "rate of return" on investments in education has increased over time—from roughly 7% to nearly 12% per year over a 40-year period.¹¹ During roughly the same period, there was a steady increase in the percentage of full-time U.S. workers with a college degree, from 12% in 1962 to 31% in 2002.

A further problem with the human capital model arises in a second widely-used method of estimating the return on investments in schooling. This method uses standard formulas for estimating the rate of return on an investment project.¹² It measures both the social and private benefits of higher education as the incremental earnings enjoyed by those individuals who receive a higher education. Private costs are equal to the value

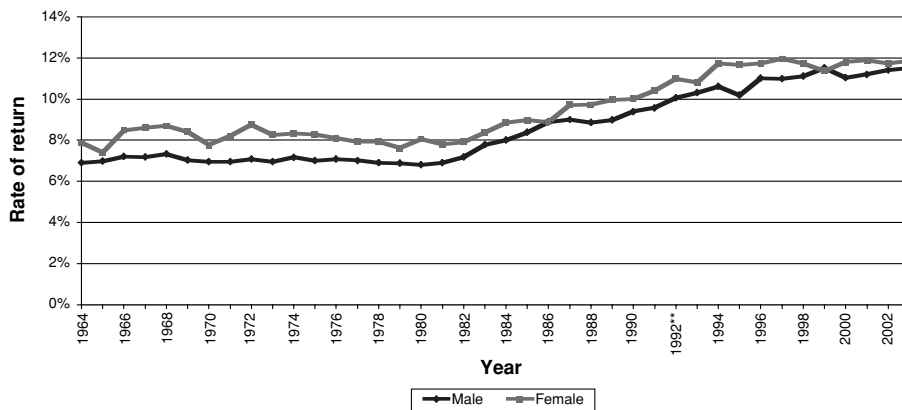


Figure 1. Estimates of return to schooling, US, by gender.

Source. Authors' calculations based on Current Population Survey and Jaeger, David A., 1997. "Reconciling the Old and New Census Bureau Education Questions: Recommendations for Researchers." *Journal of Business & Economic Statistics*, 15(3), pp. 300–309.

Table 1. Typical Estimates of Returns to Education, based on 98 country studies during 1960–1997

| | Private | Social |
|-----------|---------|--------|
| Primary | 26.6% | 18.9% |
| Secondary | 17.0% | 13.1% |
| Higher | 19.0% | 10.8% |

Source. G. Psacharopoulos and H. Patrinos, “Returns to Investment in Education: A Further Update,” World Bank Policy Research Working Paper 2881, September 2002 (from Table 1).

of foregone earning while in school plus out-of-pocket costs; social costs are equal to private costs plus the value of public subsidies. By definition, then, estimates of social returns are lower than private returns.¹³ In their research, Psacharopoulos and Patrinos (2002) offered a summary of estimates (see Table 1), which are especially striking because they purport to show that rates of return to higher education tend to fall below those of primary and secondary education.

A Shift in Attitudes

Estimates such as these have weakened the case for investing public resources in higher education. They accord with a common view that a college degree is an investment in securing a higher-paying job, primarily a personal economic benefit. Over the past 30 years, industrial jobs have increasingly been replaced by “knowledge work.” Corporations have sought well-educated people for high-skilled (and higher-paid) jobs, and a college education has come to be seen as an essential asset for a successful career. In 1995, James Harvard and John Immerwahr reviewed 30 studies on public perceptions of higher education and found that most Americans see a college education as a requisite for a “good job” (London, 2003). Recent focus groups conducted by the American Council on Education also found that job attainment is the most important benefit that Americans associated with going to college (Institute for Higher Education Policy, 1998, p. 8). The notion that the rewards of a college education are largely economic is mirrored in student attitudes as well. An annual survey of hundreds of thousands of college freshmen over the past 30 years reveals that in 1969, 80% of all incoming freshmen felt that developing a meaningful philosophy of life was an important personal goal. By 1996 that value had dropped to 42%. Between 1971 and 1991, the percentage of students indicating that they were attending college “to be able to make more money” increased from 49.9% to 74.7% (Astin, 1998). Simply put, students view a college education less as a formative experience than as a ticket to getting a good job. This sentiment is also reflected in their choice of majors. By 1997–98, 58% of bachelor’s degrees were awarded in occupational fields (Brint, 2002). As Steve Brint

notes, “The fastest growing of all [majors] has been business, which now accounts for some one-fifth of all undergraduate degrees—up from one-seventh in 1970–71” (p. 233). In addition, the significantly increased popularity of economics as a major may well stem from the widespread perception that that field is good preparation for a job.

Faculty, too, have come to accept career advancement as a primary goal of the academy. In the most recent “American College Teacher” survey (1998–99) conducted by UCLA’s Institute for Higher Education, professors indicated that the paramount goal of a college education was helping students “develop the ability to think clearly” (99.4%). However, the next most widely shared goal (as indicated by 69.9% of the respondents) was “preparing students for employment after college” (Gould, 2003, p. 17).

Support for public subsidies of higher education has also been weakened by the emergence of conservative ideology that decries bureaucratic waste in government and that hails private actions for private gain. Some economists contend, for example, that private incentives to attend college are sufficient to encourage enrollment rates that capture the lion’s share of any public benefits that college might offer.

In addition, beginning in the late 1960s, people have found more and more reason to distrust institutions of higher education—that is, they think they are operating not to serve the public but to feather the nest of faculty and administrators—and that there is no desire to be more efficient or, for example, reduce tuitions.

These shifts have left policies that favor strong public support for higher education in a weaker and more vulnerable condition.¹⁴ The case for public funding of higher education has also been undermined by increasing population mobility across states. Such mobility means that the public benefits of state expenditures in higher education do not accrue wholly to the citizens of that state. Higher education in the U.S. has also become more vulnerable to being crowded out by other demands on public funds, such as Medicaid mandates.

Declining Support from the Government

In relative terms, state support of higher education in the U.S. has dropped significantly in recent years. Although total spending on higher education increased 37% from 1995 to 2001 and even outpaced inflation in each of those years, the share of expenses of higher education institutions paid for by the states has declined, falling from 45% to 32% between 1980 and 2003 (Ruppert, 2001, p. xii). Many states now cover less than a third of the cost of public higher education (Altbach, 2002), with half of all states actually reducing their appropriations in recent years.¹⁵

Figure 2 shows the gradual decline in state support as a share of total expenses over the past two decades. It is therefore not surprising that some public institutions have begun exploring the idea of privatizing public higher education. For example, Governor Mitt Romney proposed privatizing three campuses of the University of Massachusetts system. The University of Virginia’s business and law schools have requested fewer resources from the system in return for greater autonomy (Selingo, 2003). In 2003, in the wake of 23% cuts in state allocations, Katherine C. Lyall, President of the

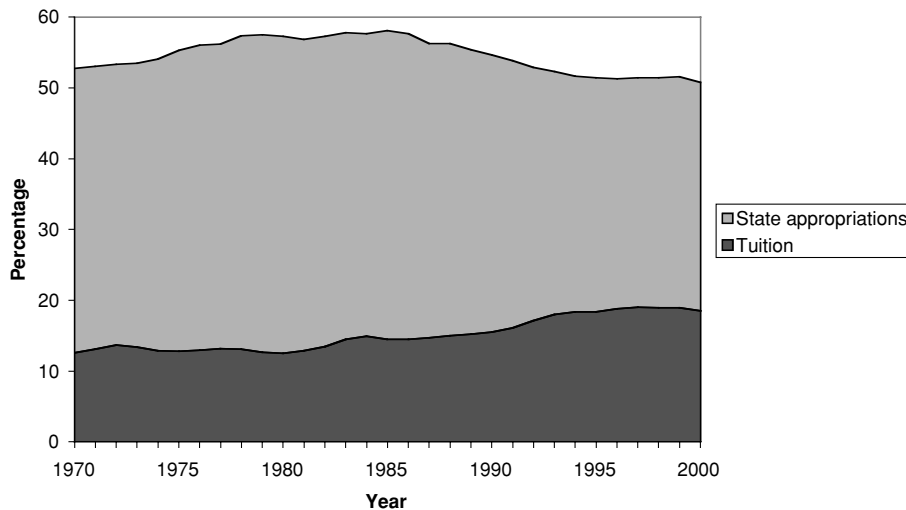


Figure 2. Tuition and state appropriations as a percentage of current fund revenue for public degree-granting institutions (1997–2000).

Source. Authors' elaboration from United States Department of Education, 2002.

University of Wisconsin system, proposed that the system secure autonomy while remaining accountable to the state by reporting to a new independent authority.

A similar situation has occurred with federal funding, which has seen an increasing emphasis on loans over grants. A national study on the affordability of higher education notes that “In 1981, loans accounted for 45% and grants for 52% of federal student financial aid. In 2000, loans represented 58% of federal student financial aid, and grants represented 41%” (National Center for Public Policy and Higher Education, 2002, p. 7). Pell grants, which are currently the largest need-based financial aid program, covered 98% of tuition at public four-year colleges in 1986. By 2002, this figure had fallen to 57% (New York Times, 2002).

The Public Benefits of Higher Education: Theory and Evidence

Public Benefits

In principle, higher education provides an array of public and private benefits. Table 2 provides one attempt to specify the nature of these benefits. For example, the increased earnings that result from a college education lead to greater tax revenues and enable increased savings and investment. Skilled workers are likely to be more productive, more creative in their development and use of new technologies, more adaptable and better able to learn new skills, and to have a greater knowledge of global economic and business conditions. Educated people are also less likely to have to claim government financial support. Putnam (1993, 2001) also emphasizes that education is a powerful predictor of civic engagement. In the United States, those who have attended college

Table 2. The Array of Higher Education Benefits

| | Public | Private |
|----------|---|---|
| Economic | <ul style="list-style-type: none"> • Increased Tax Revenues • Greater Productivity • Increased Consumption • Increased Workforce Flexibility • Decreased Reliance on Government Financial Support | <ul style="list-style-type: none"> • Higher Salaries and Benefits • Employment • Higher Savings Levels • Improved Working Conditions • Personal/Professional Mobility |
| Social | <ul style="list-style-type: none"> • Reduced Crime Rates • Increased Charitable Giving/Community Service • Increased Quality of Civic Life • Social Cohesion/Appreciation of Diversity • Improved Ability to Adapt to and Use Technology | <ul style="list-style-type: none"> • Improved Health/Life Expectancy • Improved Quality of Life for Offspring • Better Consumer Decision Making • Increased Personal Status • More Hobbies, Leisure Activities |

Note: The authors of this table use the term “social” benefits to refer to “non-economic” benefits. By contrast, the authors of the present chapter define “social benefits” to be the sum of public and private benefits, many components of which are economic.

Source: The Institute for Higher Education Policy, 1998.

have a 30% higher rate of being interested in politics, attend clubs at a 40% higher rate, and volunteer 45% more often.

For developing countries, too, the benefits of higher education are increasingly recognized. United Nations Secretary General Kofi Annan noted that “the university must become a primary tool for Africa’s development in the new century. Universities can help develop African expertise; they can enhance the analysis of African problems; strengthen domestic institutions; serve as a model environment for the practice of good governance, conflict resolution and respect for human rights; and enable African academics to play an active part in the global community of scholars” (United Nations Information Service, 2000). In the same vein, Mamphela Ramphele, a former managing director of the World Bank and former vice chancellor of the University of Cape Town, points out that “Higher education and poverty are linked because modern societies can become or remain materially wealthy only if they are managed by a large group of individuals with the right mix of sophisticated technical and organizational expertise. This expertise, and many of the behavioral attributes that go along with it, are most readily acquired and transmitted through modern tertiary education institutions” (Norwegian Agency for Development Cooperation, 2003).

In practice, and as noted by the Friedman & Friedman (1980) and many others, rigorous, quantifiable, compelling evidence concerning the public—as opposed to the private—benefits of higher education is very scarce. To begin to address this deficiency, we have conducted a series of empirical analyses related to higher education and income spillovers, entrepreneurship, and good governance. Although these analyses range in

degree of sophistication, they are all consistent with the view that higher education does confer benefits on society beyond the gains in earnings enjoyed by the individuals who receive that higher education.

The first analysis (Bloom, Hartley, & Rosovsky, 2004) uses data from the U.S. Current Population Survey from 1982, 1992, and 2002 to compare the weekly earnings of full-time workers aged 18–64, employed in states with different shares of college graduates. The comparisons focus on workers who are statistically comparable in terms of their individual productivity-related characteristics: age, sex, race/ethnicity, marital status, educational attainment, industry, occupation, and state. The results reveal that workers earn (statistically) significantly more when they are located in states that have higher proportions of college graduates. Thus, not only do college graduates have relatively higher productivity and earnings, they also appear to enhance the productivity and earnings of those with whom they work. Similar results are reported in Moretti (2004), who uses data from the National Longitudinal Survey of Youth to control for unobserved heterogeneity among workers and locations as well. Moretti reports that an increase in the share of college graduates raises the wages of both high school dropouts and high school graduates who have not gone on to higher education.

The second analysis focuses on the cross-country correlation between higher education and entrepreneurship. Babson College’s Global Entrepreneurship Monitor reports a Total Entrepreneurship Activity (TEA) Index, which measures the share of adults involved in new firms or start-up activities. Results for 17 countries reveal that individuals with higher levels of education have higher levels of entrepreneurial activity. The TEA analysis also reveals that more-educated entrepreneurs create a greater number of jobs than less-educated entrepreneurs (see Figure 3).¹⁶ These associations certainly do not prove a causal link from higher education to entrepreneurship, but they are consistent with that view.

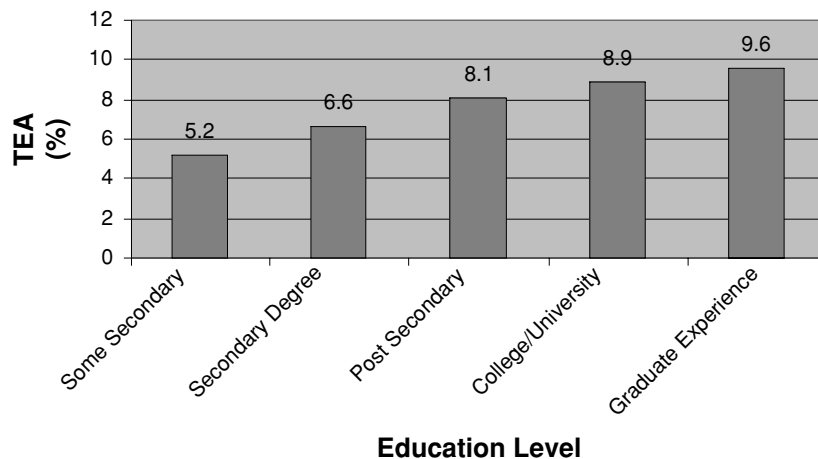


Figure 3. Total entrepreneurship activity index by educational level. *Source.* Reynolds et al., 2002.

The third analysis focuses on data contained in the International Country Risk Guide (ICRG). Using data from 130 countries from 1990 and 1995, we examine quantitative assessments of a number of governance-related factors that are believed to affect the investment risk profile of countries. We find that there is a positive and statistically significant correlation between tertiary enrollment rates and each of the following governance indicators: absence of corruption, rule of law, bureaucratic quality, absence of ethnic tensions, low risk of repudiation of contracts by government, and low risk of appropriation. By no means does this prove that there is a causal link from higher education to good governance, but it is at least consistent with that view.

Is Public Intervention Needed to Capture Public Benefits?

The preliminary evidence that we have assembled supports the hypothesis of public benefits and provides some concrete results. But the important issue of whether these benefits can be captured without public intervention still remains. More specifically, does public intervention via a subsidy or loan program promote the realization of public benefits through higher enrollment rates than would otherwise be the case?

To address this issue, we have examined the impact of the Servicemen's Readjustment Act (the "GI Bill") on college attainment. Introduced in 1944, the law allowed millions of U.S. veterans from a broad range of socioeconomic backgrounds to attend college or receive vocational training. The GI Bill offered World War II veterans a maximum of 48 months of college tuition and room, board, and book expenses. (Later veterans also took advantage of this measure in slightly modified versions.) The implementation of this legislation was by far the most likely cause of the vast increase in college attendance by men:¹⁷ In 1939 there were 815,000 students; by 1949, there were 1.7 million. Nearly 7.8 million World War II veterans took advantage of the GI Bill, of whom 2.2 million went to college.¹⁸ Ultimately, 10 million veterans took advantage of this law.¹⁹

The bill, however, was not without controversy. For example, James B. Conant, at the time president of Harvard University, opposed it because "it didn't distinguish between those who can profit most by advanced education and those who cannot." University of Chicago president Robert Hutchins fretted that "Colleges and university will find themselves converted into educational hobo jungles." The total cost of educating World War II veterans via the GI Bill was \$14.5 billion between 1944 and 1956 (United States Department of Veterans Affairs, 2005)—that is, a little over \$1 billion per year—out of an annual federal budget averaging \$60 billion (in current dollars) during those years.

Figure 4 represents a snapshot of the male and female populations of the U.S. in 1964. The left bar in each pair shows the proportion of men with college degrees by their age in 1964. For example, the bars for age 40 represent men born in 1924, who were 21 years old in 1945, at the end of World War II. Starting from the right side of the chart (i.e., the higher ages), it is notable that the height of the left bar in each pair changes reasonably little from one age to the next (i.e., there is no major trend in college attainment for men who were older than college age right after the war.). But then the bars rise as we move further left, indicating a surge in college attainment for younger cohorts, i.e., men who served in WWII and the Korean War. In other words, they were also the men who would have been eligible for the full college scholarships

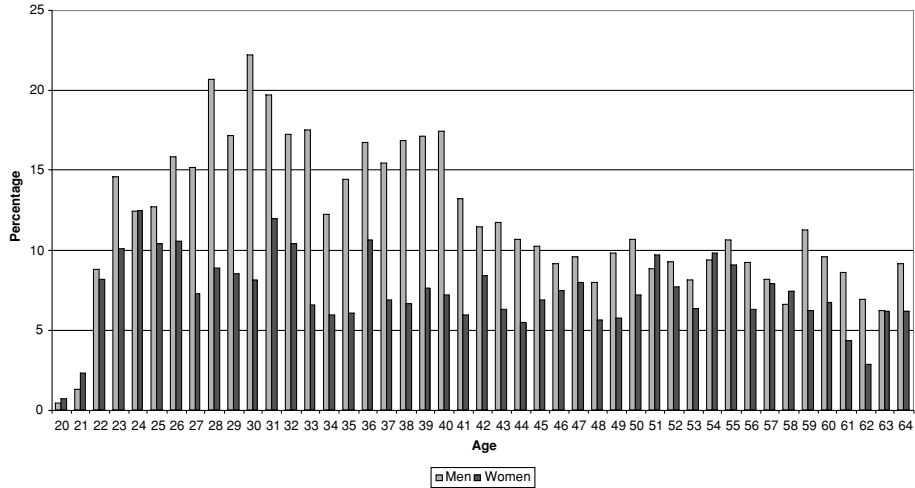


Figure 4. Proportion of men and women with college or higher degrees by age in 1964. *Source.* Tabulated from the March 1964 *Current Population Survey*.

offered by the GI Bill. As one other indication that this rise in college attainment is due to the GI Bill, we note that one does not see a similar rise for women, who had far less eligibility for the GI Bill because they were not well represented in the military. Thus, it would appear from this chart that the GI Bill significantly promoted college attendance in the U.S. This evidence strongly runs counter to the view that college attainment is non-responsive to government subsidies.

Taken together with the earlier evidence concerning the public benefits of higher education, these results highlight the potential importance of subsidies as a way to capture those benefits. At a minimum, further research on the enrollment impacts of the GI Bill would appear to be warranted. In addition, an analysis of the public costs and benefits of the GI Bill would also be in order. Such an analysis could assess the contribution of the GI Bill to the stock of human capital (including intergenerational effects, as the children of college graduates are more likely to attend college as well) and macroeconomic performance in the U.S.²⁰

The enrollment boost associated with the GI Bill is consistent with the view that tertiary enrollments are responsive to public intervention. Coupled with the evidence that earnings levels are higher when the density of college graduates is greater, these results suggest that higher education has beneficial spillovers that will not be captured entirely through private behavior.

Public Benefits and Developing Countries

The trends and issues discussed here have a particularly powerful effect on developing countries, especially on those countries that depend on a variety of international funding agencies for support of their educational infrastructure.

While the list of possible public benefits is very similar for developed and developing countries, a list focusing on the latter would place more emphasis on the role of higher education in expanding the possibilities of democracy and also on its role as a source of professionals, civil servants, and individuals capable of dealing with the outside world. Anything that fits under the rubric of “nation building” becomes relatively more important in the developing world.

In rich countries, primary and secondary education is compulsory and only funding for higher education contains a large discretionary element. In poor countries, however, policymakers and donors have more choices to make. All sectors need growth and support, and the correct principles of resource allocation are still subject to debate: primary vs. secondary vs. tertiary is the contentious policy issue.

Donors, and especially the World Bank, have in the past based their allocations on what we believe are problematic and misleading rate of return calculations. Primary and secondary education has been heavily favored—even in relative terms—at the expense of support for colleges and universities (for example, see Table 1, provided earlier in this chapter.) Recipient countries have not always been pleased with these policies, perhaps because they recognize more clearly than donors the relationship of higher education to nation building. There are hopeful signs of change. The World Bank, which had agreed with the strategy of funding primary and secondary education at the expense of higher education, recently modified its views. In *Constructing Knowledge Societies: New Challenges for Tertiary Education* (World Bank, 2002), the Bank does not recommend that rate of return analysis be used as the allocation mechanism, and suggests that countries take account of the “major external benefits” (p. 20) brought by higher education. (The case of funding for higher education in sub-Saharan Africa was particularly problematic, as noted by Damtew Teferra in his chapter in Volume 2 of this *Handbook*. The withdrawal of World Bank support for higher education inspired similar action by other funding agencies and ultimately by governments. Institutions of higher education have suffered tremendously. Universities have had to raise fees and try to raise funds from new sources, which, in a continent broadly bereft of financial resources, is extremely difficult.)

Conclusion

In this chapter, we have tried to show that, in the United States, there has been a shift in emphasis from the public benefits of higher education—the common good—to private gains in the form of more lifetime income. No doubt this represents (in part) an ideological shift, heavily reinforced by the difficulties of rigorously measuring or even defining public benefits.

In making this connection, three points need to be stressed. First, the measurement of private benefits is difficult in practice, and the difficulties are frequently glossed over in published empirical studies. Second, there are data wholly consistent with various hypotheses that assume the presence of significant public benefits. Third, there are also data that indicate the usefulness of subsidies for society to achieve an optimal level of public (and social) benefits.

In many developing countries, the debate about who benefits from higher education has focused more on the relative public benefits of primary and secondary versus higher education. But in addition, the fundamental question of public subsidies for higher education persists and is unresolved. The cross-country evidence discussed briefly in this chapter supports the idea that in developing countries, too, higher education brings broad public benefits that have been under-recognized in the past. For both developed and developing countries, these are tentative conclusions, but—in many ways—no more tentative than inferences based solely on calculated private returns. Sound policy must take both public and private returns into account.

Acknowledgments

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Notes

1. See Bloom and Sevilla (2004).
2. Compared to most countries, the U.S. federal government's involvement in higher education is quite limited; instead, individual states bear the lion's share of responsibility for colleges and universities. For more on higher education in the United States, please see the United States chapter in volume 2 by Peter Eckel and Jacqueline King.
3. The quote is from Charles McCarthy, a Wisconsin graduate and the first reference librarian in the U.S. See Benson, Harkavy and Hartley (in press).
4. As discussed later in this chapter, the GI Bill, formally the "Servicemen's Readjustment Act of 1944," provided education and training, along with other benefits, for World War II veterans of the U.S. military. The National Defense Education Act provided scholarships and loans focused on improving postsecondary education in math, science, and foreign languages. The Pell Grants (formally known as the "Basic Educational Opportunity Grant Program") are need-based grants and are the principal mechanism by which the U.S. government gives financial aid for higher education. For more on these, please see J. Forest & K. Kinser, *Higher education in the United States: An encyclopedia* (Santa Barbara, CA: ABC-CLIO Publishers, 2002).
5. In recent years, arguments about the public interest in higher education have also been raised in connection with developing countries. See, for example, Birdsall (1996), Task Force on Higher Education and Society (2000), Bloom and Rosovsky (2004), and World Bank (2002). We briefly address this issue near the end of this chapter.
6. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, V.i.i.5.
7. Ibid.
8. Dynarski (2005) reviews studies on the effect of subsidies on college entry and college completion in the United States. Her own research finds that merit-based subsidies increase both entry and completion rates.
9. Nor does it distinguish between pre-tax and post-tax income when calculating social vs. private benefits. This distinction is important insofar as taxes are not a constant proportion of income.

10. As the eminent statistician John Tukey remarked in 1962, "Far better an approximate answer to the right question, which is often vague, than an exact answer to the wrong question, which can always be made precise."
11. In keeping with standard practice in labor economics, rates of return are estimated separately for males and females. Consistent with the literature, the estimated rates tend to be higher for women than men. See Dougherty (2003) for a detailed examination of the sources of this disparity. Also, under the assumption of a perfectly competitive economy, the rate of return on investments in schooling is equal at all levels of education. This implies that the rate of return on higher education is equal to the rate of return on education overall, which is the estimated time-series reported in Figure 1.
12. See, for example, Brealey and Myers (2003).
13. There are other well-established difficulties with the human capital model as well, the most prominent of which relates to the causal link from education to earnings. For example, those who receive more schooling may be more motivated to begin with, and they are likely to live in circumstances that in any case give them advantages in life; therefore, even without additional schooling, their incomes would likely have been higher than those who did not receive schooling.
14. For example, John V. Lombardi, chancellor of the University of Massachusetts at Amherst, has remarked, "There is a nationwide crisis in that the public no longer believes that higher education is essentially a public good funded from the tax base for everyone" (Rothstein, 2003). David Frohnmayer, University of Oregon President, observes a "tragic and unnecessary and unfortunate change of view that higher education is seen not as a public good but as a private good" (Bolt, 2003).
15. A few states have made much larger cuts. In 2003, Colorado reduced its higher education budget by more than a quarter (26%) and Oklahoma, South Carolina, and Wisconsin reduced their allocations by 10% (Potter, 2003).
16. The Total Entrepreneurship Activity (TEA) Index represents the share of adults involved in new firms or start-up activities. See Reynolds et al. (2003).
17. Researchers have reached varying conclusions on this point. For example, Strom (1950) reports that only 20% of a sample of 2119 student veterans would not have attended college if not for the GI Bill. Similarly, Nam (1964) concludes that much of the great swell in men's college attendance after World War II was due to factors that would have been in place even without the GI Bill. But these conclusions are difficult to accept in light of the male-female comparison in Figure 4 below and the exceedingly careful empirical study by Bound and Turner (2002) that concludes that "war service increased college completion rates by close to 50%."
18. The remainder received vocational or on-the-job training. See Mettler (2002).
19. This paragraph draws on Simon (2003), among other sources.
20. Insofar as many of the subsidized students (those who could otherwise not afford to attend college and who may not have had access to loans) came from poor or minority families, the social equity impacts of the GI Bill would also be worth careful examination.

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RESEARCH AND SCHOLARSHIP

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This chapter addresses research and scholarship, which are key responsibilities of both academics and higher education institutions. It attempts to define the characteristics of research and scholarship and their place in higher education systems and institutions, and considers the research role of universities and the differing commitment of universities to research activity. Other topics covered include the role of the state in research and innovation, public funding of research and development (R&D), priority setting in research funding, university research links with industry, and research commercialization.

The discussion concentrates particularly on research-intensive universities, or those major universities with particularly strong commitments to research activities, R&D and Ph.D. training. It also focuses mainly on highly-developed industrial countries, particularly members of the Organization for Economic Development and Cooperation (OECD). At the same time, it should be recognized that research and scholarship are important in all higher education systems, especially to support research training and teaching more broadly, although funding research can be difficult for small, developing nations. Ideally, all nations should maintain some research capacity in order to keep pace with scientific and technological innovations internationally, and to have the ability to access latest developments in key disciplines, as reported in scholarly literature.

Research and Scholarship in Higher Education Institutions

Over the past half century, most industrialized countries have defined the functions of higher education institutions and the roles of academics in terms of their three-fold responsibilities: teaching, research and scholarship, and service. This view is reflected in extensive literature on the functions of higher education and academic roles (e.g., Clark, 1983; Tight, 2000).

According to this view, teaching has usually been defined mainly in terms of undergraduate on-campus instruction, but in recent years this definition has required some adjustment to include postgraduate instruction, delivery of courses by distance education or electronic means, and the various specialized teaching roles, including lectures, seminars, curriculum development, student assessment and course review. Teaching

responsibilities today are also thought of as including research training in the form of supervising research students who undertake projects leading to research higher degrees, as well as postdoctoral training.

The terms research and scholarship have usually referred to uncovering or generating new knowledge, or solving particular practical or theoretical problems. As research and scholarship have increased in importance, so have various elaborations in definitions been introduced, especially to account for a wider range of research activities and disciplines, including R&D activities aimed at making scientific discoveries and inventions more commercially attractive to business firms. Thus, today the extension of knowledge is widely accepted as including the discovery of previously unknown phenomena, the development of explanatory theory and its application to new situations, and work that provides significant contributions to particular disciplines, tackling problems of social and economic significance or producing original works of intellectual merit. More recently, in some contexts, the terms research and scholarship have taken on separate and distinct meanings, with research being used to refer to intellectual inquiry aiming to produce research outputs in the form of publications or patents, while the term scholarship is being used to refer to intellectual activity aimed primarily to keep academic staff abreast of key developments in their fields, and thus be able to communicate details and insights to students.

Service has usually been defined to include internal service within higher education institutions, such as contributions on committees or boards or undertaking administrative roles, as well as service to scholarly and professional associations and to the wider community. More recently, however, the meaning of service has been expanded to include consultancy activities undertaken by academics as well as the transfer of university research outcomes to business firms and other research users.

These changes in the definitions of academic roles and responsibilities reflect major changes in higher education systems, springing from dramatic expansion in student enrollments, pressures on public funding and operating costs, public accountability and quality assurance demands, the impact of new technologies, and the development of more diverse higher education systems. In general, a number of influences have come together to prompt more explicit differentiation between what is meant by research and scholarship. Particularly important has been a growing acceptance that in large, comprehensive and diversified higher education systems, not all academic staff should be required to conduct research as part of their employment conditions, while many higher education leaders have complained of an over-emphasis on research achievements in academic employment and reward structures. Associated with this has been a growing concern about the need for higher quality teaching, particularly at undergraduate levels in mass higher education systems, and a need for appropriate reward structures to recognize teaching of particular merit. While research and publications have become the primary means for academic advancement and status in research-intensive universities, in terms of time allocations and public perceptions teaching is generally regarded as being the key responsibility of higher education. Further, studies have shown that many academics have been drawn into employment in universities and colleges by their interest in teaching and working with students.

In the development of this new differentiated view of research and scholarship, particularly influential was the contribution of Ernest L. Boyer (1990), who called for a re-conceptualization of scholarship to address four different forms of scholarly activity—discovery, integration, application and teaching. Significantly, research (or the “scholarship of discovery”) constituted only one of these forms. Boyer was highly critical of the education experience that students received on many major American campuses, dominated by a strong research culture, a fragmented academic structure, and curriculum that lacked overall coherence. He attacked what he saw as the dominant view in research-intensive universities, arguing as follows:

... to be a scholar is to be a researcher—and publication is the primary yardstick by which scholarly productivity is measured. At the same time, evidence abounds that many professors feel ambivalent about their roles. This conflict of academic functions demoralizes the professoriate, erodes the vitality of the institution, and cannot help but have a negative impact on students. Given these tensions, what is the balance to be struck between teaching and research? Should some members of the professoriate be thought of primarily as researchers, and others as teachers? And how can these various dimensions of faculty work be more appropriately evaluated and rewarded (Boyer, 1990, pp. 2–3).

While Boyer’s conceptualization of scholarship has been adopted in full by relatively few institutions, his ideas helped prompt rethinking of academic roles and encouraged universities in many countries to make explicit distinctions between research and scholarship. It also led to the development of new appointment and promotions policies, giving greater recognition to both teaching and service activities (e.g., see Coaldrake & Stedman, 1998).

At the same time, within many universities there is an ongoing debate about the balance between teaching and research activities, the possible contributions that research makes to high quality teaching, and whether or not research activities are best located in academic departments or special research centers or institutes. Even in research-intensive universities, there is often debate about the amount of time that academics should spend on research and teaching. For example, in the comprehensive Australian university sector, which includes former colleges of advanced education, academics report almost equally high interest in research and teaching, but on average during a semester they spend 48% of their time in various teaching activities and only 22% in research and writing (Harman, 2000, pp. 93–94). Similarly, a 1996 survey found that in American research-intensive universities, faculty members spent about 44% of their weekly work time on teaching, and about 32% on research (OECD, 1998, p. 20).

Despite rapid growth in the numbers of research-only academics in research-intensive universities, the proposition that all academic staff should engage in both teaching and research continues to be held as an article of faith in many higher education systems, often with the argument that the two activities are mutually reinforcing. However, research evidence about close links between research and teaching in higher education is not strong, especially in relation to the need for undergraduate teaching to be underpinned by research-active academic staff. On the basis of a meta-analysis of 58 research studies, Hattie and Marsh (1996) found that the statistical relationship

between research productivity and student-assessed teaching effectiveness was close to zero, concluding that the “common belief that teaching and research are inexplicably entwined is an enduring myth” (Hattie & Marsh, 1996, p. 529).

While academic departments in research-intensive universities are heavily involved in both teaching and research, a clear trend has been for the establishment of increasing numbers of research centers and institutes, often located outside normal academic unit structures. This trend has accelerated with government initiatives to create major research centers of excellence, often combining expertise from different disciplines (OECD, 2003a).

While research is regarded as being of central importance in modern universities, the research university idea is a comparatively modern phenomenon. The medieval and renaissance universities were essentially concerned with teaching, moral training and preparation for service in the church and government. However, with the Industrial Revolution, new emphases were soon given to science and engineering, and to laboratory-based research. The classical European university concept of research-based teaching developed following the establishment by Wilhelm von Humboldt of the University of Berlin in 1810 and continues to be influential today, while the idea of the modern research university developed in the United States in the second half of the 19th century (Geiger, 1986). In the early part of the 20th century, the research university idea spread widely to many other industrial countries, with a strong emphasis being placed on the role of the university, focusing primarily on basic research and research training, with some commitment to applied research but little to developmental research.

The mission and fundamental values of the university at this stage were only moderately tied to the economy and employment of graduates. From World War II on, however, demands made on scientific research for reasons of national defense and economic and social development brought universities more directly into contact with research users, leading to ongoing efforts to reform and redirect university research efforts (Geiger, 1993). While the classical university idea retains considerable appeal within academia, increasingly modern universities are being forced to accept a wider research role and to become more directly involved with business, industry and government (OECD, 1998). Combined with this has been the rapid growth in student enrollments and movement towards more strongly market-driven approaches, with students, firms, governments and other “customers” placing increasing pressures on university directions and priorities.

Parallel to these developments, new kinds of higher of higher education institutions with distinctively different missions and character have emerged. These include community colleges of the United States, Canada, and Japan; further education colleges and polytechnics in Britain; the *Fachhochschulen* in Germany and Austria; polytechnics in Portugal; and colleges of advanced education and vocational education and training institutes in Australia. In many cases, these alternative institutions do not have an explicit research function, but rather their main emphasis is on providing high quality vocational training, with explicit links to employment and the labor market. Among the 3,600 higher education institutions in the United States, only slightly more than 200 qualify as research universities under the widely accepted Carnegie

classification of higher education institutions (OECD, 1998, p. 16), while in Australia almost twice as many students are enrolled in vocational education and training institutes as in universities (Harman, 2003).

The Research Functions of Universities

Associated with the increased diversification of higher education systems has been an increase in the degree of commitment to research activities of particular universities. In many countries, with a clear trend to greater selectivity and competitiveness in public research funding, research activities are becoming increasingly concentrated in a limited number of research-intensive universities. In the United States for example, the strongest commitment to research is found in what are referred to as Research Universities Category 1 following the Carnegie classification, while the strongest research universities in the United Kingdom are known as the “Russell Group” and in Australia as the “Group of Eight” universities. In these three countries, relatively small numbers of leading research universities attract a high proportion of total external research funding and contribute disproportionately to the production of scientific papers and patents.

Universities are thus key elements in national research systems, especially in developed countries. They carry out extensive research activities, train future researchers and other skilled personnel, and generate and communicate new knowledge. University research adds to the overall stock of scientific knowledge on which industrial research draws, while academic laboratories are a source of advanced instrumentation often accessed by industry. Universities undertake research activities for a variety of reasons, but particularly important are strong academic commitments to the value of research and scholarship that are often highlighted in university charters and mission statements, and are integral parts of academic and disciplinary cultures. In addition, universities engage in research because of the status and recognition it attracts, its value in supporting teaching efforts (particularly at advanced levels), and as vehicles for providing service to the wider society.

With the increasing recent emphasis on international business competitiveness, the production and application of new knowledge generated by universities has taken on increasing importance. Traditionally, high quality university research has been regarded as work that breaks new ground or is innovative; is systematic and rigorous, with appropriate in-depth analysis or synthesis; and leads to publication or other forms of dissemination, so that the findings are open to peer assessment and made available to the benefit of the wider community. However, with the increasing commercialization of university research and new partnerships between universities and industry, some traditional academic commitments and values are being challenged, such as the open dissemination of research results and sharing of research materials among scientists.

Important changes are thus taking place in the research enterprise and in efforts to capture research benefits to meet social and economic needs. Especially in scientific and technological research, costs are rapidly increasing, due in part to the use of highly sophisticated and expensive equipment and other infrastructure support. There also is a general shift away from an almost exclusive emphasis on disciplinary research, which

some see as hindering fruitful synergies across fields, and toward more multidisciplinary research that is more directly responsive to societal needs and is carried on with greater interaction between different research performers. This trend has been described as a shift from Mode 1 to Mode 2 research (Gibbons et al., 1994). Mode 1 research is generated within traditional disciplinary and cognitive contexts, while Mode 2 research emphasizes the importance of the application of knowledge, is usually transdisciplinary in character, and is generally more socially accountable and reflexive. While there is ongoing debate about the extent to which Mode 2 research is actually replacing Mode 1 research, it is clear that more multidisciplinary activity is occurring at the frontiers of scientific research, with many of the most exciting breakthroughs taking place through interfaces between traditional disciplines. This trend is often closely associated with proliferation in the channels for bringing new science and technology to the marketplace, with licensing and spin-offs combining more effectively with the role of venture capital, new intellectual property (IP) legislation, and new forms of academic labor mobility.

Apart from universities, other institutions of importance in science and innovation systems include public sector research institutions (PRIs) and research laboratories operated by business firms. However, the balance of activity between these three different types of research performing bodies varies considerably between different countries (OECD, 2003a).

Since university research activity varies considerably in terms of its disciplinary orientations, objectives, methodologies employed, and end products and their use, policymakers (and sometimes academics themselves) find it convenient to make various distinctions—for example, between basic and applied research, and between curiosity-driven and problem-driven research. In their statistical collections (and sometimes policy discussions), many countries now use OECD categorization for describing their *pure basic research* (experimental and theoretical work undertaken to acquire knowledge without looking for long-term benefits); *strategic basic research* (experimental and theoretical work undertaken to acquire knowledge in the expectation of useful discoveries); *applied research* (original work undertaken to acquire knowledge with a specific application in view); and *experimental development* (systematic work, using existing knowledge gained from research or practical experience, directed to producing new materials, products or devices) (OECD, 2002). While categorization has considerable utility in monitoring research performance and in facilitating discussions of research policy issues, it has been subject to considerable criticism, especially since many traditional boundaries are becoming increasingly blurred in new multi-partner and transdisciplinary research centers.

The Role of the State in Research and Innovation

With the increasing economic importance of science and technology in economic development, governments have been drawn into playing increasingly important roles in the funding of university research and in deciding on overall research directions and priorities. Initially, in many countries research activities were funded through annual grants allocated by governments to universities primarily to support their teaching

tasks. Under this system, universities and academics largely set priorities, with funding allocations to schools and faculties being primarily determined by student enrollments and by the needs of particular disciplines for expensive scientific equipment. But most countries soon saw the need for the creation of specialized funding councils or agencies, and for more strategic and competitive approaches to allocations.

The organizational pattern that developed with specialized funding councils varied considerably, with some countries adopting much more centralized approaches, while in other cases more decentralized and fragmented approaches emerged, often with separate specialist councils for each major disciplinary area. For example, the United Kingdom currently has six separate research funding councils—for medical research, engineering and physical sciences, biotechnology and biological sciences, the natural environment, particle physics and astronomy, and economic and social research—but recently these are being more tightly coordinated by a Director General of Research Councils located in the Ministry of Science and Technology. In addition, the U.K. has recently established an Arts and Humanities Board, following recommendations of the Dearing Committee (Dearing, 1997). In contrast, the current research funding structures in Australia are more centralized, with two major research councils—one for medical research and another for research in other academic disciplines—although at the same time there are a series of R&D corporations that provide allocations for agricultural research, based on a combination of government and producer-provided funding. Generally, research councils allocate funds for particular projects or programs on a competitive, merit basis, with allocations based on peer review by disciplinary experts (Chubin & Hackett, 1990).

In supporting and directing national research policy objectives, governments today are using a variety of “policy instruments” to achieve particular objectives, including the allocation of block grants and specific purpose funds to institutions, research centers and individual researchers; establishment of major research centers and institutes; investment in major research equipment and research infrastructure; provision of economic incentives and disincentives (including subsidies, pricing structures and taxation concessions, or charges); regulation (such as legislation relating to IP); and the provision of information. In addition, ministers and officials increasingly use persuasion and advocacy to gather support for particular policy directions. Some of the least understood instruments for encouraging R&D and research commercialization are taxation concessions, such as Australia’s 125% deduction for business R&D expenditure (Harman & Harman, 2004).

Governments today are faced with various new pressures and challenges related to their role in supporting university research. In particular, they are being forced to respond to demands from a more diverse set of stakeholders, to tackle problems about long-term sustainability of research enterprises, and to respond to new pressures with regard to public accountability and transparency in funding allocations. Traditionally, research funding has been seen as having two main stakeholders—the research community, and those who fund research. Under these arrangements, universities and researchers largely determined research agendas, while governments saw their responsibility as essentially maintaining capacity in knowledge creation that could benefit society and provide spillovers within the economic sector. In recent years,

however, larger groups of stakeholders have been demanding involvement in establishing research priorities and deciding on financial allocations, while the business community is carrying out more research on its own and becoming more involved in supporting particular types of university research. Challenges in long-term sustainability relate particularly to maintaining breadth and diversity in research capacity, and ensuring a supply of highly-trained human resources. The supply of highly-trained scientists is closely related to capacity in Ph.D. training, the ability to attract foreign-trained scientists, and success in addressing problems of brain drain to other countries. New public accountability pressures are often essential parts of agendas about new public sector management, with an emphasis on increased efficiencies and a more strategic approach to the management of R&D efforts. These pressures often combine with a variety of stakeholders making new or increased demands related to research directions and emphasis in areas such as health, environment and energy.

Governments have responded to these new challenges in different ways. According to the recent OECD report, *Governance of Public Research* (OECD, 2003a), an extensive international survey revealed that OECD member countries have responded by increasing the range of stakeholder involvement in priority setting; restructuring research funding by redefining responsibilities, combining agencies or developing new mechanisms of coordination; reviewing and renewing R&D funding mechanisms, with a strong emphasis on the increased use of competitive arrangements based on performance and merit; undertaking major funding initiatives to strengthen infrastructure support; encouraging enhanced partnerships between universities, public sector research organizations and private firms; and reforming and restructuring PRIs.

In Australia, for example, the Australian Research Council and the National Health & Medical Research Council were significantly restructured, while all universities are now required to submit annual research and research training reports. A new performance-based funding system was introduced to make allocations for research and research training, and national research priorities were identified (OECD, 2003a). More recently, a commissioned report has recommended closer collaboration between universities and major publicly funded research agencies, and the establishment of a single overall coordinated agency to handle research allocations (Department of Education, Science & Training, 2004).

Public Funding of University Research and Development

Public funding of university research and development is one of the major instruments used by governments to steer science systems and to capture more effectively economic and social benefits. Many countries have embarked on reforms of their funding systems in response to new demands and opportunities, enhancing their strategic planning capacity and paying more attention to the social and economic environment and to the evolving patterns of relationships between stakeholders. Overall, the volume of R&D funding has increased, although public funding is generally increasing at a lower rate than private funding.

Traditionally in industrialized countries, a high proportion of university research was financed by governments as a “public good,” but in the 1990s such funding declined,

with the result that universities were increasingly forced to seek new sources of support. Meanwhile, government funding increased for mission-oriented and contract-based research, which is more dependent on output and performance criteria. This forced universities to perform more short-term and market-oriented research.

Almost all OECD countries have increased their R&D funding in recent years, although generally such increases have achieved little more than keep pace with the expansion of economies (OECD, 2003b). As a share of GDP, funding for R&D in universities and other public research institutes remained flat at 0.61% between 1981 and 2000 for OECD countries generally, although there were some major variations between countries. While the larger OECD countries tended to see declining levels of funding for university R&D as a share of GDP, many others—including Austria, Canada, Portugal, Spain and the Nordic countries—reported some significant gains (OECD, 2003b, p. 78). Nearly all countries in the OECD study reported their intention to increase funding in the future, but generally increases are expected to be focused in priority areas and in new programs (such as centers of excellence) where funding is provided on a competitive basis.

Different types of funding mechanisms are in wide use—particularly institutional or block grants, project funding, and special programs funding—but in each case there is increased use of competitive mechanisms and funding allocations based on performance. *Institutional funding* takes different forms, although in most countries it was traditionally based on student enrollments or the number of research units (or chairs, such as in Japan). Generally, such funding comes without strings attached. However, more recently a clear trend has been to separate institutional funding for research from institutional funding for teaching, and to increase allocations for mission-oriented funding on a competitive basis while long-term general institutional funding declines. The U.K., Australia, New Zealand and Hong Kong all use separate streams of institutional funding for research, with allocations being based on quality and/or performance. While Australia uses simple performance indicators (external research grants, higher degree completions and publication outputs), Hong Kong and New Zealand have opted for modified versions of the well-established U.K. Research Assessment Exercise (RAE) which involves assessments of research quality every four or five years, conducted by some 70 different panels of experts (OECD, 2003a, p. 108).

Throughout the 1990s, the Australian “research quantum” scheme allocated about 5% of total operating grant funding on the basis of performance indicators, while the Higher Education Funding Council of England allocated some 20% of total government funding on the basis of RAE assessments, resulting in the leading research universities gaining considerably larger amounts from their research allocations as compared to their teaching allocations (Harman, 2000). Since the early 1990s, the Hong Kong University Grants Committee has used a modified and less expensive form of the British RAE to allocate institutional funding, and New Zealand is currently introducing a performance-based research allocation system aimed at identifying and rewarding researcher excellence, and increasing the average quality of research (Ministry of Education, 2002). Allocations will be based on the quality of researchers (60%), research degree completions (25%) and external research income (15%).

Project funding allocations are generally made on the basis of applications submitted in response to notifications or calls for tenders and are evaluated usually by peer review processes. Project funding is similar to business funding of R&D in that it tends to be contract based, with specific objectives and milestones.

Special programs are becoming increasingly common. These are generally linked to priority areas, and funding is allocated on a competitive basis, often for centers of excellence, or special research centers involving universities and other partners. Centers of excellence have been established in many countries of the Asia Pacific region, including Japan, Australia and New Zealand. Japan launched a new university resource allocation prioritization program in 2002 called the 21st Century Center of Excellence Program, with the aim of promoting research units of world-class excellence in selected fields. The fields supported in 2002 were life sciences, chemistry and materials science, information, electrical and electronics engineering, humanities, and a variety of interdisciplinary subjects. Each research unit selected is being allocated resources around JPY 100 to 500 million for five years. In November 2002, some 113 research units at 50 institutions were selected out of 464 applications from 163 institutions. Australia has programs supporting Special Research Centers, Key Centers of Teaching and Research, Cooperative Research Centers (multi-site centers jointly funded by government and industry) and a small group of mega-centers in strategic areas such as biotechnology and information and communications technology (ICT). In 2001, New Zealand established a Centers of Research Excellence Fund to support world-class centers that are involved in both research and knowledge transfer activities (Ministry of Education, 2001).

In a number of advanced countries, an important trend is for increased R&D to be financed and performed by business. However, in Japan business support for higher education and public research institutions has increased only slightly and is still relatively small, while in Korea business funding for higher education research has decreased (although this reduction has been compensated by increased funding from the government, with an increase over last the two decades of about 100%). Other funding for university research comes from the institutions' own resources, endowments and patent licensing fees. In Japan and Korea, 5% or more of research funding comes from other sources.

Across advanced regional economies, governments are increasingly linking evaluation and assessment with funding allocations. Detailed assessments are sometimes made prior to new initiatives, while ongoing assessment of performance is increasingly common. Traditionally, evaluation procedures were based mainly on the use of peer review to consider grant and project applications, but increasingly, governments are using in-depth reviews and various performance indicators, such as the amount of publications, patents, start-ups, awards, prizes, and total external funding attracted.

Priority Setting for University Research

Priority setting by governments and universities is a process of strategic choice, with the aim of increasing returns on investment in research. In this process, some fields of research (or particular research centers or research projects) are selected over others to receive preferential funding. Increasingly, both government and university priorities

are being reflected in research funding decisions and reforms of funding mechanisms (OECD, 1991).

Priority setting is a complex and difficult political process, often involving many participants and taking different forms. Important distinctions can be made between different forms of priority setting—for example, thematic priorities (e.g., improving health care) as opposed to structural priorities (e.g., different funding instruments); disciplines (e.g., sciences as opposed to humanities) as opposed to priorities between different forms of research (e.g., basic vs. more applied research); and relatively short-term as opposed to medium or longer term plans.

Priority setting has had a number of drivers. Governments are increasingly aware of the direct relevance of scientific research and knowledge to economic growth and social well-being, and so look for higher returns on their research investments. This is often accompanied by stronger accountability demands and increased application of competitive mechanisms and other new public sector management ideas (as in Australia and New Zealand). In some cases, priority setting is driven by reductions in government budgets, but more commonly priority setting is favored to make decisions about how increased research budget allocations should be spent. Further, many governments face strong pressures to increase allocations to particular areas, such as health or environmental studies, requiring them to free up funding from other areas. In a number of countries (such as Korea), the identification of research priorities is directly linked to selecting engines of future economic growth, while in the United States and Denmark, priorities are identified to direct research efforts toward major areas of concern (OECD, 2003c, p. 63).

Priority setting is difficult because of competing pressures, existing rigidities—particularly with highly-decentralized funding in some countries—and the need to respond to new opportunities and societal needs. Shifting priorities within constrained budgets is a particularly difficult task, and often only portions of budgets are allocated by priorities. In the UK, for example, only annual increases in the science budget are allocated to priority areas, as identified collectively by the various Research Councils and through the Foresight Program (which has operated since 1994).

Governments in the Asia Pacific region, for example, use a variety of priority setting mechanisms—including national science and technology plans, advisory bodies, and foresight processes and public consultation—while universities tend to depend on strategic plans, research management plans and particular competitive funding mechanisms. Since 1970, Japan has been conducting periodic technology forecasting exercises using the Delphi method, while Korea uses the foresight model, and the results are implicitly integrated into national priorities by experts who are involved in evaluation and pre-budget review. In many countries, governments have made increased attempts to centralize and coordinate priority setting. In Hong Kong, priority areas have been established by an Areas of Excellence Sub-Committee of the University Grants Committee, following recommendations of the Sutherland Committee of Review which had advised Hong Kong to develop world-class institutions with distinct areas of excellence in order to retain its leading economic position in comparison to China and the Pacific Rim. As of late 2004, eight areas of excellence (including information technology, economics and business strategy, molecular neuroscience, and Chinese medicine) have

been selected for three rounds of funding, with a total of HK\$320m being allocated over a period of five years (University Grants Committee, 2004). Frequently, national priority-setting processes are being broadened to include participation by scientific experts together with business and community representatives, in the interest of increasing transparency as well as in response to requirements to better respond to societal needs.

In some countries, a “top-down” approach is dominant—such as in Japan, Korea, Germany, the Netherlands and Denmark, Norway and Hungary—where the central government adopts explicit strategies, policies or plans that specify priority areas for research. In these countries, there is some form of central advisory body that makes recommendations about priorities. At the other end of the spectrum is the “bottom-up” decentralized approach—such as in United States, Canada and Sweden—where advisory bodies contribute to the priority setting of different government agencies.

In the past, Australia depended on a sectoral and pluralist approach to priority setting, with priorities being set within major policy domains (often resulting in competition between research and operations in these domains). However, the Australian government’s innovation plan released in January 2001, *Backing Australia’s Ability* (Howard, 2002), highlighted the need for an emphasis on research areas in which Australia enjoys or wants to achieve a competitive advantage. A significant shift in priority setting was announced by the Minister for Education, Science and Training in January 2002, when four research priority areas were announced for the Australian Research Council’s 2003 funding round under the National Competitive Grants Program. More recently, the government began a new process to identify national research priorities that would influence the agenda of all major government research funding agencies. This involved extensive consultation and development of a short list of priorities (by an expert committee) from among more than 180 submissions. From this list of priorities, in December 2002 the government identified four thematic priorities: environmentally sustainable Australia, promoting and maintaining good health, frontier technologies for building and transforming Australian industries, and safeguarding Australia. All public research bodies are required annually to put forward plans on how they propose to implement these priorities.

Research Links with Industry

As a result of institutional initiatives and government financial support, universities in many countries have established much closer and more effective links with other research providers and stakeholders, particularly PRIs, industry laboratories, business firms and government agencies. These links with other research producers and users take a variety of different forms, including joint research centers and research appointments, shared use of facilities, industry funding of university research, and consultancy arrangements between universities and research users. In the United Kingdom, for example, a rapid increase in university-industry collaboration since the 1980s has led to a variety of different partnership arrangements with many positive outcomes, including an impressive increase in the number of joint scientific publications. By the late 1990s, joint university-industry papers accounted for about half of all industrial

scientific output (Calvert & Patel, 2002). These new arrangements have increasingly broken down traditional arrangements; historically, universities and PRIs were viewed as being responsible for basic scientific and pre-commercial research, while industrial firms performed the bulk of applied research and product development (Hall, 2004).

On the whole, these partnership developments have worked well to the mutual benefit of the various partners and have contributed to successful innovation efforts. University research links with industry provide universities with substantial research funding support, consulting opportunities, support for postgraduate students, opportunities for graduate employment and opportunities for academics to gain insights into new developments within industry, while industry benefits through access to university expertise and facilities, access to university IP, and a supply of well-trained graduates. Admittedly, considerable tensions are sometimes generated, and even scientists involved in industry linkages themselves often acknowledge that there are considerable risks involved.

In a number of countries, particularly important partnerships have developed out of new research centers involving multi-university partners as well as partners from PRIs, government departments and business firms. An example is the Australian Cooperative Research Center (CRC) program that has resulted in the establishment of some 70 multi-site centers. Funding is provided by the Australian government as well as from partners. Some CRCs have been established using a company structure, while others are unincorporated, using the legal basis of one or more partners. However, new CRCs established under the next round of funding must be incorporated.

While the governments, universities and researchers involved in partnerships are generally supportive of university-industry partnerships, critics allege that such partnerships threaten traditional academic values, lead to distortions in the balance between basic and applied research, and tend to corrupt academics with commercial values—to the extent that some academics may neglect their responsibilities in teaching and research. It is also alleged that industry contracts lead researchers to withhold scientific information and materials from colleagues and delay publication, thus adversely affecting the free flow of scientific information.

Various evaluative studies and social research projects have investigated the impact of the new industry links on universities and academic work, and these efforts highlight both dangers and benefits. Some American studies have pointed to the dangers in these new relationships, particularly the impact on academic work and values, forcing scientists to abandon the traditional cooperative mode of research (cf. Dickson, 1984; Kenney, 1986). In their multi-national study of academic capitalism, Slaughter and Leslie (1997) reported that while senior academics often respond positively to opportunities for attracting funds from industry, many junior academics are confused and ambivalent, and have “difficulty conceiving of careers for themselves which merged academic capitalism and conventional academic endeavor” (p. 173). On the other hand, other scholars (e.g., Etzkowitz & Peters, 1991) provide evidence to support claims that many academic researchers increasingly accept the concept that profit generated from research need not corrupt; they conclude that to date there has not been any great effect on academic behavior with regard to direct industry funding of academic research. Particularly important have been the detailed studies of researcher behavior. One important

study (Blumenthal, Gluck, Louis, Stoto, & Wise, 1986) involving a survey of 1,200 academic researchers in 40 major American universities in the area of biotechnology, concluded that researchers with industrial support publish at higher rates, patent more frequently, participate in more administrative and professional activities, and earn more than colleagues without such support. At the same time, researchers with industry funds are much more likely than other researchers to report that their work has resulted in trade secrets and that commercial considerations have influenced their choice of research projects.

These American findings have been largely confirmed by similar studies and evaluations in other countries. In Australia, for example, various performance indicators point to the considerable success of efforts by the national government to enhance university-industry links, while officially sponsored evaluations point to a high level of overall success for particular programs. Studies of science and technology academics in leading Australian universities also show that researchers with industry funding tend to be more senior and more likely to hold national competitive grants than colleagues without industry funding. Industry-funded academics also have better publication records, spend longer hours at work each week, and devote more time to postgraduate teaching, administration, committee work and interaction with colleagues (Harman, 1999). Another study of science and technology academics in five leading research-intensive universities revealed that an estimated 40% of regular academic staff enjoyed industry funding, with about 60% of these having attracted funding in excess of A\$250,000 over the past three years (Harman, 2002).

University Research Commercialization and Technology Transfer

Since the early 1980s—first in America, and more recently in many other developed countries—governments and research-intensive universities have been putting much more effort into enhancing capacity in research commercialization and in the transfer of university-generated inventions and discoveries to the commercial sector. These developments have been driven partly by the desire of universities to generate additional income; however, universities have also become increasingly involved in commercialization activities in order to enhance relationships with firms and to generate political support by demonstrating the positive outcomes of public investment in research. Governments, on the other hand, seek to capture the benefits of university research in order to facilitate economic and social development, and to generate wealth.

The terms “research commercialization” and “technology transfer” are often used synonymously, although strictly speaking there are important differences in their precise meanings. “Research commercialization” refers to the process of turning scientific discoveries and inventions into marketable products and services. Generally, university research outputs are commercialized by licensing patents to companies or by the creation of “spin-off” companies that usually depend on the assignment of university IP for their initiation. In the scholarly literature, the term “technology transfer” has a number of specific meanings, but in essence refers to “the movement of know-how, technical knowledge, or technology from one organization to another” (Bozeman, 2000, p. 629). The most common use of the term is in relation to the transfer of inventions and

associated “know-how” from research organizations (especially universities and PRIs) to research users.

Research commercialization is based on IP rights, of which patents, industrial designs, copyright and trademarks are the most important. IP rights reward investment in R&D by granting ownership to inventors, their employers, those who funded the research, or some combination. Over the past two decades, governments and universities have become increasingly aware of the value of IP and various strategies that can be employed to derive commercial and public benefit.

Licensing of inventions and the creation of new companies, of course, are not the only mechanisms of research commercialization employed by universities, since both graduates and academics regularly carry knowledge from universities to business firms, while members of industry access university-based knowledge through sponsored research, conferences and academic journals (Sizer, 2001). However, licensing and company creation are increasingly seen as key mechanisms of university research commercialization efforts.

In many OECD countries, governments and universities are allocating increased funds to support research commercialization. Frequently, governments have a multiplicity of programs involving numerous agencies, raising questions about overall policy coherence and coordination, and about whether or not large corporations tend to benefit more than small to medium sized enterprises (SMEs) and universities (Harman & Harman, 2004). Some countries clearly are doing better than others in terms of measured outputs and economic growth rates, while within countries there are notable examples of particular regional successes, such as Silicon Valley in the U.S. and Cambridge in the UK. This raises important questions about the effectiveness of different combinations of government and university strategies, about the relative amounts of funding involved, and about how such funding is employed and with what success.

Why some countries are more successful than others in the commercialization of university research appears to be dependent on a variety of factors, particularly government financial support and the regulatory framework, incentive systems operating to affect the behavior of universities and researchers, institutional culture, and the legal basis relating to the ownership and commercialization of IP. Important recent theoretical contributions addressing this question have been made by the Swedish economist, Magnus Henrekson, in combination with two American-based colleagues, Nathan Rosenberg and Brent Goldfarb (Henrekson & Rosenberg, 2001; Goldfarb & Henrekson, 2003). These scholars argue that America has been far more successful than Sweden in the commercialization of university research, despite Sweden’s strong research base. They attribute different success rates particularly to different government roles, a stronger incentive structure in America for both universities and academics to be actively involved in research commercialization, and the legal basis for IP. While Sweden has employed a largely government led “top-down” approach with an academic environment that discourages faculty from actively participating in commercializing their ideas, the American approach has been strongly “bottom-up,” with government IP legislation providing strong incentives for institutional and academic involvement in research commercialization. This has been combined with a highly competitive American higher education environment to fuel the drive for unique areas of excellence.

According to Henrekson and Rosenberg (2001), the American “bottom-up” approach has been led essentially by major research universities that, under the Bayh-Dole Act of 1980, maintain ownership of all IP resulting from federal research grants. In this situation, both federal and state governments did relatively little to develop new government agencies or other mechanisms to enhance university capacity in technology transfer. This argument appears to have considerable validity, but it needs some modification in view of recent major investments by numerous American state governments in expensive research infrastructure including large multi-partner research centers (Geiger, 2003).

While a number of continental European countries appear to follow a Swedish-type model (Gittelman, 2002), many other countries—including the United Kingdom, Canada, Australia, South Africa and New Zealand—employ a mixed approach, placing emphasis on new government support and incentive programs for industry and universities, as well as on strong incentive systems for universities and academics. The role of incentives clearly is of great importance in any theory explaining the growth of science-based entrepreneurship. At the same time, governments can obviously play important roles in supporting science-based entrepreneurship, from providing incentives to universities with regard to IP ownership—such as via the Bayh-Dole Act in the United States—to providing different forms of subsidies, grants, loan funds and guides on good practice. In many cases, major government emphasis has concentrated particularly on providing seed funding to assist with the early development phases of commercialization (for inventions that have commercial potential), as well as various programs of grants and loans to assist companies and to encourage university-industry collaboration.

In the United Kingdom, for example, in combination with the Wellcome Trust and the Gatsby Charitable Foundation, the government established the University Challenge Fund to provide seed money to groups of universities for early stage R&D (Australian Research Council, 2000, p. 14). In a relatively small number of cases, governments have established new specialized commercialization agencies, such as in Sweden, where since 1994 seven broker institutions, called technology bridging foundations, have been established in major university regions (Henrekson & Rosenberg, 2001). Their task has been to mediate the commercialization of R&D from universities and researchers to small- and medium-sized enterprises by facilitating patenting processes and matching up researchers with venture capital funding. These foundations have been designed to accept some of the responsibilities that lie with technology licensing offices on university campuses in the United States.

Relatively little detailed data is available on the research commercialization success of different countries outside the United States, Canada, the United Kingdom and Australia. For this reason, in 2001 the OECD Committee for Scientific and Technological Policy commissioned a project to collect empirical evidence about patenting and licensing activity in universities and PRIs in OECD countries as well as information on the legal and regulatory frameworks that govern IP. While the data presented in the project report (OECD, 2003c) need to be treated with some caution, they give useful insights about comparative national performance, indicating the leading position of the United States in terms of patent applications, active licenses, total income earned from licenses and number of start-ups and spin-offs (OECD, 2003c, p. 15). By far the best

data set on research commercialization is available for the United States, developed through annual surveys that have been conducted for some years by the Association of University Technology Managers (AUTM). The AUTM survey of 2001 licensing activities in universities, hospitals and nonprofit research institutions reported that a total of 6,812 patent applications were filed, 3,721 patents were issued, 494 new companies based on academic research were formed, and 22,937 licenses and options were active (Association of University Technology Managers, 2003). In this survey, 95 institutions indicated that at least 358 new commercial products were introduced into the marketplace under licenses with commercial partners. Gross annual license income was US\$1.071 billion, but the bulk of this went to a relatively small number of major universities, indicating that in many cases the returns to universities in license income are still relatively small in relation to total income.

Laws and policies governing the ownership of IP are being revised in a number of countries, generally with a view to encouraging IP ownership by institutions performing research. In Japan and Korea, recent reforms in funding regulations have given universities more control over the IP generated by their researchers, following the American model. Changes in IP laws in Korea, for example, have been driven by the recognition that a considerable amount of university and PRI research was not being channeled to industry in a timely manner. A major barrier has been lack of financial incentives for universities, PRIs and researchers, coupled with the inability of institutions to take responsibility for the costs of managing IP. In the late 1990s, these difficulties were recognized, leading to the Technology Transfer Facilitation Law of 2000 that unified IP management in all public institutions, requiring the establishment of technology transfer offices and the sharing of proceeds of license income between inventors and institutions, and (by amendment of the Patent Law in 2001) allowing public universities to gain financially from patent licensing (Yun, 2003, pp. 240–250).

Since it was recognized in Japan that intellectual property issues crossed the boundaries of many ministries, in 2002 a Strategic Council on Intellectual Property was formed “in order to quickly establish and advance a national strategy for intellectual property” (Stenberg, 2004, p. 17). This led to the enactment of a new Basic Law on IP in 2002 which aimed particularly to encourage the creation of IP in universities and to increase international standardization, with special measures directed to facilitating the establishment of technology licensing offices in universities and supporting the education of specialists in IP law (Motohashi, 2003). These initiatives have stimulated the development of research commercialization offices responsible for filing patent applications, entering into licensing agreements with third parties and being involved in the creation of spin-off companies, especially as the Japanese government has provided short-term support to assist universities in covering the costs of patenting and commercializing inventions (OECD, 2003c, p. 13).

In order to cope with increasing commercialization roles, universities in a number of countries have expanded their existing research management offices, created new in-house research commercialization offices, or established specialized offices (with an arm’s length relationship, using company structures). Along with these various models, another recent development has been to locate technology licensing specialists in faculties or colleges, with dual reporting responsibilities to both a dean and the head of the technology licensing office (Harman & Harman, 2004). Also, government

leaders in Korea, the United Kingdom, Denmark and Germany are experimenting with regional or sector-based technology transfer offices charged with managing the technology transfer activities of groups of universities and public research institutes. Here, potential economies of scale might be realized by spreading fixed costs over a greater number of institutions and exploiting the advantages of portfolio diversification, but these multi-institutional models may find difficulty in developing and maintaining close working relationships with researchers.

Concluding Comments

Industrialized countries in general are facing unprecedented changes in their higher education systems as they come to grips with fundamental economic, social and technological change, along with the impact of globalization and increasing international economic competition. These changes are impacting significantly on university research activity, with clear trends towards some redefinition of university roles and directions in research activities, increased concentration of research activity in a relatively limited number of research-intensive universities, and the expansion of new higher education sectors with little or no commitment to research. Increasingly the term "research" is coming to mean systematic and rigorous inquiry leading to research outputs, while the term "scholarship" is being seen as the means by which academics keep up with changes in their disciplines, and so remain competent in their ability to communicate up-to-date knowledge to their students and colleagues.

Many countries are experiencing changes in the roles of the state regarding research policy and innovation; the establishment of new mechanisms for allocating public funding of research; experiments in priority setting and research concentration; enhanced university-industry partnerships; and more serious efforts to capture research outputs in order to create jobs and produce economic and social benefits. These changes are producing significant challenges for both governments and institutions, particularly when considering the rising costs of research, a distinct move to transdisciplinary research centers, involvement of an increasing number of stakeholders, and increasing expectations about the potential benefits that can result from university research. Significant changes are also affecting research in a wide range of different academic disciplines and are providing difficult challenges for university presidents and vice chancellors, particularly when developing institutional strategic priorities and implementing mechanisms for research funding selectivity and concentration of effort. While university partnerships with industry carry clear risks, on balance these have been outweighed by clear benefits.

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STUDENT POLITICS: ACTIVISM AND CULTURE

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Student movements and organizations at the postsecondary level have an immense and often ignored impact not only on students and student cultures but also on academic institutions and sometimes on society.¹ The most visible student organizations are activist political movements, which received considerable attention particularly in the aftermath of the volatile 1960s. Activist movements have not only had a significant impact on universities, but have occasionally created social unrest and sometimes revolution. However, there are many kinds of less dramatic student organizations, ranging from cultural and social organizations (including fraternities and sororities) to student publications, newspapers and athletic groups. This chapter is mainly concerned with those organizations that have an impact on politics, culture and society. It does not deal with the purely social element of extra-curricular life—although for many students this is the most important aspect—or with the changing attitudes and values of students, which may influence the scope and nature of organizational life. It is focused on the organizational aspects of extra-curricular life in higher education and stresses those parts that have a wider impact on both the university and society (Horowitz, 1987).

The student organizational culture in higher education is active and complex in most colleges and universities worldwide. Institutions, of course, have different cultures and norms, and the nature of student organizations varies not only from country to country but among academic institutions. While there may be restrictions of various kinds on student groups—ranging from bans on political organizations to censoring of student newspapers—in most respects and in most contexts, student organizations and movements have considerable freedom and autonomy.

With the expansion of higher education worldwide in the last half of the 20th century, student culture and activism has changed. Students are no longer recruited mainly from elite sectors of the population. Women are a significant proportion of the student population, and ethnic and racial minorities, once largely excluded, are part of the academic community. The student population is diverse, and in many countries largely representative of the general population. Many students work while studying, many study part-time, and these factors have caused a profound change in student culture and activism. Generally, students today are more focused on vocationally relevant academic programs and with their participation in the labor market.

Academic institutions have also changed and have become more diversified. No longer is the traditional university the norm. New types of institutions are now part of diversified higher education systems, including open enrollment community and vocational colleges, unselective four-year institutions, for-profit vocationally-focused institutions, and, recently, distance education institutions. Traditional student culture and activism is largely absent from these kinds of institutions, and growing numbers of students now study at them. As a result of this diversification, students experience a much wider array of experiences while studying. Fewer students participate in the traditional academic culture. This chapter, however, focuses mainly on this traditional culture because it is out of this milieu that both student political activism and student culture emerge.

The university is a particularly favorable environment for the development of organization and movements among students. There is an active intellectual environment that stresses independent thought and analysis. Universities are institutions that stress intellectual values and ideals—theories and values that may call into question established social and political norms. Professors, through their teaching and research, may also provide—albeit sometimes indirectly—an atmosphere that legitimates dissent. It is the case, for example, that professors are often to the left of the broader society in their attitudes about politics and culture (Basu, 1981).

In many countries, university authorities encourage extra-curricular activities and organizations, often providing funds and space for them. There is a recognition that such activities are an important part of the experience of higher education and that the academic culture goes beyond the classroom. Universities are, in most instances, “age graded” cultures where the majority of students are of a similar age and are at a stage in life when they seek a sense of community. The academic culture also allows a considerable amount of free time to engage in extra-curricular activities (Ben-David & Zloczower, 1962). It is easy to communicate since students are centered on a campus. It should be kept in mind that the total combined membership of student groups, in almost all instances, is a minority of the student population. Student involvement in organizations is a significant, but minority, factor. Even in times of considerable politicization and activism, student involvement generally remains a minority phenomenon.

Academic communities also have some special characteristics that affect the nature of organizations and movements. Student generations are short—lasting three or four years generally, and thus it is sometimes a challenge to keep movements—and to a lesser extent organizations—alive through student generations. Students tend to be impatient, wanting change quickly, due in part to the brevity of student generations and due in part to a certain impatience normal in young people. Students, especially in political organizations, tend to seek “total” solutions and be impatient with compromise. As Edward Shils and others have pointed out, students are often antinomian—opposed to established authority—regardless of the perspectives of those in power (Shils, 1969, pp. 1–34).

It is difficult to estimate the scope of student organizational involvement in different academic environments. Participation varies according to institutional tradition, period of time, facilities and other factors. Even within a country, organizational participation may vary considerably. In the United States, elite colleges and universities with largely

full-time and residential student populations generally have a higher level of involvement than “commuter schools” which attract many part-time and employed students who have little time for extra-curricular activities. In many countries, there are few facilities available for organizational activities, and this limits participation. There are also variations according to historical circumstances. During periods of considerable political consciousness, students tend to be involved in activist campus movements, swelling the numbers participating in organizations.

The impact of students on both the university and society is often overlooked. This impact goes far beyond student political activist movements that have threatened governments. Student organizations are a major influence on the campus culture and ethos. They help to determine the self-image of the student body and strongly influence the ideas that permeate the institution. Student groups shape the political and cultural ideas of the institution as much as the faculty and the curriculum. Student organizations influence and sometimes control the rules and regulations that govern campus life. For example, student opposition to *in loco parentis* in the United States at the end of the 1950s and in the 1960s forced academic institutions to give up many of the rules and regulations that governed student conduct (Horowitz, 1987). In Western Europe, student reaction against deteriorating conditions during the rapid expansion of the 1960s led to significant reforms of higher education (Altbach, 1974). In West Germany and a few other countries, student ideas about the nature of reform had an impact on the dramatic changes that took place in many German universities at the time (Nitsch et al., 1965). Student unrest in India has led to the canceling of examinations and other major changes in academic routines. The existence of active political organizations on campus can affect the opinions of the entire student body just as there can be a significant influence from fraternities and sororities, as has been the case in the United States.

A Multifaceted Student Organizational Culture

While national and institutional student cultures vary significantly, it is worth pointing out the scope of student organizations that exist on many campuses throughout the world.

Student Newspapers and Publications

A highly significant organization that exists on most campuses are student newspapers and other publications. Student newspapers are sometimes completely independent of administrative control, in some cases even being published off-campus or by independent companies. They are generally the most important means of communication among students and an outlet for student opinion on a variety of topics. Newspapers may be published daily or less frequently. Some are highly professional while others are not. Experience in campus journalism in many countries often leads to a career in journalism. There are wide variations in the nature and scope of student newspapers. Some are highly political, seeking to convince the student body of a specific political position or ideology. Others seek to provide information about campus issues, while

some focus on national and international matters as well as university-based issues. Student newspapers generally constitute an organizational culture for those serving on the staff. Students involved in the campus press often work long hours and find that the newspaper is an all-consuming activity.

Other student publications are also an important part of campus life. In the United States, most colleges and universities publish yearbooks, featuring stories and pictures concerning campus life. Such books are designed, written and frequently published by student groups. Many journals and other ephemeral publications appear from time to time on campuses, usually established and edited by students. Such publications may be political, cultural or devoted to other pursuits. Student literary journals have a longstanding tradition in many countries and sometimes serve as the source of original intellectual work. As with newspapers, the student groups involved in editing such journals are generally close knit and active.

The student press can hardly be overestimated as a very important part of the organizational culture of a campus. Not only do such publications constitute a key means of communicating, but they are also among the largest and most active student organizations. Newspapers can influence the campus, while other publications provide an outlet for creative writing. Student publications are among the most visible elements of student organizational culture. They tend to be active even when other organizations may be dormant and can, if inclined, maintain a sense of political or social awareness in a university in the absence of overt activism.

Fraternities and Sororities

Although limited to a relatively small number of countries, fraternities and sororities (where they exist) are important elements of student life. These organizations have been especially important in two major countries, the United States and Germany, although their tradition goes back to medieval times. The tradition of students banding together for both social and living purposes dates back to the medieval "nations," or student communities based on country of origin in the medieval universities (Cobban, 1975). In Germany, the *burschenschaften* (fraternities) have traditionally been an important part of German academic life, providing a social core to a highly fragmented academic culture. The traditional *burschenschaften* were conservative in culture and politics and often played a role in campus political affairs. They were also highly nationalistic and were a significant influence in the rise of German nationalism in the 19th century.

The American fraternities and sororities provide both a place to live on campus as well as a social focus for their student members. They tend to be relatively homogeneous in membership, often in an effort to provide a congenial and unthreatening home for students challenged by a complex academic environment. American fraternities and sororities have seldom been overly political in orientation, although they reflect conservative values and orientations. The "Greek movement," as the fraternities and sororities call themselves (because they have given themselves names based on letters in the Greek alphabet), has a long history in American higher education, dating from the early 19th century (Allmendinger, 1975). They have tended to play a more central part in American campus life during relatively conservative periods. For example, their

popularity declined significantly during the radical 1960s. Nonetheless, the “Greeks” have been an important element in the student culture of most residential American colleges and universities, and they remain active—although less important now than in the 1950s and earlier. Relatively few other countries have significant fraternity-sorority movements. In most, students either live privately away from the campus or are housed in dormitories.

Religious Organizations

In many countries, religious organizations constitute an important part of student life. In the United States, for example, religious organizations representing virtually every major—and many minor—denominations and religions can be found at most large universities and colleges. These groups not only provide a spiritual focus for students but often provide a social center as well. Some religious organizations have a political orientation—for example, fundamentalist Christian groups in the U.S. have been politically active against the legalization of abortion. During earlier periods, liberal Protestant organizations were at the forefront of civil rights and other progressive causes. Religious groups are also active in other countries. In India, nationalist-oriented Hindu organizations have been active in the universities and have involved large numbers of students in both religious and political activities as well as programs to assist the poor. In the Islamic world, fundamentalist Muslim groups have been among the strongest political influences in the universities and, in some instances, in society as well.

Student Unions and Governments

In many countries, students have gathered themselves into organizations to represent their interests and to provide services. In some countries, there are national student unions that have both political and service functions as well as local student unions in individual universities. Generally, national student unions are federations of university-based student governments, which are in turn generally elected by the students—university-based unions are the building blocks of national unions. In Europe, these unions provide key services to students as well as represent student interests to academic authorities. At times, national student unions have played an important national political role in influencing higher education policy and defending student interests (Fields, 1970). National student unions, especially in Europe, have traditionally provided services to students, such as low-cost travel arrangements, and they sometimes manage student service agencies of many kinds.

Student governments or unions at individual universities often control a significant budget and provide such services as food, entertainment, reduced price tickets, transportation and others. Student governments also represent student interests to the university and often appoint student representatives to academic committees (sometimes even to governing boards). At times, student governments have played significant political roles as well (Levine, 1980). In the United States, institution-based student governments sometimes reflect broader political concerns and often are thrust into a political role by campus events. In some cases, candidates for office have specifically

political platforms, although in general overt politics is not part of the culture of student governments in the United States.

In other countries, student governments are often more politically involved and elections often have a political aura. In India and in other countries, established political parties run candidates in student government elections and sometimes spend considerable amounts of money on campus to ensure that their candidates are elected. In Latin America, student unions often have affiliations with political parties and movements.

Cultural Organizations

Culture and politics are sometimes mixed on campus. For example, nationalist student organizations have often had a cultural component and sometimes emerged from cultural groups. Groups focusing on “counter-cultural” activities—for example, certain kinds of music or art, and in Eastern European countries during the Communist period, underground literature—often have a very significant political as well as cultural function. Even when not overtly political, cultural organizations are an important force in most universities. Groups dealing with literature, drama, dance and other forms of cultural expression involve many students, often providing both training and socialization for later careers. In some countries, culture and politics are linked, and the relationships of cultural organizations to political ideology—and occasionally to student activism—cannot be overlooked.

Athletic Groups

Sports are an important student activity in almost every country. In the United States and a few other countries, intercollegiate sports is a major focus of extra-curricular life, and substantial institutional resources are devoted to competitive athletics (Chu, 1989). At larger universities, intercollegiate sports is a significant factor in student extra-curricular life. In other countries, as well as in the United States, intramural sports often plays an important role in campus life and involves significant numbers of students. There are important variations among countries, with differences in the facilities that are available, historical traditions and other factors. It is very unusual for sports activities to be directly related to political or other activism. Sports teams and related activities are of considerable importance in providing a sense of cohesion and a link to the university community for those involved.

The scope of organizational involvement by students is quite varied. Students participate in such organizations for many reasons—and the complexity of campus organizational life is only hinted at in this description of several major trends. A large American university, for example, will often have more than one hundred registered student organizations, ranging from clubs attached to academic departments, to political groups of every ideological stripe, social and religious organizations and special interest groups for those interested in chess, rock bands or skiing.

Few other countries have this range of student organizations, but most have a significant number of groups on campus. Some universities financially support student groups

with funds collected from the students. Without question, the density and complexity of student extra-curricular culture is considerable.

Student Political Activism

Student politics is an important element of student organizations and movements. Political activism on campus is central because it has the greatest potential for affecting both the university and society. Activist movements have caused governments to topple and on a few occasions have implemented significant university reform (Walter, 1968). Activist organizations involve highly motivated students, some of whom become important in national politics. And activist movements tend to be among the best organized groups, able to obtain very strong commitments from the students who are involved in them (Lipset, 1971). It must be kept in mind, however, that student activist organizations are minority phenomena, involving a very small minority of students in sustained organizational activity. Even when there are mass demonstrations on campus, those involved in them are generally a minority of the student body. This fact does not make student activist movements unimportant, but their scope and nature must be kept in careful perspective (Altbach, 1989, pp. 97–110).

Activist movements are almost always oppositional in nature, opposing established governmental authority, university administrators or others in authority. While most contemporary student movements are on the left in terms of ideology and politics, there are notable exceptions. Students played a significant role in opposing Communist authorities in Central and Eastern Europe. Islamic fundamentalist student organizations emerged as a central force in Muslim countries in the late 20th century, and are perhaps the most powerful political and religious force in universities in these countries. Without question, student political movements are both complex and highly significant to both the university and society.

Historical Perspectives

Student movements have a long history, and in many countries this historical tradition is part of the living memory of contemporary organizations. The involvement of students in the nationalist upsurge in Europe during the 19th century was very significant. Indeed, German nationalist ideas percolated in the universities before becoming a key political force in society. In the nationalist uprisings of 1848, both students and professors played a central role (E. Altbach, 1969, pp. 451–474). Students were similarly active in the Italian nationalist movement, and in both cases were important in social movements that resulted in significant change throughout Europe.

Nationalist ideas spread to student movements emerging in the colonial regions of Africa and Asia, and students emerged as key forces for independence in much of what is now the Third World (Emmerson, 1968). For example, students from the Dutch East Indies studying at universities in the Netherlands during the first several decades of the 20th century were exposed to nationalist ideas and literally created the concept of an Indonesian nation. Former student leaders such as Sukarno and Hatta became the most important leaders of the nationalist movement that eventually

drove the Dutch from Indonesia and created a new nation (Bachtiar, 1968, pp. 180–214). The role of Indonesian students was crucial not only in developing the ideas of the nationalist movement but later in the struggle against the Dutch. Students were a central force in the Indian nationalist movement as well. Ideas of nationalism, Marxism and secularism were part of the Indian student experience while in England. Western-oriented universities in India also imparted nationalist orientations as well. Student movements emerged during the 1920s and were active in the struggle for independence that culminated in the departure of the British in 1947. Significantly, Indian student organizations were always situated on the left of the nationalist movement, often in opposition to the tactics of Gandhi (Altbach, 1968). The traditions of student activism established during the independence struggle in both Indonesia and India continued after independence and remain active.

Contemporary student movements are, for the most part, leftist in orientation. This has not always been the case historically. In fact, the nationalist influences of European student movements turned some of them to the right during the period after World War I. In Germany, the major student organizations supported the Nazis both before and after Hitler came to power (Steinberg, 1977). There were, of course, many student groups which opposed the Nazis as well. Similarly, in Italy the largest student groups supported Mussolini's Fascist movement. In France as well there was strong support in the universities for rightist nationalist movements during this period.

Another important historical example of student political activism is the significant student movement that emerged in Latin America in the first decades of the 20th century and which succeeded in virtually transforming Latin American higher education by forcing the adoption of far-reaching reforms (Walter, 1968). The "reforma," as it is known in Spanish, established student participation in virtually all elements of academic decision making, from the election of the rector to important curricular decisions. It also enshrined the notion of the university as an autonomous institution which could claim not only the freedom to control academic decisions but whose campus could not be entered by civil authority without the formal permission of university officials. The reforma fundamentally changed Latin American higher education and its impact has continued to the present, although in the past two decades severe political and economic pressures, military regimes and the growth of private universities have weakened the power of the reforma ideals (Levy, 1986). The movement started in Argentina at the University of Cordoba and spread quickly throughout the continent, affecting the major institutions from Mexico in the north to Chile in the south.

Student movements are almost always sporadic—they seldom last for a long period of time. Even countries which have high levels of activism exhibit considerable variation in levels of involvement and in the strength of student movements. It is to some extent possible to chart international trends in student political activism—the volatile 1960s were clearly a time of worldwide activism, and there were some international influences involved, although it seems clear that national student movements are largely motivated by national concerns.

The historical development of the American student movement indicates the sporadic nature of student politics (Altbach, 1974). While there was some campus unrest prior to the 1930s (including both anti-slavery and then anti-draft agitation during the Civil

War), the first major American student movement emerged during the Depression of the 1930s, stimulated as much by foreign policy concerns (such as the civil war in Spain and a desire to keep the United States out of World War II) as by the economic crisis of the period. There was very little activism between 1941 and 1960. Inspired by both the civil rights movement (which was, it must be recalled, stimulated by black college students in the South) and growing opinion on campus against the arms race, American escalation of the war in Vietnam brought student activism to its highest level of activity, culminating in nationwide campus disruptions and mass demonstrations in Washington, D.C. at the end of the decade. Once the war in Vietnam came to an end, campus activism declined to a very low level during the 1970s, with a minor resurgence of political interest in the late 1980s (Altbach & Cohen, 1990, p. 32–49). Similar fluctuations can be seen in student movements in other industrialized nations, although the reasons and the timing of course vary according to national—or even local—political and academic circumstances.

Historical consciousness is also important because countries that have a strong tradition of activism tend to see campus movements as more legitimate political actors than countries that have relatively weak activist traditions. It is particularly clear that where students played an important role in the shaping of national history—as in the developing countries of the Third World—activist movements are accepted as legitimate participants in the national political scene. In most Western countries, students have not been involved in key political events and, in part for this reason, are not generally accepted as actors on a societal political stage.

Ideological Variations

While most of the student activist movements of the post-World War II period have been, to one degree or another, on the left, contemporary student movements show a significant and perhaps widening ideological range. The nationalist impulse, important historically, is difficult to characterize ideologically. Without question, nationalism continues to be an important force. Religion is also a powerful force, particularly when it is combined with nationalism. The growth of Islamic fundamentalism as a powerful political force in the universities of the Islamic world is one of the major developments in student politics worldwide in the past several decades.

It is difficult to ideologically characterize the extraordinarily important political role played by student activists in the political upheaval in Eastern Europe and, to some extent, in China in the late 1980s. Students were the primary motivating force in the political movement that led up to the Tiananmen Square massacre in June, 1989 (Liu, 1989, pp. 31–46; Zhao, 2001). Chinese students seem to have been motivated by a desire for better jobs, complaints against corruption and by a demand for more democracy and freedom of expression. Their precise ideology was unclear. It does not seem as if the students had a clear perspective concerning their place in the ideological spectrum.

In contrast, the role of students in the successful upheavals in Eastern Europe at the end of 1989 is clear. In every country (except perhaps for Romania), university students and professors were the first important groups to protest against the government, and students often articulated—and perhaps to an extent shaped—the discontent

felt by large numbers of people in those countries. Students were in part motivated by nationalism—a desire to see their countries free of external (Soviet) influence. A desire for freedom of expression and representative government also played an important role. And the students were protesting against regimes that were unsuccessful in meeting the economic needs of the people. Are these demands “on the left” or “conservative” in nature? They were certainly anti-regime—and as noted earlier, student movements in virtually all cases tend to be against established authority—but it is not clear whether these movements were on the left or on the right. The movements seemed to be “anti-statist” in terms of the control of the economy, but it is not at all clear that they were “pro-capitalist.” With the collapse of Communism, the movements disappeared and have not been replaced by any powerful political forces in the universities of Central and Eastern Europe. The ideological pedigree of several of the most important student activist movements of the postwar period is unclear.

Islamic fundamentalism is without question the most powerful force among students in Islamic countries. In countries such as Iran, Egypt, Algeria and Malaysia, student movements that were at one time highly secularist and often leftist in orientation have been transformed into Islamic movements. The underlying reasons for this dramatic change have yet to be analyzed, but the phenomenon is clear. It may be that the failure of secular-minded governments throughout the Islamic world to achieve their goals of modernization, the continuing challenge of the Arab-Israeli conflict, the breakdown of traditional values and the absence of widely accepted new norms have all contributed to the rise of Islamic fundamentalism. Iran and Afghanistan became fundamentalist states, although governments in many other countries—from Malaysia to Algeria—have become more religious in their orientation. In both Afghanistan and Iran, students were instrumental in bringing fundamentalist regimes to power. Indeed, the term Taliban means students—although in this case the students came from the religious madrasas and not from the universities (for the most part). It is significant that in Iran, after two decades of conservative Islamic rule, the students have turned against the government of the Mullahs and have demanded a more open society. These governments are also worried about political stability and about the future of the educated elite in the context of a new political activist trend in the universities. There is no doubt that the power of the Islamic idea on campuses will remain a key force in the Islamic world.

Students have often exhibited a tendency to adhere to an all-encompassing ideology and to seek massive social change in an effort to create a utopian society. The rise of the Islamic movement may reflect such goals. More commonly, in the 20th century students looked to ideologies of the left to provide the path to a more perfect social order. The impact of Marxism and other socialist ideas has been perhaps the most important influence on student movements around the world (Levitt, 1984). During the volatile 1960s, virtually all of the powerful student movements of the period identified with the left and very often with Marxism, but without adherence to the Soviet Union or any other “official” Communist movement. There has been significant change since then, and the appeal of leftist alternatives has diminished.

It is fair to say that the ideological orientation of student movements is less clear at the beginning of the 21st century than it has been for at least a half century. The “failure” of countries identified with socialism to build just and successful societies,

the rebirth of nationalism in many countries, the continuing problems of modernization and development in the Third World and new issues such as the environment have all contributed to a lack of clarity concerning the ideological underpinnings of student activist movements.

Sociological Generalizations

While the research literature on student political movements is limited—and thus we know relatively little about the backgrounds and motivations of student activists in most countries, and can only speculate about the causes of student unrest—some sociological generalizations are possible (Klineberg, Zavaloni, Louis-Guerin, & Benbrika, 1979). While there are some examples to the contrary, the following generalizations reflect the realities of many countries in the contemporary period.

- Student activists come largely from the social sciences and to some extent from the humanities. Fields such as sociology and political science produce a significant proportion of student leaders. The content of the curriculum in these fields may contribute to an interest in activism—the social sciences are concerned with the problems of society. There is no doubt a degree of self-selection involved as well, with students who have an interest in social issues gravitating to disciplines that focus on these questions. Further, professors in these fields tend to be among the most liberal or radical in the university, no doubt contributing to such attitudes and values among students (Ladd & Lipset, 1975). The intellectual atmosphere in the social sciences is more congenial to activism in both thought and action. At the other end of the activist spectrum, highly vocational fields such as management and agriculture tend to be much more conservative in terms of the attitudes of both faculty and students, and the curriculum is vocationally focused as well. The culture of such fields does not seem to promote either radical ideologies or a tendency to become involved in activist movements.
- Activist students have some common characteristics. Not surprisingly, they are more politically conscious and concerned about ideological issues than the majority of students. They tend to come from families with a higher level of both income and education than the average student population. It must be kept in mind that the students in most countries come from significantly more affluent families than the general population. The educational backgrounds of the parents tend to be much higher than average, and very often the political attitudes of the families of activists are to the left of the general population. Thus, activist students are very often from highly elite groups in their societies—groups that have benefited from existing societal arrangements. Activists tend to come from urban and cosmopolitan families—this is a key variable in developing countries, where the majority of the population is rural and relatively uneducated. During the 1960s, much was made of a perceived “generational conflict” between student activists and their families (Feuer, 1969). The data shows, in general, that there is relatively little conflict among activists and their families (Keniston, 1971).

The Third World Versus Industrialized Nations

While largely ignored in the literature, the dramatic differences between student activism in the Third World and in the industrialized nations reveal key analytic variables. Third World students have overthrown governments and have frequently had a direct political impact. This has not been the case in the industrialized nations, where students only rarely have created political change.

Third World student activism is difficult to categorize. Student involvement in nationalist movement was a key factor in the independence struggles of many nations. In Latin America, students in 1918 stimulated a major reform in higher education that has influenced the university up to the present time (Walter, 1968). Students have been instrumental in overthrowing governments in many nations in the Third World. Despite their ability to precipitate political upheaval, students have never been able to take power, and their efforts to do so have often led to governments that have been highly unsympathetic to student goals. For example, in both Korea and Thailand, student dissent in the 1960s caused the downfall of regimes, but the military assumed political power rather than groups favored by the students. In Argentina, student unrest led not to a leftist government but rather to right-wing repression of students and others. In Uruguay, student-led activism was met with massive military repression.

In other cases, students, while unable to seize power for themselves, were nonetheless successful in precipitating political change that was generally in a direction that they favored. In 1987, student demonstrations in South Korea forced the government to call elections and the result was a significant move toward democracy. While student activists did not feel that the change was large enough, most Koreans saw it as highly significant. The pattern of student unrest in India and a few other Third World countries has focused on the universities themselves in an effort not only to express opposition to established policy but also to bring about improvement in difficult campus conditions and poor job prospects for graduates (Jayaram, 1989, pp. 91–102). Indian student “indiscipline” has frequently resulted in campus disruption. On occasion, Indian students have also demonstrated against political officials and have sometimes forced them to resign. Thus, the spectrum of Third World student dissent is very broad. Ideologies range from the most revolutionary Marxist theories to Islamic fundamentalism. Sophisticated ideological rhetoric characterizes some student movements, while others have no discernable perspective. Some movements aim at the overthrow of the government while others are concerned with poor conditions in the dormitories.

There are many reasons why Third World students have been successful in politics, especially when compared to activist movements in the industrialized nations. While it is not possible in this chapter to develop a comprehensive theoretical explanation for Third World student politics, it is worthwhile to point to some of the key factors.

- Third World nations often lack the established political institutions and structures of the industrialized nations, and it is thus easier for any organized groups, such as the student movement, to have a direct impact on politics.
- Students have, in many cases, been involved in independence movements and from the beginning of the state have been a recognized part of the political system.

Thus, in contrast to the West, where activism is seen by most people to be an aberration and an illegitimate intrusion into politics, Third World students are expected to participate directly in politics and activism is seen as a legitimate part of the political system.

- Third World university students constitute a kind of incipient elite and have, in many countries, a consciousness that they are somehow special. They are members of a tiny minority who have access to postsecondary education. Their prospects for later success in careers are very good (Barkan, 1975). The advantages, real and imagined, accruing to those who have a university degree and the historical sense of eliteness are a powerful combination.
- The location of the major universities of the Third World contributes to the possibility of activism. Many are located in the capital cities, and a large proportion of the student population is within easy reach of the centers of power. This simple fact of geography makes demonstrations easier to organize and gives students a sense that they are at the center of power and have easy access to it.
- Relatively few Third World nations have effective functioning democratic systems. As a result of this, and of the widespread problems of illiteracy and poor communications, students are often seen as spokespersons for a broader population. They have, in a sense, authority beyond their small numbers, and those in power often take student demonstrations and grievances seriously for this reason. In many cases, seemingly small student agitations have been effective in quickly mobilizing larger social movements or have had a surprising impact on the authorities. In a sense, Third World students act as a “conscience” of their societies.
- Because Third World students, on the average, come from relatively higher socioeconomic groups than their counterparts in industrialized nations, they have an added impact. While there are significant national differences and the situation is rapidly changing in terms of social class background as higher education expands, a substantial portion of the student population in many Third World nations comes from urban elite backgrounds and they have, through their families, direct access to powerful segments of society.

These factors are a partial explanation for the relative effectiveness of student activist movements in the Third World in the past several decades. While students in the industrialized nations, particularly during the 1960s, had an impact on their societies, their role pales in significance when compared to the Third World student movements. Further, Third World students have continued to be a force—they did not disappear at the end of the decade of the 1960s.

The 1960s and Beyond in the Industrialized Nations

The decade of the 1960s was the period of greatest activism in the industrialized nations (Caute, 1988; Kurlansky, 2004). It was followed by a period of quiet on campus, with activism at a very low ebb. It seems, at a distance, that student movements emerged at the same time throughout the Western nations. In reality, there were significant variations among countries. In some countries, there was relatively little activism—Britain, for

example, was relatively quiet during this period, and there were few changes in higher education and no significant threat to the government. In a few countries, notably France, activist movements threatened the stability of the state, while in some others, especially West Germany, student movements developed a concept for university reform and succeeded in forcing the partial implementation of those reforms (Fields, 1989, pp. 223–236; Levitt, 1984). And in the United States, issues such as civil rights and a concern for campus reform stimulated a movement that was greatly expanded when the war in Vietnam escalated (Gitlin, 1986).

In each case, there were specific motivating forces and the movement had characteristics determined by national circumstances. However, in all of these cases, there was a general perception that established parliamentary processes were not functioning adequately and students were seen as a kind of “conscience of the middle class.” In France, DeGaulle’s power was at its height and the legislature was little more than a rubber stamp. Many felt disenfranchised (Touraine, 1971). In West Germany, the “Grand Coalition” of the two major political parties also left an oppositional vacuum and the students emerged as the main force in what they called an “extra-parliamentary opposition.” And in the United States, Lyndon Johnson was elected to the presidency with a pledge to end the Vietnam War (Gitlin, 1987). He did the opposite and escalated the conflict. There was little outcry from the Congress. Students spearheaded public opposition to the war.

Western academic systems were characterized by dramatic growth. Expansion meant changes in the nature of the student population and also deteriorating conditions on campus, especially in France and West Germany. Students in many countries complained about inadequate facilities and overcrowding. Students demanded participation in academic decision making and wanted to control some of the decisions being made that were negatively affecting their situation. The slogan of “participation” was especially powerful in Western Europe, and resulted in significant change in France, Germany, the Netherlands and Sweden (Cerych & Sabatier, 1986). In each of these countries, students were included in the governance process in higher education. In the United States, while students did not achieve significant institutional power, they did force the end of *in loco parentis* and also successfully pressed for the abolition of many parts of the traditional collegiate curriculum (Astin et al., 1975).

Students had a significant impact on the curriculum and on governance in some Western countries. They were a powerful political force in the United States, influencing public opinion and eventually the government to end the Vietnam war. In France, students came close to toppling the government in 1968, and in West Germany students influenced significant university reforms. Students also had an effect on the cultural norms of the period—in music, social attitudes and in other ways.

Yet, the movement of the Sixties ended almost as quickly as it started. Students in many industrialized nations were struggling for fundamental change in both university and society and when this change did not occur, there was both impatience and frustration (Caute, 1988). Students, having achieved significant influence in higher education institutions, tired of the tedious process of academic governance and the compromises built into the system. Despite unprecedented societal impact, students also felt that they

had failed in their basic goal—the downfall of the system. For a time, student activists moved ever leftward, losing the support of the majority of students.

In North America and Western Europe, the decade of the 1980s was one of quiet on campus, although there were several significant episodes of activism. In the United States, a flurry of activity protesting against the racial policies of the government of South Africa focused on a demand that American universities sell their investments in corporations that had business in South Africa (Altbach & Cohen, 1990, p. 40–44). These protests were nationwide and took place at several hundred universities—many institutions agreed to sell their investments, although a smaller number actually divested. These anti-apartheid protests took place mainly during the 1984–85 academic year. In France, the Ministry of Education proposed a series of reforms in higher education, one of which imposed entrance examinations for the universities in addition to the traditional *baccalauréat* requirement. There were massive student protests in Paris and the government was forced to cancel the reforms.

These two cases indicate that the potential for student political involvement remains in the Western industrialized nations if appropriate conditions arise. However, a high level of activism is not the normal status of Western students. Political involvement takes place mainly when there is either an issue that dramatically affects the universities—such as the rapid expansion of the 1960s or policy changes that may affect students—or when there is an issue of major controversy in the society, or when the established political structures are not working effectively. At times, students do not rise in protest around campus-based issues that would seem to affect them. Thus, it is difficult to predict the occurrence of activism or to estimate how long a protest movement will last.

Conclusion

It is said that students learn as much outside the classroom as in it during their university years—without question student organizational culture plays an extraordinarily important role in the collegiate experience of students. Student groups provide socialization, give students a sense of belonging in what can be a difficult and sometimes alienating environment, set up networks of support (which are important during the university years and often last throughout life) and provide valuable skills.

The organizational network in most colleges and universities is highly complex and dense. Few realize how many student groups exist on campus or how they impact students. In recent years, as university authorities have yielded control over extra-curricular activities to students, there is probably less concern about the nature of extra-curricular organizational life than was the case in the past, at least in the United States. Student organizations range from overtly political groups to purely social associations. Religious, cultural, athletic, self-improvement, and other aspects of the academic curriculum are all represented by groups. The growing numbers of foreign students have their own nationality-based associations. In some cases, these groups are not very active and have only small numbers of participants. Other student groups are large and have significant budgets.

Student organizational culture varies from country to country and among academic institutions within a country. Traditionally, European universities have not had as strong a network of organizations as has been the case in the United States. European students are older than their American counterparts and, except in Britain, there are few traditions of campus life. In developing countries, there are often a large number of student groups, ranging from radical political movements to many social and religious organizations. There are also frequently more controls by campus administrators. There are notable variations within countries. In the United States, for example, student organizational life varies significantly from being very active at residential institutions to being much less dense at commuter schools and community colleges. Some institutions have a greater stress on political organizations, while others have a more active religious life.

This chapter has focused significantly on political organizations and movements because they tend to be the most visible and vocal, and they have had the greatest direct impact on both the university and society. Yet, in terms of numbers of students involved—or perhaps even in long-term effect on those involved in student organizations—activist movements are not necessarily the most important. Overall, the entire nexus of organizations and their different constituencies and functions are among the most important elements of contemporary academic life.

Note

1. An earlier version of this chapter appeared in Burton Clark and Guy Neave (eds.), *The Encyclopedia of Higher Education* (Oxford: Pergamon, 1992). It has been updated.

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TEACHING AND LEARNING IN HIGHER EDUCATION

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For centuries, a commitment to teaching and learning has been a hallmark of the academic profession throughout the world. The intrinsic motivation for teaching can be a powerful one—there are arguably few greater personal achievements than helping another human being understand the complex world around them in ways that lead to new discovery and the advancement of social or scientific knowledge. The contribution a teacher can make in the life of another is truly remarkable; the difference between an educated person and an ignorant one is manifest in everything from employment opportunities to interpersonal relationships to child-rearing. Teaching effectively—that is, enhancing and nurturing student learning—is thus justifiably seen as the core function of higher education, one for which there is a large body of scholarship. In fact, most of the world’s universities are mainly teaching institutions, and in developing countries virtually all are in this category (Altbach, 2004).

The challenge of this chapter, then, is to adequately summarize what is known about teaching and learning—and particularly, the most effective dimensions of these activities—through an examination of recent scholarship on effective teaching, student learning, and classroom assessment. While other important topics clearly affect teaching and learning in higher education—including internationalization, demands for research productivity, technology and distance education—they are covered elsewhere in this *Handbook*, and thus are largely ignored in this discussion. Additionally, space limitations prevent the full discussion of several other important topics and issues within the study of teaching and learning, for which the reader will have to accept the author’s apologies in advance. For those interested in additional exploration, please refer to the list of references provided at the end of this chapter. This discussion will begin with a comparative overview of key issues, followed by an examination of the current research on teaching, student learning, and classroom assessment.

A Comparative Overview

In all literate societies, institutions of higher education have been established to cultivate and transmit the intellectual tradition at its highest level (Ben-David, 1977, p. 9). Even when it was believed the world was flat, the tremendous breadth and scope of knowledge available required some form of organized information transfer between those who “knew” and those who wanted to know. Thus developed the need in all civilized societies for institutions of higher learning as a central location for knowledge, its keepers and practitioners: imperial Chinese mandarins were trained in Confucian schools of good manners and administration, Islamic theocrats in Koranic colleges, Inca calendarists in temple schools of mathematics, Tokugawa samurai in Hanko schools of Bushido and Han service, and so on—all professional schools dependent on and controlled by the ruling elite (Perkin, 1984, 2005). Thus was born the university.

The development of the modern university as the primary organizing model for teaching and learning has a deep and rich history. In the early years, two models emerged—one at Bologna, centered around students who paid their instructors and had a good deal of power over them, and the other at Paris, where the instructors had significant power over their students and maintained a formal hierarchy of apprentice (undergraduate), journeyman (bachelor), and master levels of education (Perkin, 1984, 2005). Over time, the Paris model came to prove its many advantages over the Bologna one, and to this day instructors have maintained control over the organization of learning experiences in higher education worldwide. Almost universally, faculty determine the curriculum, instructional activities, and methods of evaluating student learning, albeit with various difference in how they carry out these responsibilities.

In early British institutions of higher education, the tutorial model—a one-to-one student-tutor relationship—was the norm for centuries, and was imported by the early colonial institutions of North America. Indeed, James A. Garfield, the 20th President of the United States, once stated that his definition of a university was Mark Hopkins [the president of Williams at the time] at one end of a log and a student on the other.¹ However, as Lisa Lattuca notes in her chapter in this *Handbook*, the tutorial model was subsequently adapted in the U.S. to meet local needs—specifically, the tremendous demand for higher education and the supply of students far exceeded the available number of teachers. Thus, the personal interaction and individualized learning of the tutorial model was replaced by the lecture format in which one instructor, specializing in a single subject area, taught many students simultaneously (Lattuca, 2005).

Throughout the last two centuries, expansion of higher education throughout the globe has ensured the permanency of the “one professor for many students” group model. Further, the proliferation of specializations within virtually all academic disciplines and fields of scientific inquiry—and the concurrent need for specialized competence among teachers and researchers—led to the decline and eventual disappearance of the all-purpose, generalist tutor (cf. Rudolph, 1977). These developments naturally led to a change in the way faculty approached teaching and learning. The German concepts of *lernfreiheit* (freedom in learning) and *lehrfreiheit* (freedom in teaching)—which framed a more loosely organized search for truth through inquiry—were also integral to the development of modern higher education (Lattuca, 2005),

particularly in terms of faculty autonomy to develop the curriculum and methods of instruction.

However, despite the university's evolution over a span of centuries, much of what is done in classrooms today is similar to what was done in the earliest institutions of learning (Ben-David, 1977, p. 9). Further, within the last century, colleges and universities worldwide have evolved toward a single, common model—one in which the English and German models are melded and refined by premier institutions in the United States. Here, increasingly entrepreneurial institutions and faculty—driven by market forces and a decline in public support for higher education—approach issues of teaching and learning in ways that seek to satisfy the demands of a variety of constituents (including students, parents, policymakers, donors, employers, etc.) while striving to achieve multidisciplinary learning outcomes that will ensure the long-term success of their graduates. In general, few institutions of higher learning can survive in today's global marketplace without at least some demonstrated effectiveness in teaching.

From these developments, a growing body of scholarship has emerged which explores various dimensions of effective teaching and student learning. Considerable scrutiny has been given to the ways in which faculty are prepared to teach, but unfortunately, as described in several chapters of this *Handbook*, the truth is that most higher faculty receive little or no preparation in this area. Indeed, very few graduate education programs develop a future professor's teaching skills. Rather, the predominant model is focused on the development of disciplinary expertise and research skills, with the common assumption that mastery in one's academic discipline adequately prepares the future professor for classroom instruction. Granted, lack of disciplinary knowledge makes for a disastrous teaching-learning experience. But unfortunately, very little—if any—of the formal training available for college faculty addresses topics like adult learning, memory, or transfer of learning (Halpern & Hakel, 2003).

Given the centrality of learning in the role and mission of the university, surprisingly little attention is given to the development of a personal philosophy of teaching among future members of the academic profession. Teaching, like leadership, demands honesty and integrity above all else. To be effective, one must be true to his or her values, and establish a clear personal commitment to (and understanding of) their role in a student's intellectual and personal growth. Clearly, a teacher's attitude toward classroom instruction impacts the nature of his or her classroom interactions with students. Faculty who love to teach are usually received more favorably by their students than faculty who appear wholly uninterested in their teaching. To be sure, students can tell the difference. A university teacher's sense of self also plays an important role in his or her teaching effectiveness. Just as individual strengths can facilitate learning, fears and misperceptions can become barriers to improved teaching. Overall, adequate preparation for one's duties in any profession plays an important role in one's effectiveness, thus it seems intuitive that adequate preparation for classroom teaching would play an important role in how an individual teacher approaches this area of professional responsibility.

From an overarching concern for the improvement of student learning, a growing body of research has emerged which highlights the importance of teaching-oriented development experiences for new members of the academic profession. Further,

academic disciplinary organizations and nonprofit organizations have become increasingly engaged in the development of teaching skills throughout the academic profession. Prominent examples include the Carnegie Foundation for the Advancement of Teaching, which through their publications, “Teaching Academies” and other initiatives has sought to “deepen and broaden the scholarship of teaching, with the goal of improving student learning . . . [and] affirming teaching as significant intellectual work.”² University “centers for improving teaching” in some form or another can be found at institutions throughout the world, particularly in Australia, Canada, the United States and Western Europe. A proliferation of websites and publications—including *Teaching in Higher Education*, *College Teaching*, *Change*, and the *Journal of Excellence in College Teaching*—offer theoretical exploration and practical guidance on a wide range of issues for developing and improving our understanding of teaching in higher education.

In addition to research on how to better prepare faculty to teach, scholars have explored various dimensions of student learning. As described later in this chapter, a considerable amount of this research stems from the field of psychology and focuses on a student’s cognitive development within a particular academic discipline or subject area (cf. Pascarella & Terenzini, 1985). Other areas of interest include learning that promotes social skills development and civic responsibility. For example, Kohlberg (1984) argued that people develop morally as well as cognitively and psychologically, and that colleges should provide experiences that assist students in building a high-level ability to think through moral dilemmas and behave in morally defensible ways (Furhmann, 2002). Building on the work of Dewey (1966), a growing chorus of scholars have called upon higher education to focus on developing students’ moral and civic engagement (cf. Ehrlich, 2000; Minnich, 2003).³

This emphasis on civic and character development is not merely a U.S. or Western phenomenon. Indeed, research with teachers in both Hong Kong and China indicated that the ability of teachers to foster responsibility and good moral conduct in their students was seen as a sign of a good teacher (Watkins, 1998). From this interest in moral and ethical development has emerged the concept of service learning, which links disciplinary study and community service through structured reflection. Service-learning is employed as a teaching method by many faculty members and instructors who believe that through the integration of service with academic study, students gain a more complete understanding of course material (McGovern, 2002). In addition, service-learning practitioners strive to promote the development of students as engaged and active citizens by attempting to instill in them an ethic of service.

To a growing number of scholars, the idea of encouraging a conceptual change among one’s students goes beyond the realm of cognitive development, and includes affective learning as well as other dimensions. To paraphrase an essay on teaching and learning by Lee Shulman, President of the Carnegie Foundation for the Advancement of Teaching (2002), the goal of higher education should be to: (1) ensure that students are engaged and motivated; (2) help them acquire knowledge and develop understanding; (3) enable them to demonstrate their knowledge and understanding through performance and action; (4) encourage them to engage in critical reflection of the world and their place within it; (5) develop their ability to navigate the constraints and

complexities of the world in formulating their own judgments and designs for action; and (6) foster a lifelong commitment to critical examination and self-development. To demonstrate how these elements work in concert, Shulman offers the following narrative:

Once upon a time, someone was engaged in an experience of learning. And that engagement was so profound that it led to her understanding things she didn't before, and therefore gave her the capacity to practice and to act in the world in new ways. But once she started acting in the world, she realized that action doesn't always work out as intended, so she had to start looking at what she was doing and at the consequence of her actions. This meant re-examining her actions to see whether she might want to act differently. Through that kind of reflection on her own performance and understanding, she became wiser and capable of making judgments and devising designs in situations that were progressively more uncertain. And as she did so, she began to internalize the values that she had been exposed to, at which point she was no longer merely engaged but truly committed. Those commitments, in turn, disposed her to seek out new engagements, which led (of course, the story is a circle) to new understandings and practices (p. 41).

This story demonstrates the circular nature of what Shulman believes represents the best of the teaching and learning process. Each element of these evolutionary circles (of beginner to master) is connected to another to form a truly educated person—one who can demonstrate both intellectual and emotional intelligence. Thus, cognitive development is seen as but one of many areas of concern for teaching and learning in higher education.

Another recent emphasis in the literature on what students should learn surrounds the concept of critical thinking. Critical thinking skills—the ability to evaluate different points of view and look at evidence—are a key component to the success of students both during and beyond their higher education experiences, and as Kitchener and King's (1984) model of reflective judgment illustrates, a student's learning environment can (and, they argue, should) be constructed to challenge absolutistic assumptions and hold up the validity of alternative perspectives. Concern over the development of critical thinking skills has in recent years fostered a proliferation of studies and professional conferences worldwide, through which discussions of curriculum and pedagogy are advancing our understanding of teaching and learning in higher education.

In sum, the goals of teaching and learning range across a broad spectrum, from discipline-based factual knowledge to critical thinking, and from moral and ethical behavior to civic engagement. The goals of higher education within any particular regional, national or institutional context must be understood before one can begin to evaluate the effectiveness of teaching in higher education. Obviously, there are broad differences between countries and institutions in terms of *what* is taught—often related to political, social and cultural forces. However, a comparative review of research in higher education reveals that teaching is organized in similar ways throughout the world and seeks to address common themes of student learning. Indeed, *how* professors teach—that is, the instructional methods, learning environment and assessment tools used—is quite similar worldwide. Further, in his comparative study of student learning,

Watkins (1998) found that “Western conceptions of what constitutes good teaching seems to have a high degree of cross-cultural validity” (p. 31). With this in mind, the following sections of this chapter explore a range of scholarship on effective teaching, student learning, and assessing the complex relationship that takes place at the nexus of these two activities.

Research on Student Learning and Effective Teaching

According to Entwistle (1998), conceptions of learning range from reproduction-oriented modes (e.g., quantitative increases in knowledge, memorizing what is required for exams, and acquiring facts and procedures for subsequent use) to transformative modes (e.g., abstracting meaning for oneself, interpreting and understanding reality, and developing as a person). Critics of higher education often complain that far too much emphasis is placed on the former—the limited “surface learning” resulting from a reproduction-oriented mode of education, or what Ramsden (1992) calls “teaching as telling”—in which students study without being required to reflect on either purpose or strategy, and instead memorize facts and procedures routinely without any need for “connecting the dots” or developing new ideas. Indeed, if the results of significant investment in higher education are to include an educated workforce with creative and critical thinking skills, there is considerable deficiency in the kind of classroom instruction which merely transmits information—making a deposit into an empty vessel in what Paulo Freire (1970) criticized as the “banking” model of teaching and learning.⁴

Emerging from these criticisms of traditional forms of teaching, an increasing amount of scholarship has argued that colleges and universities worldwide should endeavor to produce so-called “deep learning,” the kind of transformative experience which represents the very best outcomes of higher education. In essence, deep learning can be described as long-term retention and the ability to transfer the knowledge, skills, and attitudes acquired in a university setting for use in other contexts at some time in the future (Halpern & Hakel, 2003). Deep learning requires students to focus on what is of significance in the course material, relate theoretical ideas to everyday experience, evaluate the evidence of competing arguments, and construct their own coherent, fact-based understanding of the subject. This area of research builds on studies of cognitive development—the growth in students’ intellectual complexity, critical thinking, reasoning, and capacity for learning (Arnold, 2002). Early studies of cognitive development include Piaget (1972, 1974), who discovered that not everyone achieves a level of development that provides them with the ability to engage in abstract thinking, and Erikson (1963, 1968), who concluded that all people evolve through certain stages of psychological development (Furhmann, 2002).

In the late 1940s, the rise of the general education movement in undergraduate education led some scholars to examine what students should learn *beyond* knowledge—eventually resulting in a “taxonomy” put forward by Krathwohl, Bloom, and Masia (1964), depicting how learners move from a willingness to receive an experience, to beginning to respond to it, to valuing what is taught, to organizing it within their larger set of values and attitudes, and ultimately to internalizing those values such that they

no longer need an external stimulus to trigger the associated affective and emotional response (Shulman, 2002).

Perry's Intellectual Scheme (1970) focused specifically on stages of development through the college years, describing how college students move from an initial stage of "dualism" (seeing the world as knowable, where knowledge and truth are singular, firm, universal and legitimate only when knowledge comes from authority), through a stage of "multiplicity" (in which competing views and sources of knowledge are considered equally valid) to a final stage in which the student fully recognizes the ambiguity and complexity of the world, and develops both a sense of identity and place within this world and an ability to make ethical decisions when navigating its darker corners. From these and other studies, Chickering (1981) developed a comprehensive theory of college student development and suggested that curriculum and instruction be based primarily in developmental theory (Guido-diBrito & Chavez, 2002). Additionally, Ramsden (1992) argued that high quality learning requires the active construction of meaning and the possibility of conceptual change on the part of the learners. It is thus the teacher's role to facilitate that occurrence by engaging them in appropriate learning activities (Shuell, 1986).

Proponents of this view insist that, since knowledge can only be constructed from within, the teacher must play the role of "expert guide," or focus his or her efforts toward "shaping" or "growing" the student's cognitive abilities. In order to promote deep learning, a teacher must therefore emphasize concepts over isolated facts; require essay questions and problem solving instead of rote memorization of factual knowledge; offer and demand clear explanations and challenging ideas; employ cooperative learning and peer group classroom activities; and maintain high expectations of student performance (cf. Ramsden, 1992; Entwistle, 1998). According to Chickering and Gamson (1978), good teaching: 1) encourages contacts between students and faculty; 2) develops reciprocity and cooperation among students; 3) uses active learning techniques; 4) gives prompt feedback; 5) emphasizes time on task; 6) communicates high expectations; and 7) respects diverse talents and ways of learning. The National Institute of Education's *Involvement in Learning*, a report published in 1984 that received attention throughout the U.S., articulated similar themes—effective learning requires high expectations, student involvement in their own learning, and assessment and feedback.

After reviewing nearly 50 years of research on learning, Angelo (1993) identified 14 factors that were consistently correlated to positive student outcomes and drew implications for effective teaching, as presented in Table 1.

In another report, the National Center for Postsecondary Teaching, Learning and Assessment (1995) studied 4,000 undergraduates over three years of college and found that, among many other things:

- The most influential experiences in noncontent learning for students involve human interaction: student encounters with new and different ideas and people via student-faculty and student-student contacts.
- Active student involvement in their own learning—collaborative learning, internships, meaningful work-study programs—brings students greater learning effectiveness.

Table 1. Fourteen Principles for Improving Higher Learning (Angelo, 1993)

| Principle | Implications for Teaching |
|--|--|
| 1. “ <i>Student performance is greatest when students . . .</i> ” are more actively than passively engaged in their academic work. | Have students explain to others, in different contexts, having rehearsed. |
| 2. focus their attention by being aware, or made aware, of the basic structure of what is to be learned, and the priorities in the subject content elements. | Point out the landmarks in the body of content, especially for novice students. |
| 3. set and maintain explicit, high, but realistic goals, and which are aligned with the teacher’s goals. | Ask students to write down specific learning goals, compare them to goals of other students, and to yours. |
| 4. meaningfully connect new information to prior knowledge. | Provide many examples, analogies, metaphors, etc. Ask students to provide them. |
| 5. successfully identify and unlearn erroneous previous knowledge and bias. | Probe student knowledge and identify “icebergs” early. |
| 6. organize subject content in meaningful ways that are personally and academically appropriate, and become aware of their own ways of learning (metacognition). | Show students various ways to organize the same knowledge. Have students construct “mental models” of the content; give them feedback on their models. |
| 7. receive and use abundant, timely, specific feedback. | Don’t assume that students understand. Find out what students do with feedback; show students how you incorporate feedback. |
| 8. know in detail and in advance the standards to be used in assessment and evaluation, and the nature of the instruments. | Provide sample exams and study questions; provide feedback on practice efforts. |
| 9. invest adequate time and high quality, focused effort. | Advise students of the real-world time requirements to achieve mastery of the content; give examples. |
| 10. find real-world applications, in many contexts, to transfer what they are learning. | Direct student attention between the general and the specific. Provide many examples of the same concept; have students devise their own. |
| 11. perceive and adopt high expectations of achievement. | Ask students about their expectations, let them know yours. Put them in contact with previous, successful students in your course. |
| 12. experience a balance of intellectual challenge and academic support (scaffolding). | Fine tune scaffolding to the learner; novices need more, and more experienced students may feel suffocated by the support given novices. |
| 13. clearly perceive the value in what is to be learned. | Communicate that you hold the content to be valuable; show that mastery of the content will lead to other important goals. |

Continued

Table 1. *Continued.*

| Principle | Implications for Teaching |
|---|--|
| 14. interact frequently with teachers and other learners. | Learn students' names; engage them in dialogue. Challenge students with assignments that groups perform better than individuals. De-emphasize competition for grades and approval. |

Source: Angelo, T. A. (1993). A "teacher's dozen"—Fourteen general, research-based principles for improving higher learning in our classrooms. *AAHE (American Association for Higher Education) Bulletin*, 45(8), 3–7, 13.

- A positive association exists between high student ratings of teacher organization and preparation and students' reading comprehension, mathematics, and critical thinking achievements.
- Students learn more from a coherent and developmental sequence of courses.

One of the clear patterns to emerge from a review of these and other studies is the emphasis on how a student contributes to his or her own learning. For example, the learner's prior knowledge plays a critical role in comprehension and knowledge acquisition (Schallert, 1991) as well as the construction of what Perry (1985) calls "personal meaning." What the student knows provides the platform upon which a teacher can help the student build a more complex understanding of the material. Motivation and interest in the subject matter are additional dimensions of a student's contribution to a learning moment. Extrinsic motivation—the economic or status rewards for achieving a higher degree—may influence markedly different approaches to learning than intrinsic motivation. According to Pintrich and Garcia (1991), students who are encouraged to set goals and are given license to regulate their own attainment of those goals tend to focus more of their attention and energy on their learning. Decades of research have confirmed that socioeconomic class affects learning in various ways throughout the world, including parental support and pre-college preparation.

Yet another dimension is a student's personal learning style. Some students will learn if they are given the opportunity to take risks and discover on their own, but they also need constant support from their teacher (Moore, 1994). Some students may need concrete examples from audiovisual presentations, whereas others may benefit more from reading a good textbook (Carskadon, 1994). How a student learns best is, for the most part, individually dependent on a wide range of variables specific to that student. Kolb's Learning Style Inventory (1971, 1985, 1999) describes learning as the holistic engagement of affective, perceptual, cognitive, and behavioral processes. Four learning types are identified as a learner's preference to take in and transform experiences: (1) students with a diverging learning style, which combines concrete experience and reflective observation, are best at viewing situations from different perspectives; (2) those with an assimilating learning style, which combines reflective observation and abstract

conceptualization, are best at logical thinking and theory building; (3) students with a converging learning style, which combines abstract conceptualization and active experimentation, are best at finding practical uses for ideas and theories; and (4) those with an accommodating learning style, which combines active experimentation and concrete experience, have the ability to learn primarily from hands-on experience (Kolb & Kolb, 2002).

Clearly, different learners have different learning preferences. In addition to the research on learning styles, a good deal of scholarship has illuminated the importance of gender—in some cases, even challenging the cognitive development theories of Kohlberg, Perry, and others described earlier in this chapter (cf. Belenky et. al., 1986; Bunch & Pollack, 1983; Gilligan, 1982; Maher & Tetreault, 1994; Ropers-Huilman, 1998). According to Ropers-Huilman (2002), educators must recognize the effects that gender and other identity characteristics have on educational processes and outcomes. She notes, “Feminist educators believe that many people experience their social and educational lives differently . . . race, gender, social class, disability, and sexual orientation work together to shape social opportunities and interactions. Simply, students are not uniform or consistent. Therefore, they do not engage with the course content in uniform or consistent ways” (2002, p. 256). From this perspective, effective teachers must account for different sources and type of knowledge in order to ensure student learning across the spectrum of students in their classroom. The challenges inherent in doing so, particularly in today’s broadly diverse student populations, are both obvious and daunting. To gain a better understanding and inform new approaches to teaching, some researchers are beginning to study student learning from an international or comparative perspective.

Comparative Research on Student Learning

In an important cross-national study, Entwistle (1998) examined research on student learning carried out mainly in Europe, Asia and the Pacific. His synthesis of this research led him to construct a model (Figure 1) representing the intersection of a variety of concepts, “all of which contribute towards an understanding of the student’s learning strategies and the learning outcomes which derive from them” (1998, p. 104).

Entwistle describes this diagram as indicating “the links which exist between student characteristics, teaching and teaching policies,” and explains the various components of the conceptual model as follows:

1. *Top:* Around the top of the diamond there are student characteristics, moving from prior knowledge on the left to study skills on the right. The four components shown on the left make up some of the main influences on approaches to learning (shown within the diamond), although attitudes to the course and motivation also have an important influence on whether a deep or surface approach is adopted. Approaches to studying—strategic or apathetic—again are affected by attitudes and motivation, as well as by academic self-confidence deriving from ability and prior knowledge, but they are more closely related to work habits and study skills.

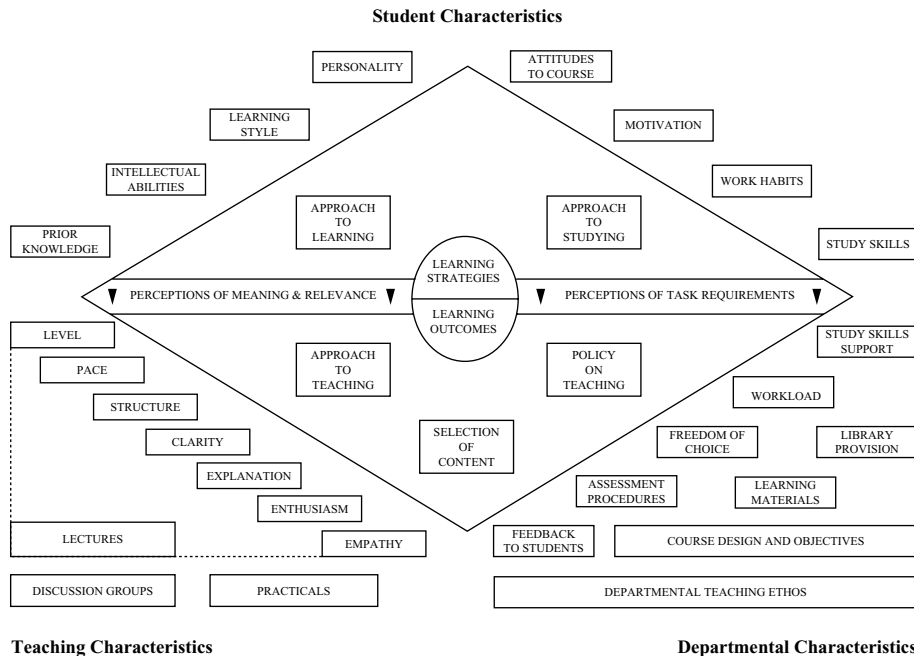


Figure 1. A conceptual overview of the teaching-learning process (Entwistle, 1998).
 Source: Entwistle, N. (1998). Improving teaching through research on student learning. In J. Forest (ed.), *University Teaching: International Perspectives* (p. 105). New York: Garland.

2. *Center:* Strategies and outcomes are placed at the center—the target of the explanations which are built up from the concepts and research findings. Across the center of the diagram are shown the student’s perceptions of the learning environment, which act as a lens through which the learning environment is seen and interpreted. Cognitive and personality differences, as well as approaches to learning, influence the perceptions of meaning and relevance seen in the teaching, while approaches to studying, together with the characteristics underpinning them, affect perceptions of the task requirements.
3. *Bottom Left:* In the bottom left of the diagram, the teaching characteristics which influence approaches to learning are shown in detail, but only for lecturing, where the research evidence is strongest. Similar influences are, however, likely to be found with other teaching methods, such as discussion groups and laboratory classes. The positioning of the lecturing components, which reflect the individual lecturer’s approach to teaching, is intended to indicate vertical links with student characteristics. Thus, the level at which the lecture is pitched depends on the prior knowledge of the students, while the pace depends on their intellectual abilities. The way the topic is structured, the clarity of presentation, and the quality of the explanations—the lecturing style—will depend on the lecturer’s

own learning style, and the reaction of students will depend on the match with their own preferred ways of learning. Finally, personality will affect the extent to which a lecture is presented enthusiastically and contributes to the appearance of a lecturer's empathy with the audience. Again, the students' reactions to the lecturer's style of teaching will depend, at least, on their own personality and learning style.

4. *Bottom Center and Right*: Selection of content is placed at the bottom center of the shaded diamond to indicate its importance, and that it is initiated by faculty members but also depends on institutional approval. Below that, and to the right, departmental characteristics, as well as institutional influences, are described which have been found to affect approaches to learning and studying. The overall policy on teaching is unpacked to show some of the strongest effects on learning. Assessment procedures, and the feedback provided to students on the quality of their work have all been shown to have the strongest overall effects on approaches to both learning and studying, but they also influence attitudes and motivations (Entwistle, 1998, pp. 104–106).

Through this model, Entwistle encourages reflection on the three most critical facets of the teaching-learning interaction that takes place in classrooms around the world—teacher, learner, and environment. In particular, he argues that effective teaching is more likely to occur where the learning environment has been thoughtfully designed to achieve the specific objectives of a course in ways which suit most of the students—a dimension of teaching that is all too often forgotten by policymakers and teachers alike (Entwistle, 1998).

Research on Teaching Effectively

Other dimensions of effective teaching include teacher preparation, attitudes, and classroom behavior. Gender and racial or ethnic diversity may play a role in how the teacher relates to his or her students, and vice versa. Behaviors such as making eye contact, moving about the classroom, and projecting one's voice effectively are all useful when lecturing. A university teacher's attitude toward instruction is important in their classroom interactions with students, as is their philosophy of teaching—particularly, whether knowledge is seen as transmitted or constructed. Institutional reward structures may influence how a faculty member approaches their teaching responsibilities. And without question, an instructor's choice of teaching method has considerable impact on most any classroom learning experience, particularly in terms of how comfortable the instructor and students are with the teaching methods employed.

Teaching is perhaps the most difficult and complex responsibility for members of the academic profession. From textbook selection to classroom management and organization, to giving and grading exams, teaching requires a considerable commitment of time, energy and skill. Thus, it comes as no surprise that a good deal of research on college and university teaching is dedicated to helping the teacher achieve these multiple tasks more effectively. Studies range in scope from practical tips and advice to new teachers to the development of complex research concepts—such as cognitive

mapping—which can be used to develop more robust approaches to the assessment of teaching. Angelo and Forest (2002) synthesized a fair amount of research in this area to develop a small handful of recommendations for university teaching in many different contexts.⁵ These include:

- *Lecturing effectively.* Judging both by studies of teachers’ classroom behavior and by the popular media, lecturing is still the most common teaching method. Thus, a considerable body of research on university and college teaching is focused on improving the effectiveness of lectures. While effective lecturing requires clarity and thoughtful organization of the material, it is often suggested that the personal attributes of the lecturer are more important than the material. For example, lecturers who are enthusiastic, dynamic, and charismatic are often perceived as more effective than those who appear pompous, disinterested in the material, or show irritation at questions in the classroom. Research on effective lecturing also suggests the need for a certain sense of self-awareness (including one’s posture, hands, gait, and clothing), and that a sense of humor can enhance a classroom’s perception of the lecture.
Other attributes of effective lecturing are more related to behavior. Making eye contact, being well rested before the lecture, never reading from a book, using emotion-enhancing words and moving about the classroom to avoid remaining in a stationary position are all important attributes of an effective lecturer. According to the research literature, many of the personal attributes related to effective teaching are also related in some way to verbal aptitude—how one uses his or her voice in the classroom matters considerably. A monotone voice, an inability to speak loudly or project one’s voice, mumbling, or speaking too rapidly or too slowly can impair a lecturer’s effectiveness. Clearly, an animated teacher will be comparatively more successful at eliciting and maintaining student attention.
- *Employing effective group assignments.* Assigning effective group assignments and activities can be a powerful tool for developing students’ higher-level cognitive skills. Several research studies offer guidelines for designing appropriate questions, forming groups and establishing a grading system to support individual preparation and team development, and conclude that effective group assignments require an understanding of the course concepts; a level of difficulty that requires collaborative (over individual) effort; ensuring that groups perform activities that groups do well (e.g., identifying problems, formulating strategies) while minimizing time spent on activities that individuals could do more efficiently alone (e.g., creating a polished document); giving students the opportunity to apply the course concepts to realistic problems; work that is interesting or fun; and a tangible output that can be effectively evaluated.
- *Encouraging classroom discussion.* Classroom discussions can produce benefits for students along the same lines as effective group assignments. Early work on comparing lectures and discussions introduced a measure of “delayed recall” to determine long-term learning. This research showed that although there was little difference between student performance on tests immediately following a course, there was a considerable superiority for students in the discussion group over

the lecture group on the measure of delayed recall. Effective discussions hinge on instructors learning to become more comfortable with control issues and with their ability to guide students (and themselves) through the minefield of interpersonal interactions, especially those in multicultural classrooms.

- *Collaborating with colleagues.* Academics are largely autonomous, and are usually rewarded only for their work as independent researchers or teachers, as opposed to collaborative research or teaching. However, interest in team teaching, faculty collaboration, and interdisciplinary education is increasing. Faculty collaboration and team teaching can amplify the energy of a classroom, particularly when the instructors have organized the material (and their presentation of it) in ways that highlight their collective as well as individual strengths. As well, team teaching can play an important role in presenting students with useful models for working together effectively and respecting diversity of opinion and perspective.
- *Assigning problem-solving exercises.* By assigning problem-solving activities that promote critical thinking, teachers help students develop creativity by providing avenues for intrinsic motivation. Effective teachers must adamantly discourage “killer statements”—statements that cut down an idea before it has a chance to grow (e.g., “that’s been tried before,” “that’s ridiculous/impossible”). When students “own” a problem, intrinsic motivation for creative problem solving is best enabled.
- *Seeking feedback from students.* Demonstrating respect for and interest in student opinions and perceptions is a powerful tool for engaging them more in the learning process. During the late 1980s, Patricia Cross and Thomas Angelo illustrated the value of “One Minute Papers” as a quick and effective way to collect written feedback about a course or a specific class session, particularly in large lecture classes. Here, the instructor asks students to write a brief answer to the following two questions: “What was the most important thing you learned in today’s class?” and “What question or questions that you have from today’s class remain unanswered?” Another technique that is useful is to allow for anonymous, open-ended teaching evaluations at various points throughout the course, and then make adjustments to meet the concerns expressed in these reports. In general, seeking feedback from students about the course direction or discussion encourages students to be more active participants in the classroom learning experience.
- *Organizing the classroom experience.* The most common form of academic writing involves opening our discussion with a brief summary of what will be said, presenting the main arguments, and then closing the discussion with a concluding summary of the discussion’s highlights. We often use this same structure in many areas of academic work, including the course syllabus we design or grant proposals we write. Applying the same organization to each class we teach can help students considerably in constructing their understanding of the material and how the ideas and concepts presented relate to one another. In addition to summarizing the main points of the lecture or discussion, it is also useful to leave time for questions and clarifying concepts at the end of the class session.
- *Promoting inquiry.* Effective teachers use different questioning techniques to promote creative and critical thinking and cooperative learning. Asking questions, and then asking for further clarification or for connections to other pertinent materials,

is a very valuable skill for teachers. Research on developing critical thinking suggests that what teachers tell their students to do with the material greatly affects how they think about it. Thus, teachers should show students how (and encourage them) to ask their own questions, which helps make the learning experience more their own responsibility, which in turn helps to make the classroom into a “community of learners.”

- *Using experiential learning exercises.* Field trips help students to see things as they really are: complex and imperfect, and not as they might be idealized in a textbook. Field trips provide students with an opportunity to get involved in the learning process, which promotes active learning through student participation. As research on cognitive development have shown, participation plays an important role in fostering student motivation for learning.
- *Establishing learning contracts.* Learning contracts are useful tools for the teacher and the student to come to terms with what each expects from the course. Students may desire a guarantee that the activities they will perform in the course will help to foster the knowledge they desire. They may seek recognition from their professors that their efforts have been of high quality, and they may also seek to establish a relationship between themselves, their teacher, and their fellow classmates that includes mutual trust, respect, and collegiality. Teachers may desire a written agreement from the student that he or she will complete their assignments on time and in the format requested. They may also seek to ensure by some form of signed agreement that the student knows and understands what is expected for successfully completing the course. These contracts offer an effective strategy for structuring the teaching and learning environment to benefit both the learner and the teacher. Additionally, learning contracts provide a means through which students can set goals, which they are then motivated to achieve. Providing students with a perception of control over the learning environments and experiences can provide a powerful motivating factor for effective learning.

This relatively modest list highlights the teaching routines employed in many college and university classrooms around the world. These routines—encompassing issues of method, time, physical space and tools, and evaluation procedures—relate generally to the type of instruction preferred by the teacher as well as to the discipline or field of study within which the course material is framed. There are a limited number of these methodological routines, many of which have struggled to gain legitimacy within the academic profession, but the increasing presence of information technology is presenting opportunities for the development of new routines.

Technology and Teaching in Higher Education

The increasing use of technology in the university has become the most widely-discussed new dimension of teaching routines today. In a variety of disciplines—including physics, astronomy, and medicine—teachers are using computer simulations which incorporate sound, video, and animation to demonstrate principles and provide realistic examples. Computer simulations also provide a means for evaluating

student learning. Beyond the classroom, technology is used by both faculty and students in a variety of ways to enhance the teaching and learning process. Students use productivity tools such as word processors, spreadsheets, databases and statistical packages to prepare assignments, while faculty use computers to prepare syllabi, course notes and other course materials. Information technologies are increasingly used to facilitate communication between faculty and students both in real time and asynchronously. Online technologies allow instructors to send and receive assignments, answer questions and provide additional resources to students (Snydman, 2002). And the rapid rise of distance learning programs, combined with a growing body of research on technology-based “asynchronous learning,” is helping to change our conceptions of teaching in the modern information age (cf. Ragan, 1999; Blanke & Wekke, 2002).

From PowerPoint presentations to the incorporation of websites and online discussion groups, a growing number of faculty are exploring—or being strongly encouraged to explore—ways in which technology can enhance their teaching. For their part, students in many parts of the world are far more technologically savvy than their teachers, and thus their response to the teachers’ efforts in this regard range from mild amusement to positive endorsement. However, while technology in many instances is seen as a tool to enhance traditional forms of teaching and learning, it can be argued that the use of this tool has not yet substantially altered our understanding of teaching and learning. Even where the Internet and other forms of technology have taken the place of earlier forms of distance learning (such as correspondence, audio and video recordings, and closed-circuit television), the organization of learning is still controlled by the faculty, students are often seen as passive recipients of knowledge, and few substantive changes can be observed in the teaching and learning processes or outcomes. In fact, some studies have suggested that students enrolled in distance education programs demonstrate a familiarity with subject matter that is fairly equal to their counterparts enrolled in traditional colleges and universities. Similar research has suggested there is virtually no difference in terms of objective examination results between distance education students and traditional students (cf. Phipps & Merisotis, 1999). Thus, while technology may be introducing new types of routines in university teaching and learning, faculty conceptions of the teaching-learning process—and its projected outcomes—appear to remain largely unaltered.

Emerging Views of Teaching and Learning

Associated with the increasing role of technology in higher education is a new discussion regarding the “unbundling” or “disaggregation” of teaching functions. Instead of a single faculty member fulfilling every aspect of the teaching role, some scholars have recommended that a team approach should be used. One individual would serve as the content expert, another as the assessment expert, a third as the instructional delivery expert, and so on. According to Bess (2000) there are at least eight different functions which comprise the teaching role of faculty. For some observers, functional specialization is suggested by the complexity of the teaching role itself: one person can no longer have sufficient time and expertise to excel in all of its aspects. Others

see unbundling as a way of making education more efficient in economic terms, or as a natural consequence of the full use of information technologies to facilitate student learning. Resistance to this notion among traditional academics is high, and only a few institutions have employed disaggregation as a standard model for teaching (cf. Kinser, 2002).

From a mix of these perspectives on cognitive development, learning styles, teaching routines, learning environment, and disaggregation has emerged a new focus in the literature on “learning-centered” teaching. For example, Weimar (2002) argues that instead of promoting new teaching techniques, institutions of higher education must re-examine their assumptions of student learning, particularly in five key dimensions. First, faculty must share decision making about the learning process with their students. Involving students more in the selection of class assignments and empowering them to take more responsibility for their learning can be a powerful motivator for better classroom performance. Second, teachers must transform their role in the classroom into one of a learning guide or coach, forcing students to construct meaning for themselves. A learner-centered teacher must be able to provide the kind of direction and leadership students need while avoiding the “empty vessel” or “banking” approach to learning described earlier in this chapter.

Third, in creating learning environments that motivate students to accept responsibility for their learning, faculty must learn to relinquish control of the classroom experience and lessen their students’ dependence on them. Fourth, learning-centered teaching requires replacing the traditional emphasis on disciplinary content with the development of students’ learning skills and self-awareness. Clearly, students must develop a solid foundation of knowledge in the particular subject at hand. However, content should be used to help students acquire a repertoire of strategies, approaches, and techniques that can be used to master increasingly sophisticated content on their own. And finally, evaluation activities should be used to promote learning and development of a student’s assessment skills. De-emphasizing the traditional mode of grading controlled by the teacher, and instead developing students’ ability to evaluate their own (and others’) work results in a greater willingness among students to take responsibility for their learning (Weimar, 2002, 2003). This notion of adopting a learner-centered approach to teaching reinforces the observation made earlier in this chapter that much of the literature on teaching and learning endorses the importance of student contributions to their learning. Proponents of this view argue that the teacher should approach their role as that of a “guide” for learning, and that teachers and students should be seen as true partners in achieving desired learning outcomes. In essence, classroom learning is perhaps most effective when the instructor embraces the philosophy that instead of “teaching” they should become “designers of learning experiences” (Spence, 2001) or facilitators of “learning moments” (Forest, 1997, 1998). In this view, the instructor and the institution share the vital responsibility of providing an *effective learning environment*, a dimension of teaching and learning that is often ignored by instructional developers and evaluators.

The element of environment—including trust between student and teacher, as well as between students—is clearly a vital component to the teaching-learning interaction. According to McKeachie (1990), the question of whether small classes were more

effective than large classes was probably the first major question that research on college teaching tried to answer.⁶ Among the first investigators of class size were Edmondson and Mulder (1924), whose comparison of students in two classes (one large, the other small) found relatively equal performance on learning assessments, although students reported a preference for small classes. Further studies—such as Macomber and Siegel's (1960) experiments at Miami University—determined that the effect of class size on learning depends on what the teacher does in that classroom. Glass and Smith's (1979) meta-analysis of class size research—which takes into account more basic outcomes of retention, problem solving, and attitude differentiation as criteria for learning—shows that small classes are indeed more favorable. Issues of physical space and tools also include the size and layout of the classroom, chairs, blackboard, pens, reading and homework assignments, exams, door, and clock. Also, research on experiential learning demonstrates how field trips can provide new and inventive ways for students to get more involved in their learning process (cf. *Classrooms without Walls*, 1993). The kinds of resources upon which students and their teachers can rely surely has a considerable impact on their teaching and learning experiences.

In sum, research on teaching and learning in higher education combines a variety of perspectives from the fields of cognitive development, behavioral sciences, and others to construct a complex portrait of understanding about how students learn and how teachers can best ensure and enhance it. This research frames a variety of debates and policymaking at national, institutional and departmental levels. In conjunction with scholarly research, a growing worldwide assessment movement is enhancing our understanding of teaching and learning, as well as contributing to the debate over how to improve the effectiveness of these activities.

Assessment of Teaching and Learning

As Theall (2002) notes, the evaluation of teaching is most often defined as a process for determining the effectiveness of instruction, either to decide whether or how it can be improved, or to judge its quality for personnel or programmatic reasons. Students currently provide most of the data used in evaluating teaching, typically in the form of Likert-scale ratings of their teachers and learning experiences. However, research has indicated that students respond to different methods of teaching based on their own social and cultural backgrounds, personal preferences, and environmental surroundings. As a result, student performance on course examinations and student perceptions of their teachers varies wildly, undermining efforts for a standardized conception of effectiveness in these areas (Theall, 2002). As a result, there is considerable debate worldwide over the value of student course evaluations for assessing the effectiveness of teaching in higher education, which in some corners has led to the exploration of new approaches to the evaluation of instruction.

For example, faculty within some institutions or departments are evaluated by their peers, while the teaching portfolio (or dossier) is becoming an increasingly popular tool used by instructors to evaluate their own teaching philosophy and practice. A teaching portfolio can be defined as a collection of materials substantiating classroom performance, bringing together in one place evidence of a faculty member's most important

teaching strengths and accomplishments (Tompkins & Forest, 2002). A teaching portfolio should encompass at least some of the following components: a statement of philosophy, which can include thoughts on the teacher's or students' roles in education; a reflective statement linking the teaching philosophy to all the other items provided in the portfolio; a description of general instructional principles (or practices) with specific examples from courses that illuminate how instructional strategies were implemented; a description of the institutional context, describing the role each course (or sample course) plays in the curriculum and/or mission of the department or college; a summary of the content and goals of each course (or a representative sampling of courses); a statement of responsibilities, covering such topics as the number and type of courses taught, evaluation methods used, participation in faculty governance, or involvement in special initiatives; appended statements from supervisors or results from evaluations to substantiate the statement of responsibilities (e.g., a letter from the department or program chair describing how the candidate's teaching serves the needs of the department or program); and a description of recent efforts to improve teaching—for example, taking a course on college teaching, or attending and/or participating in professional conference sessions devoted to improving college teaching—along with a description of how these efforts resulted in a new approach to teaching.

In addition, a portfolio often includes evidence from multiple sources to support claims of excellence in teaching and student learning. These can include: letters from graduates, colleagues, or external consumers that provide vivid descriptions of the faculty member's teaching; reports from peer observation that provide descriptive and/or evaluative data about teaching; sample lesson plans; sample course materials such as handouts, descriptions of student assignments, syllabi, and exams; samples of instructor-developed materials that are directly linked to instruction (e.g., computer programs, texts, workbooks, slides, or lab manuals); student comments from course evaluations; quantitative course evaluation data; sample student papers that demonstrate the substance of instructor feedback to students; and research studies conducted by the instructor or others that support the use of particular strategies. While this does not represent an exhaustive list, the elements presented here should provide useful guidelines for producing a teaching portfolio at virtually any institution of higher education. Overall, a quality teaching portfolio serves dual purposes: to provide faculty with a tool for the self-evaluation of their teaching, and to provide departmental and institutional administrators with an evaluation of their classroom performance.

While student course evaluations and teaching portfolios provide useful forms of self-reported data on classroom instruction, a variety of scholars (cf. Ramsden, 1988, 1992) argue that effective teaching can only truly be measured by the achievement of quality learning outcomes. Clearly, the overall goal of evaluating teaching is to improve student learning. Thus, the only true measurement of teaching should be an objective evaluation of how graduates perform in ways that relate to these learning outcomes. However, just as there is disagreement over how to assess teaching, there is also a considerable diversity of opinion when it comes to the assessment of student learning.

In general, faculty and administrators seek to gather and analyze data on the quality of student learning achieved at their institution through a variety of quantitative and qualitative means—including standardized tests, surveys, interviews, focus groups,

written work, portfolios, and others. At the end of most courses, an instructor will administer some form of assignment to determine whether students have absorbed the course material, developed new skills and understanding, or achieved some other course-related objective. Faculty are typically free to develop their own assessment instruments for the courses they teach and are given the autonomy to judge the level of a student's achievement of course-related objectives. However, colleges and universities have become increasingly interested in determining what students have learned through a sequence of courses or at the completion of an entire academic program. Assessing student learning in this longitudinal fashion requires additional thought and exploration beyond the traditional means of classroom assessment. Some common assessment techniques are

- comprehensive, program-specific standardized tests administered during the senior year;
- capstone coursework, such as senior theses or other cumulative projects;
- performance evaluations of a designated skill set or competency;
- portfolios, which demonstrate the learning and growth a student has achieved in a program of study; and
- independent research projects or other activities that require the integration and application of the knowledge gained through a program of study.

These assessments can be developmental—where the student has an opportunity to learn from the assessment and improve his or her skills, knowledge, or performance—or they can be more strictly evaluative, with an implicit threat of student failure. Naturally, a variety of disciplinary differences account for the variations in how teaching and learning is assessed. Indeed, Angelo and Cross (1993, p. 17) draw upon the cognitive psychology literature to assert that “assessment depends . . . on the match between the conceptual map of the discipline or subject being taught and the internal cognitive map that illustrates what the learner knows.” Accordingly, as Neumann, Parry, and Becher (2002) elaborate, the assessment of student learning necessarily reflects disciplinary characteristics. In the hard sciences, assessment of learning often takes the form of objective examinations to measure a student's factual knowledge base and calculation skills. Here, there is quite often a “right” and a “wrong” answer to be given on these exams. By contrast, in the humanities and social sciences the emphasis is more likely to be on knowledge application and integration, usually in essay or explanatory form.

An increasingly popular assessment method for doing so involves the use of student portfolios. Because of its inherently individualized approach, the student portfolio is perhaps the most relevant for the “learner-centered” approach to teaching described earlier. Student portfolios are more than a compilation of course work, case studies, and presentations; they also incorporate a reflective component, in which students provide thoughtful consideration on their learning over time and may include statements of professional objectives and accounts of life experiences (Maxwell, 2002). The use of student portfolios can encourage reflective learning by emphasizing the learning process as well as the outcome. When used as a formative assessment tool, where the emphasis is on giving informative feedback to the learner during the process, portfolios can both guide and enhance learning (Smith, 1998). There are typically two kinds of student

portfolios used in higher education: course-specific, in which students include nearly every course assignment as well as their personal reflection documents; and cumulative, where students build their portfolios over a period of semesters or years to show their increasing competence and learning (Maxwell, 2002). While not yet a widespread phenomenon, student portfolios can be used for assessing and improving both teaching and learning, as well as informing efforts to improve institutional effectiveness in higher education.

In general, institutional assessment efforts focus on determining the level of a student's cumulative learning as a result of a program of study. For example, they could be used to determine the achievement of desired learning outcomes for a general education core curriculum, for a required course sequence in a particular major, or for a degree or certificate as a whole. In all cases, effective assessment requires that a set of desired outcomes is first agreed upon by the institution's faculty and administration. While defining the desired outcomes of a major can be relatively straightforward—e.g., foreign language proficiency, depth and breadth of historical knowledge, competency in scientific applications, etc.—a variety of approaches and frameworks exist regarding the desired outcomes of other aspects of the collegiate experience. For example, institutions tend to emphasize the broad intellectual, moral and ethical development of their students as a desired outcome of their core curriculum, often by delineating a list of “characteristics” of a student's experience.

At the institutional or national policy level, a primary source of information on the assessment of student learning continues to be the American Association of Higher Education (AAHE). In 1992, the AAHE Assessment Forum produced a document, *Principles of Good Practice for Assessing Student Learning*, through which twelve prominent scholars of higher education identified nine key elements of effective assessment (Table 2).

The AAHE *Principles* document continues to inform a variety of institution-based efforts at developing comprehensive, effective student assessment initiatives. Scholars such as Banta (1996) and Nichols (1995, 2001) have produced a range of guides for the assessment of student learning, with helpful case studies and other examples that provide colleges and universities with essential tools for developing and refining their assessment initiatives.

Overall, the goal of assessment initiatives in higher education are driven by the same concerns—the improvement of the educational experiences provided to students, as well as the development of a student's capacity for self-directed, lifelong learning. Thus, assessment should be viewed as a component in a larger, long-term improvement strategy for both students and their institutions. However, since learning is seen as very much an individual activity, a “one size fits all” approach to assessing student learning is unlikely to be effective. Institutional approaches to the assessment of student learning should thus be driven by a common underlying philosophy that strives to take into account the diversity of student background experiences, abilities, and aspirations.

In sum, the evaluation of teaching and student learning has captured new significance in public debate, and has led to a proliferation of publications, conferences, and public policy pronouncements which at the very least underscore the importance of teaching and learning in modern-day political, social and economic deliberations. Colleges and

Table 2. Principles of Good Practice for Assessing Student Learning

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1. **The assessment of student learning begins with educational values.** Assessment is not an end in itself but a vehicle for educational improvement. Its effective practice, then, begins with and enacts a vision of the kinds of learning we most value for students and strive to help them achieve. Educational values should drive not only *what* we choose to assess but also *how* we do so. Where questions about educational mission and values are skipped over, assessment threatens to be an exercise in measuring what's easy, rather than a process of improving what we really care about.
 2. **Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.** Learning is a complex process. It entails not only what students know but what they can do with what they know; it involves not only knowledge and abilities but values, attitudes, and habits of mind that affect both academic success and performance beyond the classroom. Assessment should reflect these understandings by employing a diverse array of methods, including those that call for actual performance, using them over time so as to reveal change, growth, and increasing degrees of integration. Such an approach aims for a more complete and accurate picture of learning, and therefore firmer bases for improving our students' educational experience.
 3. **Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.** Assessment is a goal-oriented process. It entails comparing educational performance with educational purposes and expectations—those derived from the institution's mission, from faculty intentions in program and course design, and from knowledge of students' own goals. Where program purposes lack specificity or agreement, assessment as a process pushes a campus toward clarity about where to aim and what standards to apply; assessment also prompts attention to where and how program goals will be taught and learned. Clear, shared, implementable goals are the cornerstone for assessment that is focused and useful.
 4. **Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.** Information about outcomes is of high importance; where students "end up" matters greatly. But to improve outcomes, we need to know about student experience along the way—about the curricula, teaching, and kind of student effort that lead to particular outcomes. Assessment can help us understand which students learn best under what conditions; with such knowledge comes the capacity to improve the whole of their learning.
 5. **Assessment works best when it is ongoing not episodic.** Assessment is a process whose power is cumulative. Though isolated, "one-shot" assessment can be better than none, improvement is best fostered when assessment entails a linked series of activities undertaken over time. This may mean tracking the process of individual students, or of cohorts of students; it may mean collecting the same examples of student performance or using the same instrument semester after semester. The point is to monitor progress toward intended goals in a spirit of continuous improvement. Along the way, the assessment process itself should be evaluated and refined in light of emerging insights.
 6. **Assessment fosters wider improvement when representatives from across the educational community are involved.** Student learning is a campus-wide responsibility, and assessment is a way of enacting that responsibility. Thus, while assessment efforts may start small, the aim over time is to involve people from across the educational community. Faculty play an especially important role, but assessment's questions can't be fully

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Table 2. *Continued.*

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- fully addressed without participation by student-affairs educators, librarians, administrators, and students. Assessment may also involve individuals from beyond the campus (alumni/ae, trustees, employers) whose experience can enrich the sense of appropriate aims and standards for learning. Thus understood, assessment is not a task for small groups of experts but a collaborative activity; its aim is wider, better-informed attention to student learning by all parties with a stake in its improvement.
7. **Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.** Assessment recognizes the value of information in the process of improvement. But to be useful, information must be connected to issues or questions that people really care about. This implies assessment approaches that produce evidence that relevant parties will find credible, suggestive, and applicable to decisions that need to be made. It means thinking in advance about how the information will be used, and by whom. The point of assessment is not to gather data and return “results”; it is a process that starts with the questions of decision-makers, that involves them in the gathering and interpreting of data, and that informs and helps guide continuous improvement.
 8. **Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.** Assessment alone changes little. Its greatest contribution comes on campuses where the quality of teaching and learning is visibly valued and worked at. On such campuses, the push to improve educational performance is a visible and primary goal of leadership; improving the quality of undergraduate education is central to the institution’s planning, budgeting, and personnel decisions. On such campuses, information about learning outcomes is seen as an integral part of decision-making, and avidly sought.
 9. **Through assessment, educators meet responsibilities to students and to the public.** There is a compelling public stake in education. As educators, we have a responsibility to the publics that support or depend on us to provide information about the ways in which our students meet goals and expectations. But that responsibility goes beyond the reporting of such information; our deeper obligation—to ourselves, our students, and society—is to improve. Those to whom educators are accountable have a corresponding obligation to support such attempts at improvement.
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Source: American Association of Higher Education, 1992. These *Principles* were developed under the auspices of the AAHE Assessment Forum with support from the Fund for the Improvement of Postsecondary Education with additional support for publication and dissemination from the Exxon Education Foundation. Copies may be made without restriction.

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universities that can demonstrate a high level of student achievement, grounded in well-designed plans and desired educational outcomes, will be increasingly seen as the pillars of quality in higher education for the 21st century.

Conclusion

This chapter only scratches the surface of scholarship on teaching and learning in higher education. Nonetheless, it hopefully sheds light on some of the most important

facets of these topics, and perhaps will even spark new ideas for the improvement of classroom instruction.

A commitment to teaching fuels the passion of most professors for a life in academe. Indeed, as virtually any member of the academic profession will attest, it is a tremendous responsibility and a singular honor to be a university teacher. For the vast majority of faculty, great teaching begins with a love of a particular subject or academic discipline and a commitment to developing their students' interest in this same area. Clearly, there is considerable diversity in perceptions of effective teaching. From the animated and humorous lecturer to the soft-spoken and Socratic tutor, teaching comes in many shapes and forms, and takes place in a wide variety of forums. However, by and large academics are conscientious about their teaching, and throughout the world faculty feel that better ways are needed to evaluate teaching performance (Boyer, Altbach, & Whitelaw, 1994). Further, as more colleges and universities adopt the view of excellence in teaching as the achievement of quality learning outcomes, we will no doubt see a growing number of student outcomes assessment initiatives at institutional, national, and international levels.

A worldwide assessment movement has already brought increased scrutiny of teaching and learning processes and the outcomes demonstrated by an institution's graduates, which in turn has implications for the market competitiveness of each college or university. As Altbach (2004) and others have observed, the forces of globalization are bringing numerous changes to bear on higher education worldwide. Certainly, the new competitive marketplace in which many institutions compete for students brings an element of curricular programming tied to satisfying students (as paying customers). In such instances, an institution will likely offer the most popular degree programs of the day, regardless of whether their faculty possess the qualifications and training necessary to ensure quality in such programs. Market-oriented programming also relates to the need for internationalization, wherein colleges and universities must ensure their graduates can function in an increasingly interdependent world. University teaching must therefore incorporate a greater international dimension in both course assignments and class discussions.

However, while globalization, market forces, multinational initiatives, internationalization, and information technology—among many other trends in today's world—have a significant impact on *what* is taught, we have not yet seen dramatic changes in *how* teaching and learning in higher education is organized. Barring some major new developments in cognitive science or other fields associated with human development, the ways in which teaching and learning take place worldwide have little if any reason to change. Even where information technology is incorporated, it is often seen as a tool to enhance traditional forms of teaching and learning. This holds true as well for asynchronous learning, where the Internet and other forms of technology have taken the place of earlier forms of distance learning (such as correspondence, audio and video recordings, and closed-circuit television).

From nearly a century of research, much is known about learning in higher education and how teaching can best foster it. Much of what we know comes from the field of psychology, and particularly cognitive development theory. Basic concepts derived from this research highlight the importance of viewing teaching and learning as an

interactive process, involving shared responsibilities and multiple roles. The literature indicates that the best universities support a learner-centered approach, wherein both teachers and learners share responsibility for the outcome of the educational experience. Continuous reflection on the part of the teacher and the learner is another important component to ensuring effective teaching. Meanwhile, institutions bear the responsibility of providing an environment—both physical and virtual—in which effective learning can take place.

There is undoubtedly still much we can learn, through scholarly research and assessment, about ways to teach more effectively. Though few in number, international and comparative studies hold particular promise for advancing our understanding of teaching and learning in new directions. For example, an increasing global interconnectivity requires new, multi-level forms of student understanding that combine culture, language, economics, and political science, and simultaneously transcends traditional, discipline-oriented educational experiences. An examination of how (or whether) globalization is infusing new approaches to teaching and learning in different parts of the globe would be a useful contribution to the scholarly literature. Overall, as the core function of an increasingly global enterprise, there is much to gain from studying teaching and learning from new and broader perspectives.

Notes

1. This paraphrases a quote from U.S. President James A. Garfield (1831–1881) in a speech he gave to Williams College alumni in 1871, in which he said: “I am not willing that this discussion should close without mention of the value of a true teacher. Give me a log hut, with only a simple bench, Mark Hopkins [president of Williams at the time] on one end and I on the other, and you may have all the buildings, apparatus and libraries without him.” (Speech by USC’s President Steven B. Sample: http://uscnews.usc.edu/presidential/2002_annual_address.html)
2. Carnegie Teaching Academy: An Overview (Summer, 1998). Available online at <http://www.aahe.org/teaching/Carnegie/news1.htm>
3. For example, see “Moral and Political Considerations” by Elizabeth Kamarck Minnich in *Change* (September/October, 2003), and several chapters in *Civic Responsibility and Higher Education*, edited by Thomas Erlich (American Council on Education/Oryx Press, 2000).
4. The idea of the banking model was first articulated and critiqued by Brazilian liberation theologian Paulo Freire in *Pedagogy of the Oppressed* (1970). Two decades later, in *Pedagogy of Hope* (1994), Freire revisited *Pedagogy of the Oppressed*, and critically examined its main arguments. In both volumes, he focuses on language as a powerful tool capable of cultivating either dominance or freedom, highlighting the differences between an authoritarian “banking method” of education versus a dialogical “problem-posing” education.
5. Portions of this discussion were originally published in two separate chapters co-authored by Thomas Angelo and James Forest in *Higher Education in the United States: An Encyclopedia* (2 volumes), edited by J. Forest and K. Kinser (2002: ABC-CLIO).
6. Portions of this discussion were originally published in a chapter by this author in *University Teaching: International Perspectives*, edited by J. Forest (1998: Garland Publishing).

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RHETORIC OR REALITY? TECHNOLOGY IN BORDERLESS HIGHER EDUCATION

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In early 2000, at the peak of the dot.com boom, there was tremendous excitement building as the use of technology in education was seen to be coming of age. Politicians and educators alike heralded a New World that would provide increased access to learners across the globe via the use of information and communications technology (ICT). Less than five years on, some would argue that it was a decidedly utopian vision that has failed to live up to its hype. Others would argue that strides have been taken to develop technologies and to increase access to potential learners in both the developed and developing economies. Where does the truth lie between these two extremes?

This chapter is not about technology per se; rather, it is about the potential of various forms of information and communications technology to foster and facilitate the experience of higher education in an increasingly “borderless” domain. Nor will this chapter address the use of technology with regard to higher education’s research agenda; instead it will focus on the use of ICT in support of the learning and teaching experience.

The chapter begins by setting forth the context for the discussion and outlining some of the challenges facing higher education providers globally. It then examines how technology might be considered as one element of an institutional response to the challenges the sector faces. Rather than attempting an encyclopedic review of current developments in using technology in higher education, three specific initiatives—deemed to be among those which will have the most impact on online learning in the coming five years—are examined. A brief “reality check” follows, outlining institutional rationales for developing an online presence and exploring the perceived preparedness of academics to actually embrace the use of technology from a pedagogic standpoint. Finally, the concluding remarks argue that Arthur C. Clarke’s frequently quoted comment—“when it comes to technology, most people over-estimate it in the short term and under-estimate it in the long term”—might well be right.

Challenges for Higher Education

Over the past decade, what might be viewed as “traditional” higher education has experienced considerable pressure from a variety of sources—political, economic, social and cultural. The traditional institutions referred to here are those universities and institutions of higher education that are constructed physically and theoretically along the lines of the Humboldtian principles of research-informed teaching and which are primarily centered on a campus-based model of provision.

The challenges to universities are by now well rehearsed. They may differ somewhat according to various contexts, but the essential messages are the same. Globalization—with all its concomitant baggage—is the conduit for much of the debate. Are we in the midst of the creation of a kinder and gentler global village where resources and information are shared freely amongst its inhabitants? Or are we creating a highly competitive world in which the “haves” and “have nots” are becoming increasingly polarized? What is becoming apparent is that higher education is moving to the fore in the globalization debate and will therefore be challenged to respond to a variety of pressures by which it has previously been untouched.

Governments are recognizing the importance of higher learning as the world is shifting toward a knowledge economy. This holds true across much of the globe—most significantly in the urban centers, which are the engines of the world’s economic growth. But even in those parts of the world where the agrarian tradition prevails, there is a high demand for more knowledgeable management of crops and animals. This knowledge economy is fueling tremendous growth in intellectual mobility and physical mobility as students, academics and workers move more freely in order to seek and achieve credentials or work. Virtual mobility is also increasing, as technology facilitates and enables the movement of information with ease.

Coupled with this increase in demand comes a steady decline in government funding of higher education. This has taken place at a different pace across the globe, and the relative impact and rate of response therefore varies considerably. For example, reduction in government funding for universities in the United Kingdom and Australia over many years has pushed these universities to look proactively for alternative sources of funds to support growth in student numbers. Yet in the larger continental Western European countries, institutional leaders have only recently had to look for alternative sources of revenue generation to extend the reach of the institution and attract ever larger numbers of students. The routes most often chosen are in the form of the introduction (or increase) of student fees or exploration of new modes of delivery through technology.

These developments are pushing what once might have been considered “known” boundaries. The knowledge economy and exponential growth in knowledge globally means that workers have to be constantly upgrading their knowledge and understanding, and thus require access to lifelong learning opportunities. It is no longer feasible to consider (if it ever was) that once one completed a degree one’s formal education came to an end. The lifelong learning agenda brings further porousness to higher education as professional associations grow in importance through the provision of

continuing professional development. There is considerable growth in partnerships between colleges of further education or technical education with articulation agreements for learners to progress in a more seamless manner. Corporate leaders have joined the fray wanting to create and provide educational experiences for their employees through their own “corporate universities.” Suddenly the “traditional” university is not (if it ever was) the sole creator or purveyor of knowledge. There is increased competition—along with considerable opportunity for collaboration.

This dissolving of boundaries has led to what is known as “borderless higher education.” The term was coined by a group of Australian academics in the 1990s in their examination of the impact of new technologies on higher education (Cunningham et al., 1998). “Borderless-ness” includes the removal of the impact of geographic borders as learners and knowledge become mobile. It also refers to borders of time and space, as lifelong learners choose to experience their learning while still employed and therefore need access to information in a much different fashion than sitting in a classroom at a prescribed time or day.

In many ways, technology has been heralded as the potential savior in the complex higher education debate (with enthusiasts arguing that teaching costs would be much less), or as a method of widening access to higher learning experiences for those previously disenfranchised or those unable to participate in the knowledge economy. There can be no question that the growth of the Internet over the past decade has irrevocably changed the landscape of knowledge production and mobility. But has its impact been as widespread as one might wish to believe, with significant proportions of the world’s population beyond the reach of the Internet and without access to technology more generally?

Technology as a Response

When the dot.com boom was at its zenith, there were some who proclaimed the imminent demise of the university as we know it. Management guru Peter Drucker predicted that “thirty years from now the big university campuses will be relics. Universities won’t survive” (Drucker, 1997). Clark Kerr, on the other hand would point out that “about 85 institutions in the Western World established by 1520 still exist in recognizable forms, with similar functions and with unbroken histories, including the Catholic Church, the Parliaments of the Isle of Man, of Iceland and of Great Britain, several Swiss cantons, and 70 universities. Kings that rule, feudal lords with vassals, and guilds with monopolies are all gone. These 70 universities, however, are still in the same locations with some of the same buildings, with professors and students doing much the same things” (Kerr, 1987). It is unlikely that technology will bring the demise of these ancient institutions—although it may well have a considerable impact on all institutions of higher education.

Even with the dot.com bust, technology has continued to play a significant role in higher education. Some governments have invested considerable sums in trying to encourage their institutions to participate in the ICT revolution. For example, the government in the United Kingdom committed over 60 million pounds sterling to establish

the U.K. e-University. The purpose was to draw upon the expertise of established U.K. universities and create a technology-based “virtual” university to export the U.K. brand worldwide (the initiative has subsequently failed and has been drawn to a close). This sum was on top of the millions of pounds spent annually on U.K. institutional incentives and central support services to help universities develop campus-based ICT initiatives. The Korean government is another example of governmental intervention in driving technology-based growth. The Korean Ministry of Education and Human Resource Development has authorized the establishment of a series of “cyber universities” to increase access and to support the lifelong learning agenda (KERIS, 2003). These institutions sit alongside their more traditional counterpart universities, with courses developed by the former, but offered through the latter. India is yet another country where the government has actively pushed universities to seek alternative sources of funding via developments in e-learning. India’s University Grants Commission has stipulated e-Education Content Development as an area of special interest which will receive special funding (OBHE, 2003). Other examples abound, including Finland, Mauritius and South Africa.

Optimistically, the rush to spread technology could be viewed as an egalitarian agenda to enhance and widen access to higher education and learning more generally. A less generous view is that institutions and governments believe that technology will enable them to save money and to raise income from alternative sources to offset the growing gap in financial resources available from public funds. The reality, of course, depends upon one’s point of departure.

Learners

It may be useful to pause at this point and remind ourselves that we are examining the use of information and communication technology to enhance or facilitate borderless higher education and not on campus learning per se. This requires a somewhat different perspective on who our learners might be. Research suggests that the majority of the learners in borderless education are not the typical 18 to 21 year-olds who have just completed secondary education and are entering higher education (Cunningham et al., 2000). For the most part, those cohorts are still seeking the more traditional campus-based experience—where cultural clubs, sport and physical libraries are as important as the social, developmental and educational experiences. Clearly, ICT is developing at pace in the traditional institutional setting as well as for use in the borderless domain.

The most significant group of learners likely to be accessing borderless education through technology are those who are currently employed and are wishing to re-train in order to enter another profession or to gain further qualifications within their own area of expertise. These individuals generally already have an experience of higher or technical education and are therefore more experienced learners, better able to cope with independent learning.

Thus, the majority of courses available online tend to be at the graduate or professional level rather than undergraduate courses, or they focus on technical or vocational certification. Research suggests that the majority of courses offered through online delivery represents a relatively narrow cross-section of disciplines and include:

- law
- engineering
- nursing
- business studies
- MBAs
- information technology

This confirms that many learners engaged in learning that is primarily online (with, perhaps only periodic face-to-face tuition) are a group known as “earner-learners”—those who work during the day and study on evenings and weekends around their work and family commitments (Cunningham et al., 2000).

Regrettably, there is very little systematic research available providing a definitive view of the learner’s perspective when technology is the primary mode of delivery. Comments concerning the ease and convenience of use in terms of time and place are quite common. However, learners both on campus and those studying via technology from a distance can be increasingly critical if they believe that technology is driving rather than enhancing the educational process.

The Digital Divide

When one speaks of the “digital divide,” the common understanding is that of the division between the western developed world—where technology infrastructure is fairly well established—and those developing and emerging economies where technology infrastructure is less well developed and ubiquitous (and if infrastructure is available, it is centered primarily in the urban centers and does not reach into the rural society). This remains a very real divide, with a significant proportion of the world’s population outside its urban centers incapable of gaining access to the web, or indeed to reliable satellite or television transmissions.

A World Bank (2002) report indicates that developing countries have just 5.9% of the world’s Internet hosts and over 80% of its population. North America, however, has 65.3% of the world’s Internet hosts but just 5.1% of the population. An estimate of Internet users worldwide (as at September 2002) suggests over 605.6 million with Internet access; of these, 6.3 million were in Africa and 5.1 million in the Middle East, compared to over 182 million Internet users in Canada and the U.S. (NUA, 2002). These data suggest that making generalizations as to connectivity and use of the Internet are difficult at best and potentially dangerous.

The digital divide is often found thriving in a variety of different contexts, including within very large countries such as Australia, Brazil, Canada or South Africa. Part of the divide in this context will be the urban/rural split—but it may well also be one of culture, language or choice.

In Canada, for example, recent studies (cf. Macfadyen & Hawkes, 2002) have found that the dominance of English language and Anglo-American culture and values tends to alienate users in the French speaking province of Quebec. This issue of language plays out in a wide variety of situations globally, as English continues its reign as the *lingua franca* of the World Wide Web. There are quiet movements afoot, however,

that might challenge this dominance. The vast potential in terms of growth in use from China, India or speakers of Spanish globally suggests that there may well be considerable growth in web-based material in those languages. However, the variation in local dialects in some large countries such as India argues against English losing its current stature in the short-to-medium future.

A digital divide can also be found between sectors within any one country where government may have differentiated funding mechanisms to provide infrastructure for universities before funding similar initiatives in the colleges or technical institution sector. It can also be found within universities whereby those disciplines with high levels of technology underpinning the research or development of a subject (such as engineering or medicine) have far greater resources at their disposal than colleagues who teach in the social sciences or humanities.

Open Source

The open source movement is one aspect of technology that is gaining considerable ground and has potential for making a significant impact in how technology is used in higher education and beyond. The high profile example is that of the Massachusetts Institute of Technology (MIT) OpenCourseWare initiative launched in 2000 (with much fanfare), with the aim of having over 2,000 of MIT's courses freely available online by 2008. Evaluations of current users of the MIT material shows that learners and educators alike are accessing the material in both developed and developing countries.

Open source development is widely seen to promote the view of technology as a public good. The underlying premise is that the technology community works together in the development of non-proprietary software which remains in the public domain. A recent report Commissioned by the World Bank posits that increased use of open source software emphasizes the concepts of:

- *access*, by providing transparency of the process of development;
- *community*, through leveraging of local and global resources;
- *choice*, by providing alternative options from proprietary models; and
- *collaboration*, as development is undertaken through the sharing of ideas amongst individuals and organizations (Dravis, 2004).

One further example of developments in the open source domain is that of the Sakai Project, again based in the U.S. This project reflects yet another illustration of the growth of consortia with the University of Michigan, Indiana University, MIT, Stanford, and the uPortal consortium as lead players, with funding provided by the institutional partners. The aim is to “bring considerable, synchronized, focused energy to overcome barriers and accelerate a new path for code mobility in higher education in the core areas of online teaching, research and provision of campus portals” (Sakai, 2004). The Sakai Project has a two-year horizon in its first cycle that will involve the development of what is being called the “Technology Portability Profile” and its implementation in the partner institutions. Thereafter, the project will be embracing the wider community to share resources and good practice.

Technology in the Future

Technology may not have led to widespread radical transformation of the educational experience which the early adapters envisioned. It has, however, made considerable strides in reaching learners in hitherto untouched geographical areas. Importantly, it must be remembered that the technology is most often used *in combination* with other forms of delivery, whether it be face-to-face or through print media. The technology landscape is vast and an exhaustive review of current developments is not the remit of this chapter. Instead, the following discussion provides an overview of those technology applications with the most promise for modifying our approach to higher learning. Research on early adapters and current users of technology in higher education (including participants of the World Lecture Hall, the WCET and MERLOT) suggests that while digital libraries, simulations and games, assistive technologies and digital portfolios are all important, three specific technology applications are predicted to have the largest impact on higher education over the next five years: reusable content objects, wireless technologies, and peer-to-peer collaboration (Bonk, 2004).

Reusable Content Objects

There are numerous examples of developments relating to establishing repositories of reusable learning objects. These efforts have been active since at least the early 1990s, often based in university libraries, where librarians were first to realize the potential for providing access to the vast array of resources developed online. The precise nature of a “learning object” is still one of rather heated discussion, with definitions ranging from a small discrete image to PowerPoint presentations or video streaming of lectures. A few illustrative examples provide a sense of the use of the technology and some of the challenges still to be met.

The most often quoted example of a learning object repository is that of MERLOT (the Multimedia Education Resource for Learning and Online Teaching), a U.S.-based association of some 14,000 college and university academics (including instructional designers and administrators). It has been in existence since 1997, and holds some 10,000 learning objects in its database. Quality assurance of learning objects is an area of concern, and MERLOT’s site claims that all objects undergo peer review to ensure the relevance and quality of the material posted.

A somewhat different model is the UK-based Resource Development Network (RDN) which is funded by the UK’s Joint Information Systems Committee (JISC) with a budget of approximately 1.5 million pounds sterling per year. It is not a repository, as in the MERLOT example, as the images are not held in a central location; instead it functions as a catalogue through which learners and academics can locate learning objects. It has eight subject-specific “hubs” which provide “students, lecturers and researchers with better access to high quality resources.” As the resources for learning objects continue to grow, aggregators or consortia for the sites have emerged as central resources. One such example is Renardus (another catalogue), a European initiative which began under the auspices of the European Union’s Information Society Technologies 5th Framework program in 2002. It is hosted by a German university and holds

some 75,000 catalogue records from Germany, Finland, Denmark, the Netherlands and the United Kingdom. (The UK's RDN participates as one of the leading resources of Renardus). The development and use of learning object repositories and catalogues is often a catalyst for sharing of international resources—it is estimated that almost half of the users of some RDN hub materials are from outside the UK. The consortia model is increasingly common, as financial pressures begin to negatively impact government and institutional spending in technology.

Concern about the quality of the learning objects selected for inclusion, as stated above, is paramount for increasing the success of learning object repositories or catalogues. There are, however, other challenges which must be addressed. In some ways, learning object repositories reflect the often prevalent notion related to technological innovation—"build it and they will come." The investment of time, energy and resource into creating such databases is in the millions of dollars. However, the level of usage of these resources has remained low relative to the investment. The most oft-quoted reason for this is that academics are notorious for resorting to the "not invented here" syndrome. Specifically, if they were not directly involved in the development and creation of the learning object or experience, then it could not possibly be relevant to the curricula or learning experience that the academic would wish to create for his/her own students. Difficulties also lay in raising the awareness of the resources more generally and in helping academics (and learners) to understand how best to draw on this rich resource to enhance the learning experience. Further barriers can be technical (related to access and lack of interoperability) or human (related to ignorance, fear, inexperience and inability to master the necessary skills).

Another difficulty in the wider acceptance of learning objects is that of technology standards which have been developed to ensure that the technology on which the objects are located is compatible with the widest possible number of operating systems. SCORM, the Sharable Courseware Object Reference Model, is the international "suite of technical standards that enable web-based learning systems to find, import, share, reuse, and export learning content in a standardized way." It is required to ensure that learning objects used in Learning Management Systems can be easily transferred between systems and that the functionality of the interface is transparent and useable for both the learner and the teacher. Another area requiring standardization (and where there has been less progress) is in cataloguing learning resources on the web. A common framework is needed for the metadata that describes text, images, PowerPoint presentations and the different categories of learning resources. Once this standard has been obtained, users will be able to trawl the web and access resources from repositories and sites in the global academic community.

Wireless Technologies

The second of the three technologies likely to have the most impact on higher education in the next few years is thought to be wireless technologies. There is increasing evidence that technology is moving quickly toward a wireless mode of delivery. Wireless technologies offer far greater flexibility in accessing technologies, as radio signals are used to transmit and receive data rather than having to rely on traditional land lines.

Campuses erect antennae or masts, which are located strategically around the campus to enable individual access to the web or their Local Area Network (LAN) via students' laptops, personal digital assistants (PDAs) or mobile phones. Some institutions (albeit primarily in the U.S.) are beginning to see the cost efficiency in providing wireless access across a university campus as it avoids the costs and hassles of running lines of cable across campus and into classrooms, libraries and residence halls. The 2003 Campus Computing Survey showed that nearly 80% of U.S. college campuses had some level of wireless access on campus, which is up from 30% in the 2000 survey results (Campus Computing Project, 2003).

Issues of compatibility of standards are still problematic with wireless technologies. The current standard is that of the Institute of Electrical and Electronic Engineers (IEEE 802.11b, also known as WiFi). Alongside this standard, Bluetooth has developed a compatible standard improving interoperability between systems. Both developing organizations have pledged to continue to work toward increasing interoperability. A further challenge that wireless technology has yet to resolve is that of security. Random access to LANs by roaming wireless users can leave potentially critical data at risk from hackers or other unscrupulous users. Progress has been made recently, including specialized "wallpaper" to filter unlicensed users; however, security issues will remain a problem for the foreseeable future (NewScientist.com, 2004).

Wireless technologies may very well enable large, remote and often financially underdeveloped countries—such as India, Brazil, and most African nations—to essentially "leap frog" from an unconnected continent to becoming leaders in education delivered via wireless infrastructure. For example, between 1997 and 2001, the number of mobile phone subscribers in Africa experienced a triple digit growth rate annually (Shapshak, 2002). Further predictions of the growth in wireless use support this hypothesis, with recent research postulating that there will be over 2 billion wireless Internet subscribers worldwide by 2007 and that multi-purpose handheld devices (PDAs and telephones) will outsell both laptop and desktop computers combined by 2005 (Keegan, 2003). Other research (cf. Yankee Group, 2004) predicts that Europe, the Middle East and Africa will account for 40% of wireless users, with Africa and China set to be the fastest growing markets (Greenspan, 2003).

Recent developments in the U.S. suggest that innovators are looking to create new products to provide ever-increasing access to the developing world. The "PCtv" is designed to work as a wirelessly networked computer that also functions as a television, telephone and DVD player. It will employ audio, visual and text interface to make the technology more accessible to illiterate users and is being developed to ensure it is affordable to the four billion people worldwide living below the poverty line.

While not quite in the strictest sense of use of "wireless" (as outlined above), the use of mobile telephony in supporting the learning experience is growing. For example, the University of Pretoria in South Africa uses mobile phone technology to provide increased access and more efficient administration for their widely dispersed student cohort and for learners who are working while learning. They began using mobile phone technology in 2002 to support paper-based distance education programs when a survey revealed that 99% of the students had access to mobile telephones. Sending text messages to participants informing them of when their materials have been posted and

notifying them of course deadlines and venue or time changes for contact sessions has provided considerable increases in completion rates and more efficient administrative responses (e.g., in registration).

It would be remiss not to include some comment on developments using satellite technology when discussing the use of technology to provide access to the educational experience. Satellite transmission does not fall strictly into the generally accepted notion of wireless activity, although arguably it could. Developments such as the African Virtual University and the Russian Modern University for the Humanities draw heavily on satellite technology to reach across vast geographical distances. Use of satellites for the distribution of educational material is not deemed to be a “new” technology, as it has been extensively used since at least the early 1990s. What is new is the increasing partnerships which are being created to leverage both educational expertise as well as technological expertise and reach. These include the World Bank (in the case of the African Virtual University) and private company support.

Peer-to-Peer Collaborative Learning

It is in this third and final area that the pedagogical aspects of using technology really come to the fore. Peer-to-peer collaborative learning encompasses a wide variety of technologies that facilitate and enhance the learning experience—primarily for distributed learners. It provides synchronous and asynchronous opportunities for students to create learning communities and to extend those communities globally. This element is truly borderless in the educational context, as it is most widely used in the corporate and professional development training areas and in the creation of knowledge networks. Peer-to-peer collaborative technologies “. . . allow learners to discuss topics at their leisure. There are no geographical or time-zone restrictions on contributions. In fact, team meetings may take place across continents” (Bonk, 2002).

At a very basic level, e-mail and computer networks can be deemed to be “collaborative tools” for learning, as the technology provides a conduit for learners and teachers to freely exchange information within a collaborative group. Learning management systems (e.g., Blackboard and WebCT) are providing structured systems that further facilitate peer-to-peer collaborative learning. Structured chat rooms, online presentation tools and bulletin board systems all enable learners to work together with relative ease to develop collaborative projects and reports. Web-based survey tools that enable teachers to identify immediately whether learners are grasping the concepts that are being put before them, if used appropriately, will help to ensure that learners reach a deeper level of understanding and application of the concepts before moving on.

The corporate training sector has been one of the leaders in utilizing peer-to-peer collaborative technologies. Synchronous and asynchronous web-based presentations—including the use of shared white board and chat tools—enable education and training experiences to take place at relatively low cost internationally. Some of the collaborative teamwork facilities enable group participants to write and edit reports, track project development via secure sites, video conferencing, chat rooms and threaded discussions.

Collaborative technologies offer tremendous scope for facilitating learning in a borderless terrain, bearing in mind the caveats of access to the technology at the outset. However, the actual penetration of such technologies has been relatively slow (returning to Clarke's observation), as hard-pressed academics have yet to embrace such technologies on a wholesale basis for use in their teaching. Much has yet to be done to shift the use of technology from the "early adapters" to include the innovators and "early majority" who typically take up innovations once the dominant structure or design has been established.

Reality Check

If the preceding three sections provided a vision of which technologies might have the most impact in the future, it might be useful to stop and undertake a brief "reality check" to try to determine what this looks like "on the ground" in many universities and colleges.

A recent study of Commonwealth institutions undertaken by the Observatory on Borderless Higher Education (OBHE) examined the state of development of online activities. The study analyzed over 120 responses from twenty-one countries—the majority of which were from the United Kingdom (38%), Canada (24%) and Australia and New Zealand (18%). A further 15% came from sub-Saharan Africa, with the majority from South Africa (OBHE, 2004). University leaders were asked to indicate the rationale their institution had in developing online provision. The study indicated that the top priority in pursuing online learning was to enhance on-campus learning—42% of respondents stated this priority, with the next highest rationale being to improve the flexibility of on-campus learning (41%). This bodes well for future technology-based developments on campus which may ultimately extend to more borderless provision.

There is, however, a corollary. Respondents were asked about their academic staff's views toward using technology in their teaching, and the response was overwhelmingly positive, with over 50% either strongly agreeing or agreeing that academic staff were enthusiastic about embracing online learning. However, when asked whether they felt that academic staff were *prepared* to teach using the technology, the response was somewhat less positive. Approximately 25% felt that academics were adequately prepared, with 35% "unsure" and the remaining proportion of respondents either disagreeing or strongly disagreeing.

A recent study undertaken in the U.S. by the Learning Alliance for Higher Education (Zemsky & Massy, 2004) examines the apparent initial failure of higher education to embrace technology in support of learning. Their study focused on e-learning (primarily on-campus) but the lessons clearly can be extrapolated—if the technology has not been embraced by the academics and courses developed online, then the opportunity to extend the learning experience beyond campus will not transpire.

And what of the "borderless agenda" and the use of technology to push the traditional physical and geographical boundaries of the university campus? In the OBHE (2004) study, widening access to education was stated as a priority for 28% of responding institutions, and specifically widening access for disabled learners was a priority for

22%. Nearly 22% of respondents indicated that enhancing distance learning provision was a high priority for their institution, and 23% suggested that the reason they are investing in online provision is to expand into new markets. Collaboration with other partner organizations was a priority for 19% of the institutions. Perhaps tellingly, only 13% of the respondents suggest that cutting costs or saving money was one of their key rationales for investing in online technology. These findings suggest that the institutional leaders in this sample are not yet looking significantly to technology to drive borderless educational opportunities.

Technology Facilitating Knowledge Networks

Collaboration and competition have been underlying themes in recent years as universities face the challenges of knowledge mobility and globalization. As the OBHE survey found, some institutions are developing online capability specifically with a view to working in partnerships. The past number of years has been a period of high risk innovation in relation to technology-driven developments, which is not generally where governments (spending the public purse) or universities (as recipients) are keen to be. There have been some innovations that have flared and were proclaimed as providing new ways forward, drawing on collaborative models which have subsequently come to a rather early (and expensive) demise (e.g., Fathom in the U.S. and the UK's e-University). Other ventures are equally innovative and are still making their way, adapting and adopting lessons learned from the early entrants. Overall, the past decade has been a period of tremendous experimentation for both the public and the private sector in endeavoring to realize the potential of technology in facilitating learning. Inevitably some innovations and experimental models have proven to be more successful than others.

There are any number of examples of collaborative ventures which could be highlighted. Indeed, the number of "virtual" universities that exist in various states of development continues to grow annually. Some of the virtual institutions are national (e.g., Finnish Virtual or U.K. e-University) while others reflect regional or geographic emphasis (e.g., the African Virtual University or the Virtual University of the Arctic). Still other collaborative groupings are a means of drawing on experience and expertise in order to establish higher education provision in emerging economies (e.g., Syrian Virtual University or Arab Open University). There are also examples of partnerships that began with a more traditional approach to collaboration, and are now moving toward a more technologically driven model and gaining new partners in order to achieve this aim (e.g., Universitas 21 and U21 Global with Thomson Learning).

These configurations reflect responses to many of the challenges faced by higher education globally—new partnerships between and among universities as well as with private sector partners and new modes of working that cross a variety of physical and conceptual borders. Despite the choice of using "virtual" in their titles, in fact most are a hybrid drawing on some combination of face-to-face provision, traditional paper-based work and online learning. The impetus for each grouping will vary. Examination of the stated mission, aims and objectives of some of the leading international networks or consortia reveals the following key objectives:

- to build internationalization into the educational experience through student and academic exchange programs and curriculum change;
- to create a critical mass of expertise in particular areas of research or in teaching a particular discipline;
- to widen access to higher learning locally, regionally, nationally and internationally;
- to learn from partners, either through benchmarking good practice or from experience;
- to pool resources and knowledge; and/or
- to assist in developing capacity for higher education in poorer countries.

Such objectives suggest that the answer to the earlier question as to whether institutional responses to the globalization of education is indeed egalitarian rather than competitive. Equally, the skeptic might say that such collaborations are simply developing as a mechanism to share risk when investing in an expansion of educational activities which are remote from the home institution. Whichever motivation one chooses to embrace, the reality is that such developments are providing opportunities for increased access to the higher educational experience in a manner previously unavailable.

Conclusion

The primary goal of this chapter has been to explore the use of information and communications technology in facilitating borderless higher education, set within the context of globalization and the knowledge economy. This discussion is based on the premise that the hype of the late 1990s—in terms of how technology was going to transform the higher education experience—may well have been overstated, and that we have yet to achieve that early promise. It is increasingly easy for those living in the western developed economies to be drawn into the rhetoric that technology has become ubiquitous. Such sweeping generalizations seriously undermine the reality for significant proportions of the world's population. Expanding activity in developments such as open source bode well for a more egalitarian approach to the use of technology in education and beyond. Indeed, the underlying theme of the top three technologies thought to have the most potential impact on the future of higher education was that of collaboration and increasing openness in sharing of resources and experiences.

If technology is to reach beyond the innovators and early adapters and reach a critical mass, then institutional leaders will need to invest not only in the technology, but (equally importantly) in the faculty who use the technology. Faculty may indeed be enthusiastic about the potential of using ICT in support of their teaching. However, without adequate investment in helping them to learn the capability of the technologies, and then investing further in creating the opportunity for them to experiment and begin to embed the technologies in their day-to-day teaching—little will change in the short-to-medium term. Peer-to-peer collaborative technologies and learning objects will fail to reach their potential from a pedagogical standpoint until their capacity for enhancing the learning experience is understood by both learners and teachers.

Developments in wireless technologies (including satellite and telephony) may well provide the leap for developing countries and those in transition. Necessity may be the mother of invention, forcing new and innovative responses—such as the PCtv— which will breach the technology, language and cost barriers. If the momentum continues to build, open source developments may provide a global renaissance in education.

Arthur C. Clarke's observation should not, however, be forgotten: technology should not be underestimated in the longer term. The aforementioned U.S. study had the rather inflammatory title: "Thwarted Innovation: What happened to e-learning and why" (Zemsky & Massy, 2004). The authors' hypothesis is fairly clear from the outset. Others (cf. Twigg, 2004) have argued that the report perhaps considers only the first of Clarke's positions, without acknowledging the longer view of the potential technology may have in changing the educational landscape. The momentum of global developments drawing on ICT, which facilitates borderless higher education, is growing and is spreading beyond the boundaries of developed western wealth. It is still in a period of experimentation, but lessons are beginning to emerge and successful models are taking shape. Technology will continue to provide impetus for growth in borderless education, and its potential should not be underestimated.

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HIGHER EDUCATION IN THE ARAB WORLD

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Higher education in the Arab region has been witness to a prolific history. Long intertwined with major religious, intellectual, political, social, and economic movements, institutions of higher learning have occupied a central place in Arab societies. The university in the contemporary Arab world can be conceptualized as a global, universal institution located within a region with particular histories and cultures of learning.

The Arab region, which contains 5% of the world's population and consists of 22 member states of the League of Arab States, spans the Southern Mediterranean, Northern and Central Africa, and Western Asia. Arabic is the dominant—albeit not the only—language in the region, and Islam is the majority religion for some 90% of the population, with Christianity accounting for much of the remaining 10%.¹ The region contains a great deal of diversity, yet despite significant differences, a number of features—including the prominence of numerous pan-Arab political and economic organizations, a shared language, majority religion, political systems, common history, and experience of regional politics—allow for a coherent treatment of the Arab region.

Legacies of Higher Learning in Arab Societies²

The indigenous institution for higher learning, the *madrassa*, has been a mainstay of Arab institutional life since the emergence of Islam in the seventh century. With the ascendancy of Islamic civilization and the subsequent rise of the “Arabic sciences” to global eminence during the Abbasid and Umayyad dynasties, the *madrassa* and other institutions involved in the transmission and production of knowledge, profoundly influenced practices of higher learning across place and time. The *madrassa* specialized largely in “religious sciences,” at the heart of which was Islamic law and the Arabic language, the language of sacred revelation. Among the most renowned and enduring *madrassas* have been the Azhar in Cairo, the Qarawiyyun in Fez, and Zaytuna in Tunis. Historian George Makdisi persuasively demonstrates how certain common features of the contemporary university—such as the conferring of master's and doctoral degrees, protections for academic freedom, inaugural lectures, the wearing of robes and holding of “chairs”—originated with the *madrassa* (Makdisi, 1990, pp. 26–38). He similarly establishes a connection between the *madrassa*-based intellectual movements

of scholasticism and humanism and similar movements of the much later university of the Christian West. Scholasticism refers to a highly sophisticated method of legal disputation used in the teaching of the Islamic legal sciences that came to be used in the “exact” sciences. This method traveled to Spain and Persia and—through a series of translations and borrowings—came to be known as the “scientific method” (Makdisi, 1981, p. 131). Humanism, which evolved out of the madrasa from as early as the 7th century, refers to a methodological approach to Arabic language and literature based on imitation of the classics known as *studia adabiya*, which is linked to *studia humanitatis* of the Italian Renaissance (Makdisi, 1990, p. xxi).

Whereas religious science was the domain of the madrasa, the “foreign” or “pagan” sciences of mainly ancient Greece—as well as Persia, India, Egypt and China—flourished largely outside the madrasa in spaces for learning and experimentation such as observatories, hospitals, private homes, and libraries, which were also known as “academies.” The foreign sciences spread both through the flow of scientists, scholars, travelers, merchants, and students across the fluid borders that made up the Islamic empire, and through vigorous endeavors by the learned and powerful to acquire and translate the written works of the ancients. Among the earliest and most notable academies was the *Bait al-Hikma* (House of Wisdom) of Baghdad, where scholars from diverse geographic, religious, and linguistic backgrounds assembled to consult and translate manuscripts and hold scholarly seminars.

The pursuit of translation within a context of pluralistic communities in urban centers of learning—especially Baghdad, Cairo, Damascus, Fez, Cordoba, Sicily, and later Istanbul—contributed to staggering advances in the “Arabic” sciences.³ From the 9th to the 15th centuries, and possibly as late as the 19th century, fields as varied as mathematics, trigonometry, algebra, geometry, optics, medicine, chemistry, physics, astronomy, philosophy, agriculture, navigation, cartography, architecture, and music flourished in the Arab-Islamic lands (Hogendijk & Sabra, 2003, p. vii). The Arabic sciences reached Europe via the western reaches of the Islamic empire in Sicily and Andalusia. Arabic works were translated into Latin and (eventually) vernacular European languages, and penetrated Christian Europe at the dawn of the Italian Renaissance (Cobb, 1963).

In the wake of the European Renaissance and Industrial Revolution, and with the emergence of Europe as a global economic and imperial force (within the context of Russian imperial expansion) there rose an urgency among the leaders of the Islamic empire—now dominated by the Ottomans whose seat of power was Istanbul—to modernize their armies and supporting institutions, including educational institutions. Higher educational models from Europe and to some extent Russia were viewed as containing the formula for achieving power, economic success, and scientific advancement in the new world order. As early as the 1720s, official state delegations from the Ottoman Empire traveled to Europe to visit and study their institutions of learning. As Ekmeleddin İhsanoğlu notes, one of the first attempts to “set up an Ottoman intellectual institution without an organic structure” occurred during the reign of Ottoman Sultan Ahmet III, when scholars were assembled in 1720 for the purpose of translating works of history and philosophy from European languages into Turkish and Arabic (1996, p. 165). By the first decades of the 19th century, states were more systematically supporting exogenous knowledge institutions for modernizing reforms.

The figure most often credited with setting up foreign inspired institutions of higher learning was the viceroy Mohamed Ali Pasha, based in the Ottoman province of Egypt (r. 1805–1849). In 1809, he sent a group of students on an educational mission to Europe and over the next decades established numerous schools in Egypt—roughly equivalent to vocational high schools and technical colleges—that specialized in military sciences, medicine, agriculture, veterinarian medicine, midwifery, pharmaceuticals, chemistry, engineering, and translation (Heyworth-Dunne, 1968 [1939]). With the exception of the School of Midwives, all schools were the exclusive domain of men. The institutes, which represented a mix of Arabic, Turkish, Persian and European curricula and staff, for the most part did not survive beyond Mohamed Ali's reign, although they set a precedent for successive rulers. The more enduring institutions of learning were those founded by foreign missions, governments, and organizations.

New forms of schooling had been spreading among the non-Muslim minority (*millet*) and foreign communities since the 18th century. Foreign missions throughout the Middle East catered largely to minority sects and exerted great influence over the native Arab Christian and Jewish populations through their extensive networks of primary and secondary schools. The 1907 census of Egypt indicates that non-Coptic Christians and Jews made up the highest percentage of literate groups, followed by Coptic and Muslim boys, presumably because of their high participation in the foreign schools and, in the case of Muslim boys, their involvement in *kuttabs*, the Quranic primary schools.

Literacy among Muslims girls, who also attended *kuttabs* but in far lower numbers than boys, and for whom participation in the foreign schools was considered culturally taboo, was by far the lowest (Herrera, 2002). A mere two out of every 1,000 Muslim girls was literate, compared to 78 per thousand Muslim boys and 313 per thousand Jewish girls.⁴ The foreign schools provided a natural pool of students for the early new universities in the region, which included the Syrian Protestant College, later named the American University of Beirut (est. 1866); the University of Saint Joseph, also located in Beirut and founded by French Jesuits (est. 1874); and the American University in Cairo (est. 1920). These foreign universities served as models of sorts for the nascent national universities, and played pioneering roles in areas such as women's education.⁵

In the decades leading up to the breakdown of European colonial rule, strong nationalist anti-colonial movements spread throughout the Arab region. In Egypt, the Levant, and the Maghrib—the foreign schools, symbols of European power—became bitterly contested. Nationalist reformers advocated control over their countries' educational institutions and endeavored to build their own national models of primary, secondary, and tertiary education. They pursued policies of school expansion with the aim of not only taking control over their institutions—and, as such, the socialization of their youth—but for the purpose of cultivating a Muslim middle class that would be able to compete with the prosperous segments of foreign and minority communities in matters of trade and other commercial endeavors. The economic success of non-Muslim groups in the Ottoman territories was attributed in part to the legal privileges afforded them by the capitulations, but also to the skills, languages, and other competencies they acquired through their participation in the new schooling. The new educational paradigms, in other words, were considered to provide the necessary training,

socialization, credentials, and social capital needed for mobility and employment in the new professions, bureaucracies, and economies of the emerging nation-states.

Nationalization and the Expansion of Higher Education

In the post-World War I and II period the Arab region, in keeping with education trends globally, experienced prodigious growth of what can be called, with some caveats, “westernized” higher education. In 1939, a total of 10 universities existed in the Arab world; by 1961, the number increased to 20, and by 1975, 47. By the year 2000, over 200 universities were operating in Arab states, more than a quarter of which had opened during the 1990s. In addition to universities, the region has also witnessed the prolific growth of a variety of higher education institutes specializing in a range of professional and technical studies, as well as distance education universities (UNESCO, 2003, p. 7).

The post-colonial expansion of higher education, while it has undeniably contributed to multiple aspects of social and political development, has also engendered a great degree of tension and debate.

The nascent national education systems—of which the university represented a prominent symbol—played a critical role in forging and solidifying new national identities and in leading countries towards achieving national and regional development and political autonomy. Governments made it a priority to establish national universities, either by reorganizing and reforming already existing institutions—as was the case in Iraq, Tunisia, and Morocco—or by founding new universities from scratch, as occurred in Libya, Lebanon, Saudi Arabia and Jordan (Waardenburg, 1966, p. 35). In many cases, national universities were founded even before the expansion of national secondary schooling took root. In Lebanon, for example, a mere three government secondary schools—albeit scores of foreign missionary schools—were in operation at the time the first national university, the Lebanese State University, was founded in 1952. It was as if, in the words of a chronicler of the period, “. . . independence and sovereignty would not be complete without a state university to symbolize them” (Bashshur, 1964, p. 72).

Egypt asserted itself early on as the regional leader in national higher education. Its King Fouad the First University—later named the Egyptian University and, finally (in 1952), Cairo University—was conceived by nationalists under the leadership of Saad Zaghlul Pasha in 1906, while Egypt was still under British mandate rule. Initially a private university staffed by visiting foreign professors, it was nationalized in 1925.

Women initially participated in university life in a limited way until gaining full participation as faculty and students throughout the course of the ensuing decades.⁶ The university represented the “liberal ideal” until the early 1950s, when it underwent an intensive process of Arabization, Sovietization, and expansion during the presidency of Gamal Abdel Nasser (1956–1970) (Reid, 1990).

Egyptians played a vital role in advancing national higher education throughout the Arab region by providing a national university model for emulation, by supplying other Arab universities with staff and expertise, by opening branches of its universities in other Arab cities—such as Khartoum and Beirut—and by admitting students from other Arab countries to its programs. The Egyptian national university has variously

combined elements of French, British, Arab, Islamic, Soviet, and American influences, mirroring the political and social shifts in the country and region.

The Egyptian influence in Arab higher education began to wane following the 1970s oil boom in the Gulf countries. With the flow of oil, the countries of the Gulf—particularly Saudi Arabia—assumed a position of region-wide dominance and geopolitical strategic importance.

Close economic and geopolitical alliances with the United States contributed to the choice of the American model with its credit-point system as the prevailing higher education model in the Gulf (Mazawi, 2004).

The expansion of mass higher education, particularly since the 1970s, has led to major shifts in the ways in which knowledge and knowledge institutions have come to be located in larger power structures.⁷ Although the modern university has overtaken the madrasa in many respects, the madrasa—and religious authorities trained therein—are far from obsolete.⁸ Not only has the madrasa remained intact, but it has witnessed a revival in past decades. Such a revival speaks partly to the enduring affinity of Arabs and Muslims with indigenous Islamic institutions, particularly in times of crisis, yet it may also be indicative of the university's inability to achieve the widespread reach, legitimacy, and societal transformation for which reformers, policymakers, intellectuals, and ordinary members of society have long hoped for it.

Challenges Facing the Contemporary Arab University

When Egyptian born and educated Ahmed Zewail was awarded the Nobel Prize in Chemistry in 1999 for his work in femtochemistry (the branch of chemistry that studies ultrafast elementary chemical reactions as they occur), the first Arab to win such a scientific tribute in the contemporary period, Arabs rejoiced. Yet the honor was bitter-sweet, for Zewail's accomplishments—by his own admission—would not have been possible had he not left his position at an Egyptian national university and taken up a post abroad. As Zewail relates in his autobiography *Voyage through Times: Walks of Life to the Nobel Prize* (2002), unlike the hierarchical, bureaucratic, and inflexible system of Egyptian and other such national higher education systems that thwart innovative research initiatives (especially by junior faculty), the academic culture at the prestigious and financially endowed California Institute of Technology (Caltech) allowed him tremendous possibilities. By providing him autonomy in decision making, collegial support, high caliber graduate students to assist him, and generous financial backing, Zewail was able to develop his Nobel-recognized work in a mere ten-year period. In his acceptance speech in Sweden, Zewail recalled those towering figures of Arabic science of the past and hoped his award would “inspire the young generations of developing countries with the knowledge that it is possible to contribute to world science and technology” (p. 255). Yet he has not been able to solve the question of how Arab youth—given the current state of Arab higher education with its problems of governance, resources, and freedom—could make the type of contribution to world science and knowledge that he envisions.⁹

The Arab university has been undergoing a period of crisis, transition, expansion, and introspection for several decades. In the widely debated Arab Human Development

Reports of 2002 and 2003, the authors, a group of reform-minded Arab intellectuals, posit that the Arab region suffers from a serious “knowledge deficit.” They argue that the relative stagnation in knowledge production has been due, at least in part, to an inward-looking nativism that has hindered Arab intellectual culture. Unlike the prodigious rate of translation that occurs in countries such as Japan and Korea that have successfully, in their assessment, made the transitions to knowledge societies in the past half-century, the translation movement in the Arab region remains “static and chaotic” (United Nations Development Program (UNDP), 2003, p. 3). While precise figures on the current number of translations are not available, it appears evident that in the fields of the social and physical sciences, humanities, and arts, translation has been exceedingly paltry at best. The region’s research output in science and technology represents a mere 1% of global output, and research funding is among the lowest in the world (UNDP, 2002, pp. 65, 71). Despite a number of noteworthy faculties and programs in Arab national universities in Morocco, Egypt, Sudan, Egypt, Palestine, Lebanon, and Tunisia (to name just a few), the scientific quality of most faculties in national universities across disciplines has been mixed at best. Limited financial resources translate not only to low scientific output, but to substandard equipment, low salaries, limited scholarships, few international scholarly exchanges, and deteriorating facilities—all of which present daunting impediments to academics, especially in the poorer Arab countries.

In the area of governance, the prevalence of oftentimes cumbersome, authoritarian, and sometimes absurdly bureaucratic institutional structures seriously hinder the university’s ability to prosper. Arab governments have variously carried out purgings of “undesirable” faculty. Heavy-handed and security-oriented administrations often interfere in academic life in areas such as student admissions, faculty and student research, student conduct, travel of faculty, choice of curricular materials, and topics of conferences. In most Gulf countries, for example, scholarly research on social, religious, cultural, and ethical issues remains severely restricted (Morsi, 1990, p. 44). An Algerian professor, when questioned about the state of academic freedom in Arab universities, explained, “In Arab universities, instead of academic freedom, there are different levels and types of academic oppression” (quoted in Taha-Thomure, 2002, p. 75). The current restraints on freedom cause particular bitterness for intellectuals who take pride in their region’s historical contributions to world culture. An Arab professor of political science disparagingly remarked that unlike the past, when Arabs contributed to the advancement of learning and sciences, the contribution of Arabs to academic culture in the contemporary period is its “academic police.” He lamented, “If the West has borrowed our sciences, scientific methodology and academic institutions in the past, I doubt that our invention of ‘academic police’ can be adopted by the West . . . [M]ay be it is exportable to Latin America. This market might be interested in such a police force” (quoted in Sabour, 2001, p. 120).

The situation appears even more complicated when we consider how universities have long been battlegrounds between governments and political oppositional forces, in which divergent ideologies—including Arab nationalism, communism, Islamism, and secularism—have competed for supremacy. The Arab world holds the inauspicious distinction of being home to some of the world’s most contentious and bloody conflicts on local and international scales. Military conflict and political instability—whether

through civil war, foreign occupation, or internal power struggles—clearly take heavy tolls on the quality and ability of higher education to prosper.

Since the 1970s, intensive Islamization—which has taken both socio-cultural and militant forms—has influenced university cultures in countries such as Algeria, Sudan, and Egypt. Islamists have attempted, and succeeded in many cases, to censure the ideological content of courses, forcibly implement practices such as sex-segregation and Islamic dress codes (especially for female students and staff) and—in the case of the more militant wings—harass, intimidate, and sometimes even target intellectuals and students for assassination. Iraq under United States occupation offers the most recent example of militant political Islamization of universities; increasing testimonies from Iraq’s universities report student violence and harassment, pressure being put on female students to don an Islamic uniform and, most alarming, a spate of assassinations—including beheadings—of Iraqi academics, presumably because of their association with the foreign occupiers (Watenpauh, 2004).¹⁰ The combination of authoritarian governmental regimes and oppressive oppositional forces, both of which tend to use educational institutions as figurative and literal battle grounds, bodes especially poorly for the prospering of free and productive academic cultures.

Another example of the effects of political instability and occupation can be found in the West Bank and Gaza Strip where colleges and universities struggle under persistent assaults by the Israeli military on people and property, which has included the destruction of two ministries of education. Nevertheless, Palestinian higher education has witnessed significant expansion since 1971, where, for a population of 3.5 million, there exist five universities and 26 community colleges. Civil society advocate Fouad Moughrabi observes, “So strong is the belief in the positive value of education that most students would brave checkpoints, curfews, and life-threatening restrictions in order to arrive at their schools . . . [M]ost faculty would also put up with tremendous difficulties to meet their classes. Simply attending school and meeting classes become major acts of defiance, turning universities and schools into sites of resistance” (2004). Indeed, education constitutes one of the more powerful—albeit least reported—sites of struggle for Palestinians.

Among other inroads achieved in higher education have been the high participation of women in higher education in Arab states, a cause for cautious optimism. Early in the 20th century, Arab women struggled for the right to join universities as full members. In the year 2000, the enrollment of women in colleges, higher institutes, and universities throughout the region was proportionally high. In Egypt, Lebanon, and Iraq, women have made up half or more of the students in several faculties—including, at times, prestigious and traditionally “male” faculties such as medicine. In the Arab Gulf countries of Saudi Arabia, Qatar, and Kuwait, women make up more than half of the undergraduate student populations, in part because men from the Gulf are more likely to study abroad. However, female students do not have access to the full range of faculties open to their male counterparts. In Saudi Arabia, for example, in keeping with the conservative tenets of Wahhabi Islam, schooling is segregated and separately administered beginning with the primary level. Female students tend to be tracked to colleges for “female” professions, such as teaching and social work, which are under the administration of the Presidency General for Girls’ Education. Women, however, do

have limited access to the predominantly male universities under the Ministry of Higher Education, yet their numbers remain extremely small.¹¹ These women, while chiefly members of the urban middle to upper classes (Mazawi, 1999), nevertheless represent a highly significant cohort in higher education in the Gulf. Although women have made tremendous strides in higher education, at present the attainment of university degrees does not translate into comparable participation in the political arena and the labor force. However, the trend towards increased female attainment of higher education is likely to gradually lead to broader changes towards greater gender equity.

While a great deal of educational reform and innovation occurs within the Arab region, certain basic conditions of stability and peace are needed to ensure that reforms will be more far-reaching and lasting.

In light of the effects of regional and international conflicts on educational quality, the authors of the above mentioned UNDP reports call for more international scholarly exchanges, regional cooperation, reform of knowledge institutions towards more flexibility, and pursuit (as in the past) of more translations of scholarly and literary works into Arabic, because “openness, interaction, assimilation, absorption, revision, criticism and examination cannot but stimulate creative knowledge production in Arab societies” (UNDP, 2003, p. 8). At the same time, they recognize how difficult international exchanges have become since the terrorist attacks of September 11, 2001 (UNDP, 2002, 2003). Arab scholars are regularly denied visas to international conferences and visiting academic positions in North America and elsewhere. Within one year following the 9/11 attacks on the United States, the number of Arab students studying in the United States dropped 30% (UNDP, 2003, p. 2). In the post-9/11 era, when the need for exchange, openness, self-reflection, and criticism are more essential than ever, opportunities for Arabs to engage in knowledge exchanges—especially in the West—seem to be rapidly diminishing. The lack of political stability, compounded by restrictions on academic freedom, bleak economic opportunities, military conflict, and social and political instability, represent some of the more salient reasons why the region as a whole continuously loses many of its valuable human resources to brain drain. At the end of last century, some one million “highly qualified” Arabs were estimated to have been working in countries belonging to the Organization for Economic Cooperation and Development (OECD). In 1995–96 alone, 25% of the region’s 300,000 first-tier graduates from Arab universities emigrated, as did more than 15,000 doctors in the two-year period from 1998–2000 (Zahlan, quoted in UNDP, 2002, p. 71; UNDP, 2003, p. 10). In light of the current situation, a number of attempts are being made, particularly by way of regional cooperation and international investment and involvement, to fortify Arab higher education.

Pan-Arab Cooperation

A number of inter-governmental, non-governmental, and international organizations have accelerated efforts in recent years to organize research, training, funding, accreditation, and cooperation for region-wide joint programs in higher education.

Among the more visible and active organizations are the Association of Arab Universities, the Arab Federation for Technical Education, the Arab Federation of Councils

for Scientific Research, UNESCO's Regional Bureau for Education in the Arab States, the World Bank, the UNDP Regional Bureau for Arab States, the Arab League Educational Cultural and Scientific Organization (ALESCO), the Arab Bureau of Education for the Gulf States (ABEGS), the Arab Network for Open and Distance Education, the University of the Middle East Project (UME), and the Islamic Educational, Scientific and Cultural Organization (ISESCO).

Educators and policymakers have also responded to pan-Arab needs by expanding distance learning. Open universities provide flexibility and access to higher learning to populations for whom conventional classroom study would prove difficult, such as women restricted by family obligations or conservative cultural attitudes, working students, and populations in conflict-ridden or war-torn regions where physical travel to and from campuses could prove hazardous. Some of the better-known examples of pan-Arab open universities include Al-Quds Open University (QOU), The Arab Open University (AOU), and the Syrian Virtual University. The QOU grew in response to the difficulties faced by Palestinians who wished to pursue higher education under conditions of occupation and economic hardship.¹² A more recent initiative, the AOU, was established in 1999 and relies primarily on curricular resources and programs from the United Kingdom's Open University.¹³ Similarly, the Syrian Virtual University, established in 2003, works largely in cooperation with North American universities to provide Arab students opportunities to earn accredited degrees through distance learning. A number of other universities located in both the North and South offer distance learning to students located in the Arab world.¹⁴ Each program differs with regard to their offerings and curricular materials. While the QOU produces its own textbooks and other audio and visual materials through its in-house media center, the programs at the AOU and the Syrian Virtual University rely largely on pre-fabricated curricular materials from the U.K. and North America. The latter two programs, while successful in many respects, have been criticized for not adequately addressing local needs or advancing local knowledge production (UNESCO, 2003, p. 8).

Privatization of Higher Education

From the 1990s, all education sectors—including higher education—have experienced extensive privatization, a trend which corresponds to more general changes stemming from neoliberal economic reforms. The private university boom has been most pronounced in Jordan, and began in the early 1990s when Palestinians of professional migrant worker families returned to Jordan from Kuwait following the first Gulf War of 1991. In the decade of the 1990s alone, 12 new private universities opened in Jordan, seven in Lebanon, six in Egypt, and several more in Yemen and Sudan, with plans in all countries for more. Many of the new private universities have been established in cooperation with North American and European universities; they are highly profit-driven and oriented largely towards professional training. Some of the more financially lucrative universities even own their own secondary schools, ensuring a steady flow of paying students from one educational stage to the next.

It was largely thought in development and policy circles that privatization of higher education could potentially alleviate states from the burden of supplying the vast

majority of higher education to their populations, provide more flexibility in the delivery of education, and address the growing demands of the international labor market by providing the necessary types of education and training for new generations. Yet the new private universities appear to be falling far short of the many hopes placed on them.

In its report on Higher Education in the Arab Region, UNESCO takes a guarded view towards the growing privatization of higher education, cautioning: “[T]here is as yet no evidence that these new universities have succeeded in lifting the strain and alleviating the pressure on the higher education system in the region. Nor is there any evidence, with few exceptions, that they have provided students with more diversity or are succeeding to meet the needs of students, society, the labor market and the requirements of the global economy” (2003).

With the market-driven privatization of higher education, certain principles once embedded in the educational endeavor such as citizenship building, ethics, community responsibility, are apparently being replaced to a large degree by individual interest and economic rationality. The new private universities, therefore, raise serious questions about equity in education and the role of the university in the production of an educated citizenry capable—developmentally, technically, and ethically—of serving local, regional, and global needs.

Towards Humanism and Freedom

Higher education confronts a host of challenges, many of which seriously impede the Arab university’s ability to realize its greater potential. Arab societies have historically placed a high value on knowledge and formal learning. The primacy of the sciences and arts during much of Islamic civilization, the proliferation of pluralistic polities, and notions of justice and social development have all drawn to a great extent on principles embedded in cultures of learning. Yet the rich cultural and ethical educational Arab heritage, in all its syncretism, appears to be increasingly under threat due to a combination of factors including the persistence of political and military conflicts in the region, the lack of democratic governance, and the short-sightedness of educational reforms that are largely market driven. Meaningful reforms in higher education, and institutions of knowledge more generally, have the potential to contribute to the forging of societies in which peace and freedom can prevail. Clearly, higher education plays a potentially decisive role in cultivating the type of educated person needed to confront and address challenges in the current era of intensified social and political conflicts and struggles for greater democratization and social justice.

Notes

1. The 22 nations that make up the Arab region and which are all member states of the League of Arab States are The Hashemite Kingdom of Jordan, United Arab Emirates, Kingdom of Bahrain, Republic of Tunisia, Democratic and Popular Republic of Algeria, Republic of Djibouti, Kingdom of Saudi Arabia, Republic of Sudan, Arab Republic of Syria, Republic of Somalia, Republic of Iraq, Sultanate of Oman, State of Palestine, State of Qatar, Federal Islamic Republic of Comoros,

State of Kuwait, Republic of Lebanon, Socialist People's Libyan Arab Republic, Arab Republic of Egypt, Kingdom of Morocco, Islamic Republic of Mauritania, and Republic of Yemen.

2. A portion of this section has been previously published by the author in the *Encyclopedia of the Modern Middle East and North Africa*, 2nd edition, in the entry entitled, "Education and Social Transformation in the Middle East" (2004).
3. The extraordinary body of scientific work I refer to here falls under the rubric of both "Islamic" and "Arabic" science. I use the term "Arabic" science because, although a number of the leading scientists were neither originally from "Arab" lands, nor native Arabic speakers, but from Persia, Afghanistan, and India, the common language of communication and scholarship among scientists and scholars throughout the Islamic empire was Arabic.
4. According to the 1907 Egypt census data, out of a Muslim population of 10,269,445, a total of 402,090 males and 10,579 females were literate. Among the Coptic population of 706,322, a total of 67,256 males and 5,765 females were literate, and among the Jewish population of 38,635, a total of 11,024 males and 5,910 females were literate. By far the highest literacy rates were among the "other" groups which included native and non-native Egyptians of other Christian denominations. Among a total of 175,576 others, 68,299 males and 38,399 females were literate (Landau, 1969, p. 71).
5. Also note that early in the 20th century new scientific organizations such as the Tangier based Mission Scientifique au Maroc (est. 1904) and the Cairo based *Soci'et'e d'Economie Politique* (est. 1909), both founded by the French, played important roles in forming transnational professional research communities in the Arab region and in the development of Middle East area studies programs in Europe and North America (Mitchell, 2003, pp. 4–6).
6. The first Arabic lectures were delivered in the Women's Section by Malak Hifni Nasif and Nabawiyya Musa before it was temporarily suspended in 1912. In 1929 Zainab Kamael Hasan became the first woman to be employed by the Faculty of Science as a full-fledged member of the teaching staff, opening the way for like positions by other women (Elsada & Abu-Ghazi, 2001, pp. 71–73, 115).
7. As Andr'e Mazawi cogently puts it, the transition in the Arab world from indigenous schooling to the "new" schooling "is not merely 'modernization,' structural change,' or 'transition.' Rather, it expresses a more basic, often radical, and certainly conflict-loaded transformation of the existing social bases of power; the determination of new sources of authority (both political and social); and the definition of what valid (and therefore politically connoted) knowledge is" (2000a).
8. As Dale Eickelman observes, "the social networks of influence and patronage formed in part through . . . mosque universities [which] have remained remarkably intact in many countries, and the 'cognitive style' conveyed by Islamic education retains a popular legitimacy" (1981, p. 237).
9. Ahmed Zewail attempted to found world-class state of the art university in Egypt by the name of University of Science and Technology (UST) (Zewail, 2002, p. 266). Due to a number of bureaucratic, political, and financial barriers, the project never came to fruition as he envisioned it.
10. See also Nabil Al-Tikriti (2005) for an assessment of the state of higher education in Iraq since March 2003.
11. For example, in the 2000–2001 academic year, only 643 out of 23,000 students enrolled at the Imam Muhammad bin Saud Islamic University were female (<http://www.saudinf.com/main/j44.htm>).
12. The UNESCO–PLO initiative dates to the mid-1970s, although it was not until 1991 that the university assumed full-scale operations and considerably expanded. The student enrollment increased from roughly 400 in 1991 to over 35,000 in 2001. Its branches are currently located in Palestine, Jordan, Saudi Arabia, and the United Arab Emirates, with plans for further extension to other countries (Al-Quds Open University website: <http://www.palestine-net.com>).
13. The Headquarters of the AOU is in Kuwait, and its branches are currently located in Egypt, Lebanon, Bahrain, Jordan and Saudi Arabia.
14. The Indira Gandhi National Open University of India, for example, has since 1997 been offering courses in a number of Arab Gulf countries where high numbers of Indian expatriate workers reside (Mazawi, 2000b).

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HIGHER EDUCATION IN CENTRAL AND EASTERN EUROPE

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Central and Eastern Europe offers a diversity of higher education systems—ranging from “post-Soviet,” in the sense that specialized higher education institutions often subject to non-education ministries are still prominent and traditional universities play a less dominant role, to “market” systems, with increasingly significant private sectors. The region also offers a diversity of institutional types—from traditional (often, very traditional) universities through specialized universities and quasi-industrial “monotechnics” to highly entrepreneurial private institutions. In addition, the region offers a range of academic and organizational cultures—from the “scientific” and “public” to the “applied” (or vocational) and “market.” As a result of this diversity it is difficult to make valid generalizations that can be applied to Central and Eastern European higher education as a bloc.

Two interlinked frames of reference can be used to describe the reform of higher education in Central and Eastern Europe since 1989. The first is that the unity of Central and Eastern Europe is an artifice, contingent on half a century of Communist rule. The nation-states that occupy the region (bounded on the west by the Elbe and the mountains of Bohemia, on the east by the plains of Russia, and on the north by the Baltic Sea, and which stretches south towards the Adriatic and Aegean Seas) are as heterogeneous as the nation-states that occupy Western Europe (stretching from the Arctic to the Mediterranean). Central and Eastern Europe is both part of a larger whole—Europe—and subdivided into many regions. Its institutions, including its universities, reflect that variety. Almost certainly, despite their common experience of Communism, universities in Central and Eastern Europe have less in common with each other than, for example, universities in Latin America.

The second is that, because Central and Eastern Europe is an artifice (and also because the impact of Communism was both more nuanced and less totalitarian than is commonly supposed), higher education in the region—like society at large—has been going through a period of transition rather than of transformation. The preferred vocabulary is revealing; “transition” suggests a much less radical process than “transformation.” Within this larger (but perhaps also more limited) context there are two

contrasting accounts of the development of higher education in Central and Eastern Europe in its first post-Communist decade. The first insinuates that it has been released from a totalitarian time-warp, and consequently is engaged in a process of catching up with the West (a process that has been difficult, and is still incomplete). The second account suggests that higher education in Central and Eastern Europe, because it has had to cope with the collapse of values and structures associated with Communist rule, has been both free and forced to flirt with privatization and other radical remedies that have been resisted by higher education in the West, certainly in Western Europe—and, as a result, has the potential to create new models of higher education in the 21st century.

Both are true—and both are exaggerated. There has been an element of catching-up because most Central and Eastern European higher education systems had tended to stagnate during the last two decades of Communist rule; scientific productivity declined, for example, and rates of expansion slowed, while in the West they accelerated. It is also broadly true that the immediate response after 1989 was to reassert a classical—even elitist—ideal of the university that was inimical to the wider engagement with state, economy and society that is characteristic of the evolution of Western European higher education systems. Little attempt appears to have been made—at any rate, initially—to harness higher education to the urgent task of the transition to a post-Communist society (in marked contrast with, for example, South Africa, where higher education reform and the building of a new multi-racial nation have been intimately associated).

A key difference is that post-1989 reforms have been largely organizational. Although the patina of crude Marxism-Leninism has been rubbed away, the scientific foundations of the system have remained almost intact. Indeed, these foundations have been strengthened by the removal of the (political) barriers to scientific intercourse with the West. Central and Eastern European universities aspire to—and do—contribute to “metropolitan” scientific and broader intellectual cultures, rather than challenging these cultures from the “periphery.” Even during the Communist period this was essentially true.

Of course, there has also been a radical—even experimental—element in the post-1989 reconstruction of higher education. The collapse of Communist-era control systems and the inadequacy of state support forced many higher education institutions to adapt or die. This is apparent at many levels. In some Central and Eastern European countries radical restructuring has taken place, although sometimes as a result of institutional collapse rather than on a planned basis; the natural sciences and engineering, which dominated many Central and Eastern European universities between 1945 and 1989, have been displaced by business and management and information technology; private institutions have proliferated (where the legal regime permitted such developments); and public institutions have behaved in increasingly entrepreneurial ways (which critics have regarded as verging on the piratical). However, more recently enthusiasm for free-market and neo-liberal prescriptions has waned—and, as a result, the pressure on Central and Eastern European higher education to provide a test-bed for radical-right reform has decreased.

Any assessment of higher education in Central and Eastern Europe at the beginning of the 21st century must incorporate elements of both accounts—catching-up and radical experiment—but must also avoid the danger of over-emphasizing either. Both

accounts must be related to the wider frames of reference—first, that Central and Eastern Europe is an artifice, which has been progressively deconstructed during the past decade, and secondly, that the key motif of post-1989 higher education reforms (as of wider socio-economic reforms) has been transition rather than transformation (Hüfner, 1995). Based on a study of higher education reform in Central and Eastern Europe undertaken by the author on behalf of CEPES, UNESCO's European Center for Higher Education in 1999–2000 (Scott, 2000), this chapter begins with a brief historical overview, followed by an analysis of five major themes of importance to the study of Central and Eastern European higher education. The discussion concludes with a review of the two standard views of higher education in the region—exceptionalism (the idea that higher education in the region is categorically different from other parts of the world) and underdevelopment (higher education in the region has lagged behind the West, which provides the only model of development)—noting that since neither of these is satisfactory, alternate accounts merit consideration and further research.

The Historical Context

In 1945, there were important differences within Central and Eastern Europe. Some, notably the Czech Republic, already possessed advanced industrial economies similar to those of the most advanced Western European countries; others remained predominantly agrarian in their economic structures. Social structures reflected these economic differences; in some countries sophisticated middle-classes already existed, while in others divisions between landowners and peasants were still predominant. Two countries—Bulgaria and Romania—had become independent in the 19th century; the others had only achieved independence with the break-up of Imperial Russia and Austria-Hungary (and the reduction in the territory of Prussia-Germany following 1918). Some had fought on the side of the Axis powers in World War II; others had been defeated and occupied by the forces of Nazi Germany. In nearly all of these countries, substantial ethnic and national minorities existed, despite the destruction of European Jewry during the Holocaust.

Although Communist rule tended to suppress, and even to reduce, these national differences, they were not eliminated entirely. The imposition of planned economies, accompanied by forced industrialization and (on a more limited scale) the collectivization of agriculture, led to a process of both leveling-up (in the case of the “peasant” economies) and eventually leveling-down (in the case of “advanced” economies). As a result, economic differences in the region were reduced, although they have tended to re-emerge since 1989 as countries have been more, and less, successful in managing the transition to “market” economies. Social differences may also have been reduced during the period of Communist rule, as previously favored social groups lost their privileges and/or were eliminated, although this social leveling was significantly reduced by the emergence of a *nomenklatura* under the aegis of the Communist Party.

Since the fall of Communism these differences have been partly re-established in some Central and Eastern European countries, and income differentials have been widening since 1989. Political divisions within the region were also reduced and suppressed by enforced membership of the Soviet-dominated Warsaw Pact. Again,

eligibility for membership of the European Union or NATO has introduced new divisions since 1989. Ethnic differences were also overlaid by the imposed uniformity of Communist rule, with the important exception of the former Yugoslavia, and ethnic homogeneity was promoted by the expulsion of German minorities in the immediate post-war period. But, again, these differences have tended to re-emerge since 1989, exposing once again the multi-ethnic and multi-religious character of many Central and Eastern European societies.

In the 1990s, understandably, there was an overwhelming temptation to regard the Communist period as a deviation, or historical cul-de-sac. But this proved to be neither possible nor perhaps sensible. First, there are no black holes in history. The Russian Revolution of 1917 was as much a world event as the French Revolution of 1789. Opponents and supporters are equally subject to its long-term significance. Second, the Communist era was not monolithic. There were important temporal differences, as post-war “liberation” was succeeded by Stalinist terror, then the post-Stalin “thaw,” followed by the “normalization” (or neo-Stalinism) of the Brezhnev period and the final crisis of the Communist system. Third, there were also important spatial differences; in Hungary the period of the thaw persisted despite Brezhnevism, while in Romania neo-Stalinism lasted until the (bitter) end when the Ceausescu regime was overthrown. These differences have persisted into the post-Communist period, shaping both political cultures and administrative competences. Fourth, the two halves of the continent were not entirely disconnected during this period. All parts of Europe went through processes of modernization during this half-century, some sophisticated perhaps and others crude, which nevertheless transformed social conditions; both were subject to similar global forces. Their political and economic systems may have been different but they inhabited the same world.

It may be dangerous to over-estimate the exceptionalism of the experience of higher education in Central and Eastern Europe under Communist rule. It developed particular—and, on the whole, negative—characteristics during this period. However, these characteristics did not abolish the important differences between universities across the region that existed before 1945; nor should the significance of these characteristics be exaggerated at the expense of other more generic influences which affected all European higher education systems. This is important in two aspects. First, it leads us to question the ahistorical interpretations of higher education that have grown up in Central and Eastern Europe since 1989. Continuity may be more considerable than we care to admit—not only in the sense that developments during the Communist period cannot simply and sensibly be ignored (these developments were—and are—real, not least in terms of the continuity of personnel), but also in the sense that the Communist regimes that ruled the region between 1945 and 1989 were never able to exclude (although they were able to distort) external influences, which played an important role in shaping higher education in Central and Eastern Europe during this half-century.

Even during the Stalinist period, Communism was never able either to suppress the ideal and operation of an autonomous civil society completely, or to exclude external influences entirely. Josef Jarab has offered a salutary corrective in the case of (what was still then) Czechoslovakia: “In the sweeping political rejections of the former

regime, its ugly and dehumanizing objectives were taken as results truly and generally achieved. But fortunately, they had in fact never accomplished their goals to the extent they might have thought. Due to inefficient bureaucracy and rather lukewarm attitudes of many people working within the system, especially after 1968, the totalitarian educational project could not and did not fully succeed. It is also worth remembering and reminding ourselves and our Western colleagues that good teaching did not completely disappear from our schools with the introduction of Communist ideology” (Jarab, 1993).

Second, questioning the notion of exceptionalism is important because it suggests that it is misleading to regard universities in the region as, in any but the most superficial economic sense, underdeveloped. They have always been fully “European” before 1945 and after 1989—but also, crucially, during the years between. Until the stagnation of the Communist regimes in the 1970s, higher education systems in Central and Eastern Europe (and, in particular, in the former Soviet Union) had been able to produce remarkable achievements—both in terms of growth of student numbers (and so an expansion of social opportunities, sadly unaccompanied by the development of a truly democratic culture), and in terms of research, notably in the mathematical and physical sciences and engineering.

Statistical Portrait

If the former constituent parts of the Soviet Union (apart from the Baltic States) are excluded—the Russian Federation itself with almost 6 million students, Ukraine with 2.3 million, Belarus with 337,000 and Moldova with 110,000—there were 4,364,395 students in Central and Eastern Europe in 2002–03. This is probably an underestimate because of the significant number of students in private institutions and also due to different methods of data collection. The number of students per 100,000 inhabitants ranged from 5,102 (in Latvia) to 1,420 (in Albania); the average for the region was just over 3,000. Although lower than in Western Europe and, in particular, North America, there have been substantial gains in participation since the collapse of Communism in the region (see Table 1).

There are significant variations in the number and size of institutions. In particular, many recently established private institutions have had small numbers of students, but it is also true that the average size of universities is much smaller than in Western Europe or North America. Outside the former Soviet Union there are few universities comparable in size to Italian, French or German universities. There are also significant variations in student/faculty ratios, although these figures need to be treated with particular caution because of different definitions of teaching staff (see Table 2).

The impression that emerges from this statistical portrait of higher education in the region is of a two-way split. On the one hand, there is a number of predominantly smaller and medium-sized countries where the main influence appears to be “European”—in the sense that they have comparatively small numbers of private institutions (and even smaller proportions of private students). Slovenia and the Czech Republic are examples of this first group (both, significantly or not, were part of Austria-Hungary until 1918). On the other hand, there is a number of (typically larger) countries where the main

Table 1. Total Enrollment and Proportion in Private Institutions

| Country | Total Number of Students | % in Private Institutions |
|------------------------|--------------------------|---------------------------|
| Albania | 43,700 | 0.2% |
| Bulgaria | 230,513 | 13.4% |
| Croatia | 140,731 | 2.7% |
| Czech Republic | 248,756 | 3.2% |
| Estonia | 63,625 | 20.3% |
| Hungary | 381,560 | 14.2% |
| Latvia | 118,944 | 22.9% |
| Lithuania | 145,784 | 4.5% |
| FYR Macedonia | 49,275 | 3.5% |
| Poland | 1,800,548 | 29.4% |
| Romania | 596,297 | 23.3% |
| Slovak Republic | 141,805 | 0.4% |
| Slovenia | 101,458 | 2.9% |
| Bosnia and Herzegovina | 101,399 | — |

Source: Scott, P. (2000). Ten years on and looking ahead. In *Review of the transformations of higher education in Central and Eastern Europe*. Bucharest: CEPES Studies on Higher Education.

influence since 1989 appears to have been “American”—in the sense that they have much larger numbers of private institutions and students and sometimes less generous student/faculty ratios, which may be evidence of a more entrepreneurial approach. Poland and Hungary are examples of this latter group.

Table 2. Diversity of Institutions and Staff/Student Ratios

| Country | Public Institutions | Private Institutions | Student/Faculty Ratios |
|-----------------|---------------------|----------------------|------------------------|
| Albania | 11 | 1 | 19.6:1 |
| Bulgaria | 37 | 14 | 13.9:1 |
| Croatia | 84 | 14 | 24.1:1 |
| Czech Republic | 28 | 27 | 18:1 |
| Estonia | 13 | 22 | 15.1:1 |
| Hungary | 30 | 36 | 16.5:1 |
| Latvia | 20 | 17 | 21.7:1 |
| Lithuania | 30 | 13 | 13.3:1 |
| FYR Macedonia | 31 | 5 | 16.4:1 |
| Poland | 125 | 252 | 22.3:1 |
| Romania | 55 | 70 | 20.1:1 |
| Slovak Republic | 22 | 1 | 11.8:1 |
| Slovenia | 62 | 17 | 24:1 |

Source: Scott, P. (2000). Ten years on and looking ahead. In *Review of the transformations of higher education in Central and Eastern Europe*. Bucharest: CEPES Studies on Higher Education.

Key Themes

Five major themes emerged from the CEPES study on which this chapter is based: the scale and scope of Central and Eastern European higher education; the diversity of higher education across the region; the sequencing of successive phases of higher education reform since 1989; the balance between continuities and discontinuities; and structural reforms, or the creation of new legal, administrative and academic frameworks.

Expansion

All higher education systems, East and West, experienced rapid growth during the post-war period culminating in the spectacular expansion of the 1960s. It was only in the last two decades of Communist rule that growth rates diverged, as higher education in Western Europe experienced a second wave of expansion and Central and Eastern Europe stagnated politically and economically. In the ten Central and Eastern European countries covered by the CEPES study (referenced earlier), the number of students enrolled in higher education institutions increased from 1,284,509 in 1989 to 2,137,997 in 1996 (an increase of two-thirds in seven years), and then to 3,829,290 by 2002 (an even more impressive growth rate of almost 80%). The rate of growth is equal to that which has occurred in any other higher education system since 1945, and provides a measure of the quantitative transformation of higher education in Central and Eastern Europe.

However, within this overall expansion, there have been some significant trends. To begin with, in 1989 almost 40% of students were studying natural sciences; by 1996 the proportion had dropped to only 10%, although there has subsequently been a mild recovery. During the same period, the number of humanities and social studies students increased almost three-fold—from 27% of the total to 43%. The numbers of students in education, medicine and engineering have remained stable and grown more slowly. Also, the number of graduates increased by only 45%, despite the 66% increase in student enrollments between 1989 and 1996. In some countries there was almost no increase, and in one an absolute decline. This suggests that non-completion rates have risen across the region, which can largely be attributed to the overall growth in student numbers and the shift towards the humanities and social sciences (but may also reflect a relaxation of the social disciplines imposed by the Communist state).

Further, the number of tertiary-level teachers increased by an even smaller amount, only 27%, between 1989 and 1996. However, by the standards of Western Europe and North America, student/faculty ratios were still favorable; the ratio was 8:1 in 1989 and nearly 11:1 in 1996. Since then, there has been a further deterioration in staff/student ratios. Although the Slovak Republic still enjoys a highly favorable student/faculty ratio of roughly 12:1, in Poland—the largest higher education sector in the region—it has risen to a challenging 22:1. The arrival of mass higher education in the region (and also the disappearance of other special factors, such as the privileged status of some specialized higher education institutions during the Communist period) has led to a convergence of staffing levels between the two halves of Europe.

Diversity or Commonality?

A major theme which emerged from the CEPES report was the balance to be struck between emphasizing the common characteristics of higher education systems and institutions in the region and highlighting their differences. A further complication arises from the fact that some of these common characteristics are retrospective, because they reflect the uniformity imposed during the Communist era (and therefore might be expected to diminish in significance), while others are prospective, because they relate to the demands to which all higher education systems in the developed world are subject (and presumably are likely to intensify). A still further complication arises because this dilemma between commonality and difference in Central and Eastern Europe is overlaid by the wider debate about whether higher education systems are converging or diverging.

The case for emphasizing difference has already been discussed. Before 1945, universities across the region had little in common with each other, and certainly no more (or less) than with universities in other parts of Europe. They included some of Europe's oldest universities—Prague (1347) and Cracow (1364)—which long predated the development of nation-states or nationalist consciousness. But the first Romanian university was not established until 1860 and the first Bulgarian university in 1904; in both cases the links with nation-building were explicit. It was only as a result of their forced subjection to Communism that common characteristics emerged; with the collapse of Communism, not only are these original differences based on traditional orientations re-emerging but new ones are being created by the different rates of change and directions taken by post-Communist developments. Some universities have been much more successful than others at adapting to the new environment of political pluralism and market engagement—in some cases because they are (literally) new foundations, in others because they have greater room for maneuver, and in others again because their national governments have embraced change with more enthusiasm and/or success.

The case for emphasizing commonality, therefore, is two-fold. First, higher education in nine of the ten countries covered by the study on which this chapter is based were subject for almost half a century to Communist regimes which were animated by a common ideology, created analogous state structures and, ultimately, had a single reference point in the sense that they were subordinate to the will of the Soviet leadership. The Conference of Ministers of Higher Education in Socialist Countries was influential in formalizing this orthodoxy. Only Slovenia, as a republic in the former Yugoslavia, was an exception because the Titoist principle of self-management was also applied to higher education. Second, during the period 1945–1989 all European systems exhibited similar trends, including expansion of student numbers and consequent massification, subordination to socio-economic requirements and greater accountability to political interests.

The collapse of Communism apparently removed the first imperative for commonality, but arguably, only to introduce another—the common dilemmas created by the transition to a post-Communist society across the region. So even after Communism ceased to exist, it continued to promote homogeneity. Of course, the Europe-wide—even global—trends were intensified by the collapse of Communism and its replacement by

democratic-capitalist regimes. As a result, universities throughout the region have had to develop policies for retraining inappropriately qualified staff and to rebalance their portfolios of academic programs to reflect new political and social conditions, both of which are examples of post-Communist adaptation, and also to develop courses in business, management and information technology—an example of the wider impact of global forces.

Jan Sadlak has attempted to conceptualize these transitions in terms of three models of higher education in Central and Eastern Europe—pre-Communist, Communist, and post-Communist—within an analytical framework that emphasizes commonalities rather than differences (Sادلak, 1995).

Sادلak's broad framework (see Table 3) emphasizes the general characteristics of higher education in Central and Eastern Europe during these three periods. There are, of course, exceptions to the rule. Peter Darvas' argument that "if there is anything peculiar about the region [Central and Eastern Europe], it is the level of complexity of changes that may exceed that which can be observed globally" may help to reconcile this apparent contradiction (Darvas, 1998). Higher education in the region has followed a broadly similar post-Communist trajectory, but one characterized by increasing differentiation.

Sequences of Reform

The third theme is that the reform of higher education systems in Central and Eastern Europe has already gone through three main stages. The first stage was characterized by two imperatives. The first imperative was a desire to disengage the academic system from the very tight association with, and subordination to, the economic system that had prevailed during the Communist period. The second imperative was to liberalize academic structures as part of a wider liberalization of political structures, with the former being largely a contingent effect of the latter.

The conclusion of a so-called Transatlantic Dialogue organized by the Pew Charitable Trusts in 1991–92 and involving both American university and college presidents and European rectors from both Eastern and Western Europe was clear: "Autonomy is the first of many steps needed to restore the university in Central and Eastern Europe to its former vitality." The author of this chapter was a participant in the three seminars—at Trento, Olomouc and Madison—which formed the Dialogue, and derived an equally clear impression: "The Central and Eastern European participants insisted on a ringing restatement of this idea [of the liberal university] in the purest, even absolutist, terms. The need, as the Eastern Europeans saw it, was to re-establish free universities—like free parliaments and free courts . . . In many debates during the Dialogue, its Central and Eastern European members seized the high moral ground, while their Western European and American colleagues were prepared to settle for the life of 'market' and state accountability" (Scott, 1993).

However, by the mid-1990s it had become clear that this disengagement of the academic system from the economic system and the bestowal of (formally) unrestricted autonomy on higher education had led to significant difficulties. First, because of the strains produced by the transition from centrally planned to market economies in most

Table 3. Attributes of Central and Eastern European Higher Education Systems

| | Pre-Communist Implicit and Self-regulatory | Communist Centrally-regulated | Post-Communist Explicit and Self-regulatory |
|-----------------------------------|--|--|---|
| Main traits | Confidence in values of particular academic freedom | Aims, tasks and resources in teaching and research defined by the Communist Party and allocated by the State | Competition for students, funding; importance of institutional/program, academic standing; multiple forms of self-representation; adherence to academic freedom |
| System-wide regulation | Minimal | Compulsory and detailed party/state regulation | Preferably within a broad regulatory role of the State |
| Planning/system approach | None or very limited | Comprehensive: an instrument of political control | Particularly important at institutional level |
| Accountability | Limited mainly to own constituency | Mainly to political authorities (Communist Party) | Accountability towards multiple constituencies |
| Autonomy | Yes—but its parameters were also differently defined from nowadays | Hardly any—or at the discretion of the political authorities | Determined by the degree of accountability to specific constituencies |
| Incentives | Reliance on intrinsic motivation in learning and research | Achievement of goals set by the party and state | Well-being of the institution and its principal constituency |
| Financing and budgeting | Heavily tuition-dependent; input-oriented line-item budgeting | Totally state-dependent but relatively 'worry-free'/rigid line-item budgeting | Multiple sources and instruments of financing and budgeting |
| Relation to labor market | Minimal and only indirect | Close coordination with state-set manpower planning | Significant but indirect; a result of interaction of multiple constituencies |
| Internal governance and structure | Federation of relatively independent sub-units—'chairs' | Externally determined and politically controlled (<i>nomenklatura</i>) | Concentration of administrative power; diversity of structure |
| Strategic planning | Occasionally at sub-unit level/not essential for governance | Almost none at institutional and sub-unit level | Essential for survival and/or well-being of the institution; important approach in governance |

Source: Sadlak, J. (1995). In search of the "post-Communist" university—the background and scenario of the transformation of higher education in Central and Eastern Europe. In K. Hüfner (Ed.), *Higher education reform processes in Central and Eastern Europe*. Frankfurt: Peter Lang.

Central and Eastern European countries—strains which were particularly intense in the public sector—it was not feasible to maintain this disengagement. In a negative sense, higher education was affected by the erosion of its resource base, which undermined its effective autonomy. In a positive sense, universities clearly had a key role to play in the process of economic transition. This role was explicitly recognized by the World Bank in the 1993 loan it made to Hungary, which placed particular emphasis on the development of human capital.

Second, the autonomy granted to universities was used—or perceived to be used—to block reform. Although substantial structural changes were made in all higher education systems in the region during the 1990s (including important staffing changes), few other Central and Eastern European higher education systems experienced the radical reconstruction experienced by the East German system following German reunification. It has been estimated that almost half of the higher education teachers in the former German Democratic Republic lost their jobs, compared with fewer than 10% in the rest of Central and Eastern Europe.

Third, the liberalization of academic structures undertaken in the immediate aftermath of the collapse of Communism proved in some cases to be impractical. New higher education laws were sometimes utopian in their formulations—and difficult to implement against a background of substantial continuity of personnel and a significant erosion of resources. For example, rectors were granted formal powers which, in practice, they were often unable to exercise. Issues of governance and management were left undetermined.

As a result, the second phase of post-Communist reform—from the mid-1990s onwards—attempted to remedy these weaknesses. Universities retreated from what could be called the “liberal absolutism” of the years immediately after 1989, when both opponents of the former Communist regimes and their passive supporters had insisted on a high degree of institutional autonomy, although for different reasons. Autonomy, initially seen largely in terms of an absence of state power, was gradually replaced by new notions of civic and market accountability. The importance of higher education in terms of economic development as well as political and cultural renewal was more readily acknowledged, as the emphasis switched from the subordination to the manpower needs of planned economies to engagement with a “knowledge society,” albeit in the context of post-Communist transition. More practical attention was paid to issues of institutional governance and management.

This second stage, therefore, was one of emerging pragmatism. After the first stage—characterized by utopianism and dominated by politico-cultural issues—which lasted in most countries until 1992 or 1993, the emphasis switched to the need to expand and diversify higher education to meet new socio-economic demands. The mid-1990s were dominated by these efforts. More recently, in a third stage of development, attention appears to have switched again to issues of structure—and thus back to governance and management (but in much more pragmatic terms). It is now much more readily recognized that systems and institutions need to be sufficiently robust to cope with a) the practical implications of the institutional autonomy and academic freedom granted in the immediate aftermath of 1989, and b) the strains of expansion and diversification that took place in the mid-1990s. This third stage, therefore, can be regarded as a period

of normalization—but in two senses. The first is that the structures (and mentalities) needed to systematize and institutionalize post-Communist reforms are now being built; the second is that the agendas of higher education in both parts of Europe, East and West, are rapidly converging.

The Lure of the West?

Several of the institutional case-studies used in the CEPES report emphasize the importance of Western European (and North American) models in shaping the reconstruction of higher education in Central and Eastern Europe. Academic and administrative staff with a strong orientation to the West or with direct experience of higher education in the West are identified as among the most consistent supporters of reform, while those whose experience had been confined to Communist-dominated systems are identified as being passive, skeptical or even resistant to reform. In some countries in the region, Western “returners” have played an important role. (The other side of the coin, of course, is that all Central and Eastern European higher education systems have suffered from “brain drain” to the West, currently estimated to be 15% of teachers and researchers).

The reasons for this orientation are easy to understand. First, during the Communist period the West had been the “other”—and consequently a focus for the hopes of those who opposed or resisted the former regimes. When the “iron curtain” was removed, it was natural that this longing for the West should be expressed through admiration and imitation of its values. Second, more concretely, the West provided examples of free institutions which actually operated—including, of course, universities. So it was equally natural that these institutions provided templates for the reform of the totalitarian structures inherited from the Communist period. This was particularly necessary in the development of business schools—which had not existed in pre-1989 universities, except in the stilted form of faculties of economics—and of private higher education institutions which, of course, were not permitted during the Communist period.

Third, the drive to the West was an attempt to reconnect Central and Eastern European universities to what is now called in the wake of the 1999 Bologna Declaration “the European space in higher education.” The emphasis on internationalization in many Central and Eastern European universities is a concrete expression of this aspiration. However, this focus is very much on building stronger links with Western Europe and North America; as such, it is very different from the meaning attached to internationalization in universities in the West, which is already shading into something very different, globalization (Högskoleverket, 1997). Fourth, the West was seen as a source of the funding needed for reconstruction (which is another reason for the rather narrow focus of internationalization). This funding was provided not only by Western governments and supra-national agencies (prominent among which was the European Union), but also by private foundations such as the Soros Foundation and the Volkswagen-Stiftung.

However, this identification with the West has encountered certain difficulties. The first, and most obvious, can be summed up in a simple question—which West? There

are several models of higher education in Western Europe (which are derived from the traditional taxonomy of Humboldtian, “Napoleonic” and Anglo-Saxon models described earlier in this chapter, but substantially readjusted by recent massification). There are also many different types of institutions—university and non-university—in most Western European systems (Britain and Sweden are the only two countries with, even approximately, unified higher education systems). The second is that the Western model of higher education is not only increasingly pluralistic; it is also highly volatile. Significant reforms have taken place during the 1990s. To take just two examples: in England, the former polytechnics became universities in 1992, and later in the decade *fachhochschulen* (along the German model) were developed in Austria out of a plethora of trade and craft schools.

Accordingly, as the engagement between Central and Eastern European higher education and Western European (and North American) universities has deepened, it has also become more complex. In the immediate post-Communist period, higher education in the West offered a stylized—and perhaps idealized—model. Its subordination to political authority, not simply in terms of administrative structures and funding regimes, but increasingly in terms of quality-assurance and other performance measures as the state redefined itself as an important customer; its accountability to public opinion, which forced universities to “manage” their reputations with growing professionalism; its exposure to market influences; its (on the whole) willing engagement with society—such characteristics were little noticed at first. Today, a more nuanced relationship with the West can be observed, which can partly be explained by the continuing, even increasing, influence of neo-communist parties and the backlash against the “shock therapy” of radical privatization and marketization in parts of Central and Eastern Europe, but can mainly be attributed to a better understanding of the real circumstances of higher education in the West. Normal service has been resumed.

At a more practical level universities in Central and Eastern Europe have been enthusiastic supporters of the development of the Bologna process and also of national quality assurance and accreditation systems. There seem to be two main reasons for the region’s support for the idea of creating a “European Higher Education Area” (despite its implicit agenda of transatlantic competition, which might have been expected to appeal to those systems and institutions that have been most influenced by American models). One is that by joining in Bologna, Central and Eastern European can reassert their “European-ness” after four decades of Communist rule. The second is that, because their structures have been in a state of flux since 1989, it has been easier for them to adapt the two-cycle bachelor’s-master’s pattern that is at the heart of the Bologna reforms. Their enthusiasm for quality assurance and accreditation, in sharp contrast to the skepticism expressed by many Western European (especially U.K.) institutions, reflects a belief that peer-review based systems represent a liberation from stifling state regulation.

Restructuring Higher Education in the Region

The fifth and last major theme is the scale and complexity of the restructuring of higher education systems in Central and Eastern Europe (Aaviksoo, 1997). Higher education

in the region has had to be reconstructed on a scale, and at a speed, never attempted in Western Europe. Adjustments that have required long gestation in the West have had to be accomplished within four or five years. For example, in the West complex issues such as the relationship between universities and other higher education institutions and between higher education and research have been managed by a lengthy process of reform and negotiation stretching over several decades; in Central and Eastern Europe, such issues had to be immediately resolved after 1989.

In some countries reconstruction has been total, and has had to proceed from first principles. Not only did the legal framework in which higher education institutions operate have to be entirely rewritten, the fundamental mission of institutions and their articulation within wider systems also had to be reconsidered. In other words, institutional restructuring has taken place against a background of normative uncertainty, which has never been experienced in the West.

Standard solutions that could be applied across the region have not been available. Not only have the different countries in Central and Eastern Europe been more or less successful in their attempts at economic reform (which have determined their capacity to fund and manage higher education reform), and taken up different stances to their Communist pasts (which have influenced their willingness to undertake reform), institutional patterns and administrative processes have varied across the region. For example, in some countries the need has been to strengthen the university at the expense of its constituent parts; in others, to decentralize power and decision making. So, even where common objectives have been pursued, different solutions had to be found (EURYDICE, 1997, 1999).

In all parts of the region, staffing has been a major issue. As previously noted, only in the eastern *länder* of Germany has there been a substantial turnover of academic and administrative staff. Elsewhere, universities have struggled to cope with staff who were inappropriately qualified (because the subjects they taught were no longer in demand among students) and/or were insufficiently skilled in teaching methods. (The debates about learning and teaching styles, course design and student assessment that have occurred in most Western European higher education systems did not take place on a significant scale in Central and Eastern Europe during the Communist period). They now face an urgent need to renew their staff, either by retraining or replacement, in order to refresh their portfolios of academic programs. Another problem is that low salaries mean that many academic staff have more than one job.

With the exception of a minority of institutions—which either have received generous financial support from outside the region and/or have been able to charge high fees because they concentrate on courses in subjects like management and information technology—higher education in Central and Eastern Europe has been chronically under-funded (Dinca & Damian, 1997). This under-funding has constantly hampered attempts at institutional renewal. Although there are signs in a few countries in the region that the transition to a market economy has been (relatively) successfully accomplished, and during the 1990s the region had an economic growth that substantially exceeded that in Western Europe, across the region as a whole economic restructuring is far from complete (and there are particular difficulties with regard to reconstituting a modern and viable public sector, which embraces most elements within higher education

systems). One result has been that public institutions have become semi-privatized by depending increasingly on income from fees; the “private sector” is within, not without.

Higher education systems in Central and Eastern Europe have also been subject to substantial reshaping since the collapse of Communism. At the system level, three general features may be particularly significant. The first is that in some countries a significant private sector has developed (which is much larger as a proportion of student numbers than in nearly every Western European country). The private sector is seen by some as more dynamic and flexible than publicly-funded higher education. It is not clear whether the private sector will expand, in line with a global trend towards privatization in higher education, or contract, because if or when publicly-funded institutions become more flexible and better resourced, private institutions will lose their comparative advantage. The largest number of private institutions is in Poland (252 private institutions, compared to only 125 public institutions in 2002, although the former enrolled less than a third of the total number of students). In other countries in the region there has been much greater resistance to the development of private higher education. In Slovenia, for example, only 2.9% of students are enrolled in private institutions, and in the Czech Republic the proportion is only a little higher (3.2%). In the early years after 1989, the growth of private higher education was a hectic and largely uncontrolled process, but more recently greater regulation has been introduced.

The second feature is the integration of research institutes (once managed separately by Academies of Science or central ministries) into universities, thus producing a better relationship between teaching and research and also releasing additional teaching staff resources. However, although a general phenomenon, this trend towards incorporation is also uneven. The extent to which true integration has been achieved is often unclear. (It is worth noting that this is not an exclusively Central and Eastern European problem; attempts to produce greater synergy between German universities and Max Planck institutes have also produced difficulties). As a result, the place of research within higher education continues to be unstable in contrast to the better-understood and accepted relationships between research and teaching characteristics of Western European and North American systems.

The third feature is that efforts have been made to create more systematic binary systems. During the Communist era, non-university higher education was best described as pre- or proto-binary. Advanced education outside the universities typically took two forms: a) specialized monotechnic institutions (often administered by other Ministries apart from the Ministry of Education—or of Higher Education); and b) higher technical schools, which were often closer in spirit to secondary education. During the 1990s, many Central and Eastern European countries decided, if not to integrate monotechnic institutions into multi-faculty universities outright, then to develop common planning frameworks. Decisions were also made to upgrade higher technical schools (which sometimes, as in Hungary, involved mergers to create larger institutions). Nevertheless, the survival of many “Soviet-era” specialized higher education institutions and the comparative weakness of what might be called the “generalist” university tradition have influenced the form of restructuring in Central and Eastern European higher education systems.

Conclusion

The two standard accounts of Central and Eastern European higher education are exceptionalism (the idea that higher education in the region is categorically different—either in a negative sense, because of the debilitating experience of Communist rule, or in a positive sense, because it has been able to undertake radical reforms impossible in the West) and underdevelopment (i.e., Central and Eastern European higher education has lagged behind higher education in the West, which provides the only model of development). However, neither is satisfactory. Both capture only those elements of Central and Eastern European higher education that were most directly touched by the experience of Communist rule—elements which are diminishing in significance—at the expense of the totality.

Exceptionalism

Clearly, between 1945 and 1989 the development of higher education in Central and Eastern Europe was decisively shaped by the experience of Communist rule. However, that influence was qualified in three ways:

1. The experience of Communist rule varied between the different countries in the region and between different periods of time;
2. Higher education in Central and Eastern Europe was not hermetically sealed from external influences; and
3. The imperatives of modernization shaped higher education in both East and West.

Prospective and positive assertions of exceptionalism are just as problematic as historical and negative ones. The picture that emerged from the CEPES study was of a purely European higher education system—indeed, of a system that in crucial respects is more purely European than higher education in Western Europe. There, the development of higher education has been significantly influenced by the evolution of the American system, by the currents of globalization and by the heterogeneous nature of Western societies (most apparent in terms of multi-ethnicity). Because of Communist rule, these influences were—and still are—weaker in Central and Eastern Europe. Thus, the Humboldtian university exists in a purer form east of the Elbe (in its original homeland, of course).

Underdevelopment

The second account, that higher education in Central and Eastern Europe is underdeveloped, is equally unsatisfactory. Of course, there are some (limited) respects in which notions of underdevelopment may be useful. The most obvious is the slower rate of growth in student numbers after 1970, which, arguably, meant that in a quantitative sense, higher education in Central and Eastern Europe was less mature than in Western Europe and North America. As observed earlier, there was little difference between growth rates in the East and the West before 1970. Only with the stagnation of the last two decades of Communist rule did a gap open up. Although Central and

Eastern Europe experienced the first post-war wave of higher education expansion, in most countries in the region the second wave was delayed until after the collapse of Communism in 1989.

Arguably, slower growth rates after 1970 meant that institutions had less incentive to innovate, and may have contributed to the underlying conservatism of higher education in the region (which, of course, was also a product of the political cultures and social systems that prevailed until 1989). But even the argument about the developmental effects of delayed expansion has to be treated with care. Within Western Europe, there were important variations in the timing of the second wave of post-war expansion. In France and Germany, it was a phenomenon of the 1970s. But in Britain, the second wave did not occur until the later 1980s and 1990s, only marginally before the resumption of growth in Central and Eastern Europe.

The issues that preoccupy higher education in Central and Eastern Europe today are broadly similar to those that preoccupy higher education in Western Europe or North America—the balance within institutions between central administration and faculties, schools or departments; the relationship between research and teaching; “distributed” delivery of higher education programs (often linked to a regional agenda); the tension between systemic planning and institutional initiative; the maintenance of institutional diversity within increasingly “volatile” systems; new patterns of funding, in which student fees and the commercial exploitation of intellectual property (in its widest sense) are more important and state funding less important; and the renewal of the academic profession (in terms of both recruitment and retraining).

Alternative Accounts?

Two alternative accounts of Central and Eastern European higher education appear to be more promising than either exceptionalism or underdevelopment. The first account emphasizes the importance of spatial dimensions and has two distinct aspects. To begin with, although there is not enough research evidence to contrast the experiences of “big” countries (such as Poland or Romania) with those of “small” countries (such as Lithuania or Slovenia), studies in other countries suggest that size may produce a significant effect. For example, a recent study of educational policymaking in England, Scotland, Wales and Northern Ireland (the constituent parts of the United Kingdom) highlighted the importance of scale in generating appropriate policy communities, shaping leadership cadres and influencing policy transfers (Raffe et al., 1999). It can be argued that reforms and other policy initiatives are more likely to emerge in “big” countries because the plurality of interests produces a more creative environment. On the other hand, one can argue that they are easier to implement in “small” countries because of the greater intimacy of political and administrative networks.

Another aspect of the spatial dimension is that the coherence of Central and Eastern Europe was contingent on its incorporation in the Communist bloc. Thus, the artificiality of viewing this as a coherent region has been exposed by the collapse of the Communist system. First, older affinities are re-emerging—particularly around the Baltic, in the Balkans and even the old 19th century concept of *Mitteleuropa*. Second, wider groupings are emerging, or being extended; the best examples are the European Union

and, more controversially, NATO (as well as the idea of a “European Higher Education Space”). Third, the impact of globalization is becoming more intense throughout the continent. Taken together, these three trends are producing significant changes in national (and individual) identities and in the orientation of all socio-economic systems, including higher education systems.

The second alternative account of higher education in Central and Eastern Europe emphasizes the developing relationship between postsecondary learning and the so-called “knowledge society.” None of the three main strands within the European university tradition—Humboldtian, “Napoleonic” or Anglo-Saxon—is perhaps truly compatible with a mass higher education project of the kind that has been attempted in the United States. All retain elements that may inhibit the full engagement of higher education with the knowledge society. Higher education in Central and Eastern Europe and in Western Europe are alike in this respect. The knowledge society, of course, is a hybrid phenomenon—or, more accurately, a set of interlocking phenomena. Most frequently emphasized is the growing importance of information and communication technologies and the increasing power of round-the-clock, round-the-globe markets—along with the apparent triumph of neo-liberal ideology. However, other phenomena are equally (or more) important—notably, worldwide resistance to global markets, the so-called “risk society” (with its baleful effects on the authority of “experts”) and, of particular significance to higher education, new and more distributed patterns of knowledge production (Gibbons et al., 1994; Nowotny, Scott, & Gibbons, 2001).

In some respects, Central and Eastern European higher education may be at an advantage. For example, the decay of state authority and financial exigency may have reduced the barriers to privatization at an operational level, although at a normative level nostalgia for a classical ideal of the university may be an inhibition. In other respects, Central and Eastern European higher education may be at a disadvantage. For example, its exposure to globalization is comparatively much less than in Western Europe or North America, and distributed knowledge production systems are less developed. But the sum of these comparative advantages and disadvantages is likely to balance out—and, in any case, is a minor consideration judged against the larger social, economic, political and cultural challenges that all higher education systems face.

Neither of these alternative accounts is sufficiently developed to challenge some of the presumptions made about higher education in Central and Eastern Europe—which, despite the evidence, often still reflect notions of exceptionalism and underdevelopment. But both deserve further elaboration. The first (spatial) interpretation would better explain the differences that are emerging in the region (and which existed, in a suppressed form, throughout the Communist period). The second interpretation might offer a better explanation of the inhibitions—even occasionally conservatism—of higher education in the region by emphasizing not the particularities of the Communist experience but the commonalities within a European university tradition that may be mass in scale and structure but elitist and hierarchical in its fundamental values (certainly in contrast to the more open American higher education system).

If either (or both) of these interpretations are seen as having any substance, the challenges facing higher education in Central and Eastern Europe appear in a different light—not as “catching up” with higher education in Western Europe—a limited (and

perhaps self-limiting) and finite project—but as part of a wider enterprise to re-orient the whole of European higher education by reaching out beyond the elites (old and new, cultural or technical) into the diverse communities that constitute modern Europe, and by realizing the potential of the new synergies between knowledge and society and the economy, identity and culture.

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HIGHER EDUCATION IN DEVELOPING COUNTRIES

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Social and economic inequalities are among the most striking features of the modern world. Per capita income is more than 60 times higher among the wealthy industrial countries than it is among low-income economies.¹ The absolute income gap between these country groups was \$29,000 in 2002, triple the level of 1960. Disparities in health, education, and the relative status of women have been, and continue to be, pervasive. Huge numbers of people live under conditions of extreme insecurity, raising a complex set of moral, political, social, and economic issues.

In the last century, possessing, accessing, and being able to apply knowledge has become an increasingly vital determinant of national wealth. But during this period, the industrial world has had a virtual monopoly on knowledge generation and a disproportionate share of individuals with higher education. For example, while only 15% of the world's population lives in the industrial countries,² those countries account for more than 90% of patents granted³ and the vast majority of Nobel Prize winners. And while, as of 1995, more than a quarter of the population over age 25 in industrial countries had at least some higher education, the corresponding figure in developing countries was just 6% (Task Force on Higher Education and Society, 2000).

Higher education is the primary engine through which advanced knowledge (as opposed to training) is produced and imparted. Policymakers have tended to view higher education as relatively unimportant compared with other development imperatives such as primary education and health. Yet most developing countries are being buffeted by new powerful forces, including democratization, rapid demographic change, the knowledge and information technology revolutions, and the process of globalization. A central premise of this chapter is that expanding and strengthening their systems of higher education represents a major channel through which developing countries can address these and other global forces, promote their economic and social development, and narrow a wide range of development gaps.

This chapter reviews and assesses the higher education scene in developing countries. It also discusses selected factors that seem to be impeding developing countries from capturing the benefits that higher education can provide.

Three caveats deserve mention at the outset. First, higher education is not destiny: it is just one set of institutions whose contributions to development are mediated by many other contextual factors. Second, the beneficial effects that can result from rethinking and repositioning higher education will not appear suddenly. The full benefits of any reform initiative will likely take a long time to become evident. Finally, there is considerable heterogeneity among developing countries with respect to their higher education institutions and systems, as well as their social, economic, and political conditions, and their cultures and histories. Notwithstanding these sources of heterogeneity, this generalized examination will focus on higher education issues affecting *most* developing countries.

Characteristics of Higher Education in Developing Countries

This section reviews salient features of the recent history of higher education in developing countries and describes the current range of institutions. It then provides brief surveys of public expenditures on higher education, physical infrastructure conditions, and student demographics.

Historical Overview: The Expansion of Higher Education

Until the disintegration of the major colonial empires in the aftermath of World War II, and for some time after, higher education in developing countries had an elite focus, with students typically pursuing training for positions in the civil service or a few lucrative professions. Aspirations to undertake higher education have, however, expanded in recent decades, and that is closely connected to the expansion of primary and secondary education and rising incomes. Analysis of recent enrollment trends in higher education shows that:

- From 1980 to 1999,⁴ the gross enrollment rate for higher education grew from 35% to 60% in industrial countries, but only from 8% to 14% in developing countries.⁵ Four regions that were particularly far behind (East Asia and the Pacific, the Middle East and North Africa, South Asia, and sub-Saharan Africa) showed major improvements, but in terms of percentage point increase, the change was largest in the Middle East and North Africa (moving from 11% to 22%) (World Bank, 2003).⁶
- Tertiary attainment rates among the population aged 25 and over have increased sharply over time. Among the high-income countries, they increased from 8% to 26% between 1965 and 1995; among low- and middle-income countries, they increased from 1% to 6%. Nevertheless, as of 1995, only 2% of the population of sub-Saharan Africa (ages 25 and over) had received some higher education. For East Asia and the Pacific, the corresponding figure was only 3%.⁷
- From 1992 to 2002, enrollment in tertiary level institutions is estimated to have grown by 5% per year in developing countries.
- From 1980 to 1994, the share of women enrolled in higher education in the developing world increased from 35% to 40%. From 1990 to 1994, women's enrollment

grew at an average rate of 9.9% per year in sub-Saharan Africa and 6.7% in Eastern Asia and Oceania, compared with only 2.2% in the industrial countries (where more women were enrolled to begin with). Female enrollment is driving much of the increased demand for higher education in developing countries.

Demographic change. During the last 50 years, many countries have been undergoing substantial demographic change, including rapid population growth, changes in the age structure of the population, and declining family size. An examination of current demographic trends permits estimates of the future size and structure of national populations. Information about demographic change, when combined with data on sharply increasing primary and secondary school enrollment rates, indicates that the demand for higher education will increase substantially in developing countries during the next few decades (Task Force on Higher Education and Society, 2000). From 1992 to 2002, the population age group most likely to seek higher education—20–24 year olds—increased by 3.2% per year in sub-Saharan Africa, 1.8% in Asia, and 1.1% in Latin America.

Declining family size is a particularly important determinant of the demand for higher education because families with fewer children typically invest more resources in each child. Although private expenditures on higher education will increase, there will be considerable pressure for increases in public expenditure as well, because otherwise a rapidly growing number of children raised with the expectation of access to higher education will not be able to afford it.

Expansion of secondary education. The gross enrollment ratio for secondary education in low-income countries increased from 18% to 46% between 1970 and 2000; it increased from 27% to 75% among middle-income countries (World Bank, 2004). For those students who manage to overcome all the obstacles that make completion of secondary school difficult, higher education appears to offer a once-in-a-lifetime opportunity: the chance to gain credentials, connections, and skills that will be useful throughout their lives and might lead to a higher income. Increases in secondary school completion have therefore led to a natural, salutary, and unavoidable increase in the demand for higher education.

Other considerations related to expansion. As tertiary enrollments increase, higher education institutions are unlikely to be able to maintain quality without a concomitant expansion in resources. They will need more teachers for the tertiary level and will have to renovate and expand their facilities. Even assuming that such measures are politically and financially feasible, quality may still suffer: since some of the most effective resources and people may already be employed in the higher education system, new additions to the education system may not be as productive as existing resources.

Types of Higher Education Institutions

Institutions of higher education can be categorized according to their level, goals, and funding sources. In developing countries, the apex consists of research universities,

whose academic professionals typically view scholarship as equal to, or more important than, teaching. Students at these institutions, which are usually publicly sponsored, few in number, and prominent as symbols of national achievement and pride, have generally attained the highest academic standards. At the same time, private universities, which are generally not-for-profit and sometimes also of high quality, have also thrived.⁸ The next (and wider) rung consists of provincial or regional institutions, where there is somewhat less emphasis on research and more on teaching. The widest rung of the higher education ladder consists of community colleges and polytechnic and vocational institutions. In addition, professional schools at various rungs of the ladder span a wide range of quality, as do postsecondary vocational schools. At the very bottom of the ladder are the so-called “garage universities,” which have proliferated in many developing countries in response to the rapidly growing demand for higher education credentials. These institutions—which operate on a private, for-profit basis—are low-quality, unsupervised, transient, and exploitative.

With regard to funding, universities have traditionally been seen as a province of the state, which had responsibility for funding and operations. Although recent years have witnessed a proliferation of for-profit institutions, the absence of quality standards and the financial impulse that drives such institutions have led to severe quality problems in many cases.

Governments face a huge challenge in responding to this often chaotic array of institutions, many of which are new and completely unregulated. Accreditation—whose purpose is to confer public approval of the offerings, method of operation, and results obtained by an educational institution—is a particularly thorny issue that, if left unaddressed, could lead to surfeits of low-quality “degree”-granting organizations and of “graduates” who have not acquired significant new knowledge or mastered new skills.

Public Expenditure

In developing countries, public expenditure on higher education is a contentious issue. The perception that tax revenues emanating from the entire tax base are benefiting only a narrow segment of the populace often provokes opposition to high levels of public spending on a country’s universities. Nevertheless, the political power of those with resources has in many cases meant that countries actually spend significant resources on their public systems of higher education.

In sub-Saharan Africa, East Asia and the Pacific, and South Asia, public expenditures on higher education were just 2–3% of gross domestic product in 1995. This is less than other regions (i.e., Eastern Europe and Central Asia, Latin America and the Caribbean, the Middle East and North Africa, and the industrial countries) where the corresponding figure was 5%.⁹

Interestingly, across developing regions, public current spending on higher education as a fraction of total public current spending on education is 16%, with little cross-regional variation. This figure is only slightly below the 18% spending share among high-income countries. However, as total spending on education is much lower among developing countries, it follows that they spend much less on higher education than the high-income countries.

Since 1980, public spending on higher education worldwide has grown at roughly 5% annually. The rate of increase has varied considerably, from nearly 7% in East Asia to only about 1% in Eastern Europe and Central Asia.

Physical Infrastructure

The fragile physical infrastructure of most universities in developing countries impedes research and student learning.¹⁰ Frequently, buildings are crumbling and too small, electricity and telecommunications services are unreliable, laboratories are severely underfunded and antiquated, and libraries lack recent titles. Poor coordination between capital and operating budgets creates problems as funds are allocated for the construction of new facilities, but not for their operation and maintenance. This problem is especially important with respect to new technology for information sharing and communication, as it is estimated that operating costs represent up to three-fourths of the total life-cycle costs of technology investment (World Bank, 2002).

Students

Approximately 71 million university students, nearly 65% of the world's total, are enrolled in universities in the developing world. A little more than half of these are in East Asia and the Pacific, Eastern Europe, and Central Asia. Most of the rest are roughly evenly divided between Latin America and the Caribbean and South Asia.¹¹ Not surprisingly, developing countries with larger populations tend to have higher enrollment figures. For example, the largest tertiary enrollment figures are for China (12.1 million), India (9.8 million), Indonesia (3.2 million), and Brazil (3.1 million).¹² (For comparison, note that both France and the United Kingdom have just over two million higher education students, and Denmark has 0.2 million.)

In developing countries, those who are not poor have much greater access to primary and secondary education: the number of years of schooling completed decreases at lower ends of the socioeconomic spectrum. For similar reasons, urban university students are much more likely to complete secondary education than rural university students. Consequently, the pool of young people most likely to enter an institution of higher education is disproportionately rich and urban. Compounding the wealth issue are the out-of-pocket costs of a university education and the "opportunity costs" of higher education—i.e., the income that would have been earned while a student is in school instead of working.

Figure 1 shows that gross enrollment ratios in high-income countries dwarf those in developing countries, with sub-Saharan Africa the furthest behind.

Among low- and middle-income countries as enrollment data are available for 2000, the top five countries were Russia, Latvia, Estonia, Belarus, and Poland, with gross enrollment ratios ranging from 64% to 56% (World Bank, 2003), clearly reflecting the considerable emphasis the former Soviet bloc placed on education. At the other end of the scale, gross enrollment ratios of 1% in 2000 are found in Burundi, Djibouti, Mozambique, Niger, and Tanzania. These figures are consistent with the overall low level of resources and human development in sub-Saharan Africa.

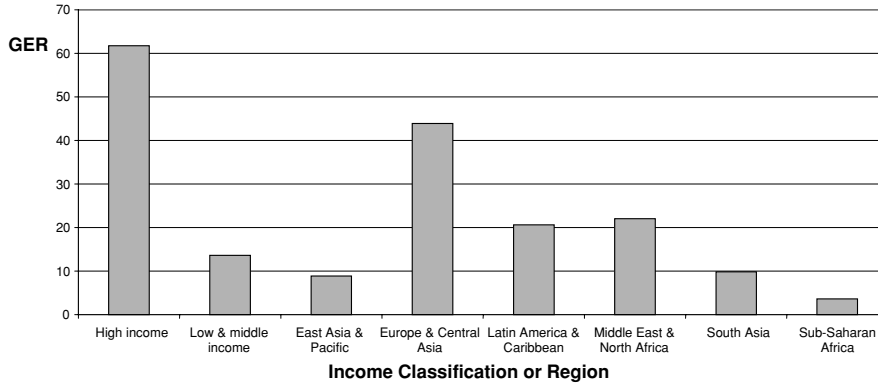


Figure 1. Tertiary gross enrollment ratio (GER) by region.
Note: Data are for 2000 or most recent year. The regional classifications do not include any high-income countries.
Source: World Bank (2003).

Figure 2 plots each country's gross enrollment ratio in the year 1980 (horizontal axis) and the year 2000 (vertical axis). Points on the 45 degree line indicate countries with static enrollment ratios. Points above (or below) the 45 degree line represent countries for which enrollment ratios have increased (or decreased) over time. As the

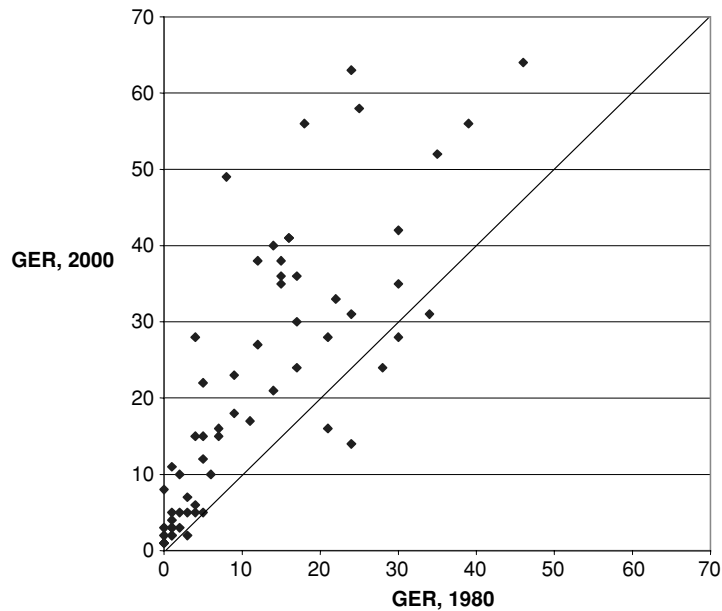


Figure 2. Trends in gross enrollment ratio (GER).
Source: World Development Indicators (2003).

preponderance of data points sit above the 45 degree line, Figure 2 clearly shows that the great majority of developing countries (for which there are data in 1980 and 2000) have improved their gross enrollment ratios over time.

Contemporary Issues

Developing countries face a number of formidable challenges with respect to their higher education institutions and systems. Some of these arise because of external changes such as the world's knowledge and technology revolutions and the process of globalization. Others are more closely connected to internal issues, such as management and organization, curriculum reform, educational finance, and the rapidly growing demand for higher education. This section reviews a number of these issues and considers their implications for higher education in developing countries.

The Knowledge and Technology Revolutions

Technical and scientific knowledge is growing more rapidly than at any other time in human history. For obvious reasons, developing countries have not played a major role as creators of this type of knowledge; at best, they have been successful adaptors. The process of adaptation places a premium on individuals who are able to work in a knowledge-technology centered environment: people with higher education. Their scarcity may mean that low-income countries will fall further behind economically advanced countries. The industrial revolution created the first and deeply entrenched income gap between nations. The knowledge revolution may increase this gap.

Besides creating a greater need for trained individuals, the knowledge explosion has other consequences for higher education. The most obvious is that in most fields, students must learn much more than ever before; many will be pushed to narrow their studies so they can study particular areas in greater depth. New information and communication technologies have the potential to facilitate this process by improving communication among students, teachers, and researchers, and by easing their access to quality educational materials. Videoconferencing, for example, is becoming more accessible, and it is often an inexpensive and adequate substitute for conference travel.

The Internet will increasingly serve as an information repository and teaching aid. It is accessible in more than 180 countries and links more than 30 million host computer systems. However, the Internet access and participation gap between developing and industrial countries is wide and growing (Khalil, 2003).

In combination with radio and television, new technologies can replace or complement traditional methods for delivering higher education and may prove especially valuable in meeting the demand for expanded access to high-quality higher education. The use of such technologies could lower the cost of teaching students, especially when considering distance education. However, the net benefits should not be overstated. Information technologies require not just the appropriate hardware and software, but the associated infrastructure along with specially designed curricula and qualified instructors.

Rural populations, which account for some 55% of the developing world, stand to gain much from the capacity of new information technologies to overcome their isolation. While infrastructure costs do present a barrier, rural residents could benefit from higher education once electrification and telecommunications infrastructure reach these areas and make distance learning an option. This may prove to be more cost-effective than building traditional schools in isolated regions.

New information technologies could also improve the quality of higher education. Not only can good instructional materials be updated frequently, but the best teachers can easily reach more students than in the past. The technologies might also permit more active student participation.

While little systematic evidence is available to support the view that new technologies promote better educational outcomes, as these continue to be developed and disseminated, researchers will likely provide empirical evidence that demonstrates their utility. Nevertheless, some words of caution are necessary. The use of new technologies will require planning and resources to ensure satisfaction of bandwidth requirements, electricity supply needs, and the burgeoning demand for Internet access points. The difficulty of financing infrastructure investments in many developing countries raises a familiar question: will new technologies simply widen the existing gap in access to higher education between developing and industrial countries?

Technological change encompasses more than the well-known advances in telecommunications and information technology. Production methods are changing rapidly; new techniques, materials, and management methods are constantly reshaping industry; and new practices are changing the face of agriculture. Many of these changes require broadly educated, well-trained people to manage new processes and to work effectively in revamped industrial contexts. Countries whose citizens are unable to adapt relatively quickly to the ever-changing demands of both the local and the global economy will find themselves falling further behind.

The rapid growth of the knowledge economy means that new technologies are continually making old ones obsolete. Thus workers' skills can quickly become less useful, and they need to be able to acquire new proficiencies. However, higher education in developing countries does not currently equip students with this flexibility, since it tends—too often—to focus on rote learning instead of rewarding creativity and curiosity. Incorporating technology in instruction holds the promise of making learning more focused on exactly what each student needs. Such incorporation can include everything from the adaptation of online lesson plans for local use to highly interactive, computer-based instructional methods.

One of the advantages of incorporating technology into education is that students become accustomed to the types of tools that businesses use. The best example of this is in the use of the basic set of word processing and spreadsheet computer programs and the Internet. Students' daily use of this technology will inevitably enhance their abilities to function in a world that is increasingly dependent on such skills. However, two difficulties arise in incorporating technology in this way. First, academic staff may be more reluctant than students to shift their style to be more technologically oriented. Second, many countries' universities simply do not have enough computers to ensure that most students have sufficient access to carry out all their assignments using a computer.

Financing Higher Education

Many developing countries have faced significant struggles over the extent to which the government should finance higher education. Some segments of the population see such funding as a right akin to the state's more widely accepted responsibility for primary and secondary education. Others point out that as the well-off constitute most of the student population, state funding is regressive and unjustified. The policies that a country ends up following will ultimately be dictated, in part, by social and political pressures.

The question of whether a country should have a general subsidy for higher education has been debated at length. For decades, economists analyzing issues of public funding relied on rate-of-return analyses that sought to clarify who—individuals or society as a whole—gained from investments in higher education. These analyses typically took into account only the higher earnings that accrued to individuals who received higher education and did not consider the broader societal benefits—some of which are economic—that a society receives when its people are more educated. Taking into account these broader benefits can tilt the case toward the justification of public funding.¹³

Even with such a tilt, however, the case for a *general* subsidy for higher education would still rely on several conditions that may or may not be met. First, the social net benefit from the investment must be positive; that is, the gains for society as a whole must outweigh the costs of such an investment in higher education. Second, individuals, on their own, must lack sufficient incentive or ability to undertake the socially desirable level of investment themselves. And finally, the subsidies under consideration must have a higher social net benefit than other competing investments (Bloom & Sevilla, 2004).

Whatever policies a country adopts, state financing will inevitably be limited given developing countries' overall financial constraints and the high and rapidly growing demand for higher education. Countries are unlikely to be able to count on state financing to provide all the funds needed for higher education.

Substantial funds for higher education already come from students and their families. In many countries and for some groups of students this is perfectly reasonable, because the beneficiaries have access to sufficient resources to pay a sizable share of their own higher education. State subsidization would amount to a transfer from poor and middle-income households to the rich. Even though the middle class often attempts to resist paying for any part of a university education, governments will most often insist that those who have the resources pay a significant share of the costs. However, state financing can accompany private provision; for instance, the state can provide scholarships to promising students who attend a private university.

Democratization, Decentralization, and Globalization

For the first time in history, more than half the world's population is living in countries with democratic political systems, and the numbers are rising. This trend affects both the possibilities for social and economic development and their inherent challenges.

The allocation of public resources to higher education is more transparent in a democracy, and the public is more heavily involved. The latter could lead to pressure for

more scholarships and greater accountability, and ultimately to beneficial innovations in higher education. Also of significance is the role of higher education in opening up space for public discourse regarding societal values. Finally, academic freedom undoubtedly is greater in democratic societies.

Accompanying the expansion of democracy is the trend to decentralize public services from the national level to provincial or municipal levels. If extended to higher education, such decentralization could promote quality by enhancing autonomy for universities over spending allocations, academic standards, and personnel matters; greater inter-provincial competition could also promote quality. However, decentralization could also prove detrimental if higher education institutions do not have sufficient numbers of well-trained administrators to take over this function from government administrators.

While decentralization moves forward within countries, national economies have become increasingly integrated in the last decade through international trade and international movements of labor, capital, and ideas. Higher education has considerable potential to make an impact on both the positive and negative aspects of globalization. Higher education can help developing countries thrive as a result of globalization—for example, by putting countries in a better position to reach and implement informed decisions about how to manage their integration into regional and global economies. Countries with a larger proportion of highly educated people tend to be more competitive in world markets, because a higher skill level complements capital-intensive production and acts as a magnet for the attraction of direct foreign investment. On the other hand, globalization also increases access to gaining higher education abroad, and offers many college graduates from developing countries easier opportunities to earn higher incomes by leaving their home country. Globalization thereby magnifies the vexing problem of “brain drain,” although this problem is partially offset by migrants’ economic and social remittances.

Higher education also affords opportunities to deal with many of the large and growing economic and social deficits and disparities that seem to be accompanying globalization. Many of these disparities are reflected in the United Nations’ Millennium Development Goals. These include eradicating extreme poverty and hunger, ensuring universal primary and secondary education, empowering women, and reducing child mortality. All of these goals are potentially addressed through the widening and deepening of higher education systems, either directly—by increasing knowledge and skill (and therefore individual productivity and income)—or indirectly, by strengthening national and global institutions.

Challenges for Public Universities

Public universities have an important role to play in national development insofar as they are frequently the only universities with research potential. As part of the public sector, however, these universities suffer from many of the same challenges as other state-owned enterprises. Resources are not well used because there is resistance to change, and employees in state-run institutions lack the motivation to serve the public good efficiently. In universities, rules about decision making, tenure, workloads, and research

may hobble potential advancements. The typically low levels of funding available to public universities help to push many academic professionals into taking second jobs at other academic institutions, thereby making them less available to students. Heavy tuition subsidies at public universities also make them a coveted first option for prospective students who lack economic means. Unfortunately, many such students lack access to secondary schools that are of sufficient quality to secure their admission to public higher education institutions.

For-profit private universities face a different constraint that can make them ineffective as a means of providing adequate education: the need to make a profit. Since many students are seeking a degree but not necessarily a true education, private institutions can all too easily be tempted to ignore quality. Students get their degree, but may not acquire a *bona fide* body of knowledge and skills.

Curriculum Reform

Curricula need to be relevant to current issues and technologies. The flexibility required by a rapidly changing world economy highlights the need for a corps of well-rounded individuals whose education has explored a wide range of areas—meaning that liberal (or general) education will have an increasingly central role to play in a revamped curriculum. In the end, curriculum reform is both a technical and a political problem; a failure to recognize its political aspects can doom even the most technically worthy efforts.

For-profit universities may have less control over curricula and educational quality than public universities due to the need to conform to market demand. This is obviously not the case with not-for-profit private institutions, but in many countries (including some industrial countries) standards for all institutions (private and public) are not well spelled out and are not enforced. Accreditation is a huge problem, because government authorities may lack the competence or motivation to ensure that universities are actually offering a useful education to students. And as noted earlier, many students, in turn, care about little more than receiving a credential.

The adoption of a top-down committee approach is responsible for the collapse of many reform efforts. Stakeholder participation appears to be essential to curriculum design and reforms, and preventing those interested in and affected by reform from participating can doom it from the outset. Teachers, students, administrators, employers, donors, and other interested parties must be encouraged to voice their views, and academic professionals in particular must be handled carefully, because they are often the ones who feel the most threatened by curriculum change.

Liberal education. Western civilization is home to a long tradition of liberal education, defined as an emphasis on the broad development of an individual and not just training for an occupation. By offering students a range of courses that goes well beyond those required by any one specialty, liberal education emphasizes individuals' ability to think, communicate, and learn; to adopt a comparative and international perspective; and to provide a basis for further, more specialized study. The beginnings of this philosophy can be traced back to ancient Greece and to the *trivium* (grammar, rhetoric, and logic)

and *quadrivium* (arithmetic, geometry, astronomy, and music) of medieval times. That tradition has continued, and today liberal education is an important component of higher education in a number of industrial countries.¹⁴

The contrast with developing countries is stark. Since achieving independence, many developing countries have viewed liberal education as a luxury. This is reflected in the curricula of both secondary and higher education institutions, which tend to favor vocational training. Governments shun liberal education on the grounds that it is elitist, emblematic of the values of Western colonialism—indeed, that it would be an inheritance of colonial systems, and too expensive. While these attitudes may be changing, most developing countries still do not recognize the benefits of a liberal or general education. There are exceptions, however, reflected by programs in Bangladesh, China, and Pakistan.

Developing countries could benefit from the introduction—or in a few cases, the expansion—of high-quality general education. Liberal education can promote responsible citizenship and civic virtue, and foster an understanding of the differences among groups in a society. While such an education is not appropriate for all students, countries can benefit if there is a significant group of citizens who can operate at a high intellectual level in rapidly changing times—whether to perform such unusual functions as negotiating with international aid donors, deciding whether to import generic AIDS drugs, or developing a fair electoral system, or more prosaically to run and participate in organizations and businesses with international links.

The content of general education curricula will vary from country to country, and the process of designing such curricula allows nations to assess what matters to their particular society given its history, culture, and values. Rather than blindly adopting models from elsewhere, countries can review lessons learned in other places and adapt them to suit their own requirements.

Nevertheless, many developing countries perceive liberal education as an expensive frill that does not fulfill any of their genuine needs and may find that justifying students' "dabbling in" literature, philosophy, history, and the arts is not possible when their needs are so stark. Moreover, the diversified instructional staff required to impart a liberal education complicates running a university. Adding to the perception of liberal education as impractical is the fact that interactive liberal arts courses are best taught in smaller groups, placing extra financial demands on a university. Worse yet, liberal education courses might extend the period during which students attend university. Finally, those with a stake in the status quo may perceive liberal education as a threat, because students with this kind of background are more likely to question orthodoxy of all types.

Science education. Science and technology present some unique challenges for universities. First, basic scientific inquiry often requires large investments to deliver long-term, but highly uncertain, benefits. The free market is not good at funding basic research, especially if the poor are more likely to reap benefits than the rich. Consider, for instance, the low priority given to finding a cure for malaria: most of the victims are poor; since they would not be able to pay the likely high cost of new drugs, companies have little incentive to develop such remedies. Second, the way that scientific

knowledge is produced is changing rapidly. Individual scientists working alone in their laboratories have largely become a thing of the past. Today, scientific research tends to transcend organizational and disciplinary boundaries, involve public and private sector participation, and employ teamwork.

Providing education in science and technology at the university level requires a significant investment in physical resources, including laboratories and libraries. With funds scarce in all developing countries, such investment will be difficult. A more careful sharing of resources within and among institutions might alleviate this problem somewhat, but more resources will undoubtedly be needed if science education is to advance rapidly.

Improving and expanding science education will also require new, well-trained, dedicated academic professionals who can communicate effectively with large numbers of students. The problem here is twofold: first, past deficiencies in producing scientists and teachers who are well-trained in science mean that the pool of available people to draw from is small; and second, highly qualified scientists often enjoy well-paid or otherwise appealing employment opportunities abroad or outside the education sector.

Management and Delivery

The manner in which tertiary education is organized and administered has a significant effect on the results achieved by a country's system of higher education. A system-wide perspective—one in which the structure and operation of institutions of higher education are considered in concert—addresses the place of various institutions in relation to each other and their links to the rest of the education system and to society as a whole. It naturally leads to the development of a rational, stratified system of higher education—i.e., one with a range of different types of institutions with different objectives. Links to higher education institutions in other countries are also becoming increasingly important.

Governance. Governance—the formal and informal arrangements that allow higher education to function—is a key determinant of the effectiveness of institutions. Academic freedom, autonomy, monitoring and accountability, and meritocratic selection of teachers and students are among the essential and proven principles of good governance. Tools for converting these principles into action range from specific mechanisms for hiring and promoting academic professionals and administrators, to boards of trustees, academic councils, institutional handbooks, and visiting committees.

An institution's governance structure sets the stage for everything that occurs within its walls. Institutional performance is generally improved when practices and procedures established by the governing authorities are stable and transparent.

Too many universities in developing countries—and elsewhere—are governed as participatory democracies, that is, department or faculty chairs elect deans and rectors, who must periodically run for re-election. This situation makes senior administrators vulnerable to pressures coming from academic professionals in any area where they have to make hard choices. As a result, in order to keep their posts, administrators must listen and respond to the wishes of academic professionals, whether or not those wishes

serve the greater interests of the university. By contrast, top-down governance, with effective faculty consultation, is less fractious and more efficient than participatory democracy and might serve developing countries well.

Role of the state. The state can provide clarity and guidance concerning the role and functioning of institutions of higher education. In the case of public institutions, the state is also the primary source of funds. In most developing countries, public universities are a source of great national pride. Citizens have an interest in ensuring that these universities produce graduates who have the knowledge and skills that are relevant to the country's development, and they also have an interest in ensuring that public funds are wisely spent in achieving this goal. The state is responsible for promoting these legitimate interests. To do this, it must typically promulgate broad rules and a framework within which public institutions of higher education must operate. By contrast, many believe that the state's role in a university's *internal* governance should be quite circumscribed.

As mentioned earlier, the state also has an important role to play in regulating private universities, especially in relation to accreditation.

Academic staff. With the salaries of academic professionals almost invariably low in developing countries, teaching staff face strong temptations to work outside the university. Such work may take the form of adjunct teaching at another institution or employment in a non-academic institution. On the one hand, this is entirely understandable and difficult to prevent. On the other hand, the university community must realize that cohesion—which can help inspire both academic professionals and students to maintain higher academic standards, and can be an essential ingredient in bringing about a stimulating academic atmosphere—will suffer when academic professionals view the university as just one of several sources of employment.

Brain drain. The brain drain issue can pose obstacles to the reform of the higher education sector. As noted earlier, even if a developing country does manage to produce more highly trained academic professionals, they are more mobile (in the context of an increasingly globalizing world) and may be more readily tempted by higher salaries in other countries. Similarly, students who are skilled in the development and acquisition of knowledge, and might therefore become good academic staff, are tempting targets for firms, governments, and international development organizations.

The existence of brain drain makes arguing the case for investment in higher education more difficult. If a sizable number of a country's best students—whose education has been funded out of the public purse—emigrate as soon as they have graduated (and do not send home significant remittances), what benefit has the country reaped from its investment? Unless a country takes brain drain into account during policy development, it may complicate decisions about investment in higher education, and could provoke strong political opposition. Developing good institutions—both in education and the workplace—can help stem brain drain. International organizations that place conditions on overseas scholarships requiring recipients to return can also make a difference. Of great importance, obviously, are wages for those who are well educated,

since higher earnings will deter some people from emigrating, or entice them to return to their original country. In addition, political stability greatly increases the likelihood that well-educated individuals will want to live in their home country.

Conclusion

The United Nations' Millennium Development Goals (MDGs) represent the central imperatives of contemporary international development efforts. These eight goals, which were endorsed by over 180 heads of state in 2000, are intended to point the way toward improving living standards among the world's most vulnerable people, with a focus on the estimated 1.2 billion people living on less than one dollar per day. In addition to the goal of poverty reduction, the MDGs focus on such items as child and maternal health, combating infectious diseases, environmental sustainability, the status of women, and access to primary education.

Conspicuous for its absence among the MDGs is any mention of higher education. This omission is surprising given the intrinsic benefit of higher education in enabling many people to live a fuller life. It is even more surprising given the potentially large instrumental benefits of higher education in moving developing countries onto higher and more sharply rising development trajectories and mitigating cross-country disparities in living standards.

Notwithstanding higher education's absence from the MDGs, expanding access to higher education and improving its quality represent both basic goals and instruments of development progress. Moving forward to reform higher education institutions and systems in developing countries will require considerable financial and human resources. It will also take vision and committed, long-term leadership, as the payback period for investments in higher education reform is more naturally measured in decades than years. Despite these obstacles, developing countries would do well to keep in mind the words of Lao-Tsu, Chinese philosopher and founder of Taoism: "A journey of a thousand miles begins with a single step."

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Notes

1. The figure refers to GDP per capita measured in constant US\$ for the year 2002. If measured in international dollars (adjusted for purchasing power parity differences across countries), the disparity was 13 in 2002.
2. By industrial countries we mean those identified as high-income countries by the World Bank: the United States, Canada, the countries of Western Europe, Slovenia, Israel, Kuwait, Qatar, United Arab Emirates, Brunei, Hong Kong-China, Japan, Singapore, South Korea, Taiwan-China, Australia, New Zealand, and several small island countries. All other countries are considered "developing countries." This includes Africa, much of Asia, most of the Middle East, nearly

all of Latin America, and all parts of the former Soviet Union. By this definition, developing countries encompass nearly 85% of the world's population.

3. In relation to patents, see <http://www.southcentre.org/publications/ecommerce/ecommerce-09.htm>
4. 1998 data are used when that is the latest year available.
5. The gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to a particular level of education. For tertiary education, the gross enrollment ratio is expressed as a percentage of the population in the 5-year age group following the official secondary school leaving age, which varies somewhat by country.
6. Throughout, we use regional definitions supplied by the World Bank, with industrial countries treated as an entirely separate category, as noted above. Sub-Saharan Africa encompasses all of what has traditionally been considered East, Southern, and West Africa. The Middle East and North Africa encompasses the remainder of Africa and the Middle East as far east as Iran. Latin America and the Caribbean includes, of course, Mexico and Central America. Eastern Europe and Central Asia includes all of what was traditionally considered Eastern Europe, as well as all of the countries of the former Soviet Union, including Russia. South Asia stretches from Afghanistan to Bangladesh. East Asia and the Pacific includes all other Asian countries and the islands of the Pacific. China, of course, is the dominant factor in the data for this region.
7. The figure for "East Asia and the Pacific" includes China, which, with a 2% attainment rate, mostly determines the regional average. Of note, the corresponding figures are 19% for South Korea and 22% for Japan.
8. Universidad de los Andes (in Colombia) is one example of a longstanding, high-quality, private institution. More recently, other top-level private universities, such as the Lahore Institute of Management Sciences, have been founded.
9. The surprisingly low figure for East Asia is due to the fact that China, which spends little compared to GDP, dominates the figures for that region.
10. There are, of course, important exceptions to this general picture, such as the Aga Khan University in Karachi, Pakistan, the Indian Institutes of Technology, the University of Cape Town in South Africa, and a number of institutions in the former Soviet Union.
11. These figures are based on an analysis of data from the UNESCO Institute for Statistics website. The largest country for which data are missing from this source is Pakistan. Country categorization into regions is based on World Bank (2003).
12. UNESCO Institute for Statistics website.
13. A longer discussion of these issues appears in Task Force on Higher Education (2000) and Bloom and Rosovsky (2004). Also, please see the chapter by Bloom, Rosovsky and Hartley in Volume 1 of this *Handbook*.
14. The European tradition of elite-based higher education placed liberal education into the academic preparatory secondary schools. That is changing as Europe's higher education systems reorient themselves toward mass education.

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EUROPEAN INTEGRATION IN HIGHER EDUCATION: THE BOLOGNA PROCESS TOWARDS A EUROPEAN HIGHER EDUCATION AREA

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In discussing European integration in higher education, one has to keep in mind that Europe is not a homogeneous region; still less is its education homogeneous, as the rationales behind the Bologna Declaration on the European space for higher education of 1999 make manifest. This implies that when analyzing the regionalization of higher education in Europe, one has to take account of several important issues, such as national and regional differences, diversity of languages, different educational traditions and systems, diversity of stakeholders, and the co-existence of universities and a strong non-university sector.¹

The Bologna process directed to the realization of a “European Higher Education Area” by 2010, although recognizing this diversity, implies a substantial reform of higher education, beyond the borders of the 25 countries of the European Union. The Bologna Declaration was signed on June 19, 1999, in Bologna, Italy, by the ministers of education of 29 European countries, who based their declaration on the following understanding: “A Europe of knowledge is now widely recognized as an irreplaceable factor for social and human growth and as an indispensable component to consolidate and enrich the European citizenship, capable of giving its citizens the necessary competences to face the challenges of the new millennium, together with an awareness of shared values and belonging to a common social and cultural space. The importance of education and educational cooperation in the development and strengthening of stable, peaceful and democratic societies is universally acknowledged as paramount, the more so in view of the situation in Southeast Europe” (Bologna Declaration, 1999).

By 2005, the number of signatory countries had increased to 45, including Russia. All higher education institutions in the signatory countries are supposed to be organized in conformity with the declaration by 2010, even though the declaration is voluntary and not binding for the countries and their institutions.

The declaration can be seen in connection with another ambitious process, agreed upon by the members of the European Council at their meeting in Lisbon in March

2000, “to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable growth with more and better jobs and greater social cohesion” (European Council, 2000), and to the Copenhagen process, launched in 2002, on enhancement of European cooperation in vocational education and training.² Together, these processes—but in particular the Bologna process—are the foundation for a reform agenda that not only requires more transparency and the removal of obstacles for internal labor and student mobility, but also must make education and research more competitive in the context of the global knowledge economy.

Following a review of past efforts to internationalize and Europeanize higher education, this chapter will address contemporary trends and challenges of European integration. Although reference will not be made exclusively to the European Commission’s policies for Europeanization, the historical analysis presented here coincides with the phases noted by Brouwer (1996, p. 516):

- 1951–1972, the phase of incidental cooperation;
- 1972–1977, the preparatory phase of European cooperation in education;
- 1977–1986, the first phase of implementation of educational programs, mainly based on intergovernmental cooperation;
- 1986–1993, the second phase of implementation, mainly based on action by the EU; and
- 1993 onwards, the first phase of implementation of the EU Treaty for EU cooperation.³

During the first three stages (between 1951 and 1992), the role of the European Commission (EC) in education was limited by claims of sovereignty by the member states, and the growth of its role was slow, although steady. After 1992, with the inclusion of education in the Maastricht Treaty, its role could become more proactive. Brouwer’s analysis stops in 1995, but one can extend his last phase until 1998. As described in this chapter, a new phase began in 1999, through which cooperation and harmonization will meet in a more coherent European education policy, stimulated by the Bologna Declaration.

The 1950s and 1960s: *Laissez-Faire*⁴

To understand the present European situation, it is essential to place current developments in a historical perspective. Macro-historical changes affecting the international dimension of Europe’s higher education were: the emergence of nation-states in the 19th century and earlier; Europe’s historical role in the world, in particular its role in colonization and in the process of de-colonization; the impact of higher education in countries such as France, Germany and the United Kingdom on higher education in the rest of the world; recent trends in European integration; the collapse of the former Soviet Union and associated East–West rapprochement; recession and financial constraint; “massification” of higher education; and the dissolution of some structures and blocs and the emergence of others.

Confining discussion to the macro-level and the post-World War II period, the 1950s and 1960s in Europe are not seen today as a period of internationalization, but it would

be entirely wrong to believe that international student mobility was absent then. In general, the period 1950–1970 was, according to Baron (1993, p. 50), characterized by a “foreign policy” among receiving countries of “benevolent *laissez-faire*,” providing open doors to foreign students—students who to a large extent came from the former (and, at that time, still existing) French and British colonies. Some elements of this are still seen in the patterns of student flow to these countries, although (especially in the British case) the impact of more recent policies has largely transformed the picture.

Guy Neave (1992) sees massification of the student flow and its bipolar nature (i.e., the dominance of the United States in the Western bloc and of the former Soviet Union in the Communist bloc) as the main characteristics of the international dimension of higher education in the 1960s and 1970s. The open-door and *laissez-faire* policy and the one-way dimension of foreign student flow were the other characteristics of the process of internationalization of higher education, at a global level and in Europe in particular. The universities themselves played a mainly passive role as receivers of foreign students.

Gisela Baumgratz-Gangl (1996) gives the following characteristics of internationalization in Europe before the introduction of the European programs: historical ties with former colonies (usually combined with cultural and linguistic ties); political considerations; the presence of political refugees; economic considerations; educational demands; research cooperation in the natural sciences; top-level postgraduate study; migration of “guest workers;” increasing foreign language competence at the secondary school level; traditional links between disciplines (mainly philology); traditional mobility of elites; improvement of transport and communication and expansion of tourism; cooperation at the postgraduate level between Western Europe and the U.S.; and mobility of Third World students and staff to Western Europe (also known as the brain drain phenomenon).

Although this list looks impressive, the effects of these factors on higher education cooperation within Europe were marginal. International activity was mainly oriented towards the cooperation of European higher education with the U.S. (outward mobility) and with the Third World (inward mobility). A European policy for internationalization did not exist, and the same applies to the institutional level. At the national level, international cooperation and exchange was included in bilateral agreements between nations and in development cooperation programs, driven by political rationales. Institutions were passive partners in these programs.

The 1970s: The First Steps to Policies of Europeanization

In the 1970s, this changed. In 1972, Sweden set up a program emphasizing internationalization as a means to promote international understanding, cooperation and peace, a program in which the universities should play an active role as change agents. The program included measures to internationalize the curriculum, credit transfers and exchanges (Hans Löwbeer, 1977). Germany also shifted around that time from a foreign affairs policy of internationalization to a more regulative and differentiated approach. Outgoing mobility was given more emphasis than the previous open-door policy for foreign students. The establishment of an “Integrated Study Abroad” program,

administered by the German Academic Exchange Service (DAAD), is an illustration of that change. A change in pattern from South-North mobility to North-North mobility accompanied these changes (Baron, 1993; Kehm & Last, 1997).

In 1976, the Council of European Communities adopted an action program for education. This was the first such move, since the Treaty of Rome did not mention education as an area for community action. The 1963 Treaty of Rome (signed by Belgium, France, Germany, Italy, Luxembourg and the Netherlands) only included the principles of common vocational training, not other areas of education. Action was limited mainly to information exchange and exchange of young workers. Other initiatives—such as cultural, scientific and technological cooperation, the creation of European schools and a European university, and mutual recognition of diplomas—were (although linked to and inspired by the cooperation among the six countries that signed the treaty) not a formal part of the treaty, owing to political motives and related delays in decision making (Brouwer, 1996).

The Commission therefore had to justify its action program by non-educational, mainly economic criteria. As Field (1998, p. 85) notes, the European Community (EC)—and also later its successor, the European Union (EU)—tends to use other areas of activities to pursue its plans when its policy thinking exceeds the limits of the competency of the Treaty. Brouwer (1996, p. 58) gives four reasons why the European Community was reluctant to give priority to actions in the field of education until 1972: its emphasis on economic integration; a legal dispute on the limitations of the EC for actions in the field of education; the political context that limited the role of the EC in areas that the member states saw as their own competency; and the differences in national educational systems and the national orientation of these systems.

The action program of 1976 was a result of the first meeting of the Ministers of Education of the European Community, convened in Brussels, November 16, 1971. The basis for that meeting was established at the conference of heads of states of the European Community in December 1969 in The Hague, where cooperation in the area of education was advocated as part of further political integration. The 1971 meeting recognized the importance of broadening European action from vocational training to other areas of education—and particularly higher education—because of its economic significance.

The extension of the EC from six to nine countries (with the inclusion of Denmark, Ireland and the United Kingdom) as of January 1, 1973 coincided with a period of stagnation due to economic and political problems.⁵ For education, though, new initiatives were taken as a follow-up to the 1971 meeting of education ministers. In 1973, the creation of a Directorate for Education, Research and Science (DG XII) under the responsibility of the first Commissioner for Science and Education, Ralf Dahrendorf, not only institutionalized education within the Commission structure but also linked EU policies for education and research. With this, the Commission was able to move away from having to base its rationales for an education and research policy on non-educational arguments—economic rationales primarily—to a proactive and integrated policy in these fields.⁶

Brouwer (1996, p. 86) gives seven rationales for the legitimization of European cooperation in the area of education:

- the importance of training and education for the process of European cooperation and integration (both from the perspective of quality improvement of education and from the point of mutual understanding);
- the need for more harmonization between the different national systems;
- the need for the creation of solutions to challenges resulting from the free movement of persons (including foreign languages, education for children of immigrants, and recognition of diplomas and qualifications);
- closer cooperation between national policies for education and actions of the EC in other fields;
- more involvement of European youth in the building of Europe;
- the need for a systematic exchange of information; and
- the need for linking European actions with other intergovernmental bodies, such as UNESCO, OECD and the Council of Europe, as well as the incorporation of education in development cooperation.

In these rationales we recognize the first signs of issues that are still dominant in the European policy for education: harmonization, Europeanization and globalization.

In 1974, the ministers of education of the European Community adopted the principles for an “Education Action Program” that was launched in 1976. It was composed of three main categories: mobility in education, education for children of immigrant workers and the intention to implement a European dimension in education. The action program included three measures for higher education: “Joint Study Programs,” “Short Study Visits” and an educational administrators program.

Although important in itself, the impact of the action program was marginal (Field, 1998, p. 32). In that sense, the period 1972–1985 can be seen as a period of stagnation. In comparison to the “Integrated Study Abroad” program of Germany, the scope of the European programs was limited. But for other European countries who lacked a national policy and action program, at least it was something. The reasons for this stagnation, according to Brouwer (1996, p. 121), were the financial crisis of 1971, the energy crisis of 1973 and the resulting global economic crisis of the 1970s that stagnated economic and political integration and focused attention on national solutions.

The 1980s: The Great Leap Forward

The 1980s produced four distinct changes: first, the open-door mobility of individual students; second, the development of a research and development policy for the EC; third, student mobility as an integrated part of study; and fourth, the widening of scope to other regions, including countries within Western, Central and Eastern Europe as well as countries outside Europe, particularly in concert with development aid programs.

Individual Mobility

With respect to the individual mobility of students, the European nations and universities began changing their benevolent *laissez-faire* policy to a more controlled reception and, in some cases, the active recruitment of fee-paying foreign students. At first, this

applied nearly exclusively to the case of the United Kingdom, with the British decision in 1979 to introduce full-cost fees for foreign students. Higher education as an export commodity quickly became dominant in the U.K. For the U.K., this created a conflict with the development of the European mobility programs. Gribbon (1994, p. 24) refers in that respect to the dilemma of British institutions in reconciling their interest in these programs (focused on European partners) with their interest in export, mainly outside Europe.

For most people on the European continent, considering the education of foreign students as an export commodity was still an anathema at that time. On the European continent, the reception of foreign students was (and in most cases still is) based more on foreign policy arguments than on considerations of export policy. Often, it can be claimed in all fairness that foreign students cost more than they bring in, owing to the subsidization of higher education. This is also the case in the former Communist countries such as the Soviet Union, where students were received for ideological reasons, but after the collapse of Communism were no longer welcome for a number of years because of the high costs to their hosts' faltering economies.

At the end of the 20th century, the international movement of students as an export commodity had spread over the European continent and became a more important element of higher education policy than it had been in the past, both at the national and institutional level. Examples of this new focus can be seen, for instance, in the Netherlands. Policy documents of the Dutch government declare the recruitment of foreign students to be a policy issue. This is a significant change from the previous two decades, when national policy aimed at discouraging foreign students from study in the Netherlands.⁷ Similar trends can be observed in France, Germany and Scandinavia, although in these cases the rationale of status and indirect, long-term economic effects is more important than direct income, which is the driving rationale in the United Kingdom.⁸

The Research and Technological Development Programs

The internationalization of research is a phenomenon that is generally accepted worldwide. International joint ventures of research groups are not exceptional, and there is a long tradition of conferences, seminars, workshops and congresses for academic exchange of ideas and findings. In addition, the technological needs of modern society demand very expensive research projects that individual research groups, institutions of higher education, companies or even national governments cannot finance alone. Therefore, a logical role exists for the European Commission in stimulating international cooperation in science and research in the Union: to stimulate those activities in which European cooperation offers major advantages and generates the maximum beneficial effects. Another rationale was the challenge posed by new technologies and related competition with the U.S. and Japan.

A research and development (R&D) stimulation policy was in existence several years before the moves took place to establish a general education policy in the EC. In the period between the 1960s and 1983, cooperation in this field was mainly intergovernmental and the role of the EC was still marginal and concentrated on coal,

nuclear energy, and steel. In 1974, it expanded to other areas, in particular based on the establishment of a Committee for Scientific and Technical Research (CREST). In 1979, a stimulus towards an R&D policy was given with the establishment of the European Strategic Program for Research and Development in Information Technology (ESPRIT), followed by programs such as RACE (communication technology), BRITE (industrial technology), SPRINT (innovation and technology transfer) and ECLAIR (linkages between agriculture and industry).

According to Preston (1991), the objectives of the European R&D policy were:

- to establish a European research and technology community;
- to increase the capacity of European industry to develop its own technological capability through research and innovation;
- to strengthen the international competitiveness of the European economy;
- to establish uniform rules and standards where these were needed; and
- to improve the quality of life and living.

As is clear from these objectives, Europeanization, harmonization and globalization are central elements in this policy.

Since 1984, most of the programs have taken place within so-called Framework Programs, the first running from 1984 to 1987, the second from 1987 to 1991, the third from 1990 to 1994, and the fourth from 1995 to 1999. In 1994, a program for “Training and Mobility of Researchers” was approved. Larédo (1997) sees the development of public-private networks of research institutes with industry, based on the public initiative of the European Union, as an extremely valuable result of the Framework Programs. These programs promoted a new structural arrangement whereby large European firms gained access to new technologies, stimulated industrial competitiveness, and were geared towards innovation in “collective goods.”

The EC Mobility Programs

During the late 1970s and early 1980s, the notion of “study abroad”—in the sense of sending students to foreign institutions of higher education as part of their home degree program—became an issue on the continent that overshadowed the developments in individual mobility of students. Since the 1980s, student mobility as a one-way, individual process stimulated by political and/or economic considerations has (with the exception of the United Kingdom) lost prominence as a policy issue. It has been marginalized by the greater attention given to student mobility within the framework of exchange programs, which have been among the top priorities in higher education policies of the 1980s and 1990s. Before this period, organized programs for the exchange of students and staff did exist, but these programs were limited in both funding and scope, stimulating mainly unrelated exchanges at the postgraduate level.

The 1976 “Joint Study Programs” scheme of the EC aimed at the promotion of joint programs of study and research between institutions in several member states. The focus of this experimental program was primarily the stimulation of academic mobility within the EC. The program grew gradually from 32 projects in its first year

(1976–77), to 200 in 1983–84, with a budget of 700,000 European Currency (ECU). In 1984, the Commission added a budget line for student grants into the Joint Study Programs Scheme. This scheme was replaced in 1987 by its successor, the European Action Scheme for the Mobility of University Students (ERASMUS).

The action program of 1976 was the basis for future activities in academic cooperation and exchange within the European Community. The member states limited the role of the European Community in the field of education, however, to complementary measures, decided only with the authorization of the Council of Ministers. Education would remain the exclusive task of the national governments, although from 1982 onwards, social and economic factors gave the Commission more room to extend its role in this area (Brouwer, 1996, pp. 202–205). The objectives that the EU policy for education sought to achieve in that period were: a multicultural Europe; a Europe of mobility; a Europe of education for all; a Europe of expertise; and a Europe open to the world (*ibid.*, p. 252). One can observe in these objectives a more pragmatic and less ambitious approach. Pluralism and complementarity are more dominant than harmonization and Europeanization.

Ironically, the lack of a legal basis for action in the field of higher education gave the European Commission a great deal of freedom for creative programmatic action in the field of education in the period after 1982—a freedom and creativity that would have been less within a more formal legal structure. The launch of COMETT in 1986 (a program for cooperation between higher education and industry) and of ERASMUS in 1987 (a program for cooperation within higher education) were followed by several other education programs.⁹

Wächter et al. (1999, p. 63) call ERASMUS “the Community’s flagship program,” which— although it might be perceived as such in the higher education community— is an exaggeration of its importance. Since the implementation of the ERASMUS program in 1987, however, significant results have been achieved in cooperation and exchange within higher education in the European Union. Thanks to ERASMUS, between 1987 and 2003 more than a million students have been exchanged. In 1991, the European Free Trade Agreement (EFTA) countries were allowed to take part in the ERASMUS program, and when Austria, Finland and Sweden joined the EU in 1995, Norway (which stayed out of the EU) was allowed to continue its participation.¹⁰ Switzerland, which had also decided not to join the EU, did not get that privilege, because of disagreement on other issues. This country established a separate budget to continue participation in ERASMUS activities on a bilateral basis. In 1998–1999, the SOCRATES program¹¹ was gradually opened to countries from Central and Eastern Europe, including Bulgaria, the Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia, as well as the Baltic States (Estonia, Latvia and Lithuania) and Cyprus, even before (with the exception of Romania) they became members of the EU in 2004. Romania and (as of 2004) Turkey continue to take part in the EU programs.

In the 1990s, the creative and informal period of educational policy of the European Community came to an end. The Maastricht Treaty—signed in 1992 and ratified on November 1, 1993—included education for the first time. This decision was, according to Brouwer, (1996, p. 229) influenced by the following factors: the existing practice of

cooperation in education; a recognition of the important contribution of education to the realization of the objectives of the treaty and related policies; existing jurisprudence of the Court of Justice in Luxembourg (since 1985) in the field of education; the need to expand the responsibilities of the community as a result of the decisions on European Monetary Union (EMU) and European Political Union (EPU); and changing opinions on the role of the European institutions and national governments among the member states.

In preparation for the changing role of education under the Maastricht Treaty, the European Commission presented two memoranda, one on open distance education and one on higher education. The first one expanded the role of the Commission to a new important area of education; the second confirmed the new role of the Commission with respect to higher education.

In 1991, the EC published the "Memorandum on Higher Education in the European Community." This document was the basis for an intensive debate on the role of the European Union in education and on the future of the educational programs. The "added value" of EU action in the sphere of education is significant, according to the EC and in the words of its president, Jacques Delors: "The mutual integration and opening up to each other of general education and professional training systems are an economic issue, in terms of maintaining competitiveness, and a political issue, in terms of defending democracy and human rights."¹²

Although in general it was well received, critical comments were made by the educational sector on the one-sided focus by the EC on economic and political criteria at the expense of a broader cultural and academic approach.

The importance of strengthening the European dimension in education was placed high on the agenda. The programs should contribute to the realization of this dimension and its four objectives (Brouwer, 1996, p. 262):

- preparation of young people for their involvement in the economic and social development of the European Community;
- improvement of their knowledge of the historical, cultural, economic and social aspects of the union and its member states, the European integration process, daily life in other member states, and the relation of the EU with other countries;
- improvement of their opinion in the advantages of the EU, the challenges of its greater economic and social space, the European identity, the value of European civilization and the foundations for its present development; and
- strengthening of their image of Europe as a Europe of citizens and improvement of the knowledge of its languages.

Related issues that were also given attention were the development of a European Credit Transfer System (ECTS) as part of ERASMUS/SOCRATES,¹³ recognition of diplomas, and the development of an open European space for cooperation in higher education. All together, these new measures redirected step by step the scope of the debate to harmonization, integration and Europeanization, moving gradually away from the previous direction of pluralism and complementarity, but without stating that explicitly as such. The end of the 1980s also saw the development of the EC's relationships and involvement with other parts of the world.

The Involvement of the EC with the Rest of the World

The role of the European Commission in higher education has not been limited to educational mobility and exchange within the European Union.

Cooperation within Central and Eastern Europe. The opening up of Central and Eastern Europe has had an enormous impact on higher education in this region and on cooperation between institutions of higher education in Western, Central and Eastern Europe. As Denis Kallen (1991) makes clear, academic cooperation and exchange already existed before this opening up and was developing rapidly in the 1980s, in particular with Poland and Hungary. Cooperation concentrated mainly on staff exchanges and far less on student exchanges. From the point of view of the regimes in these countries, academic cooperation was mainly a political issue and little institutional or personal autonomy was possible.

Although, as Ladislav Cerych (1996) states, the opening up of Central and Eastern Europe had a global effect, the increase in academic mobility with Western Europe was quantitatively greater than with any other area. Regional proximity and the political push by national governments and the European Commission formed the basis for this strong inner-European academic cooperation. The EC, through its so-called PHARE program¹⁴ for European enlargement, opened the way in 1989 for several forms of cooperation, both in R&D and in education. An example is the “Trans European Mobility Program for University Studies”—the TEMPUS scheme. Its general objective was to contribute, as part of the overall PHARE program, to the general economic, social and humanitarian reforms in Central and Eastern Europe, and to their transition to a market economy and multi-party system. Its specific objectives (Brouwer, 1996, p. 300) were to:

- simplify the coordination of support in the area of exchange and mobility of students and staff;
- contribute to the improvement of the quality of higher education;
- stimulate cooperation with EC partners;
- extend opportunities for foreign language study; and
- extend opportunities for study and internships.

In summary, the program provides support for the development of education by way of mobility grants for students and faculty as well as through infrastructural support. In the second phase, 1993–1996, the specific objectives were more oriented toward national needs (and strengthening the development of higher education systems) than to mobility and economic aid.

Thanks to TEMPUS and other programs supported by national governments and other international private and public organizations, a rapid improvement in the educational infrastructure and of the quality of education in Central and Eastern Europe has been achieved. One of the main problems still to be solved is the brain drain of qualified faculty and students. But although this and many other important problems remain to be solved, an important step forward in bridging the gap between higher education in Western and Central and Eastern Europe has been made. Also, in the area of R&D, the

situation in Central and Eastern Europe is better than it was 15 years ago, thanks to the support of the EC and national governments. Now, most of these countries have become members of the EU or at least are accepted as participants in the EU programs. Further, all the countries (including, since 2003, Russia) have signed the Bologna Declaration and are taking part in its development process.

Cooperation with Countries Outside Europe. The cooperation programs of the EU also go beyond Europe. For example, a program was launched in 1990 to promote cooperation in higher education with the Maghreb countries around the Mediterranean Sea (MEDCAMPUS).¹⁵ In 1994, a similar program called *América Latina–Formación Académica* (ALFA) was set up to stimulate cooperation with Latin American universities. The activities funded by this program include the development of academic and administrative management; measures to facilitate recognition, development and adaptation of curricula; cooperation between institutions of higher education and companies; innovation and systematization of education; institutional assessment; joint research projects; and the mobility of students (Wächter et al., p. 1, 1999, p. 65). In 2002, an additional program was established: *América Latina–Bolsas de Alto Nivel* (ALBAN), a joint scholarship program for Latin American postgraduate students and professionals who need to improve their professional knowledge or skills in any European higher education institution or center of research. The creation of the European, Latin American and Caribbean Space for Higher Education in 2004 (in Guadalajara, Mexico) in connection with the meeting of heads of states of the three regions, is intended to strengthen even further the cooperation in higher education between these regions.

In Asia, the EU launched several bilateral projects and programs, of which the most important are the EU–China Higher Education Cooperation Program of 1996 and the EU–India Cross-Cultural Program of 1997, both of which were intended to stimulate the development of European Studies degrees and centers and to provide professorships, fellowships and grants for study and training.

In North America, the introduction of a program for cooperation in higher and vocational education between the European Union and the U.S. in 1993 (formalized in 1995) and a similar program for cooperation with Canada in 1995 were intended to confirm to the transatlantic partners that the process of “Europeanization” is not intended to create a “Fortress Europe.” In October 1995, an official EC/US scheme for cooperation in higher education was established. The U.S. counterpart of the EC for the pilot phase and the final program is the Fund for the Improvement of Post-Secondary Education (FIPSE). One month later, a similar EC/Canada program was launched. The Canadian counterparts of the European Commission DG XXII are Human Resources Development Canada (HRDC) and the Department of Foreign Affairs and International Trade (DFAIT).¹⁶

The early fear on the part of some governments and academics outside Europe of the emergence of a “Fortress Europe” in international education has been proved to be unfounded by a booming number of exchange agreements and programs of cooperation, linking institutions of higher education in Europe with counterpart institutions all over the world. Guy Haug (2000, p. 28) predicts that, in the future, when the European internal market is more or less established, there will be an even

stronger emphasis on exchange and cooperation between Europe and the rest of the world.

This is reflected in the creation of the new ERASMUS Mundus program, starting in 2004 and intended to create high level joint degree programs between EU institutions and those from elsewhere in the world. The rationales for this program, according to Gonzales (2002, pp. 30–31) include the desire to:

- provide a response to the growing internationalization of higher education;
- ensure that the United States of America and Australia are not the sole poles of attraction for international students;
- ensure that Europe retains the leading edge of educational development by sharing best practices and experiences with third-country institutions;
- encourage better recognition around the world of Europe’s role as a center of educational excellence; and
- ensure that future world leaders have a better understanding of Europe’s culture and history, and of its contributions and potential, particularly in higher education.

These initiatives may have been launched by the EC or national governments, but others have developed independently of such funding, and are based instead on the growing awareness in higher education that the world of science is not limited to Europe.¹⁷

Linkages with Development Aid Programs. Support to the Third World in general—and to higher education in the South in particular—has received significant attention throughout Western Europe. The European Commission in the 1990s became one of the international funding organizations for development cooperation in the educational field, alongside national governments, international organizations such as the World Bank, foundations and institutions of higher education themselves. Although cooperation in education with the developing world was already mentioned in the early 1970s as a potential area for the EC, the role of the EC remained marginal as development cooperation was seen as a national responsibility. In the so-called “Report Janne of 1973” (on EU policy for training), cooperation with developing countries is mentioned as one area of concern. In the same year, Commissioner Dahrendorf confirmed this in his work program (Brouwer, 1996, pp. 76–78). Activities in this area took place mainly in the scope of R&D action programs (such as Life Sciences and Technologies for Developing Countries).

Complementarity is one of the main objectives of the EC in this area, together with the strengthening and development of democracy; durable economic and social development; integration in the world economy; and the fight against poverty. In 1994, the role of the EC in education and development cooperation was recognized. But given the sensitive relationship between national and EC responsibilities, the activities of the Commission in this area are developing only gradually (*ibid.*, pp. 475–477).

The Present Decade: Towards Harmonization of Systems and Structures

This overview of the development of higher education Europeanization between the 1960s and 1990s illuminates how these developments have culminated in a broad

range of recent programs and activities to stimulate a European dimension in higher education. The main focus lay in the Europeanization of higher education with an emphasis on R&D, mobility of students and staff, curriculum development and network building. As the Director for Education of the European Commission, David Coyne, noted in a 2004 interview (EAIE Forum, p. 13), the EU academic mobility programs—ERASMUS in particular—have “created an indispensable foundation for the European Higher Education Area.”

At the turn of the century, Europe prepares for a big step forward in Europeanization, manifested in the Bologna Declaration on the European Higher Education Area. The groundwork for what is already widely known in higher education as the “Bologna Declaration” was laid by the “Sorbonne Declaration,” signed on May 25, 1998 in Paris by the ministers of education of France, Germany, Italy and the United Kingdom on the occasion of the anniversary of the University of Paris. In this “Joint declaration on harmonization of the architecture of the European higher education system,” the ministers of the four dominant countries of the European Union foresee that Europe is:

Heading for a period of major change in education and working conditions, to a diversification of courses of professional careers, with education and training throughout life becoming a clear obligation. We owe our students and our society at large, a higher education system in which they are given the best opportunities to seek and find their own area of excellence. An open European area for higher learning carries a wealth of positive perspectives, of course respecting our diversities, but requires on the other hand continuous efforts to remove barriers and to develop a framework for teaching and learning, which would enhance mobility and an ever closer cooperation (Sorbonne Declaration, May 25, 1998).

The Sorbonne Declaration was a French initiative based on the Attali report *Pour un Modèle Européen d'Enseignement Supérieur*, which compares the French system with other European systems of higher education as the basis for a reform of the French system. The declaration came as a surprise—not only to the higher education community but also to the European Commission and the ministers of education of the other member states. It seemed rather unlikely that four countries with fundamentally different higher education traditions would be willing to lead the way to harmonization. In 1993, as part of the Maastricht Treaty, education did become an area in which the European Commission could take action, but only as a subsidiary focus. Thus, joint European action on higher education was not high on the agenda of the European Council of Ministers.

It appears that the ministers of education of the four countries acted deliberately as representatives of their national governments, outside the context of the European Commission. Perhaps they saw this as a way to maintain control over the necessary process of harmonization. Such a proposal would have been far more difficult to sell if presented by the Commission, by one of each of the four larger countries, or by the smaller countries.¹⁸ Thus, the U.K. needed France, Italy and Germany to convince the British public of the advantages of a joint initiative to harmonize European higher education with the British system. The Germans, for their part, needed the support of the other countries to sell a plan at home to introduce the bachelor's and master's degree

structure.¹⁹ And the French and Italians needed the others to convince their peoples of the need for reform of their higher education systems, something that had previously been blocked by massive protests.

Of course, intensive debates followed. However, the Sorbonne Declaration was surprisingly well received, both in the political arena and in the higher education community of the four countries, as well as in the rest of Europe. Andris Barblan (1999) gives the following explanations for this positive reception:²⁰

- The process was initiated from unexpected quarters, the European role of the Commission being taken over at the national level by ministers of education: “Four Ministers were calling the European tune.”
- Political decision makers were urging the development of a process they had entrusted earlier to those people first responsible for higher education—academics.
- The discussion at the Sorbonne was an extremely rare constellation of users, providers and political leaders. “The declaration was itself part of a learning process aiming at a long-term goal, the European space of higher education—still to be defined.”

This positive reception of the Sorbonne Declaration set the stage for a broader initiative. On the invitation of the Italian minister of education, a meeting took place in Bologna, Italy. The debate was based on the Sorbonne Declaration and on a study prepared by the Association of European Universities (CRE) and the Confederation of European Union Rectors’ Conferences on “Trends in European Learning Structures” (Haug et al., 1999). The study showed the extreme complexity and diversity of curricular and degree structures in European countries. Whereas the Sorbonne Declaration spoke of harmonization, both the study and the resulting Bologna Declaration avoided this word—owing largely to the potential negative interpretations. Instead, the study speaks of “actions which may foster the desired convergence and transparency in qualification structures in Europe.”

It is important to observe that above all, the Bologna process reconfirmed trends under way in Germany, Austria and Denmark to introduce a bachelor’s and master’s degree structure. Second, it has stimulated similar movements in countries such as the Netherlands, where several universities had already started to develop bachelor’s and master’s degrees and where the minister of education had paved the way for allowing them to do so. The declarations, in themselves an attempt to keep a political grip on developments in the higher education sector, serve as a catalyst for reform of higher education throughout Europe. There is still a long way to go. Radical reforms in higher education traditionally spark massive protests, and even more so when such a reform—as David Crossier (2004, p. 14) observes—“is often simplistically and mistakenly portrayed as moving European higher education systems closer to Anglo-Saxon traditions.”

On June 19, 1999, in Bologna, Italy, the ministers of education of 29 European countries signed the Declaration on the “European Higher Education Area.” The wide support for this declaration beyond the member states of the European Union is unique and has attracted broad international attention. In the declaration, the ministers outline their intentions of achieving the following objectives:

- adoption of a system of easily understood and comparable degrees, including the adoption of a Diploma Supplement;
- adoption of a system essentially based on two main cycles, undergraduate and graduate;
- establishment of a system of credits—such as the European Credit Transfer System (ECTS)—as a means of promoting student mobility;
- promotion of mobility by overcoming obstacles to the effective exercise of free movement;
- promotion of European cooperation in quality assurance; and
- promotion of the European dimension in higher education.

The creation of a European space for higher education, the prime objective of the Bologna Declaration, should be completed in 2010. A set of specific objectives has been formulated to make this possible:

- a common framework of understandable and comparable degrees;
- undergraduate and postgraduate levels in all countries;
- ECTS-compatible credit systems;
- a European dimension in quality assurance; and
- the elimination of remaining obstacles to mobility.

Every two years, the Bologna process is monitored in order to assess its progress. The second meeting took place in 2001 in Prague, Czech Republic. The number of participating countries increased from 29 to 33, and the ministers confirmed their commitment to the six steps outlined in the declaration, while adding three new areas:

- lifelong learning, as a means to help European citizens to become more competitive by allowing them to learn new technologies;
- inclusion of higher education institutions and students, recognizing and further encouraging the active involvement of the higher education institutions and student organizations in the Bologna process; and
- promoting the attractiveness of the European Higher Education Area.

The third meeting took place in 2003 in Berlin, Germany. The number of signatory countries increased to 40, the most important addition being Russia. Two new actions were added in the Berlin document:

- creating the European Higher Education Area and European Research Area—two pillars of the knowledge based society, recognizing the close link between education and research, and including the doctoral level as the third cycle in the Bologna process; and
- stocktaking midway through the process (by a series of reports on the progress), in particular with respect to quality assurance, the two-cycle system and the recognition of degrees and periods of studies.²¹

The fourth meeting took place in 2005 in Bergen, Norway, and assessed the progress of the process mid-term. The preparation was in the hands of a Follow-up Group, composed of the representatives of all members of the Bologna process and the European

Commission, with the Council of Europe, the European University Association, the European Association of Institutions in Higher Education (EURASHE), the National Unions of Students in Europe (ESIB), and the European Center for Higher Education of UNESCO (UNESCO-CEPES). The composition of the Follow-up Group is an illustration of the active involvement of the different stakeholders in higher education, and in particular a recognition of the importance of involving the student unions, even though they may have different views on certain aspects and potential implications of the process.²²

Both the European University Association (EUA) and ESIB over the past several years have organized events to discuss their views and input regarding the Bologna process, including the Conventions of European Higher Education Institutions in Salamanca, Spain, in 2001, and in Gratz, Austria, in 2002 (initiated by EUA), as well as a meeting of national student unions in Göteborg, Sweden, in 2001. The Salamanca Convention emphasized as necessary conditions the European tradition of higher education as a public good (rather than as a mere commercial commodity), university autonomy, and the crucial role of quality assurance mechanisms. In Gratz, the convention agreed upon a declaration in which the higher education institutions urged for:

- maintaining universities as a public responsibility;
- consolidating research as an integral part of higher education;
- improving academic quality by building strong institutions;
- furthering mobility and the social dimension;
- supporting the development of a policy framework for Europe in quality assurance;
- and
- pushing forward the Bologna process (EUA, 2003).

The students gathered in Göteborg put emphasis on the social dimension of mobility, cultural diversity, and in particular, free and equal access to all levels of higher education. The main concern of ESIB is the strong focus on the economic role of education and the strong focus on competition, noting that “One of the main dangers is that the structural reforms towards greater transparency of European higher education make this education tradable on a global market.”²³

The call for more emphasis on quality assurance mechanisms in the course of the process has come more to the forefront than at the start. As Guay Haug (2003) states, “in spite of the hesitation of many institutions and systems and the active resistance of some, an organized answer at the European level is necessary in quality assurance/accreditation.” The European Network for Quality Assurance (ENQA) plays an active role in initiating discussions and actions to provide such an answer. In the area of accreditation for continental Europe, a new phenomenon linked directly to the Bologna process—the creation of a European Consortium for Accreditation in Higher Education (ECA) by 13 accreditation organizations in eight European countries (Austria, Ireland, Germany, Flanders, Norway, Spain, Switzerland and the Netherlands)—is another manifestation of the growing attention given to this issue. The objective of ECA is to achieve mutual recognition of each other’s accreditation decisions by the end of 2007.²⁴

The Bologna Declaration not only looks at the internal implications for higher education, but also explicitly refers to the need to increase the international competitiveness of European higher education and to make it more attractive to students from other continents (Van der Wende, 2000). In that sense, the declaration follows the pattern visible everywhere, with competitiveness becoming a driving rationale for the internationalization of higher education. As Van der Wende (1997, p. 227) observed in her study on national policies for the internationalization of higher education, one can see a shift in dominance of rationales (from political to economic rationales) in Northwestern Europe over the past ten years. In a more recent study, she described this as a shift in paradigms from cooperation to competition (Van der Wende, 2001, p. 249). The creation of a European identity and the development of competitiveness (vis-à-vis the rest of the world) are the key motivators for the political initiatives in education put forth by the European Commission.

If we try to understand the rationales from those countries that are tuition-free or charge rather low tuitions—in other words, continental Europe—from a national point of view, the driving rationales for an international market approach include: economic growth and competitiveness, national and regional identity, and profile/status. In those countries, the stakeholders—which are the driving forces behind this orientation on marketing—seem to be national governments, in particular, Ministries of Economic Affairs. They have found their justification in the appeal from the Bologna process to make higher education in Europe more competitive, and in the incorporation of education in the General Agreement on Trade in Services (GATS) (Knight, 2002).

Van Vught et al. (2002, p. 117) though, in answering the question of whether the Bologna process is an adequate European response to the wider challenges of globalization, comes to the conclusion, that “in terms of both practice and perceptions, internationalization is closer to the well-established tradition of international cooperation and mobility and to the core academic values of quality and excellence, whereas globalization refers more to competition, pushing the concept of higher education as a tradable commodity and challenging the concept of higher education as a public good.” And Cerych (2002, p. 123) states that “the Bologna process represents a more or less traditional inter-governmental process, relatively flexible, respectful of university autonomy and automatically supportive of diversity of higher education.” In that respect, it would be a simplification to see the Bologna process as merely a response to globalization; more accurately, it can be seen as a form of internationalization and Europeanization of higher education at a new level, moving from ad hoc initiatives towards systematic effort, and in the end from disconnected and specific actions to an integrated internationalization of higher education (Teichler, 1999, pp. 9–10).

As mentioned before, the Bologna Declaration should be seen in connection to another ambitious process, agreed upon by the members of the European Council at their meeting in Lisbon in March 2000, “to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable growth with more and better jobs and greater social cohesion.” Its rationale is based on the fact that according to the European Council, “The European Union is confronted with a quantum shift resulting from globalization and the challenges of a new knowledge-driven economy.

These changes are affecting every aspect of people's lives and require a radical transformation of the European economy. The Union must shape these changes in a manner consistent with its values and concepts of society and also with a view to the forthcoming enlargement" (European Council, 2000).

The Lisbon Strategy is among others directed to the development of a European Research Area. "Research activities at national and Union level must be better integrated and coordinated to make them as efficient and innovative as possible, and to ensure that Europe offers attractive prospects to its best brains. The instruments under the Treaty and all other appropriate means, including voluntary arrangements, must be fully exploited to achieve this objective in a flexible, decentralized and non-bureaucratic manner. At the same time, innovation and ideas must be adequately rewarded within the new knowledge-based economy, particularly through patent protection" (European Council, 2000).²⁵ The link between the two processes, as we have seen, was established at the Berlin meeting in 2003, where the close link between education and research was confirmed.

The Lisbon Strategy is more ambitious than the Bologna Declaration, but at the same time less concrete in its actions.²⁶ The European Commission in 2004 confirmed doubts expressed by politicians and the higher education sector that its objectives will not be reached by 2010 as was originally planned, but nevertheless holds to its agenda. Together, the two processes will strive to create a European Higher Education, Research and Innovation Area.

Will higher education in Europe in 2010 be more innovative, homogeneous and transparent? David Crossier (2004) states that "the nature of the reform process—with each country moving in its own way towards a common, but somewhat elusive, goal—has understandably sometimes generated confusion and thrown up contradictions. In terms of core reforms, such as the introduction of a two-cycle degree system, debate and discussion on the direction of reform of course reflects the diversity of national systems, cultures and traditions. Hence, reforms which are intended to improve transparency by using common terminology may sometimes inadvertently muddy the picture" (Crossier, 2004, p. 14). National agendas at this stage of implementation appear in many cases to be more important than the common agenda of the Bologna Declaration—in the implementation of credit points, in the lengths of the two cycles, in the choice between a binary or one single higher education system, in the way quality assurance and accreditation are organized (institutional and/or by program), etc. In the end, there will be more transparency in terminology and generic frameworks (e.g., the use of bachelor's and master's, accreditation, credit points, etc.). But under that broad transparency, a more diverse higher education will evolve. In that respect, it will not differ from the American higher education culture, which is also based on a common terminology and generic frameworks, but heterogeneous in the way the institutions operate. The innovation agenda is more challenging and requires more commitment and investment at the national and regional level than at present is the case. In sum, the Bologna process and the Lisbon Agenda link reform of higher education with a joint effort to improve R&D—a necessary and unavoidable process to prepare European higher education for future competition and cooperation, both within the European Higher Education Area as well as with the rest of the world.

Notes

1. For an overview and analysis of European higher education systems and structures, see Haug, et al. (1999), "Trends in Learning Structures in Higher Education."
2. See of the Lisbon Strategy for instance http://europa.eu.int/comm/education/policies/2010/et_2010_en.html; and for the Copenhagen Process http://europa.eu.int/comm/education/policies/2010/vocational_en.html.
3. These phases are more or less the same as those presented by Field (1998, p. 25–26), who speaks of four stages: 1957–1973, when education and training received relatively little interest; 1974–1985, development of some interest but mainly in vocational training; 1986–1992, education becomes a significant area of policy for the EU; 1992 onwards, development of a more radical approach seeking to promote the concept and practice of the learning society.
4. The following sections of this chapter draw from chapter 3, *The International Dimension of Higher Education in Europe*, of de Wit (2002), *Internationalization of higher education in the United States of America and Europe. A historical, comparative and conceptual analysis*. Westport, CT: Greenwood Press.
5. In 1981, Greece would become the tenth member. In 1986, Spain and Portugal were included; in 1990, the former DDR, as part of Germany; and in 1995, Sweden, Finland and Austria.
6. See for instance Wächter, et al. (1999, p. 62), and Brouwer (1996, p. 74).
7. With the exception of students from developing countries, provided with fellowships to be trained at specialized International Education Institutes.
8. The change from political to economic rationale as the dominant rationale in Northern European internationalization strategies is clear from the reports in Kälvermark and Van der Wende (1997), although less for Southern European countries as the Greek report illustrates.
9. EURTECNET, a scheme for the development of professional education and information technology, in 1985; PETRA, a program to promote cooperation and exchange in further education, in 1987; DELTA, a scheme for learning technologies, in 1988; IRIS (later NOW), a scheme to promote professional education for women, in 1989; LINGUA, a scheme for the promotion of the learning of European languages, in 1989; and FORCE, a scheme for continuing education of workers, in 1990 (Brouwer, 1996; Wächter, 1999).
10. In 1989, the Nordic countries, Norway, Sweden, Finland and Denmark, created their own program for cooperation and exchange in education: Nordplus. This program continues to be active, even after the inclusion of Sweden, Finland and Norway in the European programs in 1991.
11. SOCRATES is not an acronym, and is often used interchangeably with Socrates. Like Erasmus, the program is named after the philosopher.
12. Delors, Jacques (1994), interview in *Le Magazine*. European Commission, summer 1994, Issue 2, Brussels.
13. ERASMUS is not an acronym, and is often used interchangeably with ERASMUS. Like SOCRATES, the program is named after the philosopher.
14. PHARE is not an acronym, and is often used interchangeably with Phare.
15. In 1996 this program was frozen, but it is in the process of being restarted.
16. For a critical analysis, see de Wit, 2004.
17. See for instance Laureys (1992, p. 110). ERASMUS has also been the inspiration for similar regional plans without involvement of the European Union, for instance in Asia and the "Program for North American Mobility in Higher Education" between the U.S., Mexico and Canada, in the framework of NAFTA.
18. In reality, some smaller countries such as Denmark were already further on their way towards accomplishing what the Sorbonne Declaration intended.
19. A structure that was introduced into Germany in 1998, parallel to the present structure.
20. Andris Barblan, Secretary General of CRE, presentation to the XII Santander Group General Assembly, April 17, 1999 on "The Sorbonne Declaration: follow-up and implications, a personal view."
21. Stocktaking already has been an important part of the process from the beginning, in the form of Trends reports, prepared by the European University Association:

- Trends I, Trends in Learning Structures in higher Education, 1999
 - Trends II, 2001
 - Trends III, Progress towards the European Higher Education Area, 2003.
22. For more information on the Bologna Process see for instance: http://www.eua.be:8080/eua/en/policy_bologna.jsp ; <http://www.wes.org/ewenr/bolognaprocess>; <http://www.bologna-berlin2003.de>; <http://www.bologna-bergen2005.no>; and <http://www.enqa.net/bologna.lasso>.
 23. See <http://www.esib.org/policies/esibbologna.htm>.
 24. That the British accreditation organization has not yet joined the ECA is caused by the difference in approach to accreditation: in the United Kingdom by institution, in the other countries by program.
 25. The European Research Area is described by the European Commission as follows: “Europe has a long-standing tradition of excellence in research and innovation, and European teams continue to lead progress in many fields of science and technology. However our centers of excellence are scattered across the continent and all too often their efforts fail to add up in the absence of adequate networking and cooperation. In the past, collaborative actions have been initiated at European and Community level, but now is the time to bring our endeavors together and to build a research and innovation equivalent of the “common market” for goods and services. That structure is called the European Research Area and is regrouping all Community supports for the better coordination of research activities and the convergence of research and innovation policies, at national and EU levels” (<http://europa.eu.int/comm/research/era>).
 26. Blank and Lopez-Claros (2004) identify eight dimensions in the strategy: creating an information society for all; developing a European area for innovation, research and development; liberalization (completing the single market, state aid and competition policy); building network industries (in telecommunications, in utilities and transport); creating efficient and integrated financial services; improving the enterprise environment (for business start-ups, in the regulatory framework); increasing social inclusion (returning people to the workforce, upgrading skills, modernizing social protection); and enhancing social development. They see a mixed performance on these eight dimensions, with the Nordic countries scoring well and southern Europe scoring less well. The EU as a whole receives lower scores than the U.S. in seven out of the eight dimensions, the exception being sustainable development, but with a quite small margin (*ibid.*, 12).

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HIGHER EDUCATION IN FRENCH-SPEAKING SUB-SAHARAN AFRICA

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The establishment of higher education institutions in French-speaking African countries began in 1896, but it is during the first decade after the independence of these countries that the higher education sector experienced a major development. At that time, the mission assigned to higher education institutions was primarily related to the preparation of human resources needed for operations of the civil service and the development of the education sector.

In French-speaking African countries (also known as Francophone Africa), higher education institutions started facing problems during the 1970s, such as a rapid increase in student enrollments, the insufficiency of financial resources allocated to the higher education sector and the implementation of policies which allocated a significant share of the resources to student scholarships and various subsidized social services provided to students. This trend, which continued at least until the end of the 1980s, led to a significant deterioration of staff working conditions, the degradation of infrastructure and facilities and a lack of teaching materials. Together, these resulted in a major decline in the relevance and quality of higher education offered in these countries.

At the beginning of the 1990s, the decline in relevance and quality of higher education had reached such an alarming level that several French-speaking countries decided to undertake major reforms of their higher education systems in order to enable them to respond more effectively to the challenges of sustainable human development. Towards the end of the 1990s, all the major stakeholders in higher education in Africa had agreed that there was an urgent need for revitalizing higher education in Africa. This support was clearly affirmed at the 1998 UNESCO World Conference on Higher Education and in several subsequent publications, in particular a 2002 World Bank policy document entitled *Constructing Knowledge Societies: New Challenges for Tertiary Education*.

This chapter analyzes the development, challenges and opportunities of higher education in French-speaking African countries during the period from 1960 to 2004. The analysis encompasses the major stages of higher education development in French-speaking countries, covering systems, students and staff issues, research, inter-university cooperation, funding policies and reforms undertaken in selected

countries for revitalizing their higher education systems and institutions. The discussion also includes two examples of opportunities offered to higher education institutions through the implementation of a New Partnership for Africa's Development (NEPAD) initiative and efforts to improve the use of communication and information technologies.

Major Stages of Higher Education Development in Francophone Sub-Saharan Africa

Higher Education Before National Independence

The development of modern higher education in French-speaking Africa goes back to 1896, when the medical institute of Tananarive in Madagascar was established. Not long thereafter, France established the William Ponty Teacher Training School in 1903, on Gorée Island in Senegal, and the Dakar Medical Institute in 1918, also in Senegal.

Beginning in 1941, France established higher education centers in some of its African colonies. These centers—which were affiliated with French universities—were gradually developed into national universities. Until the 1970s, these national universities kept close administrative links with universities in France—in practice, these institutions were virtually certified copies of their French counterparts. France was thus closely involved in the funding and management of national universities in Africa.

In the former Belgian colonies—namely, the Democratic Republic of Congo, Rwanda and Burundi—the history of higher education goes back to 1949, with the establishment of the university center of Lovanium in Kinshasa, which was developed into a full-fledged university in 1954. A second university was established in 1956 in Lubumbashi. In Burundi and Rwanda, higher education started in the early 1960s. The higher education system in these countries was then composed of two major institutions—namely, the Institute of Agriculture and the Faculty of Sciences (Shabani, 2003). As was the case for the former French colonies, the development of higher education in the former Belgian colonies closely followed the Belgian model.

Higher Education After National Independence

After the independence of African countries during the 1960s, the development of higher education in French speaking countries was strongly influenced by the various models of economic development suggested by the World Bank. Today, it is generally agreed that the development of higher education in Africa went through three major stages, which are briefly analyzed below.

First Stage: 1960–1970. At the time of most African countries' independence during the early 1960s, it was agreed that the primary mission of higher education institutions was to prepare human resources as needed for national development, in particular for the operations of the civil service and the development of the educational system. This mission was achieved thanks largely to the support received from bilateral and international cooperation agencies, including the World Bank.

Second Stage: 1970–1990. During this period, several factors contributed to the deterioration of higher education in Africa. Indeed, this period was characterized by economic and financial constraints, which resulted in a reduction in public recurrent expenditure per student from \$6,300 in 1980 to \$1,500 in 1988 (World Bank, 1995). This decline was more pronounced in French-speaking countries (Samoff & Carroll, 2004). Several countries also experienced dramatic social changes and unrest, which resulted in several arrests and killings of students, frequent closures of university campuses, political repression of academic staff, and persistent brain drain. Many governments became hostile to universities, as they considered them as threats to political stability. During the 1970s and 1980s, the World Bank published four education policy documents, including one focusing on education in sub-Saharan Africa (World Bank, 1988). These documents criticized higher education's role in promoting development and its "over-expansion" in the poorest countries (Samoff & Carroll, 2004), particularly in sub-Saharan Africa. The 1988 policy paper on sub-Saharan Africa emphasized the need for giving more priority to basic education. The major argument for redirecting resources to basic education was based on research studies showing that social rates of return for investments in education were higher for basic education than for higher education. African governments were therefore compelled to give more priority to investment in basic education. They were also challenged to reduce public recurrent expenditure per higher education student, to increase registration and tuition fees, and to promote private higher education.

The priority granted to basic education was reaffirmed during the World Conference on Basic Education for All, held in 1990 in Jomtien, Thailand. The increase of support for basic education may have come at the expense of higher education. Indeed, widening access to basic education required significant resources. But during this period, most African countries did not have the resources needed in order to increase their education budgets. This situation was mainly due to increases in the foreign debt and the payment of debt servicing, the decline in prices of raw materials and agricultural products, the devaluation of national currencies and the implementation of structural adjustment policies. This situation resulted in a further decline in the recurrent expenditure per student, which had already dropped significantly during the period 1980–1988. By 1995, it had fallen to \$1,241 (UNESCO, 1998a).

Third Stage: 1990–Present. At the beginning of the 1990s, several French-speaking countries began to develop strategies needed to revitalize their higher education systems. This was the case in Burundi, where the government decided to undertake an institutional and financial audit of the University of Burundi in 1993, and in Senegal, where a national consultation was convened in 1993 in order to reach a consensus on the agenda for the reform of the higher education system.

In 1995, the World Bank published another document, entitled *Higher Education: The Lessons of Experience* (World Bank, 1995), which took stock of activities implemented by the World Bank in developing countries in order to identify the strategies required for the revitalization of higher education in those countries. In the case of sub-Saharan Africa, several strategies had already been proposed in another World Bank document, *Universities in Africa: Strategies for Stabilization and Revitalization* (Saint,

1992). The 1995 document identified four major areas of reform for the revitalization of higher education in developing countries. These include differentiation of institutions, promotion of private institutions, modification of funding policies, redefinition of the role of government and promotion of quality and equity.

During the mid-1990s, at least four factors were used to justify the need for revitalization of higher education in Africa: the advanced stage of deterioration of higher education institutions; the promotion of a holistic approach to the development of the education sector; the need for involving higher education institutions in developing the capacity to achieve Education for All goals (mainly through teacher training programs); and the recognition of the significant role that African universities are expected to play in the process of sustainable human development in the knowledge and information society.

In October 1996, during the annual meetings of the World Bank and the International Monetary Fund, the African Ministers of Finance and the President of the World Bank agreed to work together in order to revitalize African universities. Following this agreement, the Association of African Universities and the World Bank produced a report in 1997, in collaboration with several stakeholders, outlining the strategies and guidelines required for revitalizing African universities. The guidelines are directed at the universities, the African governments, the donor community and the World Bank.

The need for revitalization of higher education in Africa was reaffirmed during the World Conference on Higher Education held in 1998 in Paris (UNESCO, 1998b), and in two major publications: *Higher Education in Developing Countries: Peril and Promise* (UNESCO/World Bank, 2000) and *Constructing Knowledge Societies: New Challenges for Tertiary Education* (World Bank, 2002).

Therefore, today the international environment is very supportive of efforts to revitalize higher education in sub-Saharan Africa, and French-speaking countries should seize this historic opportunity. In reality, several French-speaking countries are already successfully implementing various reforms geared towards the revitalization of their higher education systems.

Higher Education Systems

As indicated earlier in this chapter, the development of higher education in French-speaking Africa was closely modeled along the French and Belgian systems. In almost every country, higher education systems began with the establishment of a center for higher education which was later developed into a full-fledged national university. Following the model of France, in addition to national universities, French-speaking Africa also established schools of engineering, teacher training schools (generally with the assistance of UNESCO) and higher education professional training institutions, supervised by government ministries other than the ministry of higher education. Beginning in the 1990s, the French-speaking countries of Africa also strongly encouraged the establishment of private higher education institutions. However, there are a few exceptions to the process described above. In the former French equatorial African countries—which included Central African Republic, Congo Brazzaville, Gabon and Chad—the higher education system established in the early 1960s consisted of a network of five

institutions distributed throughout the four countries (Mintsa mi-Eya, 2003). During the early 1970s, this network broke down because each country decided to establish its own national university. Similarly, in the late 1960s, Togo and Benin established a joint higher education institution with a campus in each country. This arrangement was abandoned in the early 1970s when each country decided to create its own university (Guedegbe, 2003). In Mali, the development of the higher education system began with the establishment of several specialized institutions which were merged in the early 1990s to form the University of Mali, currently known as University of Bamako (Bagayoko & Diawara, 2003). Similarly, the first university in Madagascar was established by merging the independent faculties of law, arts and science and technology and the school of medicine (Stiles, 2003).

Following the rapid increase in student enrollments and the various problems that it generated, French-speaking countries decided to create new university centers in order to reduce enrollments in national universities. This was the case in 1977 in Cameroon, with the establishment of four new university centers, and in 1993 in Côte d'Ivoire, where it was decided to split up the national University of Côte d'Ivoire into three university centers. Later, these centers were developed into independent universities. Several other countries established new universities during the 1990s and at the beginning of 21st century, including Benin, Burkina Faso, Gabon, Madagascar, Senegal and Togo. Furthermore, in order to improve the geographical distribution of higher education institutions, the French-speaking countries established centers of higher education and university colleges, and encouraged the establishment of private universities in selected provinces beginning in 1993. In the Democratic Republic of Congo, 263 private higher education institutions had been established by 1996 throughout the various provinces (Lelo, 2003).

Generally, each French-speaking country also hosts one or more regional specialized schools known as *écoles inter-états*, a campus of the African Virtual University and a campus of the Francophone Virtual University. At the beginning of the 1990s, French-speaking sub-Saharan Africa had already established more than 20 regional specialized schools.

In April 2004, the higher education system of Senegal was composed of two public universities, 15 higher education professional training institutions (of which 12 were supervised by government ministries other than the ministry of higher education), a regional/provincial university center and 42 private higher education institutions. Senegal was also host to several regional specialized schools, a campus of Suffolk University (whose headquarters are in Boston, U.S.), a campus of the African Virtual University and a campus of the Francophone Virtual University. Several other French-speaking countries have similar higher education systems.

It is also worth mentioning that some countries are investing increasingly in distance education, mainly in order to widen access to higher education, raise the quality of education and improve opportunities for lifelong learning. In Madagascar, the National Center of Tele-teaching, established in 1992, offers degree and non-degree courses in 22 regional study centers. In 1997, over 8,000 students were enrolled in university study programs at the Center. By 1999, the Center had already awarded more than 3,900 degrees (Stiles, 2003). In Mauritius, distance education is provided in at least

three institutions—the Mauritius College of the Air, the University of Mauritius and the Mauritius Institute of Education (Baichoo, Parahoo, & Fagoonee, 2003).

In order to improve the geographical distribution of higher education institutions and to effectively address the increasing demand for higher education, the government of Senegal is planning to establish in the near future a polytechnic university, two regional university centers and the *Université du Futur Africain*, intended for postgraduate studies. This university, which will be opened to researchers and postgraduate students of other African countries, will operate in close partnership with universities in developed countries.

Higher education systems in French-speaking countries are made up of three levels of studies—the first and second levels consist of two years each, and a third level offers postgraduate education, leading to four different types of degrees:

- Degree of Advanced Studies, which is equivalent to a master's degree. This degree can be obtained after one year of training and research, and prepares students for doctoral programs;
- Postgraduate Degree of Professional Studies, which can also be obtained after one year of professional training;
- Doctorat de 3^{ème} Cycle, which can be obtained after two years of training and research following achievement of the Degree of Advanced Studies; and
- Doctorat d'état, which can be obtained after two to three years of research following achievement of the Doctorat de 3^{ème} Cycle.

In 1987, France decided to abolish the two types of doctoral degrees mentioned above and to introduce a new doctoral degree equivalent to a Ph.D. Some French-speaking African countries (like the Benin Republic) adopted this reform, whereas other countries (like Senegal) are still maintaining the former system. However, it is worth noting that Senegal is in the process of modifying its degree structure, and will eventually offer only three degrees corresponding to the bachelor's, master's and Ph.D. degrees.

Students

In universities throughout the former French colonies, there is no selection for admission into faculties. The only requirement is the diploma of baccalauréat (secondary school leaving certificate), which is equivalent to the A level in the British system. However, in addition to the baccalauréat, candidates to schools of engineering should also pass an entrance examination. In some countries like Burundi, the Democratic Republic of Congo and Guinea, there is also an entrance examination for admission to the faculties. In Guinea, for example, only one-third of the candidates who sit for the entrance examination are admitted into universities (Sylla, Ez-zaïm, & Teferra, 2003). In Madagascar, the government introduced in 1993 a selective admissions process which helped to reduce student enrollment in the universities from 33,202 students in 1993 to 18,945 in 1997 (Stiles, 2003).

This policy of open door access to faculties has led to a rapid increase in student enrollments. In all the French-speaking universities, the capacity of infrastructure and

laboratories has largely been exceeded, and the student-staff ratios have steadily declined. This development, combined with the reduction in public resources allocated to higher education, has resulted in high failure rates and a decline in the quality of education. In Benin, it is estimated that a student needs an average of eleven years to complete a four-year program of study (Guedegbe, 2003). However, it is worth mentioning that in French-speaking countries, a high rate of failure occurs at all levels of the education systems. In Gabon, for example, since 1973 the rate of failure in primary education has ranged between 30% and 40%. In 2000, the rate of failure at the secondary school leaving certificate examination was as high as 61.6%, and in the seventh year of the Faculty of Medicine of Omar Bongo University, the rate of failure was 50% (Mignot, 2002). In Madagascar during the period 1996–1998, the rate of failure at the leaving certificate examination ranged between 68% and 75% (Stiles, 2003).

Contrary to the faculties, the enrollments in schools of engineering are quite stable, since admission policies take into account the real capacity of the institutions. In some professional institutions, like the teacher training schools, enrollments are even decreasing. For example, during the period 1987–2000, enrollments in teacher training schools (*écoles normales supérieures*) dropped from 1,500 to 200 students in Côte d'Ivoire (Houenou & Houenou-Agbo, 2003) and from 537 to 264 students in Senegal (Dieng, 2003); similarly, enrollments dropped from 230 in 1998 to 185 in 2000 in Mauritania (Kharchi, 2003).

In French-speaking universities, the bulk of the students are registered in the first two years as well as in the Faculty of Arts and Humanities. For example, in 1997, 53% of the students at the University of Ndjamena in Chad were enrolled in the Faculty of Arts and Humanities (Al Habo, 2003). During that period, students enrolled in the first two years at the University of Dakar in Senegal represented 68.2% of the total student population (Dieng, 2003).

Academic Staff

According to the African and Malagasy Council for Higher Education (CAMES), a sub-regional body in charge of the promotion of academic staff in several French-speaking African countries, the scale of regular academic staff ranks should comprise the following four levels: lecturer, senior lecturer, associate professor and full professor. This classification is different in CAMES member states using national mechanisms for staff promotion like in Burundi and Cameroon. Indeed, in Cameroon academic staff ranks comprise only three levels (Government of Cameroon, 1993), whereas in Burundi this scale is made up of six levels (Shabani, 2003). In general, appointment to each of the above regular positions is made through a presidential decree, following a proposal from the Minister for Higher Education. In addition to the regular academic staff positions, all the universities employ various categories of staff on a contractual basis.

This section of the chapter reviews the conditions for staff recruitment, as well as the benefits, obligations and criteria for staff promotion and academic careers. Usually, these conditions are defined in a Presidential Decree on Higher Education Academic Staff. In each French-speaking country, candidates to the rank of lecturer should hold a

postgraduate degree at least equivalent to the Doctorat de 3^{ème} Cycle. In most countries, assistant lecturers are recruited for a period of two years, renewable twice. If they do not manage to get tenure at the end of the six-year period, they are then put at the disposal of the civil service for a new posting. In Burundi, the rank of assistant lecturer is part of the regular academic staff positions. As in the case of student distribution per faculties, there is an unequal distribution of the academic staff per faculties and departments as well as among academic ranks. It is also worth mentioning that in most countries the rapid increase in student enrollment during the 1990s resulted in a significant decrease in student-teacher ratios. However, this was not always the case—for example, the student-teacher ratio in Cameroon improved from 38:1 in 1993 to 34:1 in 1999 (Gaillard & Zink, 2003; Njeuma, 2003). During the period 1993–1997, the government of Madagascar introduced a policy which helped to reduce the student population in the universities by 43%, and at the same time increased the academic staff by 26%. As a result of the implementation of this policy, the student-teacher ratio improved from 47:1 in 1993 to 22:1 in 1996 (Stiles, 2003).

The teaching load roughly ranges between 120 hours per year for full professors to 200 hours for lecturers and 250 hours for assistant lecturers. Statutory remuneration is composed of basic wages and various types of allowances, in particular allowances for administrative assignments, research allowances and overtime for teaching assignments.

During the 1990s, the academic staff conditions of service steadily deteriorated in almost all the countries. Indeed, in all French-speaking countries using the CFA Franc currency, the devaluation of the currency by 50% significantly reduced the purchasing power of the staff. In addition to this, some countries experienced further cuts in staff salary. In Côte d'Ivoire, for example, it is estimated that between 1992 and 2000 the salaries of the various categories of academic staff were reduced by anywhere between 64% and 76% (Houenou & Houenou-Agbo, 2003). In Cameroon, the staff salaries were reduced by 66% in 1993 (Njeuma, 2003). In August 2000, delays in the payment of staff salaries in the Central African Republic had reached 17 months (N'guerekata, 2003).

Regarding academic staff, it is also worth mentioning that during the 1990s, several countries lost a sizeable number of their academic staff because they were either killed in wars or went into exile. This is the case in Rwanda—where thousands of skilled personnel and professionals were killed during the 1994 genocide—as well as Burundi and the Democratic Republic of Congo, each of which experienced a massive brain drain due to political instability and wars. Recently, several countries have taken appropriate measures in order to improve the working conditions of academic staff. For example, in Côte d'Ivoire the new government decided in June 2001 to realign academic staff salaries to their 1992 level, while in Senegal the government has built new staff offices and apartments for staff accommodation.

Research

Like in most African countries, the establishment of modern research institutions in French-speaking Africa goes back to the colonial era. As indicated earlier, during the

1960s it was agreed that higher education institutions should focus on the development of human resources. Consequently, during this period, research was carried out mainly by French researchers in research centers established by France during the colonial period. The operation of these centers was funded by France.

Beginning in the mid-1970s, the French-speaking countries have invested significantly in research development. Indeed, for the period 1970–1985, the public financial resources allocated to research increased sevenfold and the number of researchers and scientific publications grew by a factor of ten. In 1985, Africa contributed almost 1% of the scientific production cited in international bibliographic databases, compared to 3% for Asia and 1.5% for Latin America (Waast, 2004). In 1987, the government of Cameroon funded between 85% and 95% of research activities, including staff salaries (Gaillard & Zink, 2003).

In sub-Saharan Africa, research is undertaken in three types of institutions: universities, national research centers (supervised by government ministries other than the ministry of higher education), and regional and international centers funded by bilateral and international cooperation agencies. Private research is very weak except in South Africa, where the private sector contributes almost 50% of the research budget.

A study carried out recently on the state of research in Africa at the dawn of the 21st century led to the following results (Gaillard & Waast, 2001):

- There are major regional disparities between the various sub-regions of the African continent. Indeed, the study shows that two countries—South Africa and Egypt—produce 50% of scientific publications in Africa, while another four other countries—Morocco, Tunisia, Nigeria and Kenya—produce 25%.
- Senegal, Côte d’Ivoire and Cameroon are the three major producers of science in French-speaking Africa.
- The English-speaking countries of Africa suffered more from the reduction in public resources allocated to research and the deterioration of research facilities. For example, for the period 1989–1999, Nigeria (which occupied the third place in research publications in Africa, after South Africa and Egypt) lost almost half of its research capacity.
- The number of publications produced by French-speaking African countries increased by 30% during the period 1990–1997. In the case of Cameroon, despite the various problems encountered by the research community, the number of publications was increased by a factor of three during the period 1987–2001 (Gaillard & Zink, 2003).
- The publications produced in sub-Saharan Africa mainly focus on the fields of medicine and agriculture.

The study was conducted over a two-year period. It analyzed publications produced between 1989 and 1999 and recorded in two major international bibliographic databases, as well as a questionnaire completed by 1,500 researchers living in 43 African countries, and data collected during field visits to 15 countries.

As was the case for higher education generally, in 1985 the public resources allocated to research started to decrease. Since then, research has been mainly carried out thanks to financial contributions received from bilateral and international cooperation agencies.

In Cameroon, for example, the government portion of funding for research decreased from 95% in 1987 to 60% in 1993, while funding from external sources increased to 40% over the same period (Gaillard & Zink, 2003). In Burkina Faso, more than 90% of the research undertaken by the University of Ouagadougou in 2003 was funded from external sources (Traoré, 2004). The other challenges facing French-speaking countries in the field of research include the limited number of postgraduate programs, qualified researchers and research support staff, isolation of researchers, inadequate research facilities and the low priority given by universities to research activities (Seddoh, 1993).

Since the mid-1990s, the importance of research in aiding sustainable human development has been widely recognized at the African, regional and international levels. Indeed, the revitalization of research in French-speaking Africa is strongly supported by the New Partnership for African Development (NEPAD) and the Economic and Monetary Union of West Africa (UEMOA), through their programs for developing regional research centers of excellence, and through various research funds provided by the Francophone University Agency.

French-speaking countries of Africa also benefit from the contribution of regional research centers funded by bilateral and multilateral cooperation agencies. In West Africa, regional research centers focus their activities in the fields of rice, food crops, solar energy, groundnut and oilseeds, endemic and parasitic diseases, physics and mathematics (Traoré, 2004).

Since 1994, the Francophone University Agency has set up a special fund intended to promote research in sub-Saharan African French-speaking countries. In 2003, the agency funded six major research programs in Burkina Faso and 10 research units in Central and West Africa and in the Indian Ocean (Traoré, 2004).

Thus, as seen in the case of higher education more broadly, the current international environment is very supportive to the revitalization of research in Africa, and French-speaking Africa should take advantage of this opportunity. In reality, some countries have already initiated several activities to encourage the revitalization of research. In Senegal, for example, the University of Dakar is reviving and strengthening its postgraduate programs, and the government is in the process of establishing a national center for scientific research (Sock, 2004). In Cameroon, the government established a special fund in 1999 to support university research, and in 2002 it recruited 278 young researchers, mainly in the fields of agricultural and medical research (Gaillard & Zink, 2003).

Inter-University Cooperation

Inter-university cooperation in French-speaking Africa goes back at least to the establishment of the University of Dakar in 1957, which was designed to be a regional university and was expected to serve all the countries of the former French West Africa. In 1961, higher education in the former French Equatorial Africa was organized in the form of a network of institutions distributed throughout four countries: Gabon, Chad, the Central African Republic and Congo Brazzaville.

The following section of this chapter provides a brief analysis of three major experiences in inter-university cooperation in French-speaking Africa: two initiatives

launched by the African and Malagasy Common Organization—specifically, the African and Malagasy Council for Higher Education (CAMES) and the regional specialized schools known as *écoles inter-états*—and the experience of the Francophone University Agency.

The African and Malagasy Council for Higher Education (CAMES)

The CAMES was created in 1968 by the Common African and Malagasy Organization (*Organisation Commune Africaine et Malgache*, or OCAM) to harmonize and coordinate the implementation of higher education and research policies in French-speaking countries of Africa. Currently, CAMES is made up of 16 member states,¹ and implements the following four programs (CAMES, 2002; Kiniffo, 1993; Ouiminga, 1998):

- Recognition of higher education degrees (a program established in 1972). In 2002, the CAMES had already organized 20 meetings of experts to review 637 applications for the recognition of degrees and diplomas. 518 requests were granted recognition.
- The African pharmacopeia and traditional medicine. This program was created in 1974 to promote regional cooperation in this field. In 2002, CAMES had already organized 11 research seminars, where 333 research papers were presented.
- The Inter-African Consultative Committees. This program was established in 1978 to review applications submitted by academic staff and researchers for promotion. In 2002, the various technical Consultative Committees had already evaluated 6,188 applications. 62.4% of these applications were recommended for promotion. It is worth mentioning that some CAMES member countries like Burundi and Cameroon have established national mechanisms for staff promotion.
- For some academic fields like medicine, law, economics and management, the criteria for staff promotion include a high level competitive examination known as “aggregation.” By 2002, CAMES had organized 21 such examinations.

The Francophone University Agency

The Francophone University Agency (*Agence Universitaire de la Francophonie*, or AUF) was established in 1989 to replace the Association of Francophone Universities (which had been founded in 1961 to promote North–South and South–South inter-university cooperation and solidarity between institutions of higher education that use French as a working language). Currently, AUF is a network of more than 520 institutions of higher education and research. The agency operates in more than 35 countries, through its sub-regional offices, virtual campuses and training institutions. Its headquarters are located at the University of Montreal in Canada. In order to achieve its objectives, the AUF is implementing the following four major programs (Mve Ondo, 1998; 2002):

- *The International Fund for Inter-University Cooperation*: This fund was established in 1967 to support the following activities: a staff exchange program, encouraging the mobility of academic staff and researchers within French-speaking

universities in Africa; the reinforcement of North–South inter-university cooperation in teaching and research activities; the development of databases and directories; staff exchanges between personnel of departments of French studies; and in-service training of French teachers.

- *The Francophone Research Fund*: This fund was established in 1993 to support the following activities: capacity building of research centers in developing countries; research projects jointly carried out by researchers from developing and developed countries; projects by young researchers; and the development of national research policies.
- *The Networks*: The agency has established two types of networks: institutional networks and thematic research networks. Currently there exist at least 11 institutional networks involving more than 700 Deans of Faculties, and 18 thematic research networks working in priority areas of human resources development identified by the summits of Heads of Francophone Countries. The priority areas include biotechnologies, HIV/AIDS, entrepreneurship, demography and environment law.
- *The Francophone Information Fund*: Since 1989, this fund has supported the operations of several centers that were established in order to provide access for researchers to international databases and to the Internet. The fund also enables the agency to contribute to the programs of the UNISAT (University Through Satellite) initiative, launched in 1992 to offer postgraduate programs in collaboration with French Universities using distance education and virtual learning techniques.

Regional Specialized Schools

The regional specialized schools known as *écoles inter-états* were established during the 1960s by the African and Malagasy Common Organization (OCAM). Each school operates under the overall supervision of an executive board made up of representatives of all the member state signatories to the legal instruments establishing the school. The schools offer training and provide research opportunities in various areas, including veterinary medicine, insurance, journalism, rural development, town planning and management, demography, informatics and railways. The budgets of the schools are made up of financial contributions received from member states represented on the executive board, as well as other contributions from donors. In 1988, French-speaking African countries had already established more than 20 regional specialized schools (Tedga, 1988). However, it is worth mentioning that some schools have closed down mainly due to financial problems caused by arrears in the payment of membership subscriptions.

Financing

As indicated earlier, since the mid-1970s the public financial resources allocated to higher education in sub-Saharan Africa have steadily declined. In Cameroon, for example, during the period 1991–1999, student enrollments in universities increased by a factor of 1.4, whereas the budget allocated to universities was reduced by a factor of 10

(Gaillard & Zink, 2003). Such cuts result in a sharp decline in public recurrent expenditure per student. Indeed, in sub-Saharan Africa the recurrent expenditure per student decreased from \$6,461 in 1975 to \$1,500 in 1988 and \$1,241 in 1995 (World Bank, 1995; UNESCO, 1998a, 1998b; Samoff & Carroll, 2004). In several French-speaking countries, the decline in financial resources also resulted in reductions of the wages for academic staff. For example, in 1992, the government of Côte d'Ivoire decided to reduce the salaries of new lecturers by 50%. In Cameroon, the staff salaries were reduced by 66% in 1993. In all the French-speaking countries, the staff lost considerable purchasing power in 1994 following a devaluation of the common currency by 50%. These decisions led to a significant deterioration of staff working conditions and to a decline in the quality of education, since the academic staff had to spend more time on other jobs than on student supervision.

In 1988, several donors, including the World Bank, affirmed that higher education in sub-Saharan Africa was still very expensive. These assertions were based on a comparison of the public recurrent expenditure per higher education student to that of a primary school pupil and to the gross national product per capita. Indeed, whereas at that time the public recurrent expenditure per higher education student ranged between 30% and 100% of the GNP in the rest of the world, in Africa this figure ranged between three times the GNP in Congo and 38 times in Mauritania (Orivel, 1996).

In French-speaking sub-Saharan Africa, a significant share of the higher education budget is allocated to scholarships and various other social services provided to students. Indeed, while in 1995 this expenditure accounted for only 6% of higher education budgets in Asia and 14% in the OECD countries, it represented 55% of higher education budgets in French-speaking sub-Saharan Africa, compared to 15% in English-speaking Africa (World Bank, 1995).

In 1973, the government of Gabon granted scholarships and special allowances to all secondary school and higher education students. In 1992, almost 58% of the budget allocated to the two public universities in Gabon was spent on scholarships and other social services provided to students (Mve Ondo, 1993).

However, during the 1990s, due to the rapid increase in student enrollments and the reduction of higher education budgets, several countries were not able to sustain these kinds of grants for students. In 1993, Cameroon decided to terminate the scholarships system and to introduce substantial registration fees (Njeuma, 2003), while Côte d'Ivoire introduced a student loan scheme in 1996 (Houenou & Houenou-Agbo, 2003). In 2002, Gabon was providing scholarships to 50% of its higher education students (Mignot, 2002). In Burkina Faso, during the period from 1995–2001, the percentage of students at the University of Ougadougou benefiting from public scholarships decreased from 30% to 16% (Guenda, 2003). However, some countries are still spending a lot of money on providing assistance to students. In Guinea, the resources allocated to student scholarships increased from 34% of the higher education budget in 1995 to 55% by the end of 1990s (Sylla et al., 2003). In Madagascar, the percentage of students receiving scholarships increased from 51% in 1994 to 74% in 1997 (Stiles, 2003).

Revitalization of Higher Education

Since the 1990s, several countries have undertaken various types of reforms in order to revitalize their higher education systems. The cases of Côte d'Ivoire, Cameroon, and Senegal illustrate the primary trends seen throughout French-speaking Africa.

The 1992 Reform in Côte d'Ivoire

This reform was initially conceived in 1977, but was not implemented until 1992. The major objectives of the reform included the following (Touré, 1998): improvement of the relevance and quality of higher education, widening access through diversification of the higher education system, and redefinition of relationships between higher education institutions and the government and civil society.

In 1992, the National University of Côte d'Ivoire was split up into three university centers that were developed in 1996 into full-fledged universities. The reform also made it possible to gather six schools of engineering with very low enrollments into one national polytechnic institute, and to grant accreditation to 37 private higher education institutions (Houenou & Hoounou-Agbo, 2003). Currently, the government allocates 11.3% of the higher education budget to private institutions. The reform also led to the establishment of a student loan scheme, and currently the government allocates 24.3% of the higher education budget to the implementation of that scheme. In order to improve the staff working conditions, in June 2001 the new government decided to realign academic staff salaries to their 1992 level. Unfortunately, the current civil war in Côte d'Ivoire promises to undermine most of these higher education reform efforts.

The 1993 Reform in Cameroon

In 1991–1992, Cameroon had one university (the University of Yaoundé) and four university centers (which had been established in 1977). The University of Yaoundé had an enrollment of more than 32,000 students, in facilities initially designed for 5,000 students, while the four university centers were largely under-utilized. In addition, the low levels of higher education funding did not make it possible to continue granting scholarships and other social services to the students. This situation framed the origins of the 1993 reform.

In 1993, the government decided to establish six universities. The government also introduced some innovations like the semester and credit transfer systems, terminated the scholarship system, introduced a substantial registration fee (to be paid by students) and adopted a policy intended to facilitate the promotion of private higher education institutions. In 2002, there were at least 16 private higher education institutions in Cameroon (Njeuma, 2003).

The implementation of this reform was undermined by a decision to reduce higher education budgets by 74% during the period 1992–1994. Despite this substantial budget cut, the reform achieved significant results in the following areas (Njeuma, 2003):

- more effective use of the university centers, which helped relieve overcrowding at the University of Yaoundé;

- improved access to university education and better geographical distribution of universities across the country;
- improvement in the student-teacher ratios, which dropped from 37:6 in 1993 to 33:8 in 1999; and
- abolition of scholarships and the introduction of more substantial registration fees.

The 1993 Reform in Senegal

This reform was implemented through two major projects: the Project for the Improvement of Higher Education (PAES) and the rehabilitation of the University of Dakar. The PAES was implemented between October 1996 and June 2003, thanks to a loan from the World Bank of US\$30.9 million. The PAES has now been integrated into the higher education component of the country's ten-year plan for education and development (2000–2010). The major objective of the PAES was to develop a cost-effective higher education system capable of adequately addressing the issues of quality, relevance and equity. The project was carried out through the following actions:

- reinforcement of the capacity of the library of the University of Dakar;
- improvement of teaching and research; and
- reinforcement of management capacities, including the reorganization of student social services.

The reform also envisioned a gradual reduction of student enrollments from 24,000 in 1996 to 17,500 in 2002, mainly through the establishment of new university colleges and private higher education institutions. Unfortunately, following strong opposition from the university students' association to the reduction of enrollments, the university had to cancel this decision during the 1997–1998 academic year. In January 2004, although the Ministry of Education had already accredited 42 private higher education institutions, student enrollments at the University of Dakar had reached 35,000 students (Dieng, 2003).

To improve the academic staff conditions of service and the quality of teaching and learning at the University of Dakar, the government has recently built two new lecture halls, several classrooms and offices, a new library with advanced information and communication technology facilities, and more than 200 apartments for the accommodation of academic staff. Another batch of 140 apartments is under construction (Dieng, 2003; Sock, 2004). Moreover, to address the issue of overcrowding at the University of Dakar, the government is developing both short-term and long-term plans for the establishment of a polytechnic university and a university college in each of the provinces of Senegal.

Future Prospects for Higher Education in Francophone Africa

Universities in French-speaking countries of Africa should take advantage of the opportunities offered by programs of NEPAD and the various applications of information and communication technologies (ICTs), in particular virtual learning, virtual libraries and regional and international databases. This section of the chapter explores the many

benefits that universities can obtain through the implementation of the NEPAD program of action, as well as the opportunities offered by the Virtual Institute for Higher Education in Africa (VIHEAF), which is jointly managed by the UNESCO Harare Cluster Office and the National Universities Commission of Nigeria.

The New Partnership for African Development (NEPAD)

NEPAD is a program of the African Union, developed by African leaders and based on a common vision and a shared conviction that they have the duty to eradicate poverty and to place African countries—both individually and collectively—on a path of sustainable growth and development. NEPAD's long-term objectives include the eradication of poverty in Africa; an end to the marginalization of Africa that has resulted from globalization; and the promotion of women's participation in all activities. To achieve these objectives, NEPAD has developed a program of action that covers all the seven priority areas² of human development identified by the African heads of state. Universities can play a major role and actually benefit significantly from collaboration with NEPAD in the areas of education and sciences.

It is now agreed that scientific research and technological innovation play a major role in achieving sustainable development in the knowledge-driven global economy. NEPAD explicitly recognizes in its program of action that "Africa's economic renewal and sustainable development will not be achieved without investment in science and technology." In order to respond to this challenge, NEPAD is committed to establishing networks of centers of excellence in science and technology.

NEPAD has also identified four major science and technology areas for the promotion of African growth and development: bioscience, information and communication sciences, geosciences and environmental sciences. In its efforts to establish networks of centers of excellence, NEPAD has launched three initiatives: the African Institute of Space Science; the Bioscience Facility for Eastern and Central Africa; and the African Laser Center. French-speaking universities should join these initiatives and even develop new initiatives (related to the four NEPAD areas of priority in sciences), which could be implemented as part of the NEPAD program of action.

The Virtual Institute for Higher Education in Africa

The Virtual Institute for Higher Education in Africa (VIHEAF) is a collaborative project between the UNESCO Harare Cluster Office and the National Universities Commission (NUC) of Nigeria. It is an online (Internet-based) training program that targets basic and higher education teachers in sub-Saharan Africa. The VIHEAF has the capacity of managing 20,000 learners simultaneously. The major objectives of the project are:

- To build and strengthen the capacity of teachers and other personnel in educational institutions throughout sub-Saharan Africa in critical areas of national and regional needs, as identified through the machineries of the African Union, the conferences of African Ministers of Education, and NEPAD;

- To provide Internet-based training on various areas of capacity-building for teachers at all levels of the education system. For higher education, the proposed courses include higher education pedagogy and the development of learning materials for distance education. Other courses could be offered at the request of higher education institutions in Africa.
- To share experiences among staff in institutions of higher learning—within the context of the 1998 World Conference on Higher Education (WCHE) and the African Network for Innovations in Higher Education (ANIHE)—on best practices in higher education teaching.

All staff of the educational institutions in sub-Saharan Africa—including primary and secondary schools, universities, polytechnics/technikons, and colleges of education—are eligible to participate in these training programs, which are offered free of charge.

The programs currently run 24 hours a day, seven days a week in three-month cycles, and are conducted in English. The development of website courses for French and Portuguese-speaking learners will be completed shortly. Each learning module provides students with exciting lessons embedded with video and audio support. Participants also contribute to discussion forums, carry out a project and take periodic online tests. A virtual graduation ceremony caps the end of the module. Agreements are being finalized through NUC to ensure that VIHEAF programs are credit-earning and lead to diplomas awarded by the University of Abuja, Nigeria. Similar arrangements will be signed with Francophone and Lusophone universities for programs delivered in French and Portuguese, respectively.

A number of other initiatives also deliver training to Africans using open and distance learning strategies, including the African Virtual University and Open Universities in several African countries. The comparative advantage of VIHEAF over these initiatives will include its wider reach and affordability of its programs, as they are offered free to participants. Also, VIHEAF programs (unlike others) will be offered in English, French and Portuguese. Most importantly, the tailoring of its programs to UNESCO's mandate and focus of operations is a unique comparative advantage. All the modules of VIHEAF address UNESCO's focal areas. No other institute of its kind in Africa or elsewhere delivers similar programs via a virtual learning environment.³

Conclusion

In sum, higher education in French-speaking African countries have experienced a spectacular expansion—particularly since obtaining their national independence during the 1960s—in terms of increases in the number of public and private institutions and in student enrollments. It is generally recognized that higher education institutions in French-speaking countries have successfully achieved their initial goal of developing the human resources needed for the operations of the civil service and the growth of the education systems. During the 1970s, these institutions were beset with several problems that were primarily caused by the rapid increase in student enrollments, the insufficiency of financial resources allocated to the higher education sector and

the implementation of policies which allocated significant resources to the various subsidized social services provided to students.

Since the 1990s, several countries undertook reforms which made it possible to slightly improve the relevance and quality of higher education. It is anticipated that in the current regional and international environments—characterized by a renewed support for the development of higher education—and the emergence of new opportunities, in particular those related to the implementation of the NEPAD program of action and the improvement of access to ICTs, the ongoing and new reforms of higher education in French-speaking Africa will lead to a major revitalization of higher education in those countries.

Notes

1. The 16 members of CAMES are Benin, Burkina Faso, Burundi, Cameroon, Chad, Central Africa Republic, Congo, Gabon, Guinea, Ivory Coast, Madagascar, Mali, Niger, Rwanda, Senegal, Togo.
2. The NEPAD priority areas are:
 1. conflict prevention, management and resolution;
 2. political and economic governance including capacity building and peer review mechanism and code of conduct;
 3. market access—promotion of intra-African trade and increased access to markets of industrialized countries;
 4. development of agriculture;
 5. human resource development;
 6. provision of key infrastructure to facilitate sub-regional and continental integration-information communication technology ICT, energy, transport and water sanitization; and
 7. increase capital flows.
3. Further information on the project can be obtained at the Institute's website (<http://www.viheaf.net>).

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LATIN AMERICAN UNIVERSITY TRANSFORMATION OF THE 1990s: ALTERED IDENTITIES?

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In times of difference, plurality and fragmentation there is a strong tendency to assume that one important trend can be taken as constitutive of the whole. The 1990s were marked by the presence of a neo-liberal regime of truth that was driven by a clearly defined universalistic ambition. Although produced and practiced inside societies of the North, the most detrimental effects of neo-liberalism have been felt in the South, particularly by its higher education systems. This chapter presents a theoretical and practical critique of ongoing trends and outcomes of Latin American university reform, with special focus on the Argentine and Brazilian cases, and provides elements and values of what could be an alternative model for the future of universities in the region.

Latin American Higher Education: A General Overview

Although the Latin American countries are similar in languages and religion, they have many differences—such as population, ethnic composition, GNP per capita and comparative inequality in income distribution. Their social models range from socialism in Cuba to strongly market-oriented Chile, which has attained certain successes in the context of economic globalization. From colonization through independence to modernization, post-colonialism and whatever lies beyond, no two countries have necessarily followed the same path nor are their stages of development directly associated with one another. While development may appear outwardly to be quite similar, differences in cultural, geographic and historical circumstances yield highly varied rates and outcomes of development.

Having recognized the different context of each country in the region, there is a common pattern of educational enrollment expansion in Latin America, from the second half of the 20th century to the present. Overall, the growth rate of higher education in Latin America in the post World War II period has been remarkable. In 1950, there were approximately 1.5 million students in higher education; in 1995, more than eight million. In 1950, there were 105 universities in Latin America, and by the 1990s there were

over 700, among more than 2,500 institutions of higher learning, including teacher colleges, technical institutes and junior colleges (Albornoz, 1993, p. 136). Even so, in the past three decades the average enrollment ratio has been only 17% of the relevant age group—well below the advanced countries. Of course, there is much variation. According to Carmen García Guadilla (2001), Argentina has reached a 39% participation rate, approaching “universal access” as defined by Martin Trow (1974). Twelve countries are at “mass level”: Bolivia, Colombia, Costa Rica, Cuba, Chile, Ecuador, El Salvador, Panama, Peru, Dominican Republic, Uruguay and Venezuela. Seven countries are in the “elite phase”: Brazil, Honduras, Mexico, Nicaragua, Guatemala, El Salvador and Paraguay. The expansion of Latin American higher education was accompanied by diversification, with an increase in the role of non-university providers and of the private sector. Some countries now have more than one million students (Argentina, Brazil, and Mexico). Colombia, Peru and Bolivia have between 500,000 and one million students, while Bolivia, Cuba, Chile and Ecuador enroll between 150,000 and 500,000. Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Paraguay, Dominican Republic, and Uruguay each enroll less than 150,000 students (García Guadilla, 2001, p. 30).

Although countries such as Chile and Mexico began to reform their systems in the 1980s, discussions on transformation became common only in the 1990s. The discourse included alternative financing options; closer relationships with the productive sector; institutional efficiency; and evaluation and accreditation mechanisms. Approaches to reform have differed considerably. According to Carmen García Guadilla (2001, pp. 30–31), some countries moved to change the legal framework first. Others pressed ahead with reforms. For example, in 1981 Chile approved a new education law containing the elements of the transformation model that the World Bank subsequently propagated as exemplary modernization. In the 1990s, seven countries approved new laws: Argentina in 1995, Brazil in 1996, Colombia in 1992, El Salvador in 1995, Nicaragua in 1990, Panama in 1995 and Paraguay in 1993. The international agenda for the transformation of higher education in the region was also put into practice through the establishment of national institutions for the accreditation and evaluation of universities. Argentina, Brazil and Mexico have placed priority on evaluation systems, while Chile and Colombia have placed priority on accreditation. Sub-regional associations such as MERCOSUR, Central America and NAFTA are pressing for accreditation models as the best means of facilitating academic interchange.

Latin American Universities and Their Historical Identity

The universities of Latin America have a long tradition. Many were established more than two centuries before their counterparts in North America, and most were state institutions, including Catholic universities during the Spanish period. From the very beginning, Spanish conquerors were concerned with educating the individuals who would govern the state and the Catholic Church, which at that time were combined as a single institution in Latin America. The first Latin American university was founded in 1538, only 45 years after the arrival of Christopher Columbus on Santo Domingo.

Universities were established in 1540 in Mexico, in 1551 in San Marcos, Perú, and in 1613 in Cordoba, Argentina. In contrast, the first Brazilian university, Lavras, was founded in 1908. The universities have played a unique role in Latin America, different from the rest of the world. In addition to postsecondary teaching and research, they have assumed such social responsibilities as preparing political leaders, fostering ideological discussion, promoting social change, safeguarding tradition, and retaining and spreading the local culture.

In order to interpret the idea of “university” which underlies Latin American universities, many references have been made to the model of university proposed by Napoleon Bonaparte in the 19th century. However, the so-called Napoleonic university does not reflect the particularity of university institutions in Latin America. Following the break with colonial Spain, secular professional knowledge came to characterize the Latin American university model by the end of the 19th century; this is what the German historian Hans Steger (1974, p. 32) described as the “university of lawyers.” Luis Scherz (1968) recognizes a predominantly secular, pragmatic, and state-oriented conception in the professional university, which has the mission of shaping citizens, professionals, and public administrators. The same author also affirms that this model adapts to relatively static social systems and keeps a close link to the state, which recognizes privileges and rights to the university while financing it. Such universities appear as official state institutions. Under the Ministry of Education funding, the state had become the “teaching state,” and as such, the administrator and inspector of the whole educational system, and situated as an “exclusive sovereign in educational matters” (Scherz, 1968, p. 107).

Lawyers who graduated from these institutions since the end of 19th century became the statesmen and public officers who created the instruments of political control within the state institutions (i.e., courts, prosecution offices, police headquarters, etc.). Through the schools and the press, they carried out other activities which allowed them to widen the expression of the hegemonic classes, whether as writers, poets, or educators. “This group gave rise to a bureaucratic elite and a political class with a formalistic and pompous style which adapted perfectly to the interests of the dominant classes” (Scherz, 1968, p. 109).

Consequently, the Latin American university of the 19th century—recognized as a “university of lawyers”—shared or controlled political power, exerted a significant influence on the field of ideas, and had an increasing weight on the system of cultural institutions (Mollis, 1990). On the one hand, foreign examples in the 20th century had a relevant organizational influence: the German emphasis on research, the English development of institutional diversity, the French Napoleonic conception of the relationship between state and university, and the North American model of autonomy, funding and private institutions. On the other hand, the academic model of Latin American universities is derived from the European one—specifically, the University of Paris, which had a strong influence in Latin America and is still alive in the more traditional institutions. In this model, the curricula are organized by professional programs, the universities have strong linkages with the state and (despite academic autonomy) the state provides the funds and has indirect control over the institutions. For this reason, these institutions met the demands of the ruling social class (mainly, their political

and cultural demands). Professional training has thus been seen as the central task to be accomplished by the Latin American universities from the 19th century to the present.

The International Trends to Reform Higher Education in the 1990s

Literature on the restructuring of higher education systems in many developed and underdeveloped economies in the late 20th century (Altbach, 1999; Mollis, 2003a; Marginson & Considine, 2000; Velloso et al., 1999) indicates a number of common trends converging into a new orthodoxy about the value of higher education and how it should be managed. According to Mala Singh (2001, pp. 24–25), some key trends include:

- The requirement of higher education to demonstrate efficiency, effectiveness and value for money through external quality assurance systems and other accountability frameworks.
- Declining amounts of public funds to subsidize student fees and service costs, and the requirement to satisfy the incremental demand for higher education with less public investment.
- The requirement to run public universities according to private sector principles, and the dominance of managerial and entrepreneurial approaches to higher education.
- The requirement to diversify sources of funding, thus reducing the primary responsibility of the state for public education.
- The privatization of higher education (either component parts of public institutions, like cleaning services and even specialized fields of study, or through encouraged competition with public institutions).
- Market-responsive curriculum reforms, a shift from basic to applied research, increased emphasis on academy/industry links, and greater concern over issues of intellectual property rights and the prioritization of research for product development and commercialization.

The implementation of structural adjustment policies to liberalize the economies of Latin America and integrate them more tightly into the world capitalist system has provoked a number of crises throughout the region. In diminishing the role of state in the provision of basic social services—part of the cost-cutting policies recommended by the World Bank and the IMF—the social safety net provided for the most marginalized populations has been effectively removed. The distance between the wealthy and the poor is increasing. Moves to decentralize and privatize economies are paralleled by initiatives to dismantle centralized ministries of education and charge fees for educational services that were once provided free to all (Arnove, Franz, Mollis, & Torres, 1999, pp. 323–324).

A recent report of The Latin American Studies Association (LASA) Task Force on Higher Education examines the functions, financing, and governance of tertiary education as well as efforts to privatize and professionalize it. The report concludes that although democratization has often rescued higher education from government neglect,

market orientations have not produced a coherent reform agenda. It further notes that the reform agenda is highly polemical, with supporters arguing that neo-liberal reforms have not been sufficiently implemented and opponents arguing that it brought to institutions nothing but an alteration of the social, political and scientific identity of the universities (Mollis, 2003b). The following features describe the consequences of the implementation of the international agenda to reform Latin American higher education in the 1990s:

- Promulgation of higher education laws to regulate higher education within contexts of traditional autonomy.
- Institutional diversification (the creation of new tracks that changed the historical Latin American double-track system into a division of university and non-university tertiary institutions); transformation of the structures of higher education systems (the creation of new institutions like “university colleges” and “university institutes;” and the creation of short-term courses to grant vocational certificates within the university system (charging fees).
- Diversification of financial sources (charging users fees instead of providing free service, and establishing services-for-profit partnerships).
- Strategic alliances between international agencies and governmental decision makers, as well as strategic alliances among the corporate sector, the public sector and the universities.
- Incremental private investment in higher education; marketization of non-accredited (and unsupervised) private tertiary institutions (non-university sector), along with incremental growth of new providers like financial foundations, banking system, corporations, etc.
- New policies for accountability, institutional and program evaluation, and university and graduate program accreditation (combined with the establishing of national and central agencies for accreditation and institutional evaluation).
- New types of institutional coordination—national, regional and inter-campus coordination, supported by new institutional regulations and agreements.
- Strong differentiation among faculty members through the implementation of incentive policies to award productivity based on performance indicators.
- Academic and curricular reforms, including: shortening of university professional programs; granting certificates for short-term courses at the university level; new learning models based on the “training of professional skills and competences;” and expansion of professional graduate courses (at the master’s level).
- New methodologies for the dissemination of knowledge, such as the dominant presence of information technologies and electronic distance learning, that shift the traditional teaching role to remote tutorial activities (Mollis, 2003a).

The above trends and consequences of the implementation of the global and international agenda for reforming higher education systems are bringing universities in line with other social arrangements designed to position national economies for global competitiveness. According to Mala Singh (2001), “the new policy framework for the restructuring of higher education in developed economies is functioning as a powerful and influential global paradigm, shaping higher education policies and practices in

many developing countries' economies, despite huge social, economic and historical differences" (p. 25).

The most recent document on higher education published by the members of the Task Force on Higher Education and Society (World Bank & UNESCO, 2000) starts by saying:

The world economy is changing, as knowledge supplants physical capital as the source of present (and future) wealth. Technology is driving much of this process, with information technology, biotechnology, and other innovations leading to remarkable changes in the way we live and work. As knowledge becomes more important, so does higher education. Countries need to educate more of their young people to a higher standard—a degree is now a basic qualification for many skilled jobs. The quality of knowledge generated within higher education institutions, and its accessibility to the wider economy, is becoming increasingly critical to national competitiveness. This poses a serious challenge to the developing world (p. 9).

The Task Force's observations highlight the worldwide desire to help developing countries become aware of the economic imperative which justifies the transformation of higher education systems. Other sections of the report also convey the relevance of reforms linked to an economic imperative: "There are notable exceptions, but currently, across most of the developing world, the potential of higher education to promote development is being realized only marginally" (World Bank & UNESCO, 2000, p. 10). What we see in all of this is the tendency for the geopolitics of knowledge and power to divide the world into countries that consume "knowledge" produced by the countries which dominate globalization both economically and culturally, and countries which reassign the economic function of training human resources to university institutions located in the periphery.

The International Agenda for Transforming Latin American Universities: Privatization and Marketization in Argentina and Brazil

Most of the private universities and postsecondary institutions in Latin America were created in the second half of the 20th century, and they are for all practical purposes new inventions. Before the 1950s, there were only 14 private universities in Latin America. By the 1970s, they had increased to 50, and by the 1990s there were 197 private universities (García Guadilla, 1996, p. 26). Two possible explanations can be posed to interpret this significant expansion. First, governments are aware of the difficulties in satisfying the increasing demands for higher education with the current state institutions, given organizational and financial constraints. Second, neo-liberal policies in the region resulted in the reduction of public funding and in the transfer to the private sector of numerous activities. Philip Altbach (1999) also points out that not only has demand overwhelmed the ability of governments to pay, but there has been a significant change in the way that higher education is considered. The idea of an academic degree as a "private good" that benefits the individual rather than a "public good" for society is now widely accepted. The logic of today's market economies and an ideology of

privatization have contributed to the resurgence of private higher education and the establishment of private institutions where none existed before (Altbach, 1999, p. 1).

Although Latin American higher education has grown faster than primary and secondary education, and its growth rate is the highest for any region of the world—approximately 3% annually between 1975 and 1990—it is the private sector that registered the most dramatic gains. In the 1970s, approximately 5% of higher education students were enrolled in private institutions; today over 30% attend private universities and colleges. Enrollment in private universities in Brazil is the highest in Latin America—at 61.5% of the country's enrollment, it is double the average figure for Latin America. There are, of course, deep differences in public and private higher education from country to country throughout the region.

In Argentina, for instance, there were 149 students per 10,000 inhabitants in 1980, compared to 478 students in 2000. Currently, more than 1,700,000 students—representing 15.6% of the total enrollment in the education system—attend institutions of higher education. Here, the higher education system is divided into two tracks: the university and the non-university track, which consists of primary and secondary school teacher training institutions and vocational technical training institutions. In 2000, roughly 75% of the students in the higher education system were on the university track, while 25% were on the non-university track.

The growth in the number of private universities and tertiary institutions during the 1990s is striking. There was a widespread perception that traditional universities were not meeting the needs of the lifelong learning cohort, and subsequently new providers—like elitist private universities—entered the field to meet market demands. In contrast to the 11 public universities created in the last decade, there were 27 private universities created in the same period. At present, there are 91 universities and colleges in Argentina. Though public universities enroll the bulk of higher education students, there was an increase of 369% in enrollments in the non-university private track from 1980 to 2000, in contrast to a 226% increase in the university track (Mollis, 2003, p. 22).

In addition to the expectation that the universities in Latin America will generate new sources of funding from the private sector, they participate in evaluation and accreditation processes as well. Universities also face the challenge of responding to an increased demand for higher education. Only a few years ago, it was almost impossible to think about evaluation and accreditation for the traditional universities because they were very powerful institutions, totally independent of all external authority and strongly resistant to any kind of public control, given that they had been established as autonomous institutions. Consequently, the institutional reforms of the 1990s made the traditional autonomy responsive to the international agenda and to local economic demands.

The discourse of international agencies is neither uniform nor homogenous. In the case of Argentina there was considerable agreement between the statements of the World Bank and those of the Inter-American Development Bank (IDB) (Mollis & Bensimon, 1999). However, there was one important variation. The World Bank maintained that quality was impoverished in Argentina's higher education system, and attributed this impoverishment to the autonomy and the state subsidizing of universities.

It suggested constant monitoring of student performance, restricted admission to the university, and the payment of tuition. Free access was linked to the squandering of resources and the politicization of the university (World Bank, 1993, p. 89). By contrast, the IDB rejected the use of homogenous and generalizing instruments to measure quality. It suggested initiatives that would be “innovative” and aspire to achieve change, as well as partnerships in initiatives between the state, provincial governments and the private sector (Mollis & Marginson, 2002, p. 316).

Although the terms privatization and marketization are frequently used (sometimes interchangeably) to describe recent changes in welfare provision, they are loosely defined, according to Whitty and Power (2000, pp. 93–107). Both terms are not intrinsically linked, though one can lead to the other. As Simon Marginson (1993) points out, “while privatization does not in itself constitute market relations, it creates a potentially favorable environment for market activity” (Marginson, 1993, p. 178). Whereas theories of modernization assume that all countries of the Latin American region wish to be modern in the same Northern conceptions of development, the neo-liberal underpinning of globalization suggests that all the countries will profit equally from reliance on the market.

The market-driven reform is based on the idea that the market will compensate for the withdrawal of public funds from the public educational system. However, early results of these policies do not bode well for the institutional development of the universities. One of the most visible consequences of these market-driven policies is the proletarianization of researchers and faculty members as a result of salary cuts, dismantling humanistic programs and the public disinvestment in research and technology development. The “marketization” process is economically driven not only by the global dominance of the market but mainly in response to the third sector—the service sector—of Latin American economies, which is the sole dynamic sector in a recessive labor market in an unindustrialized capitalistic economy (Mollis, 2002, p. 22).

Brazil in 1998 had 169 million people and nearly 1.7 million tertiary-level students, which represented an enrollment of 11% of the 20–24 year-old cohort. There were 851 postsecondary institutions, of which 218 (26%) were public and 633 (74%) were private. Among them there were 127 universities (53.5% were public and 46.5% were private), 91 research universities, and 724 non-university institutions (21% of them public and 79% private) (García Guadilla, 1996, p. 25; Gonzalez, 1999, p. 78).

Luis Eduardo González (1999) points out that the higher education system of Brazil falls under the jurisdiction of the Ministry of Education through the Federal Council of Education (CFE). Undergraduate programs must be accredited by the CFE, with reaccreditation every five years. As a result, there is no well established system for evaluating undergraduate programs (such as that which exists for the graduate programs). Rather, the accreditation of undergraduate studies has consisted basically of establishing “input” criteria for assigning resources and determining some factors, such as the student/faculty ratio or the cost of teaching, among others (González, 1999, p. 79).

From an analysis of current higher education policies in Brazil, several authors—such as Helgio Trindade (2000) and Denise Leite (2001)—point out that recent trends are associated with a neo-liberal project aimed at minimizing the state. These policies

try to adapt the highest level of formal education to market demands and to the national state reconfiguration process. Dias Sobrinho explains:

“At present, a significant concern is to verify that diversification and differentiation policies under way in the country are based on four fundamental suppositions of neo-liberalism: a) they try to favor competition and the satisfaction of different demands and clients; b) they try to “naturalize,” even more, individual differences through the gradual establishment of a meritocratic system, where each individual will have access to the kind of higher education that he or she “may” afford; c) they increase the subordination of higher education to the market, particularly training and the privatization of activities and services; and d) they explain the method of operation of the system rather than its social purposes” (Dias Sobrinho, 2000, p. 58).

Another aspect of the new identity of the Brazilian university is related to the change in the curricula. The importance of graduate course curricula began to grow after the start of the higher education reform in 1995. Some of the elements which had a bearing on the matter include Law 9131/95; national and international discussions on professional standards and competences; the process started by the Secretariat of Higher Education in 1997; and the position adopted by the *Foro de Pró-Reitores de Graduação* for institutional evaluation and accreditation. The Ministry of Education intends to adapt university curricula to the changes in the labor market on the basis of the following principles: flexibility for the curricular organization, adaptation to job market demands, integration of graduate and postgraduate courses, emphasis on general training, and development of general skills. The neo-liberal labor market requires individuals to acquire multiple skills and flexibility. Other Brazilian authors (Leite, 2001; Trindade, 2000) have also come to the conclusion that higher education in Brazil is being adapted to processes associated with the “academic capitalism” well described by Slaughter and Leslie (1997), meaning that institutions adopt a mercantile rationality for the benefit of enterprises, rulers, and hegemonic classes (Catani & Ferreira de Oliveira, 2000, p. 48).

Denise Leite (2001) describes the impact of extrapolating values from the market and infusing them into some Brazilian university campuses: “‘Entrepreneurial professors’ are the result of such extrapolation: they sell their courses—i.e., they make their curricular offerings more attractive in search of student-clients. They adapt their conferences and papers to the sales codes of canned knowledge: efficiency and productivity indicators, evaluation of results, and leadership to win. The international agencies hire entrepreneurial professors as expert technicians in pre-established descriptions subject to the adjustment of theories and concepts” (Leite, 2001, pp. 23–26). Overall, privatization and marketization are having a major impact throughout the higher education systems of this region.

Evaluation and Accreditation in Latin American Universities: Some Remarks

In the last decade, the assessment of universities (including quality assurance) has become a major focus of regulation, a pattern that is structured globally in ways that contribute to convergence across countries. Quality assurance policies emerged and

developed in the 1990s as part of a neo-liberal agenda for university modernization, an agenda framed by the intersecting relations between global, national and institutional agencies. The struggle over assessment varies depending on the universities' size, age, mission, and whether they are public or private. In a context of negotiation that tends to be more political than academic, the discourse and practices of international agencies, central government and university actors are often at odds. University assessment is not a neutral search for universal, quantifiable "total quality;" it is constituted through conflict and the exercise of power. The university does not independently establish its own parameters, yet neither can the government set assessment parameters without regard for the university. The field of assessment, then, is a shifting interplay of university autonomy and governmental heteronomy (Mollis & Marginson, 2002, p. 312).

Although there is not yet a sufficient body of experience or data to support conclusions about the impact of evaluation and accreditation in the region, there is some empirical evidence to support the following observations, mainly elaborated by the regional expert on evaluation and accreditation, Luis González (1999, p. 91):

- there is a lack of adequate information to ensure transparency of the market and of the governmental policymakers for establishing the national agencies for accreditation;
- demand for postsecondary education is increasing, influenced by popular trends and the promotion of certain careers that is not necessarily socially congruent with demands of the labor market;
- there exists a delay between the reporting of specific labor market needs and the availability of trained professionals to satisfy these needs, which impacts regional and local economic development; and
- the evaluation system was created by the state as part of the neo-liberal policies for the region and not for the institutions themselves; this fact does not necessarily lead to a positive impact in terms of improving institutional quality.

In the last 10 years, economic globalization has underpinned experiments in university assessment and control within the neo-liberal framework. Governments are re-engineering their systems to monitor and control academic life. Simultaneously, in many countries there has been a reaction among universities and intellectuals with a history of autonomy, demanding forms of accreditation and assessment independent of government and oriented toward improving the quality of teaching, learning and research. The new governmental heteronomy has subordinated institutional autonomy without abolishing it. In Latin America—and probably all around the world—the terms of autonomy have shifted from an education-centered and participatory culture (especially in Argentina) to the culture of self-managing corporate institutions led by professional managers or administrative bureaucracy. In the practices of assessment in most of the countries, there appears to be a weakening of specifically pedagogical objectives, as assessment takes the form of institution-wide approaches controlled by managers or bureaucrats—depending on private or public administration—rather than discipline or course-based approaches shaped by teachers and students (Mollis & Marginson, 2002, p. 326).

Conclusions

The 1980s was a decade of “structural adjustments,” and represented the deployment of the neo-liberal doctrine through the imposition of a new scheme of financial discipline and modernization of the state. Since then, as in the case of other major social institutions, Latin American universities have been undergoing dramatic reorganizations in a context that takes the global economy rather than the nation-state as its point of departure. This “common sense” was built in the 1980s and definitely took shape late in the 1990s, acknowledging the social value of higher education but emphasizing its role in meeting labor market demands and enhancing national competitiveness.

The idea of a Latin American public university during the 20th century (either publicly or privately managed, such as the universities managed by religious orders) implied scientific quality, social importance, pertinence, and equity. Clearly, the 21st century’s idea of a corporate university differs from the former in that it appeals to profit in favor of public interests, and contributes to social segmentation while placing the interests of ruling elites and capitalist ambitions at the center.

At present, the altered identities of at least the Argentine and the Brazilian universities lead these institutions toward the homogenization of knowledge and shape them in the interests of international banking agencies and for the service sector’s needs. It is necessary and urgent to decontaminate the concept of quality from the connotations of total quality; to separate the notion of financial logic from financial return; and to dissociate efficiency from academic excellence, demanding instead that the university fulfill its social responsibility to its beneficiaries. There is an urgent need to recover the social, ethical, and humanistic significance of educational quality. The university does not only produce the technical and scientific knowledge necessary for the development of the country; above all, it must produce the knowledge necessary for a democratic, just, and more equitable construction of society.

The Latin American university must invent knowledge not conditioned by the codes of profit; it must reconstruct its identity for the benefit of our societies, which are unprotected from possessive individualists who deny the value of culture because it is not listed on the stock exchange. If the Latin American university is considered as a market entity, then there is no space for real and significant criticism. Institutional evaluation and assessment must be directed toward the deepening of the conditions of criticism at the university, promoting public debates—acting as a mediator among actors, sectors, and institutions—and must be developed as a collective action focused on the criticism of the institution itself, both internally and in its relations with the larger society.

This chapter supports the idea that the efficient administration of a Latin American public university should not be based on profit earning, but on the sense of its social function. Some necessary missions in responding to the global challenges of our impoverished societies include the need to train independent and creative professionals as active citizens and future leaders; to foster epistemological diversity and disagreement; to turn single-sided thinking into a plurality of alternative ways of thinking; to enrich the cultural heritage; and to make science sensitive to social needs. Also, the

expansion of scientific and cultural fields—and the production of scientific, technological, and cultural assets—creates wealth and strengthens the economic development of the peripheral countries about which the international agencies are so much concerned. Clearly, higher education has an important role to play in Latin America throughout the foreseeable future.

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HIGHER EDUCATION IN SCANDINAVIA

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With the emergence of the knowledge-based society, higher education in Scandinavia¹ has undergone substantial reforms. Socio-economic restructuring and the globalization of markets have influenced infrastructure and development, while international trends in higher education have inspired policies. Similarities in history, cultural and political conditions in the Scandinavian states underscore common features in higher education, although there are many differences as well. This chapter focuses on the development, structure and policy of university systems. Part I discusses general characteristics of the Scandinavian countries, highlighting recent changes and future perspectives, while Part II provides individual country descriptions.

General Characteristics of Higher Education in the Scandinavian Countries

Access and Participation

According to a recent OECD (2003a) study, Scandinavian countries are among those that invest the most public resources in education. Denmark, Norway and Sweden spend the highest amount on educational institutions per student. Denmark, Finland and Sweden (together with the U.S. and Canada) are countries with the highest total expenditure on tertiary education institutions (public and private) as measured by percentage of GDP budgeted for research, educational and ancillary services. In fact, public support for students and households accounts for about 30% or more of public tertiary budgets in Denmark and Sweden.

From this, it comes as no surprise that access and enrollment rates are among the best in the world. Rates of participation in higher education are over 60% of young people in most Scandinavian countries, and students can expect to receive at least 3 years of tertiary education during their lifetimes. Iceland and Sweden have the largest subsidies in terms of student loans, and also have high rates of access to tertiary education. Finland does not have a publicly funded loan system. Despite this, Finland has the second highest tertiary participation rates among the OECD countries (OECD, 2003a). Extensive student exchange programs exist throughout Scandinavia. Sweden

and Denmark received the highest proportion of foreign students in Scandinavia in 2001 (7.3% and 6.5%, respectively) while many Icelandic and Norwegian students (20.5% and 5.1%) studied in a foreign country (OECD, 2003a).

Research and Development

The level of research and development (R&D) in Scandinavia is among the highest in the OECD. Among the EU top 10 R&D performers (as measured by the amount and impact of faculty publications) are higher education institutions in Denmark, Finland and Sweden. Indeed, compared to the OECD average, all the Scandinavian countries show impressive publication rates, with significant growth—particularly in Finland—during the 1990s. In comparative measurements of technological performance and patents per capita, Finland and Sweden achieved marks as high as 156 and 214, respectively, compared to the EU mean of 80 (OECD, 2003b).

There are similarities among the research policies that have been implemented throughout Scandinavia during the last several years. University education and research are currently perceived within the framework of R&D and innovation policy, and quality of outcomes is assessed on the basis of societal relevance (a transition from Mode 1 to Mode 2 research).² Cooperation with the private sector has been given particular attention, and hence external funding has increased considerably (Kalpazidou Schmidt, 2003). Simultaneously, with a higher proportion of research funds allocated by means of competition, the share of public funding granted directly to institutions is decreasing. Implications include changes in organizing and distributing funding, in organizing research environments, and in the strategic direction of institutional governance.³

Another trend in Scandinavia is greater state intervention in research policy, along with increased emphasis on strategic planning and government monitoring. A strengthening of the research councils has taken place in Denmark, Iceland, Norway and Sweden, creating a more flexible funding system that encompasses strategic research directions and promotes interdisciplinary approaches. Centers of excellence have been established (in Denmark, Finland, and Norway) together with new foundations based on public funding (in Denmark, Norway and Sweden)—all of which focus on problem-oriented research and user-oriented postgraduate programs (cf. Kaiser et al., 2003; European Commission, 2003).

Among the Nordic countries, Sweden (4.3%) and Finland (3.4%) invested the most in R&D in relation to GDP within the OECD (2003b). Corresponding figures for the other countries of the region are 2.4% in Denmark, 3% in Iceland and 1.6% in Norway. While differences in R&D investments between Denmark, Finland and Norway were minor in the beginning of the 1980s, differences became pronounced in the 1990s. Finland's spending grew the most as a result of investments in the electronics industry, while Norway's grew the least, with limited investments in industry. Of the total spending on R&D, the industrial sector amounted to 78% in Sweden, 71% in Finland, 69% in Denmark, 60% in Norway, and 59% in Iceland. Meanwhile, public higher education spending on R&D was 26% in Norway, 22% in Denmark, 19% in Sweden and Iceland, and 18% in Finland.

Human Resources

With regard to human resources, Finland, Sweden and Iceland (together with Japan and the U.S.) lead the OECD in terms of the number of researchers relative to the population. Finland and Sweden reflect the highest number of researchers per 1,000 members of the labor force in the EU (higher than the U.S. and second only to Japan). Further, between 1995 and 1999, the number of researchers grew by 50% in Finland, 19% in Sweden and 16% in Denmark. In 2001, Finland and Sweden had the greatest share of human resources per capita in R&D (0.57% and 0.56% respectively), with 0.48% in Denmark and 0.32% in Norway. The proportion of the workforce involved in R&D is highest in Finland (2.03%), with only Japan achieving higher rates. Corresponding figures are 1.62% in Sweden, 1.48% in Denmark and 1.13% in Norway. Aside from these impressive figures, however, a large number of academic staff in Scandinavia will be retiring in the near future, causing increasing concern about the future of higher education and R&D in this region (OECD, 2003b; Kim, 2002).

A comparative look at the production of new Ph.D.s in science and technology also reflects favorably on the Scandinavian countries; for every 1,000 inhabitants, 1.24 new doctorates were awarded in Sweden, 1.01 in Finland, and 0.49 in Denmark—all of which are higher than comparable figures in the U.S. (0.41) and Japan (0.25). Overall, the number of Ph.D.s in Scandinavia doubled during the 1990s. The fastest growth has been observed in Finland, which (together with Korea, Germany and Switzerland) led the OECD in production of university level graduates in the natural sciences and engineering (as a share of total graduates) in 2001 (OECD, 2003b). Finland and Sweden (together with Switzerland and Germany) recorded the highest numbers of doctoral graduates per capita. In Denmark and Norway, the corresponding figures were below the EU average, but above the OECD mean. In Sweden, the flow of doctoral students has declined due to financial restrictions introduced in 1998. In Denmark, figures increased in the beginning of the 1990s (due to the introduction of the 3-year Ph.D. program) but recent entrance figures indicate stagnation. In Norway the population of doctorates has been traditionally low, but the government intends to increase the number of doctoral students by up to 60% in the coming years. A future challenge for Scandinavian higher education is thus to further build the human resources and make use of all existing potential in order to develop the knowledge-based economy (NORBAL, 2004).

From a Scandinavian perspective, Denmark has the strictest professional advancement system and thus the lowest numbers of full professors per capita. In Denmark, Finland and Norway, non-essential restructuring of the academic advancement system has been initiated during the last several years. In Sweden, a promotion reform in 1999 raised the number of professors, although the professoriate is still smaller than in Finland. Norway enjoys the highest number of professors in Scandinavia (Kalpazidou Schmidt, 1996; 2004).

Most Nordic countries have developed initiatives to encourage women to apply for positions and thus make use of their countries' full human resource potential. From this perspective, an interesting observation is that dynamic research environments⁴ have a larger share of female staff than others. In Finland, targeted long-term measures in the 1980s increased the number of women in higher education and research (50% of

Ph.D. graduates are female). Norway has taken similar initiatives, but without achieving similarly positive results. In Sweden, an affirmative action-like approach is expected in recruitment for higher education positions, and the issue of female under-representation is currently being discussed in Denmark (Stähle, 1999; Kalpazidou Schmidt, 2004).

Regional Cooperation

All Scandinavian countries participate in the EU schemes SOCRATES/ERASMUS (for students) and Marie Curie Fellowships (for researchers), both of which aim to increase academic mobility throughout Europe. In addition, there are Nordic regional cooperation schemes based on agreements from 1971. Nordic Ministers of Education and Research regularly meet within the framework of the Nordic Council of Ministers. In 1995, it was decided to create a common Nordic area for education and research. Approximately 26% of the Council's budget is allocated to education and research. Other priorities of the Council include the establishment of networks with the Baltic States, Northwest Russia and the Barents Sea region.

In 1989, Nordic exchange programs for students and teachers (NORDPLUS) were established. The Nordic Academy for Advanced Study also provides research funding to students and researchers with an aim to promote mobility in the region. Recent initiatives include distance education and the establishment of Nordic e-networks among schools and higher education institutions, and a program for Nordic Centers of Excellence. A Southern Scandinavian regional cooperation initiative is the Øresund University, involving 12 universities on both sides of the Øresund Strait (i.e., the countries of Denmark and Sweden). This project aims to strengthen interregional relations between existing education and research institutions.

Scandinavian Models: Changes and Perspectives

One could ask whether there is a Scandinavian model for higher education. There is no simple answer to this question, as it depends on the point of view (national or international) and the topic in focus. However, seen from an international perspective one can identify some common features.

In Scandinavia, higher education is perceived as a public service and as such is in principle tuition free. Education has traditionally been state controlled and funded by central governments or other public authorities. However, decentralization and institutional autonomy are gaining ground. Increased autonomy goes along with new modes of institutional governance. Stronger institutional governance has been implemented, with enlarged responsibility for leadership and new managerial models based on hierarchies. The introduction of external members on university governing boards has increased the number of stakeholders and, in some cases, weakened the authority of professors. Universities have been given a third responsibility (in addition to education and research) of contributing to regional and national socio-economic development. Increasing concentration on this third mission has influenced the organization, content and governance of institutions (cf. Kalpazidou Schmidt, 2005; Kim, 2002; Tjeldvoll, 1996).

Meanwhile, the state has reduced its financial support, making universities more accountable for education and research outcomes and responsible for identifying new external funding sources. Demands on legitimating activities have increased, meaning that issues such as efficiency, strategic planning, control at the institutional level and international competitiveness have been given more attention. Innovation, efficiency and competitiveness dominate the agenda. National agencies have been established to perform systematic evaluations in order to receive better counseling and enhance institutional development. In some cases, evaluations have been used for control and resource allocation (cf. Kalpazidou Schmidt, 1996; Kalpazidou Schmidt, Graversen, & Langberg, 2003; Kalpazidou Schmidt & Siune, 2003).

International trends such as the transition to a mass system (widening access and expanding higher education, often without additional funding), increased mobility, internationalization of education and research, and cooperation across borders have influenced higher education systems throughout Scandinavia. The market for higher education has been opened up with new institutions, programs and competition, as well as with new modes of cooperation. Efforts to integrate the European Research Area and the European Higher Education Area are indicative of the development towards the Europeanization of systems and harmonization of degrees.⁵

However, differences exist within a range of issues. There are differences in pace, strength and the chronological introduction of reforms in the Scandinavian countries. Governments have been setting the aims and strategies for higher education and research, but the intensity of change has varied. One important success factor is the political consensus on goals for science policy and investments in education. Sweden and Finland have, as a consequence of economic recession, undergone the most dramatic changes, adopting the “triple helix”⁶ concept and involving external agents in governance. Denmark has moved in the same direction, while Norway has been more moderate in its reform policy and implementation pace.

These are among the most important trends and policy challenges that transcend several Scandinavian higher education systems. Obviously, a closer scrutiny of each country reveals individual challenges and key trends which may further improve our understanding of higher education in this region.

Brief Country Descriptions

Denmark

Knowledge institutions in Denmark include universities, governmental research institutions, university hospitals, technological service institutions, centers of tertiary education and business academies, and science parks. There are 12 universities that differ in terms of history, capacity and size, academic profile and scope. The University of Copenhagen was founded in 1479; the University of Aarhus, in 1928; and the newest—IT University of Copenhagen, established in 1999—became the 12th university in 2003. With an eye toward decentralization, three universities were founded in Odense (1966), Roskilde (1972) and Aalborg (1974). In 2001, 44% of young people entered university programs, which is a low number compared to the rest of

Scandinavia. Today, there are roughly 110,000 university students and 10,000 university teachers and researchers (UVM, 2002).

Recent years have seen a separation of responsibilities for higher education outside the universities—which falls under the jurisdiction of the Ministry of Education—and universities and research, which are the responsibility of the Ministry of Science, Technology and Innovation. The Ministry of Culture is responsible for an additional 20 higher education institutions which specialize in the fine arts, music, and architecture, among other such fields. In 2003, Parliament approved a University Act that changed the legislative framework and economic conditions for universities. In accordance with the new act, external board members are now appointed and universities have gained a greater degree of self-governance and institutional autonomy. One important change is the appointment, rather than election, of institutional leaders (rectors, deans of faculties and heads of department) and the abolition of collegial bodies. Moreover, the new act extends the role of the universities in the exchange of knowledge and competencies with other agents, including the private enterprise sector. The strategic selection of research and education activities is another priority. The act also aims to reduce the number of dropouts, increase international mobility and interaction, and introduce a modular structure for all bachelor's and master's programs (Ministry of STI, 2003; 2004; cf. Kalpazidou Schmidt, 2005).

Structure of higher education. The Danish higher education system is based on three types of programs that differ with regard to duration and level: *Short-cycle programs* (of 1½–2½ years), offered in vocational colleges (technical and business) and specialized institutions (colleges of education, engineering, etc.); *medium-cycle programs* (of 3–4 years) offered at specialized vocational institutions and universities, and leading to professional diplomas; and *long-cycle programs* (a 3-year bachelor's and 2-year *candidatus* program or a 5-year continuous program leading to a *candidatus* degree) offered at the universities. Ph.D. programs are also offered at all universities.

Two types of higher education institutions exist: colleges and universities. Colleges (CVUs) are professionally oriented and comprise more than 150 specialized institutions, offering short-cycle and medium-cycle professional programs. Colleges are increasingly merging and transforming into larger, more diverse units. Some colleges with short-cycle programs are evolving into business colleges, and others with medium-cycle programs have formed one of the now 23 centers for higher education.

Of the 12 universities in Denmark, five are multi-faculty and four are mono-disciplinary universities (specializing in engineering, education, pharmacy, agriculture and veterinary science). An additional mono-faculty university—the Technical University of Denmark—focuses on technological training and research. Two of the multi-faculty universities (Roskilde and Aalborg) give attention to project-based learning, while three universities (Copenhagen, Aarhus, and Southern Denmark) have traditional multi-faculty structures. Finally, there are two business schools with university status in Aarhus and Copenhagen.

In 1992, a 3 + 2 (long-cycle) program was introduced to make the system compatible with international degrees. The Ph.D. program was also reformed in 1993 resulting in an expansion of the number of students. However, in recent years (due to stagnation

in enrollments), the number of degrees awarded has stabilized. A number of doctoral schools have been set up within nearly all disciplines, aiming to ensure the continued development of dynamic environments.

Access and enrollment. As a rule, there is free admission to higher education, but taking into consideration three elements: centrally determined rules which specify admission requirements, such as qualifying exams; determination of the capacity of the annual intake; and admission control to match the number of applications with institutional capacity. Studies are tuition free with the exception of students enrolled in the Open University courses or courses in part-time education tailored for employees in the private enterprise sector. Also, the government has recently proposed tuition fees for students from non-EU countries (Ministry of STI, 2004).

In the early 1990s, a joint admission system for higher education introduced two quotas regulated by central rules. *Quota I* gave admission according to the average grade in the qualifying exam of students, while *quota II* was based on criteria specified by the institutions that allowed for individual assessments with regard to work experience, other education or study abroad. A reform in 1995 allowed institutions of higher education to determine their own admission procedures, but in 1999 the central determination of quotas for each level of education was reintroduced. Nowadays, all universities adhere to the coordinated application scheme that distributes student places according to centrally decided access criteria (UVM, 2002).

The number of degrees awarded by the newer universities has grown significantly since the 1980s, while the number of degrees awarded by the traditional universities (Copenhagen and Aarhus) has remained constant over time. However, recent stagnation in enrollment figures seems to reflect a decline in the numbers of young people.

Financing. Higher education in Denmark is funded mainly by public means at a rate higher than in other Scandinavian countries (with the exception of Norway). Sources of university funding include direct appropriations provided by the annual Appropriations Act; targeted research grants provided by the research councils, the EU, and foundations; and private donations. University *basic research grants* (approximately 60% of the research budget) are not targeted toward specific research, while *subsidies* (approximately 40% of the research budget) are attached to specific programs and projects. In recent years, a portion of the grants has been activity dependent—i.e., reliant on student production, training of researchers and the ability to attract external funds. In addition to direct funding to the institutions, the Danish government allocates substantial resources (the highest among OECD countries) to student grants. Most university grants for educational purposes are directly linked to the number of “full-time equivalent students” who are successfully passing annual exams (Ministry of STI, 2004).

Quality assurance. In 1999, development contracts between universities and the Ministry of Science, Technology and Innovation were introduced. A university development contract is a letter of intent stating strategic areas in which the university intends to focus. The *first-generation university development contracts* (2000–2004) focused on education and research, quality assurance, internationalization, IT-based learning

and innovation. The *second-generation contracts* focus on the strengthening of links with society, national and international cooperation (also with businesses), quality assurance, research and benchmarking with foreign universities (Ministry of STI, 2004).

The external quality assurance of a university's education and teaching consists of (i) a nationwide body of external experts in the assessment of quality and relevance of education, and (ii) members of the Danish Evaluation Institute. Bottom-up evaluations of education are also undertaken by the universities, and other quality development instruments are used. Accreditation is an acknowledged quality assurance tool in Denmark (cf. EURYDICE, 2005; Kalpazidou Schmidt, 2003).

Academic positions. Staffing comprises the following full-time positions: professor (tenured), associate professor (tenured) and assistant professor (untenured). The total number of full professorships is determined at a central level. Professors' assignments comprise teaching, research and administration. There is also a number of term-limited or part-time academics within research or teaching.

Danish universities have approximately 1,300–1,350 full professorships—a low number compared to other Scandinavian countries, especially Norway and Finland. Even though the number of full professors has recently increased, there are at present 200–250 vacant professorships. The age of scientific staff implies high annual retirement among staff in tenured positions by 2010–2015. University expansion during the late 1960s and early 1970s created a high number of positions for associate professors and researchers, but this was followed by a time of stagnation in recruitments. Stricter qualification requirements introduced in 1984 increased the average age of staff in tenured positions. Young academics are usually employed in untenured positions. Internal and external mobility of scientific staff is modest. However, the government intends to introduce the concept of “super professors” with the aim to attract the best Danish and foreign researchers and build internationally competitive research environments.

Internationalization and mobility. Internationalization of higher education has expanded in recent years, and a growing number of institutions offer programs in English. Danish students increasingly include study visits abroad as part of their education, and a growing number of students earn their entire degree abroad. Half of these study in either the UK or another Scandinavian country. Students may obtain a state education grant for a maximum of 4 years, provided that they enroll in publicly recognized education programs. Students participate in exchange programs or bilateral exchange arrangements that usually last between one and two semesters. With the introduction of the EU program SOCRATES/ERASMUS, student mobility out of Denmark has doubled, while mobility into Denmark has improved by a factor of four. In 2001, more than 7,000 Danish students studied abroad (4% of the country's total student population); most studied in another EU country, with more than 900 in Scandinavia and a similar number in non-EU countries. Internationalization of education and research training is part of the university development contracts. Ph.D. programs must include visits at other primarily international institutions. In 2000, 5,000 Ph.D. students enrolled at Danish universities; 9% of them were foreign students. At the same time, 5% of all Ph.D. students obtained a degree abroad. Denmark provides tax incentives to the recruitment of foreign experts (UVM, 2002).

Finland

In comparison with other OECD countries, Finland has done outstanding in terms of R&D and innovation. Higher education has played a key role in this process, as more than 72% of young people enter tertiary education (OECD, 2003a, 2003b). Higher education in Finland consists of universities and polytechnics, Open University and Continuing Education. The first university was founded in Turku in 1640. In the beginning of the 19th century it was moved to Helsinki and remained Finland's only institution of higher education until 1908, when the Helsinki University of Technology was founded. Later a Finnish- and Swedish-language university was established in Turku. In the 1950s and 1960s, institutions within economics and technology were founded. The scope of higher education was narrow and geographically concentrated in Southern Finland. In the 1960s and 1970s, higher education expanded due to demands for educated labor and regional equality, with the establishment of universities in Eastern and Northern Finland (Ministry of Education, 2002a; 2002b).

Parliament approved its first Higher Education Development Act in 1966. The purpose was to ensure a steady growth of resources for universities and increase capacities in technology, natural sciences and medicine as well as to ensure international compatibility. A new act approved in 1987, with additional funds for universities, prepared for reforms and a shift towards steering by results. In the 1990s, a binary system was introduced with the establishment of the polytechnics network.

In 1999, a Development Plan for Education and Research (1999–2004) was adopted. It focused on improving quality through evaluation and competition, educational equality, lifelong learning and a public commitment to maintaining a high level of funding. Higher education institutions were encouraged to improve (i) regional responsiveness, through cooperation with their local society, and (ii) internationalization at every level; in one strategic objective, approximately one-third of all students are expected to study abroad for at least part of his or her degree. Today, significant achievements in these areas have become a hallmark of Finnish higher education. Also, the Finnish technological infrastructure is considered one of the best in the world, and engineering is strongly represented in higher education institutions—in this regard, the Finnish system differs from many of its European counterparts (Ministry of Education, 2001; 2002a).

In recent years, authority has been transferred from the Ministry of Education to the institutions, and the system of steering by performance is nowadays based on well developed evaluation procedures. Universities and the ministry formulate objectives for each institution and make agreements on funding or the number of students to be enrolled (as is the case for polytechnics). According to the University Act, universities are autonomous and entitled to accept external representatives (businesses and otherwise) as board members. The Polytechnics Act, ratified in 2003, acknowledged the role of social partners to formulate objectives for the polytechnics.

Structure of higher education. In Finland there are ten multi-faculty universities, six specialized universities and four art academies, all public and engaged in education and research. In addition, there are 29 polytechnics awarding professional degrees.

In 1995, a system of researcher schools was established to supplement traditional postgraduate education. At present, 24 polytechnics are given permission to award up to 300 postgraduate degrees. The polytechnic degree is designed to respond to requirements of the labor market.

The university degree system has regularly been reformed based on evaluations carried out by the universities and the Council for Higher Education. Lower academic degrees are first degrees of the bachelor's level and consist of 3 years of studies. Higher academic degrees are second-cycle master's degrees and consist of a total of 5 years, or a bachelor's plus 40–60 credits (Ministry of Education, 2002a; 2002b).

Access and enrollment. Entrance examinations are a key element in the selection process for enrollment in higher education. During the last decade, the number of undergraduate students has risen by nearly 40%, and similar growth has been seen among the number of master's and doctoral students. The Finnish matriculation examination determines general eligibility for university education, and is equivalent to international certificates. A 3-year vocational qualification also provides admission to university studies. Universities may also admit applicants who have completed Open University studies. Selection procedures are based on matriculation examinations, school-leaving certificate and entrance tests. As such, there is no national entrance examination common to all universities. Admission to polytechnics is based on a joint national system for application administered by the National Board of Education. Polytechnics determine their own entry requirements. Entrance to polytechnic postgraduate programs requires a minimum of 3 years work experience after completion of higher education studies.

Financing. In general, higher education in Finland is publicly funded. However, external funding as a percentage of overall funding is rising. The Academy of Finland and the National Technology Agency are the main funding agencies. Public university budgets are allocated according to a formula that has been gradually implemented since 1997, and implies that universities are granted resources primarily according to target numbers for master's degrees and doctorates. Lagging behind the targets has an impact on funding. The research budget for universities is also based on the number of doctoral degrees produced, although Finland recently announced its intentions to increase public research spending between 5% and 13% for major research agencies (universities, polytechnics, the Academy of Finland and the Technology Center of Finland). Polytechnics are also financed mainly by the government (57%) and by local authorities (43%), with additional funds granted on a performance basis (Research Nordic 2003; Ministry of Education, 2002a; 2002b).

Quality assurance. Universities and polytechnics have extensive self-evaluation procedures, and performance evaluation is an integral part of university and polytechnic operations. Evaluation is both external and internal, and includes several councils and boards. Institutions are assisted in their evaluations by the Higher Education Evaluation Council, established in 1996, and evaluation of research is conducted by the Academy of Finland.

Academic positions. Academic positions in Finland consist of professors, senior assistants, assistants and lecturers. There are full-time untenured positions as well, although declining in numbers. There are approximately 8,000 teaching positions, of which 2,200 are full professorships. Polytechnics employ principal lecturers with a licentiate or doctoral degree and lecturers with a master's degree. Both categories require a minimum of 3 years work experience. There is an ongoing debate in Finland on who is qualified to serve as a lecturer at the polytechnics.

Internationalization and mobility. Internationalization has been a main goal of Finnish educational policy and is regarded as a crucial factor in quality assurance. A virtual university was launched in 2001, linking national and international education. Cooperation with institutions abroad was extended in the 1990s and resulted in increased student exchanges. The policy target by the end of the 1990s was that (as a minimum) 6,000 higher education and 8,000 polytechnic students (nearly one-third of all new students) should complete part of their study abroad. Currently, more than 80% of Finnish students in foreign countries are enrolled at European institutions. However, the number of outgoing exchange students is slowing down.

Meanwhile, approximately 4,000 foreign students (1,400 postgraduates) were enrolled at Finnish universities in 2002, with another 2,600 studying at the polytechnics. However, the overall percentage of foreign students in Finland is low by international standards (namely 2.3% at the universities and polytechnics).

By the end of the 1990s, funds were earmarked to enhance researcher mobility. Key cooperation partners were the U.S., Canada, China, Russia, Germany, the UK and Sweden. However, university researcher exchanges have not increased at the same level as student exchanges. The mobility of teachers is limited, and Finland has taken initiatives to encourage the repatriation of Finnish postdocs and scientists working abroad (Ministry of Education, 2001; 2002a).

Iceland

In Iceland, higher education is relatively homogeneous, mainly organized within the public sector and for a long time has been dominated by the University of Iceland (established in 1911). There are ten higher education institutions, eight of which have university status. A new Higher Education Act was adopted in 1997, providing changes in areas of organization and governance. A unitary system with minor internal differentiation was introduced on this occasion. The autonomy of institutions increased and representation of academic staff on boards was weakened (two external members are appointed). In 2003, institutions were asked to establish formal internal quality systems (Jonasson, 2002).

Structure of higher education. Most degrees in Iceland are of the 3-year bachelor's type. A significant proportion of master's and Ph.D. students moved to the U.K., U.S. and Canada, influencing the development of Icelandic higher education in an Anglo-Saxon direction. Recent growth in the number of enrollments has been seen, and doctoral studies are now offered in the faculty of arts at the University of Iceland.

Access and enrollment. Universities are responsible for the student selection process, and admission requirements consist of passing a matriculation examination. Applicants with work experience, but without completing a matriculation examination, may also be admitted. Except for the University of Iceland, all admissions are based on a competitive selection. In 2001, approximately 14,000 students were enrolled in higher education—more than 60% of the college-age population—with two-thirds of them enrolled at the University of Iceland. Another 2,000 students were studying abroad.

Financing. Higher education in Iceland is primarily funded by block grants from the national budget. However, due to a rise in student numbers, public higher education institutions are considering the introduction of tuition fees or new restrictions on admission.

Quality assurance. Iceland has no tradition of program or quality evaluation in its higher education system. However, the Ministry of Education, Science and Culture has recently initiated a new system for the evaluation of programs and particular subject areas.

Academic positions. Academic positions are comprised of teaching positions (professors, associate and assistant professors) and research positions (scientists, scholars and specialists, mainly in the natural and medical sciences). The majority of staff hold teaching positions and only a small proportion hold research positions.

Internationalization and mobility. Internationalization has been a feature of the Icelandic higher education system throughout the last century. It is estimated that up to 40% of all students at the university level study abroad, primarily in the Nordic countries.

Norway

The first academic institution in Norway was founded in Trondheim in 1760 (Royal Norwegian Society of Science) and the first Norwegian university was established in Oslo in 1811. Other universities followed after World War II—in Bergen (1946), Trondheim (1969/1996) and Tromsø (1972). There are also many specialized higher education institutions—established between 1897 and 1972—with study programs in science and technology, teaching, agriculture, medicine, business administration, architecture, physical education/sports and music (EURYDICE, 2005; Ministry of Education and Research, 2001).

A loan fund was introduced in 1947 to provide support for students as part of a policy to promote equal opportunities in higher education. Structural reforms in the late 1960s resulted in a growth in the number of institutions, many with small numbers of students. Through a higher education reform in 1994, many regional and vocational colleges merged into university colleges in order to raise academic standards and prioritize resources. Until recently, colleges were acknowledged as *state colleges*, and their designation as *university colleges* reflects their upgrading. Nowadays, Norwegian

colleges offer programs at higher levels of study and employ more staff holding doctoral degrees.

All higher education in Norway is subject to the Universities and Colleges Act of 1995, which was revised in 2002 to address the accreditation of institutions and systems for internal quality assurance. In connection with the Quality Reform of Higher Education Act (2000), which aimed towards greater equality between public and private institutions, the degree structures in Norway were revised in accordance with the Bologna Declaration. These reforms increased institutional autonomy, linked financial incentives to outcomes, and introduced a system of quality assurance and formal accreditation (Ministry of Education and Research, 2001; 2003; Ot. prp. nr. 79, 2003–2004).

Structure of higher education. Norway offers higher education at 38 publicly funded and 31 privately funded institutions. There are four universities and six specialized university-sector higher education institutions, 26 university colleges and two colleges/academies of arts and crafts. With the implementation of the Quality Reform in 2003, the constitution of university boards was changed to ensure increased external representation. Institutions are obliged to collaborate with community and industry, and boards are requested to draw more than one-third of their members from their local community. A new higher education reform has been proposed (but not yet approved by Parliament), which could bring substantial changes in the status and operating environment of universities and colleges, introducing self-governance with a majority of external board members. (The Competence Reform, Report No. 42 to the Storting, 1997–1998; Ministry of Education and Research 2005).

Universities and specialized institutions offer degrees at different levels. University colleges in Norway are more research-oriented than in other countries and offer postgraduate education as well. Some private higher education institutions offer postgraduate education at the doctoral level. The degree system is the same for all public higher education, which facilitates mobility between universities and university colleges.

Access and enrollment. As of 2001, approximately 200,000 students were participating in some form of Norwegian higher education, with the vast majority (more than 90%) attending state institutions. Following a significant increase in the number of students during the 1980s and 1990s, there has been a drop in student intake. Today, more than 62% of the college-age population are enrolled in programs at the tertiary level.

Entry to tertiary education is regulated by the capacity of institutions. The minimum requirement for admission is successful completion of upper secondary education. Since 1997, the Upper Secondary School Leaving Certificate has been based on 13 years of schooling. Admission to a university may also be achieved with other qualifications recognized as being equivalent to the general matriculation standard. Some fields of study have additional entrance requirements. Admission can also be granted on the basis of a combination of formal, informal and non-formal qualifications.

Financing. Higher education is funded by the government by means of framework allocations. The total amount granted directly to the institutions is determined by Parliament as part of the annual budget. Since 1996, the demands on financial

management and control have increased. Following the reform of 2003, institutions disburse funding allocations internally, but the amounts are decided on the basis of past performance and indicators such as credits and degrees awarded, research outcomes, international activities and publications.

Research funding is also part of the annual framework allocations to institutions. Public funding dominates the research financing at universities and colleges (88% in 1999), while institutions may also apply for additional funds from the Research Council and other agents. Universities are the main agents in public R&D, with 78% of the country's total R&D funds being allocated to these institutions in 2001.

Quality assurance. Institutions are responsible for quality assurance. In 2004, an internal system of quality assurance was established, in compliance with national criteria. The main task of the Norwegian Agency for Quality Assurance in Education (established in 2003) is quality assurance at the national level, which involves accreditation and evaluation of each institution's internal quality assurance system by means of audits.

Academic positions. In 2000, the number of academic staff in higher education was approximately 11,600, of which 34% were women. In addition to the traditional full, associate and assistant professors (3,000)—employed mainly at universities—other scientific staff include lecturers (3,500), “høgskoledosent” (50), “secondary positions” (200), and “scholars” (2,200). Norway has the highest ratio of full professors per capita in Scandinavia, but despite policy initiatives to address gender issues, almost 90% of full professors are male. As in other Scandinavian countries, Norway will soon face problems with a decrease in teaching and research staff due to retirements.

Internationalization and mobility. The reform of 2003 has put increased emphasis on internationalization. Universities and state colleges have been obliged to focus on this issue. Students are entitled to studies abroad as part of their Norwegian degree, and institutions are encouraged financially to facilitate mobility and increase their intake of foreign students. To further stimulate internationalization, a center for international cooperation in higher education has been established (NIFU, 2001).

In 2001, about 16,000 Norwegians studied abroad, of which 2,000 students were participating in student exchange programs. Loans and grants are portable and additional funding is awarded to students abroad. Compared to other Scandinavian countries, Norway has a small number of foreign students but the number is increasing, in particular with student intake from Central and Eastern Europe and developing countries.

Sweden

In Sweden, higher education expanded significantly during the second half of the 20th century. The greatest expansion occurred in the 1960s and 1990s. More than 70% of young people enter tertiary education. In 2002, there were 330,000 students in undergraduate education and 18,600 postgraduate students; the number of doctoral degrees awarded that year was over 2,400 (Swedish Universities and University Colleges, 2003).

The first university in Sweden (and Scandinavia) was founded in Uppsala (1477) and the second in Lund (1666). In the mid-1940s, higher education was offered at the universities of Uppsala and Lund, the university colleges of Stockholm and Gothenburg, and at specialized institutions of medicine, economics and technology. In the late 1950s, the university colleges of Stockholm and Gothenburg became universities. As a result of the growth of students during the 1960s and 1970s, university branches and university colleges were established throughout the country.

Reforms in 1977 and 1993 have reshaped the higher education landscape in Sweden. With the 1977 reform, all postsecondary education became integrated into a single system. At the same time, free admission was abolished. In 1993, a new Higher Education Act and Higher Education Ordinance came into force, which reduced the influence of the central government and introduced decentralization of decision making, while also making new demands on institutional efficiency and control of outcomes. According to the act, institutions would determine admissions on the basis of general guidelines. A new system for allocating resources to undergraduate education was introduced in 1993, based on the number of students and assessments of performance, rather than on the planned volume of education. The selection of academic leaders was modified and a new “third role”—serving the local community—was given to institutions.

Massification, institutional autonomy and quality have become key issues, together with efficiency, innovation and competitiveness. Recently, issues of governance and leadership have dominated the agenda, and national agencies in higher education have been reformed. An agency for higher education was re-established in 1995 to oversee quality assessments, reviews and analysis. In 2001, two new authorities were established—the National Science Council and an Agency for Research, Development and Innovation (Kim, 2002; Kim & Mårtens, 2003; Trow, Henkel, House, Kristensen, & Neave, 2002).

Structure of higher education. There are 50 public and private higher education institutions in Sweden, including 11 state-run universities (in addition to the Karolinska Institute and the Royal Institute of Technology), seven independent colleges of art, and 16 university colleges. The Chalmers University of Technology, the Stockholm School of Economics and the University College of Jönköping each have private governing bodies. A number of smaller private institutions also have the authority to award undergraduate degrees. Institutions are run by a governing board; the chair and a majority of members are appointed by the government, while staff and students are represented as well. Institutions are granted university status based on an assessment by the government; the same holds true for institutions who seek to establish so-called “areas of research,” giving them the right to award postgraduate degrees. (cf. EURYDICE, 2004; 2005)

Access and enrollment. The number of students in Sweden increased from 16,000 in 1950 to 330,000 in 2002. Recent higher education policy aims to increase enrollments so that 50% of an age cohort enters higher education by the age of 25, compared with the current level of 46%. In Sweden (as in Denmark and Iceland), more than half the students enter a university after the age of 22. This reflects the flexibility of programs as well as the Nordic view of the value of work experience for studies.

The number of new enrollments in postgraduate programs has recently increased to 3,600 after a period of stagnation. Postgraduate degrees more than doubled between 1990 and 2002, and the number of doctorates increased by 90%. The proportion of women with postgraduate degrees has also risen to 44% (2002).

The general eligibility requirement for admission to undergraduate studies is the completion of upper secondary school. Students without formal qualifications may enter if they are more than 25 years old and have a minimum of 4 years work experience. There are in most cases course eligibility requirements as well. Additional requirements are often tied to various study programs and courses. A selection process takes place whenever the number of qualified applicants exceeds the number of seats, and competition for entrance is often intense.

Financing. Allocation of resources is based on results (number of students and performance) and is annually determined by the government. Research and postgraduate training are funded by special grants. Government grants for undergraduate education and research/postgraduate training account for 65% of total expenditures. Other external resources for research come from contractual work granted by research councils, sectoral agencies, local authorities and the private sector. Over a 20-year period, funding of research has undergone important changes. At the beginning of the 1980s, two-thirds of the research was funded by the government. In 2002, just over 55% of research and postgraduate programs were funded by external resources (including research council funds).

Quality assurance. Sweden was the first Nordic country to use audits as a means to ensure quality. Institutions have the responsibility for quality control, and the government is responsible for accreditation. The National Agency for Higher Education is responsible for evaluations, audits and monitoring. In 2002, the second and final round of audits of quality assurance was completed. The agency is in the process of evaluating undergraduate and postgraduate programs.

Academic positions. Since 1985, the number of staff in higher education has increased by 34%. In 2002, a total of 51,500 persons (full-time positions) were employed at higher education institutions. This figure accounts for roughly one-quarter of the total number of state employees. From 2001 to 2002 the number of professors increased by 7% and postgraduate students by 8%. The number of full professors has risen constantly since 1985 (to 4,000 in 2003), with the largest increases in the last few years. This was mainly due to a 1999 promotion reform that allowed qualified senior lecturers to advance to full professor positions. Even the number of senior lecturers has increased as a result of the reform. The number of postdoctoral research appointments doubled in the 1980s but has declined in recent years.

Teaching and research staff include professors, postdoctoral fellows, senior lecturers and junior lecturers, and part-time and visiting teachers. The number of academic staff expected to retire in the near future is rising, with retirements projected to take place at the same time as an increase in the student cohorts entering higher education (2008–2013).

Internationalization and mobility. Internationalization of higher education has been an issue in Sweden for almost three decades. In the late 1980s and early 1990s, internationalization grants were integrated into the funding of universities. From 1989, mobility was further enhanced as Swedish students became eligible to use grants for studies abroad. Sweden provides tax incentives to facilitate the recruitment of foreign experts.

During the academic year 2001–02, nearly 27,500 Swedes studied abroad. Most followed undergraduate programs for one or two semesters, a large majority of them in Europe. Today, the U.S. is host to the largest number of Swedish students (4,600). A large number of Swedes also study in Denmark (1,000). With regard to exchange programs, ERASMUS accounts for over half (4,500) of all exchange students. Since 1998–99 there have been more incoming students than Swedes studying abroad. The same trend is seen in countries like Finland, Norway, the Netherlands and the U.K.

Conclusion: Recent Changes and Future Perspectives

In Denmark, a national strategy was introduced in 2003 aimed at strengthening higher education training and research and creating new science framework conditions. At the same time, the university system, the public research institutions and the research councils were reformed to respond to greater socio-economic demands for enhanced competitiveness. A number of recent reforms have been implemented, including a quality-promoting evaluation system and a research budgeting model.

In general, the Danish higher education system is characterized by flexibility and life-long learning schemes that facilitate mobility between its parts. Future challenges include the development of institutional structures and the effective functioning of university boards that were introduced by a new University Act, as well as improving relations with industry. One key issue is the sustainability of many small institutions in a changing environment of increased internationalization, interdisciplinary approaches, demands on quality performance and cooperation with industry. Another issue involves the need to adjust programs within the humanities and social sciences (which are the largest university faculties) to better meet labor market demands; currently only 50% of graduates in the humanities (and only 66% of social sciences graduates) successfully enter the labor market upon graduation.

The Finnish higher education system is characterized by competitiveness and innovation. A “management by results” principle was adopted to increase accountability. Universities have been granted higher autonomy and research councils have been reorganized to better respond to socio-economic demands and interdisciplinarity. A key issue in Finland is the strengthening of university autonomy and a balanced development of the binary system of universities and polytechnics. The high level of unemployment in Finland will most likely continue to pose a challenge to education, as will the expectations that regional and other stakeholders have for institutions to contribute to socio-economic development. In the future, performance-based funding will be increased, taking into account employment rates of graduates. The education equality principle and lifelong learning approach will continue

to be on the higher education agenda, as well as the organization of graduate degree studies.

In the Icelandic scientific research community, many small institutions have merged with larger universities, thus limiting the diversification of research. However, the domination of higher education by the University of Iceland is declining, as other institutions (including privates) enroll an increasing number of students. Also, the system of scientific research has recently been reorganized. Major changes include restructuring of the Icelandic Research Council and the establishment of two funding agencies—one for research and one for development and innovation—which aim to enhance science-industry relations. Traditionally, graduates and researchers have been state employees, but this is changing as a consequence of the private sector's increasing investments in R&D. The introduction of tuition fees, distance education and lifelong learning are contemporary issues on the Icelandic higher education agenda.

Norwegian higher education focuses on competence development and coordination. There is currently a reform process underway in Norway which aims to improve quality; increase institutional autonomy; develop a more results-oriented higher education funding system; establish a continuous evaluation system; improve students' financial support; and increase internationalization. Reforms—which were met with significant opposition from academia—were initiated in order to strengthen innovation, user-oriented programs and interdisciplinary approaches. Meanwhile, demand for higher education seemed to decrease in Norway, resulting in policies meant to stabilize student enrollments. Other key issues in Norway include the need to improve links between higher education and industry, and to develop institutional structures and reorganize university boards with representation of different stakeholders.

The Swedish higher education system focuses on integration, uniformity and equal distribution. Major changes have recently occurred in the structure of funding—11 councils and agencies were transformed into three research councils and one research and technology agency. The main tasks of these bodies are to support fundamental research and promote a renewal of the science system, giving special attention to young academics and faculty mobility. Issues on the country's higher education agenda include increased decentralization and institutional autonomy; continued quality improvement; increased focus on interdisciplinarity; cooperation with societal agents; further expansion; and reducing the level of inequality in student recruitment (with respect to social background). Academic leaders must also grapple with the crucial issue of building human resources in academia. Finally, it remains to be determined whether the uniformity of the Swedish system is feasible in the long run—growing differences between the different segments of the higher education system in almost every aspect (institutions, staff, students, research and resources) highlights the difficulty of maintaining a uniform system.

Prospects and Challenges

Universities in Scandinavia, as in other parts of the world, develop within a contextual framework that requires constant reconsideration of their role, structure and financing. Some current and future policy challenges include the need to:

- build up “new higher education intelligence” and further develop strategies to meet challenges of the knowledge-based society;
- expand the higher education systems in ways that encompass diversity of missions (e.g., education, research and innovation, regional and national development) and introduce diversified structures (based on identification of strengths and promotion of core competencies) to increase these institutions’ capacity for meeting socio-economic demands;
- enhance the autonomy of institutions, consolidate new institutional structures and improve governance through the training and professionalization of university leaders and managers (in particular in Denmark and Norway, where management in its present form is a relatively new responsibility) while at the same time safeguarding the authority of the faculty;
- improve mechanisms to attract additional funds from diversified sources, and manage finances in a way that leaves space for basic research and fields or disciplines that may not attract high amounts of external resources;
- further develop dynamic frameworks that continue to promote the “third mission” (i.e., university-industry relations) without compromising scientific excellence;
- maximize the utility of (and stakeholder involvement in) quality assessments and accountability efforts in education and research, emphasizing the self-improvement benefits of evaluation, benchmarking and monitoring;
- develop higher education systems that balance continued expansion of universities with increasing quality requirements;
- balance the public and private investments in basic and market-oriented research, and further develop environments that enable the fertilization of ideas across sectors and disciplines (i.e., interdisciplinarity and multidisciplinary);
- enhance the role of higher education institutions as regional actors, and improve knowledge transfer and dissemination to society;
- improve the attractiveness of the academic profession and researchers’ careers, particularly in Denmark (where they also face an important issue of limited numbers of professors in the country), Norway and Sweden, while paying particular attention to gender issues;
- reinforce opportunities for the mobility of students and researchers (particularly in Norway and Finland, where the number of foreign students is limited), and improve the standardization of accreditation procedures in ways that can further stimulate mobility (an important consideration for Denmark); and
- emphasize the role of universities as a critical voice in society. Universities are the most reflective part of society and the only place where thinking—including critical thinking—is institutionalized and recognized as a vital characteristic of democracies.

These are among the policy challenges that most commonly transcend several Scandinavian higher education systems. How the systems respond to these challenges will clearly determine the nature of higher education’s future throughout the region, and will require innovation, flexibility, and thoughtful, long-term strategies.

Notes

1. The term Scandinavia is used for easy reference instead of the more correct Nordic countries, the latter referring to Denmark, Finland, Iceland, Sweden and Norway. Finland and Iceland are not a part of Scandinavia but included in the chapter due to effective policy and significant results (Finland in particular).
2. The transition from Mode 1 to Mode 2 research has been described by Gibbons, Limoges, Nowotny, Schwartzman, Scott, & Trow (1994). According to theory, knowledge in Mode 2 is generated in the context of application and is directly influenced by societal needs.
3. Implications of policymaking on institutions are described in Kalpazidou Schmidt (1996); Kalpazidou Schmidt, Graversen, & Langberg, (2003).
4. Kalpazidou Schmidt, Graversen, & Langberg, (2003); Graversen, Kalpazidou Schmidt & Langberg, (2005).
5. See the chapter by Hans de Wit in this volume.
6. Interaction between university, industry and government (cf. Etzkowitz & Leydesdorff, 1997; 2000).

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HIGHER EDUCATION IN SOUTHEAST ASIA IN THE ERA OF GLOBALIZATION

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Southeast Asia consists of ten countries as reflected by the member states in the Association of Southeast Asian Nations (ASEAN)—Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam. These countries have marked differences in terms of size, economic wealth, political ideologies, and educational traditions. Brunei and Singapore are very small states as compared to Indonesia, which has a huge population and a wide geographical area. Singapore, Malaysia and Thailand are newly industrialized countries and Brunei is an oil-rich country. Cambodia, Myanmar, Laos and Vietnam are in a state of transition—moving from a centrally planned economy to a market economy, from an agricultural economy to an industrial economy, and from a socialist regime to a more democratic system. All these countries except Thailand have a colonial history, and their education systems have been very much influenced by their colonial heritage.

Despite the diversity, higher education systems in Southeast Asia face similar problems and challenges. All these systems have budgets to balance, standards to maintain, faculties to satisfy, and social demands to meet (Postiglione & Mak, 1997). Among the less developed countries, the higher education systems are chronically under-funded but face escalating demand for access; further, the faculty are under-qualified, the curricula are under-developed, and the students are poorly taught (World Bank, 2000). Many of these systems are undergoing restructuring under the influence of global trends in higher education reforms in the areas of funding, resources, governance and curriculum development.

This chapter will analyze the historical development of higher education in Southeast Asia and examine the trends and policy challenges in a comparative perspective. It will explore issues relating to access, funding, and accountability as well as the changing academic profession and regional cooperation. The development of higher education in this region can be broadly divided into three main periods, namely: (i) the colonial period, (ii) the early independence period, and (iii) the contemporary period. It is argued that higher education is greatly influenced by its historical past, nation-building efforts, and current global trends. The analysis of the realities and challenges facing higher

education in this region will show that there is an interplay between national needs and global trends.

Historical Development

During the pre-colonial days, only a few countries in this region had some form of higher education, usually established by religious bodies. In Vietnam, education in Confucianism was established at the Temple of Literature (Huong & Fry, 2004), while in Indonesia, non-formal Islamic education was carried out in the mosques (Buchori & Malik, 2004), and in Thailand, higher learning took place in the palace, temples and communities (Sinlarat, 2004). However, higher education in its modern form is a Western implant brought to the shores of Southeast Asian countries by colonial rulers—with the exception in Thailand, where it was voluntarily adopted (Altbach & Selvaratnam, 1989).

Western influences on higher education in this region are complex and varied, involving the Dutch in Indonesia; the British in Brunei, Singapore, Malaysia, and Myanmar; the French in Indochina; and the Spanish (and later the Americans) in the Philippines. Thailand is the only country that has maintained its independence from colonial rule; however, its rulers were strongly influenced by Western ideas and have voluntarily adopted Western models of higher education. The Soviet model of higher education was very influential in Vietnam and Cambodia during the 1960s and 1970s. In the contemporary period, it is the North American (and to an increasing degree, Australian) influence that is becoming more dominant in this region. According to Watson (1989), Western models of higher education can be divided into four types:

- (i) the West European Model—government controlled and funded, with selective, competitive and elitist institutions, and admissions based on merit;
- (ii) the Centralized Model—also government controlled, selective and competitive, but highly political in course content, with admissions based on political and social class requirements;
- (iii) the North American Model—encouraging both the development of both public and private sectors of higher education, and promoting open access to all who have successfully completed secondary level education; and
- (iv) the Combination Model—bearing the hallmark of flexibility and embracing different features of the other models.

It is important to note that the influence of a particular model may be strong during a nation's colonial period, and that over the years many countries have adopted different models at different points in time. A study of the development of higher education in Malaysia and Singapore shows that what exists today is a hybrid of British and American models (Lee, 1989; Tan, 2004). In Thailand, the French and British models were closely followed until World War II, after which the American influence became particularly strong (Watson, 1989). In Vietnam, it was the French influence during the period from 1945 to 1954, the Soviet influence from 1954 to 1975, and American influence in the period after 1975 (Huong & Fry, 2004).

Despite these and other important variations, it is possible to make some broad generalizations when tracing the development of colonial higher education in Southeast Asia. First, the colonial language was used in universities. Second, the governance structure, the organization of the academic profession, the research system, the curricula and textbooks were all based on Western academic models. Third, many of the academic staff were from the metropolitan regions of the country. Fourth, except for the Americans, all the other colonial powers were initially reluctant to set up higher education institutions in the colonies because of their subversive potential. It is worthy noting that “the colonial universities were the seedbeds of the downfall of colonialism and of the emergence of independent nations” (Altbach, 1989, p. 9). However, due to local pressure and the need to train professionals to support the colonial administrations, higher education institutions were established to cater to the elites in each of the colonies. These elements of colonial heritage shaped the development of higher education in this region. Even in Thailand, the Western impact has been strong (although it is not an impact based on a colonial relationship). Thai rulers were strongly influenced by Western ideas as they strove to modernize Thailand. The decision to develop the first university, based on the French model, was taken by the Thai monarchy as a means of training people for government service (Watson, 1989).

After gaining political independence, all the ex-colonies tried to adapt and further develop the higher education systems that they inherited to meet local needs and national aspirations. A major reform has been to gear higher education toward “nation-building” and similar concepts. In nearly all the countries, there were attempts to break away from colonial influence through indigenization efforts as well as broadening the search for alternative models of higher education. One of the first tasks in this area was to replace expatriate staff with local staff; thus began the Malayanization, Filipinization, and Indonesianization of the civil service as well as the academic profession. With the exception of Singapore and Brunei, all the countries of this region began to use their own national languages in their higher education institutions. There has also been a strong move against cultural imperialism by indigenizing the curriculum and using textbooks written by local scholars. Overall, a variety of attempts were made to adapt university education more appropriately to local culture and ensure its relevance to local needs.

A case in point is Indonesia, which managed to break away from the Dutch model of higher education by using Bahasa Indonesia as the medium of instruction in universities, recruiting local staff instead of foreign staff, expanding its higher education system (even at the expense of quality), developing relevant programs, and developing a harmonious relationship with the state (Cummings & Kasenda, 1989). Immediately after gaining its independence in 1945, the Indonesian government established *Balia Perguruan Tinggi Gajamada* (Gajamada Center of Higher Learning) and the Indonesian Islamic University (UII) in Yogyakarta. The establishment of UII marked the beginning of the modernization of Islamic education in Indonesia. Today, Islamic tertiary educational institutions are a characteristic feature of higher education in Indonesia, enrolling about 15% of the total number of tertiary students in the country (Buchori & Malik, 2004). Similarly, the development of Islamic universities in Indonesia, Malaysia and Southern Philippines is part of the outcome of the continuing search for alternative models of higher education that are more appropriate to local cultures.

The Soviet model of higher education was adopted at one time to suit the socialist ideologies that prevailed in Vietnam, Cambodia and Laos. The key feature of the Soviet model is the establishment of specialized institutions by separate ministries to train personnel to serve its respective ministry. This model suited the central planning system, incorporating a tradition of guaranteed post-graduation jobs. In the more recent period, the North American model has proven more popular and has been adopted by many countries in this region. Examples include the establishment of a land grant university in the Philippines (Gonzales, 2004); the use of a modular system for undergraduate courses and the North American nomenclature for academic job titles in Singapore (Tan, 2004); the introduction of the semester system, credit system, and continual assessment in Malaysia (Lee, 1997); and the establishment of graduate schools in several countries, including Singapore, Malaysia, Thailand and Vietnam.

Unlike the academic traditions in the West, the governments in Southeast Asian countries have considerable power over higher education. With the exception of Indonesia and the Philippines, the government is the main provider of higher education. In many countries, higher education is under the jurisdiction of the Ministry of Education (e.g., Brunei, Singapore, Thailand) or the Ministry of Higher Learning (e.g., Malaysia), and there is strong government control over higher education throughout most of the region. For example, the Singapore government plays a dominant interventionist role in controlling and directing major policy decisions concerning their higher education institutions, giving predominance to economic considerations in higher education planning and policymaking (Tan, 2004). In the case of Indonesia, not only does the government consider the role and function of higher education to be a means to support national development, but academics are expected to work harmoniously with the nation's leaders (Cummings & Kasenda, 1989). It is a common practice for university presidents and vice chancellors to be appointed by their respective governmental ministry.

Throughout the region, the state has taken a keen interest in the university because higher education has been called upon to fulfill a great variety of roles. Higher education is often seen as providing future leaders of politics, bureaucracy, the armed forces and the economy; stimulating economic growth and social development; promoting national unity and social cohesion (particularly in multi-ethnic societies); and developing and preserving cultural heritage and traditions (Lee & Wong, 2003).

The traditional roles of universities include teaching, research and service, but in reality many of the universities found in this region are only teaching institutions, and for those that do research the research productivity is very low when compared to their Western counterparts. As Gonzales (1989) points out, "nothing foreign can be transferred without adapting itself to the local environment. Often, form but not substance remains, but the dynamics are altogether indigenous" (p. 117).

In particular, the quality of higher education in countries with a large private higher education sector (like Indonesia and the Philippines) is highly questionable, with institutions of varying standards. At one end of the quality spectrum, there are prestigious universities like the University of the Philippines and De La Salle University in the Philippines, and Universitas Indonesia and Gajamada University in Indonesia. At the other end, there are many sub-standard higher education institutions which do not

produce much new learning, and instead focus on a repetition of subject matter already learned and demand little from their students other than rote memorization of notes (Gonzales, 2004). There is very little quality control, and the quality of the graduates ranges from near zero competence in their specialization to a level of global competitiveness, depending on which higher education institutions they graduate from.

In the past several decades, Southeast Asian countries have witnessed a rapid expansion of higher education, resulting in a deterioration in average quality, under-funding, poor and overcrowded facilities, under-qualified academic staff, curricula lacking relevance, the absence of research, and inequitable access. For example, Indonesia and the Philippines now have systems of higher education serving two million or more students, and Thailand and Vietnam each enroll over one million students (World Bank, 2000). In Malaysia, only about 26% of the faculty in public institutions of higher learning have a Ph.D. degree (Hussien, Jantan & Ansari, 2002), whereas among the faculty of 93,884 in the Philippines, only 32% have at least a master's degree, and of this group only 7% have doctorates (Gonzales, 2004). As a result of the increasing number of graduates, graduate unemployment is a common feature in countries like Indonesia, Philippines, Thailand and Malaysia. There is a mismatch between economic needs and university output, resulting in underemployment and brain drain. Every year thousands of Filipino and Indonesian graduates leave their countries to seek employment abroad, especially in the Middle East. Many medical doctors and health service workers from the Philippines work abroad, and few of those with advanced degrees earned abroad return to the Philippines. Despite the rapid expansion of higher education in many countries, there are major imbalances between urban and rural areas, rich and poor households, men and women, and among ethnic groups within these countries.

In view of the current situation, there are both internal and external pressures to change and reform higher education. Local social, political and economic pressures, demographic pressures, the growing demands of a globalized knowledge economy, and the need to meet international standards are all instrumental in pressuring various governments to restructure their higher education systems to suit local needs and priorities. The restructuring of higher education is a worldwide phenomenon, and it is possible to identify some common trends in the restructuring process that took place in many developed countries during the 1990s (Singh, 2001). First, higher education institutions are increasingly being required to demonstrate efficiency, accountability and productivity from various quarters, notably from the state (which is usually the major source of funding for higher education). Second, there has been a decline in the amount of public funds available, requiring institutions of higher learning to diversify their sources of funding by adopting entrepreneurial approaches to higher education and improving cost-efficiency by institutionalizing corporate managerialism. In many countries, higher education has been privatized either by allowing private institutions to be established or by permitting public institutions to engage in revenue-generating activities. All these global trends are influencing Southeast Asian countries in areas related to access, equity, funding, accountability, and quality assurance. New developments and reforms in each of these specific dimensions warrant special attention in order to gain a full understanding of the recent evolution of higher education in Southeast Asia.

Table 1. Gross Enrollment Ratio at Tertiary Level by Country and Year

| Country | 1965 | 1975 | 1985 | 1995 | 2000 |
|-------------|------|------|------|------|------|
| Brunei | n/a | n/a | n/a | 7 | 14 |
| Cambodia | n/a | n/a | n/a | 2 | 3 |
| Indonesia | 3 | 2 | 7 | 11 | n/a |
| Laos | n/a | n/a | n/a | 2 | 3 |
| Malaysia | 2 | 3 | 6 | 11 | 23 |
| Myanmar | 1 | 2 | n/a | 6 | 8 |
| Philippines | 19 | 18 | 38 | 30 | 30 |
| Singapore | 10 | 9 | 12 | 34 | n/a |
| Thailand | 2 | 4 | 20 | 20 | 32 |
| Vietnam | n/a | n/a | n/a | 4 | 10 |

Source. (UNESCO, 2002) and (World Bank, 2000).
n/a = data not available.

Widening Access

As mentioned earlier, higher education in Southeast Asia has undergone massive expansion due to ever-increasing social demand stemming in part from population growth, the democratization of access to secondary education and the growing affluence of many countries in this region. At the individual level, higher education is perceived as an avenue for social mobility, while at the national level, higher education is seen as an instrument for human capital development and for sustaining economic growth, restructuring society, and promoting national unity. In addition, many countries stress the important role of higher education institutions in maintaining their national competitiveness in the globalized knowledge economy.

The rapid and impressive growth in tertiary student enrollments throughout Southeast Asia from 1965 to 2000 can be seen in Table 1. The countries can be broadly divided into three groups with high, medium and low gross enrollment ratios (GERs). Countries with a high GER (30% or more) are Singapore, Thailand and Philippines; countries with a medium GER (10–25%) are Malaysia, Brunei Indonesia and Vietnam; and countries with a low GER (below 10%) are Myanmar, Cambodia and Laos. The most impressive growth occurred between 1995 and 2000 in countries like Brunei, Malaysia, Thailand and Vietnam. In the Philippines and Indonesia, the absolute number of tertiary students may have increased substantially, but this is not adequately reflected in the GER because of high population growth rates in these countries.

The increased access to higher education is accompanied by a widening of access, which means higher education is being made increasingly available to socially disadvantaged groups such as ethnic minorities, women, indigenous people and people with disabilities. Several countries use explicit quotas to provide higher educational opportunities to underrepresented groups. Until 2002, Malaysia had an ethnic quota system (in favor of the Malays and indigenous people) for admission to public universities;

Vietnam gives preference to enrollment in subject areas such as science, technology, agriculture, and teacher training, and to applicants from remote and mountainous areas (Huong & Fry, 2004); and in Thailand, a quota system was introduced in the provincial universities whereby a percentage of the places at the local university were reserved for local or regional students (Watson, 1989). With the exception of Malaysia and the Philippines, access to higher education is a significant challenge for young women. In Cambodia, female students in higher education institutions comprise only about 22% of the total enrollment (Chamnan & Ford, 2004), and in Singapore, the proportion of female students in the National University of Singapore medical faculty has been kept at about one-third as a result of a deliberate government policy (Tan, 2004).

The widening access of education has also brought about a differentiation of higher education institutions. Differentiation can occur vertically and horizontally (World Bank, 2000). Different types of higher education institutions have proliferated vertically, with the traditional research universities being joined by polytechnics, professional schools, technical institutes and community colleges. These different types of higher education institutions have different purposes and cater to the different needs of diverse groups of students. Horizontally, there are different types of higher education providers, including private providers run by for-profit corporations, nonprofit organizations and religious groups. For example, in the Philippines there are chartered and non-chartered public institutions, stock and non-stock private universities and colleges, and sectarian and non-sectarian institutions (Gonzales, 2004). Open universities and regional universities were established in many countries to make higher education more accessible to the people, especially working adults and those staying in rural areas. Thailand has three open institutions of higher learning, including Ramkhamhaeng University and Sukothai Thammathirat Open University, which enrolled about half of the total number of tertiary students in the country (Sinlarat, 2004).

Another new development is the emergence of various forms of trans-border education. Globalization in higher education is truly reflected in the growth of new information and communication technologies, increased trade in educational services, and the emergence of borderless education. Many countries in this region are importers of cross-border education from advanced countries like Australia, United Kingdom and the United States. Cross-border education can take different forms, such as the mobility of institutions, programs, students, and distance education. A very illustrative case is Malaysia, which is both an importer and exporter of cross-border education. To date, four foreign universities have established branch campuses on Malaysian soil. Private colleges in Malaysia have formed partnerships with foreign universities to offer various kinds of transnational education initiatives, such as twinning programs, credit transfer agreements, external degree programs and joint-degree programs (Lee, 2004). Besides being an importer, Malaysian private colleges also export higher education by recruiting foreign students and establishing a commercial presence in neighboring countries like Thailand and Indonesia.

The rapid and massive expansion of higher education in this region brings with it a whole host of problems, such as strains on public funding and increasing concern with regard to the quality of courses, facilities, staff, and graduates. To overcome some of these problems, many countries have initiated higher education reforms to address

issues related to financing higher education and pursuing accountability, efficiency and productivity in higher education institutions.

Financing Higher Education

The widening access to higher education and rising unit costs have caused tremendous strain on national budgets, resources and infrastructure for higher education. Therefore, many governments have no choice but to restructure their higher education systems and seek alternative sources of funding for higher education. In this respect, quite a number of the Southeast Asian governments have adopted the neo-liberal ideologies that gained popularity during the Thatcher-Reagan period of the 1980s. Neo-liberalism seeks to increase corporate earnings and economic efficiency by privatizing public institutions, reducing state regulation and taxation, and rolling back the “costly” welfare state (Carl, 1994). Neo-liberals espouse the superiority of the market, instead of the state, as the allocator of resources. Based on these ideologies, the restructuring of higher education in many countries involves the privatization of higher education, the corporatization of public universities, and implementation of cost-recovery mechanisms.

While private higher education has a long tradition in the Philippines and Indonesia, it is comparatively new in other countries like Singapore, Malaysia, Thailand and Vietnam. The Philippines has 85% of its tertiary enrollment in the private sector—the highest figure in the world—and Indonesia ranks fifth with 62% (World Bank, 2000). In other countries, the state has been the main provider of higher education until recent years, when new private providers have entered the scene. In Malaysia, private higher education has expanded tremendously in the last two decades—the proportion of tertiary enrollments in the private sector rose from 9% in 1985 to 43% in 1999 (Lee, 2004), and the number of private universities has increased from zero in 1995 to 16 in 2004. In Thailand, the Private Higher Education Institution Act was passed in 1979, allowing the private sector to offer degree programs. By 2000, there were 50 private higher education institutions, and most of them were established in the 1980s and 1990s (Ministry of University Affairs, Thailand, 2000).

After the introduction of *doi moi* (economic renovation) in 1986, private higher education institutions (or more commonly known as people-founded higher education) began to appear in Vietnam. By the year 2000, there were 22 people-founded universities and colleges, enrolling 11.4% of the total number of tertiary students in the country (Loc, 2002; Huong & Fry, 2004). The privatization of higher education in this region has helped to ease the budgetary constraints faced by national governments in their effort to widen access to higher education. This move is also aligned with the global trend of commodification and marketization of higher education.

Another significant recent trend has been the reduction of public funding for higher education, as reflected by budget cuts in public universities. This practice was very obvious during the 1997 Asian economic crisis, when the International Monetary Fund (IMF) and World Bank required countries to cut public spending before being provided any loans. Consequently, public universities have been required to seek diverse sources of revenue and engage in market-related activities. The global trend has been to change universities into self-sustaining enterprises and to develop the corporate culture and

practices that will enable them to compete in the marketplace. One can find this trend throughout Southeast Asia, exemplified by the “corporatized universities” in Malaysia, “entrepreneurial universities” in Singapore, and “autonomous universities” in Indonesia and Thailand.

In 1998, five public universities were corporatized in Malaysia. After being corporatized, these universities have been run like business corporations. In the effort to create “profit-making centers,” these universities have been engaged in recruiting full-fee paying students, seeking research grants and consultancy, franchising educational programs, renting out university facilities, and investing in other business ventures (Lee, 2004). In the case of Singapore, universities were given block grants instead of annual budgets, and in 1991, a University Endowment Fund was established for encouraging the two public universities to attract philanthropic donations as alternative sources of income apart from government grants and tuition fees. The Singapore government pledged to give S\$3 (US\$1.73) to every dollar raised by the universities. The ultimate goal here has been to lower the government’s share of the universities’ operating budgets from 75% to 60% (Lee & Gopinathan, 2003).

The Asian economic crisis hastened higher education reforms in Thailand, where privatization or corporatization of government projects and agencies was part of the IMF’s US\$17.2 billion bailout package. As a result, all public universities in the country were to become autonomous in financial and administrative terms by 2002, implying diminishing levels of financial support from the central government (Atagi, 1998).

In 1999, two important laws were passed in Indonesia addressing changes in the administration of higher education institutions, in an effort to move toward greater institutional autonomy. By 2000, four public universities had been selected to function as “guides” for other universities in Indonesia in developing greater academic and financial autonomy, which involved changes in university funding—such as introducing block funding mechanisms and charging increased tuition fees (Beerrens, 2002). In all these reforms, the state tightens its purse strings and loosens its tight control by allowing higher educational institutions to gain more autonomy.

Besides these major reforms, there is also a worldwide trend toward the introduction of (and increase in) fees in public higher education. Because of financial stringency, the global shift in policy has been from fee-free to fee-paying and the provision of support schemes to students in the form of grants and loans. The rationale behind this policy shift is cost-recovery and cost-sharing. In Singapore, for example, tuition fees in the arts and social sciences were expected to increase to 25% of the recurrent cost (Bray, 1998). In Cambodia, the government has allowed public universities to accept fee-paying students above their quota of non fee-paying students (Chamnan & Ford, 2004). The Malaysian government offers scholarships and loans to students who cannot afford to study in the universities. The government, under the Eighth Malaysian Plan (2001–2005), allocated a sum of US\$684.2 million to the National Higher Education Fund which provides financial assistance to students (Lee, 2004).

Distance higher education is also very popular in many Southeast Asian countries because it is seen as a cheap mode of delivery. New forms of distance education have been developed with the advancement of information and communication technologies, such as e-learning, web-based learning, video-conferencing, and virtual libraries.

The Southeast Asian region has a large number of adult learners attending distance teaching universities, and there are a few mega-universities which enroll several hundred thousand students each—including the *Universiti Terbuka* in Indonesia and *Sukothai Thammathirat Open University* in Thailand. Many of these distance-teaching universities use both a conventional method—involving printed materials, audio and videocassettes, radio and TV, and face-to-face tutorials—as well as e-learning programs with online instruction.

This overview demonstrates how Southeast Asian countries, like countries in other parts of the world, have sought different ways of financing higher education to fuel the expansion of access. In general, there is a wide variety of higher education institutions throughout the region—in terms of public or private—as well as a mix of conventional and distance learning universities. Public universities have gained more institutional and financial autonomy, but at the same time they are held more accountable and are expected to be more transparent, efficient and productive in their day-to-day management. With this proliferation of private higher education and distance education, there is growing concern over quality assurance, quality assessment and quality management.

Pursuing Accountability

The role of the state in higher education has changed over the years. In nearly all the Southeast Asian countries, the state has expanded its role as a provider to include new protector and regulator roles. As a provider, the state allocates resources to higher education institutions, and as a protector, it takes on the function of consumer advocate by improving access to higher education and by formulating policies to promote social equality. As a regulator, the state monitors the quality of academic programs and oversees the development of higher education institutions through accreditation and program licensing.

With the expansion of private higher education and the emergence of cross-border education and distance education, there is a growing concern about the quality of higher education among stakeholders. Assuring the quality of education is a fundamental aspect of gaining and maintaining credibility for programs, institutions and national systems of higher education worldwide (Middlehurst & Campbell, 2003). This is particularly true in Southeast Asia, as quality assurance has been one of the prime concerns in many countries throughout the region. Quite a number of countries have used legislation to regulate the development of their higher education system and establish quality assurance frameworks to monitor their higher education institutions and programs, although countries like Brunei, Laos, and Myanmar still do not have any quality control mechanisms.

Malaysia uses both legislation and quality assurance frameworks to regulate its higher education system. The Malaysian legislature passed four bills in 1995 and 1996 which have direct impact on the higher education system in the country (Lee, 2004). The 1996 National Council on Higher Education Act put in place a single governing body to steer the direction of higher education development in the country. The 1995 amendment of the 1971 Universities and University College Act lays the framework for the corporatization of public universities, requiring them to be more accountable in the

spending of public funds. The 1996 Private Higher Education Institutions Act defines the government's regulatory control over all private institutions in the country, and the 1996 National Accreditation Board Act led to the establishment of the National Accreditation Board which oversees the accreditation of all educational programs offered by private higher education institutions.

A study by Stella (2004) shows that external quality assurance in most countries of the region is of relatively recent origin. Countries that have a quality assurance framework include the following:

- Cambodia: the Accreditation Committee of Cambodia (ACC), established in 2000;
- Indonesia: the National Accreditation Board for Higher Education (BAN), established in 1994;
- Malaysia: the National Accreditation Board (LAN), established in 1996;
- the Philippines: the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP), established in 1989, and the Philippines Accrediting Association of Schools, Colleges and Universities (PAASCU), established in 1957;
- Thailand: the National Educational Standards and Quality Assurance (NESQA), established in 2000; and
- Vietnam: the Quality Assurance Unit, established in 2002.

Quality assurance initiatives may be related to a particular program, an educational institution or the entire higher education system. There are three basic approaches to quality assurance: accreditation, assessment and academic audit. Whatever their basic approach, the quality assurance frameworks found throughout Southeast Asia have several common core elements, such as: (i) evaluation based on pre-determined and transparent criteria; (ii) a process based on a combination of self-study and peer review; (iii) a final decision made by the quality assurance agency; (iv) public disclosure of the outcome; and (v) validity of the outcome for a specific period of time (Stella, 2004). Despite these common elements, there are many variations in quality assurance practices that are designed to serve unique national contexts. However, research has shown that there is very little quality assurance and accreditation criteria for transnational education and e-learning in the region (Jung, 2004).

At the institutional level, higher education institutions throughout the world have been under increasing pressure for greater accountability and cost-efficiency from various quarters, notably the state. These external pressures have led to the adoption of corporate managerialism by higher education institutions to improve accountability, efficiency and productivity (Currie, 1998). Many universities and colleges have implemented management practices from the private sector, such as mission statements, strategic planning, total quality management, ISO certification, rightsizing and benchmarking. Faculties and research units are expected to operate as cost centers and are required to carry out strategic planning and prepare business plans. Cost centers and programs that are not considered viable have been closed down. All these changes in management practices can be seen as a trend of central university authorities acquiring a more powerful role in resource management and in orienting and controlling department activities. Changes in university management have also brought about changes in the working conditions for the academics—the main actors in all universities.

The Changing Academic Profession

As universities expand, the direct power of academics over the structure of governance has been limited by a new layer of professional bureaucrats who have significant power in the day-to-day administration of the university (Altbach, 1991). The emphasis on accountability has required academics to submit to more fiscal control, pressure to increase productivity, and more rules and regulations as well as rigorous assessment procedures. For example, in Singapore academics are compensated on a performance basis rather than on seniority, and in Malaysia the academic staff are required to sign “personal performance contracts” with their respective heads, with annual salary increments based on performance. The penetration of the corporate culture into higher education institutions has required academics to behave like entrepreneurs and to market their expertise, services and research findings. The corporate culture may have brought about increases in institutional autonomy, but it also demands more accountability on the part of the academics. It places increasing emphasis on performance and competition. This can cause a cleavage between academics in the natural and applied sciences (who are constantly subjected to the pressure of being engaged in entrepreneurial activities) and those in the social sciences and humanities, who perceive the social value of their research being undermined by university authorities. As a consequence, the academic culture loses its collegiality and becomes more bureaucratic and hierarchical, with a concentration of power at the top (Lee, 2002).

The academic culture is quite weak in this region, for there is hardly any research going on in many of the universities in the Philippines, Indonesia, Cambodia and Laos—in each case, for various reasons. First, the academic staff is either bogged down with teaching or they lack the facilities and resources to carry out research. Second, many of the academics do not have a postgraduate degree, so they are not trained to do research. Third, the academics are so poorly paid by their institutions that many of them have to take on a second job in order to survive economically. However, in the more developed countries like Singapore, Malaysia and Thailand, there have been significant scientific research contributions in some specific areas, including marine biology, forestry, tropical medicine, and agricultural crops such as rubber, cocoa and rice.

Academic freedom in some countries—like Singapore and Malaysia—is quite limited when compared to other countries, with restrictions on what can be researched and what the academic community can express to the public. There have even been cases of censorship of research findings which are deemed to be politically sensitive by the powers that be. For example, the Malaysian government has used legislation to gag both the dons and students from participation in shaping public discourse and national debates (Lee, 2002). As for academics teaching in the cross-border education programs, they have even less academic freedom because what they teach is not determined by themselves but by their counterparts overseas.

In the past, academics in this region have had both tenure and civil service status, but with the restructuring of higher education, academics were removed from the civil service in some countries like Thailand and Indonesia. It is common to find appointments of academic staff on a contractual basis, lacking the job security and prestige of

the traditional professorship. In general, academic remuneration in this region is comparatively lower than developed countries—with the exception of Singapore, which has a very competitive salary scheme to attract global talent to work in the country. There is some inter-country flow of academics in this region, like Burmese medical doctors teaching in Malaysian universities, Malaysian academics teaching in Brunei, and Indonesian academics working in Malaysia. This inter-country flow of academics is one of several examples of regional cooperation that can be observed throughout Southeast Asia.

Regional Cooperation

The amount of regional cooperation in higher education in this region is quite extensive, as reflected by the number of international bodies and inter-governmental organizations that were established for this purpose. First, there is the Southeast Asian Minister of Education Organization (SEAMEO), founded in 1965 as a chartered international organization with the purpose of promoting cooperation in education, science and culture throughout the region. Under SEAMEO, the Regional Center for Higher Education and Development (RIHED) was established in Bangkok, Thailand to provide programs in training, research and development, information dissemination and policy analysis in higher education among member countries.

The UNESCO Regional Bureau of Education for the Asia and Pacific region is also based in Bangkok, Thailand, and has established a network of networks in the region, linking up cooperative entities such as the University Twinning and networking scheme (UNITWIN), the Associated School Project Network (ASP Net), the Asia-Pacific Network for International Education and Values Education (APNIEVE), and the International Project on Technical and Vocational Education (UNEVO). One of its main roles is to ensure quality and standards in higher education through capacity building and standard setting. UNESCO is very active throughout the region in providing professional training on quality assurance approaches and methods and in facilitating mutual recognition of degrees, diplomas and certificates among countries in the region.

Another Asia-Pacific regional body is University Mobility in Asia and the Pacific (UMAP), established in 1993 under the initiative of Asia-Pacific Economic Cooperation (APEC) countries to increase the exchange of university students and staff through cooperation among countries in the region. UMAP's objectives are: (i) to identify and overcome impediments to student mobility; (ii) to move beyond bilateral to multilateral arrangements; and (iii) to develop and maintain a system of granting and recognizing academic credit (Smith, 2004).

Besides these inter-governmental organizations, there are also a number of non-governmental organizations that were established by universities and academics themselves. The oldest, the Association of Southeast Asian Institutions of Higher Learning (ASAIHL), was founded in 1956 to foster the development of member institutions and to cultivate a sense of regional identity by providing regular opportunities for the discussion of academic development and general university development. Over the years, ASAIHL has established various types of fellowships and academic exchange

programs, and has expanded to include universities outside the Southeast Asia region—including countries like Hong Kong (China), Australia, Canada, Japan, New Zealand, Sweden and the U.S. (ASAIHL, 2004). Some of the more recently established non-governmental organizations include the Association of Universities of Asia and the Pacific (AUAP), the ASEAN Universities Network (ANU), the Asia Pacific Distance and Multimedia Education Network (APDMEN), and the Asia Pacific Higher Education Network (APHEN). Much of the regional cooperation is focused on facilitating the mobility of university staff and students, research collaboration, and the exchange of ideas on institutional management and development.

Future Trends and Challenges

Globalization is a key force behind many of the future challenges facing this region. Indeed, the concept of globalization is a theme which has gained wide currency among educators, policymakers, scholars and professionals as they examine how education systems in different countries have evolved over time. Educational changes in any country are not only affected by its own socio-economic and political development but are also influenced by the process of globalization. Globalization is a multi-dimensional process with economic, social, political and cultural implications for education. This is particularly so for higher education in a globalized knowledge society. Higher education plays an important role in knowledge production and dissemination, and it is often recognized as an essential driving force for national development in many countries. In the context of globalization and knowledge economies, countries need a highly skilled workforce to increase their national competitiveness. There is also the belief that higher education can help make societies more democratic, alleviate poverty, and strengthen citizenship participation and human rights.

The specific elements of globalization that stand to affect higher education directly or indirectly include the growing importance of the knowledge economy, the perception of higher education as a marketable commodity, the increasing trade in educational services, and educational innovations related to information and communication technologies (UNESCO, 2003). All these developments have implications for higher education in terms of quality, access, diversity and funding. However, globalization affects each country in different ways due to each country's history, traditions, culture, resources and priorities.

The future trends in the development of higher education in this region will be quite similar to other parts of the world with continuing expansion, continuing search for different sources of funding, and continuing diversification of higher education institutions. There will also be increased calls for institutional autonomy, financial diversification and quality control in higher education as well as increasing demands from different social groups for access. The global trends will include movement towards a mixed funding model, innovative use of new information and communication technologies, and better management and deployment of limited physical and human resources. As for curriculum development, there will be increasing pressure for relevance, flexibility and adaptability to changes in the society as a whole and in the workplace in particular.

Universities throughout the world, including those in Southeast Asia, face the challenge of no longer being the sole producer of knowledge. At the beginning of the 21st century, there are multiple sites of knowledge production—including corporate universities established by big commercial firms, non-university institutes, research centers, government agencies, industrial laboratories, think tanks, and various kinds of consultancies. According to Gibbons (1998), “the parallel expansion in the number of potential knowledge producers on the supply side and the expansion of the requirement for specialist knowledge on the demand side are creating the conditions for the emergence of a new mode of knowledge production” (p. 33). The key issue is the relevance of higher education in the context of changing knowledge production and changing demands of the workplace, as more Southeast Asian countries become industrialized and move towards a knowledge economy and post-Fordist production. A major challenge for the universities is to carry out teaching and research which is transdisciplinary, ensure flatter hierarchies, and become more socially accountable and reflexive through an expanded system of quality control (Gibbons, 1998). Furthermore, universities are called upon to produce knowledge workers who are problem identifiers, problem solvers, and problem brokers. The challenge is how to apply knowledge that may have been produced anywhere in the world to work in a particular local situation.

A major impact of globalization on higher education is the delinking of the university from the nation-state. It has been argued that “the university is no longer linked to the destiny of the nation-state by virtue of its role as a producer, protector, and inculcator of an idea of national culture” (Readings, 1996, p. 3). The modern university as derived from the Humboldtian philosophy is an ideological arm of the nation-state which develops and transmits national culture to its citizenry. Culture in this context is seen as the sum of all knowledge that is studied, as well as the cultivation and development of one’s character as a result of that study. It is the idea of culture which ties the university to the nation-state. However, the link between the university and the nation-state no longer holds in the era of globalization. The contemporary university has been transformed from an ideological arm of the state into a bureaucratically organized and relatively autonomous consumer-oriented corporation. Therefore, with the declining role of the nation-state and the increasing power of globalization, questions have been raised about the role and social mission of contemporary universities (Kwiek, 2001). According to Johnstone (2001), the challenge is for the university to provide a counterweight against the “de-culturing” and “de-nationalizing” forces of globalization by continuing to play its indispensable role in promoting an inclusive multiculturalism and universal values. Universities in Southeast Asia will have to face these multiple challenges by redefining and reinventing themselves to suit the changing societal needs in the era of globalization.

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HIGHER EDUCATION IN SUB-SAHARAN AFRICA

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Higher education in sub-Saharan Africa, in the form and shape we recognize today, is a young and nascent phenomenon. Since its inception (through the incarnation of the educational systems of colonial powers), higher education in sub-Saharan Africa has made significant strides, but also faced major challenges. Higher education in sub-Saharan Africa has emerged from virtual nonexistence some four decades ago to an enterprise that enrolls several million students and recruits hundreds and thousands of faculty and staff.

The number of institutions in sub-Saharan Africa has increased from half a dozen in the 1960s—when most of the nations in the sub-region declared independence—to over 300 in 2003 (Teferra & Altbach, 2003). However, as impressive as these developments are, the systems and the institutions face a plethora of problems and challenges. This chapter provides an overview of the state of higher education in the sub-continent, covering historical and contemporary challenges, and concludes on a guardedly optimistic note.

Historical Perspectives

Higher education in sub-Saharan Africa is as ancient as the obelisks of Ethiopia and the Kingdom of Timbuktu in present-day Mali. While Africa can claim an ancient academic tradition, the fact remains that traditional centers of higher learning in Africa all but disappeared; most were overshadowed or destroyed by colonialism (Teferra & Altbach, 2003). It should be fiercely argued, however, that even though these ancient institutions have very little influence (if at all) on current developments in African higher education, the notion that Africa lived in “dark ages” prior to colonialism is without much ground (Lulat, 2003).

Overall, the colonial powers were non-committal toward (if not deliberately thwarting) the development of higher education in the continent—they were fearful, but rightfully, that an educated society would not tolerate (and therefore challenge) unjust establishments like colonialism. Emerging nearly from scratch some four decades ago,

universities have now grown to around 300, in addition to many other forms of post-secondary institutions such as teacher training institutions, professional schools, and vocational schools.

The profound legacy of colonialism in sub-Saharan Africa perpetuates in the colonial languages that continue to dominate, without competition, the landscape of the sub-continent's scholarship, business, and government. Much of the legacy—in terms of curriculum, organization of academic programs, and administrative culture—still looms large in the sub-continent. As described in the following sections of this chapter, major expansion and remarkable growth, accompanied by crisis, mark much of the history of the continent's higher education development.

Enrollment

Sub-Saharan Africa has the lowest tertiary education enrollment rate in the world. An estimated 2 to 2.5 million students are currently enrolled in tertiary institutions across the sub-region. Despite remarkable growth in enrollment in the sub-region, the actual participation figures still remain rather dismal for a population estimated to be around 700 million. Overall, the enrollment rate for the sub-continent hovers around 3%, although sizeable differences exist among countries. For example, Nigeria and South Africa dominate the sub-region in terms of absolute figures, together accounting for 1.5 million students. And yet Ethiopia, Tanzania, and Uganda (for example) have enrollments below 2% of their respective populations.

Major enrollment disparities by gender, economic status, regional setting (rural/urban), academic programs, ethnicity, and race abound. These are common issues throughout the sub-continent, and a variety of efforts—both national and international—are underway to address them.

Except for a few exceptions, the percentage of female students in all sub-Saharan African institutions is quite low, from 20% in Ethiopia, Tanzania, and Togo, to just over 50% in Swaziland and Lesotho. Gender disparity grows even more severe in the hard sciences, where males dominate. The socio-cultural milieu and the socio-economic realities in the sub-continent have considerable influence not only on the enrollment of female students but also on their subsequent progress. Mama (2003) notes that enrolling women is only the first hurdle in a much longer process, and it may well be where the greatest gains have been made, quite simply because access has been the main focus of advocacy group efforts to date. However, as she observes, “What do women achieve once they get into the university? What proportions of those who enter come out with degrees, or continue into postgraduate studies or academic careers?”

In addition to gender, considerable differences in enrollment exist by economic status and regional settings. While in many countries, students from well-off families (usually based in major cities and the best schools) dominate the institutions of the sub-region, in other countries students from rural areas and disadvantaged economic backgrounds dominate. Reports on recent higher education developments in some countries, tracking the impact of new fees and tuition, note that these new schemes favor enrollment of students from better-off backgrounds.

Funding

Funding higher education institutions remains a universal issue of concern around the world. This is particularly so at higher education systems in sub-Saharan Africa, where social, economic, and political turmoil continues to challenge the sub-region. With the culmination of the euphoria that resulted from nation-building (following independence), and the intensification of proxy wars by Cold War adversaries in the sub-continent, much of the infrastructure of the region collapsed and developmental schemes were obliterated. Inflation, economic collapse, civil strife, natural disaster and structural adjustment programs took their toll on the development of Africa's social, economic and cultural institutions. These institutions in much of the sub-continent simply collapsed under the heavy weight of complex problems. Higher education was not spared; in fact it became one of the first hard-hit institutions.

External forces, such as the World Bank, tendered higher education in sub-Saharan Africa its final deathblow by withholding support from it. Based on the infamous—and yet erroneous and now quietly disregarded—study on rates of return, it shifted the lending policy of the World Bank away from higher education, and as a consequence dismantled it. The impact of this study is much deeper and profound, as it not only withdrew World Bank support for higher education in the sub-continent, it also prompted other multilateral and bilateral agencies to follow suit. The governments of the sub-region, under pressure from multilateral agencies, simply obliged by withdrawing their support to higher education, purportedly in favor of primary education.

Virtually all sub-Saharan African countries carry a heavy burden of providing free higher education to their citizens. In these countries, the states provide upwards of 90% of the support for higher education. Until recently, higher education in the region has been virtually a public enterprise, in which citizens expected and demanded its free delivery. The perception has, however, shifted significantly as external pressure mounted, existing institutions became unable to accommodate the burgeoning need, and many private institutions have sprung up in the sub-continent over the last decade.

The pervasive neo-liberal policies, the harsh structural adjustment programs, and increasing “liberalization” of the global market have pushed many public institutions—including higher education—to curtail their financial dependence on the state. As a result, higher education institutions have engaged in a host of resource revenue diversification and contentious cost-shifting initiatives (Johnstone & Teferra, 2004). A growing number of institutions have imposed fees on a number of services or completely dropped them, adopted outsourcing (i.e., privatized certain non-core activities) and/or levied tuition fees. They have also expanded their entrepreneurial efforts by attracting contractual research, engaging in consultancy, leasing property and initiating new, attractive, and marketable programs.

Higher education is an expensive enterprise—way too expensive compared to other forms of education. And yet much of the existing discussions seem to either ignore or overlook this obvious fact when they deliberate in the context of African higher education. Numerous studies, which analyzed educational expenditure within the contested terrain of “rate of return,” seem to have been preoccupied with an emphasis

on the high cost of higher education without a sound and persuasive *raison d'être*. It should be underscored that higher education is a costly venture, as it involves not only knowledge dissemination at the highest level but also knowledge creation. Knowledge creation is a very expensive undertaking, and higher education as its manufacturing industry simply needs massive resources.

Higher education in sub-Saharan Africa, a continent of 48 nations, is an enterprise of around four billion dollars. Nigeria and South Africa make up the largest share of this figure. By all accounts, the funding of higher education remains dismal, and many calls have been made for major increases and shifts in resources.

Private Higher Education

Private higher education is a rapidly growing educational development throughout much of the sub-continent. As the demand for higher education escalated and the capacity of existing public institutions to address local need has drastically dwindled, private institutions have emerged as an important safety net. In many countries, private institutions outnumber their public counterparts. While their number is larger, their enrollment figures remain rather small. It is important, however, to note that the rate of private provision in tertiary education has grown significantly in recent years, and therefore may conceivably match—if not exceed—enrollment in the public sector.

Overall, many of the private institutions are for-profit, even though in some countries sectarian nonprofit ones have emerged. In Ghana, for example, the major private institutions are dominated by religious sects from different Christian persuasions. In some other countries, Islamic private institutions have also been established through the support of rich Muslim countries in the Middle East.

Most of the programs of study in these institutions share common features—they tend to be market oriented, revenue focused, and narrow in their scope. Across the sub-continent, the programs of study—especially for the profit-driven institutions—appear to be very common and normally include secretarial science, business management, accounting and finance, computer science/IT, tourism and hotel management. For-profit private institutions have a very limited footing in those fields which seem to have poor job prospects. Virtually all the private institutions are focused on the undergraduate market.

Some aspects of private higher education have crept into public institutions in what is now generally described as “privatization of public institutions.” Serious discussions and debates are underway to restore the public dimension of the university in Africa within the domineering milieu of liberalization and privatization (Sall, Lebeau, & Kassimir, 2003).

Quality of Education

As the continent confronted a plethora of social, political and economic upheavals, the state and quality of virtually all civil service institutions, including tertiary institutions, have suffered seriously. The enrollment rates in virtually all African countries have

escalated without commensurate resources; the physical plants have dilapidated, in some cases, beyond repair; the laboratories have halted their regular activities for lack of supplies and chemicals; the libraries have cancelled virtually all paid acquisitions; highly skilled personnel—both faculty and staff—have left for better living and working conditions both abroad and internally (i.e., in sections of the local economy outside higher education); and many of the universities have been disrupted by frequent closures that in some cases spanned more than a year.

The combination of these factors has significantly impacted the provision of quality education in the continent. The quality of teaching and learning has as a consequence suffered. Research and publishing in many cases have been relegated to the status of luxury items which the institutions felt that they could live without.

As private higher education becomes an increasingly important feature of the sub-region's higher education landscape, so is the issue of quality control. In many countries today, the significant growth of private higher education has triggered a need to police these institutions by either establishing accreditation bodies or developing operational guidelines. While it may be arguable and even controversial to impose some of the regulations on private institutions that the public ones cannot uphold, this trend is nonetheless gathering momentum, in response to the emergence of some dubious and fraudulent institutions. It is important to note that the frenzy of distance and virtual education has not yet caught up in the sub-continent largely due to economies of scale, financial and infrastructural issues such as a lack of reliable phone lines, power supply, and Internet access.

Needless to say, much of the private institutions in sub-Saharan Africa are home-grown and have not yet attracted much international attention, except in South Africa, where a large market and sound infrastructure are available. However, thanks to increasing cross border activities—due to globalization—certain African-based “accrediting” institutions and “teaching” institutions of questionable quality (if not completely bogus) have sprung up. One relevant example is a Liberian-registered institution, Saint Regis University, which is considered by U.S. accreditation agencies to be a “diploma mill,” granting diplomas (including a doctorate) based almost totally on “life experiences” and “little or no course work” (Chu, 2004). In fact, it has become a routine exercise for online users to delete spam emails that promise diplomas without having to do much work, using such contemptible sale pitches as “University degrees for sale!”, “Get your bachelor's, master's, or doctorate in days!”, and “Get the job you deserve with a university degree—no need to go to school.” The sanctity of academic fortresses has thus come under threat, as unscrupulous elements are sneaking in under the guise of market liberalization and so many “fly by nights” have mushroomed, largely fostered by the power of the Internet.

While Third World countries, including those of Africa, may not fairly and equitably compete with developed countries in cross border education, it is conceivable that they might serve as global centers of diploma incubators that can provide bogus credentials. Though marginal, these trends of private higher education may have some effect on the developed world, which pursues aggressive positions in international agreements (such as the GATS) in pushing tertiary education as part of the “free” trade regime.

Research and Publishing

Research and publishing capacities of African institutions have deteriorated precipitously over the years. As enrollments escalated, teaching loads have increased significantly, consequently chipping away the requisite time and commitment available for research. The lack of earmarked funding for research, the provision of supplies, and requisite current journals and other publications have negatively impacted research. Governments have also not helped the situation, as they have for decades either directly cracked down on universities, or indirectly suppressed critical voices by implicitly fostering self-censorship. The departure of too many seasoned and competent faculty—leaving behind an overworked, overcrowded, poorly paid and demoralized faculty—dealt a final blow to an already shaky situation.

Funding expenditures for research and development in sub-Saharan Africa have remained way below the 1% mark that was pledged by African countries in many major regional and international meetings. As a consequence, the region remains the least knowledge producing in the world.

In many African countries, public universities remain the sole national hub for research and publication. Any crisis or constraints in these institutions directly reflects on the output of research and publication of a nation.

A viable and reliable means of disseminating new knowledge and perspectives is also woefully lacking. Journals are often irregular in their issue, few in number, broader in scope and also poor in quality (Teferra, 2003). Hence, major findings and breakthroughs continue to be published in reputable international journals, relegating the home-based and regional-based journals as second-class citizens of the global information resource networks.

The lack of regular, relevant, widely distributed, and reliable local journals necessitates publishing in overseas journals—forums that are often neither sympathetic nor caring, nor are they unbiased towards African academia and scholarship. As local journals decline in quality, quantity and influence, researchers are naturally gravitating towards overseas journals, submitting to their cumbersome, Eurocentric and increasingly idiosyncratic guidelines. This tendency has serious ramifications on the sub-continent's knowledge discourse and affects the perception of others towards the body of research published in such forums that unfairly dominates the policy environment affecting the continent.

Stacks of unpublished reports often occupy large offices and lab spaces of many African faculty who either lack the time to turn them into published papers or simply do not fully recognize their benefit as more than promotional tools. While it appears that many in Africa feel that their promotion depends on publishing (Teferra, 2004a), all indications are that productivity has dwindled over the years, under the heavy weight of too many constraints and challenges.

Another scenario has also surfaced; as universities have deteriorated, to the extent of failing to pay salaries in some countries, their faculty are engaging in extensive “moonlighting” to make ends meet. A few (but rather productive) members of the research community have intensely engaged in developing a lucrative consultancy practice, often for international and multilateral organizations and corporations. The

terms and decisions with regard to publications that emanate from such works and their intellectual property rights are often regulated by these institutions. For sure, these have deep ramifications for the sub-continent.

While the state of research remains dismal, some efforts are underway to provide better access to published sources—especially journals—largely through electronic delivery initiatives (Teferra, 2001). It should be noted, however, that even though the delivery of up-to-date knowledge and information is one prerequisite for the development of research, building a sound research infrastructure requires far more long-term effort and commitment.

Academics

The academic system remains largely a male-dominated enterprise. Women are often less represented, occupy low ranks, and hold low administrative and academic positions. They also tend to have a higher proportion in the “soft” sciences and to be less involved in research and publication activities.

As tertiary education is slowly expanding and the number of academics is increasing, and as the salaries and benefits of academic work have dwindled over the years, these trends have eroded the social status of the faculty. However, while declining in its social value, the academic profession still garners a considerable reputation throughout much of the sub-continent.

There is a growing concern that senior African academics are aging and that a new, competent generation is not replenishing them quickly enough. According to a recent study, the majority of Ghanaian faculty are in their late 50s, and recruitment has not kept up to counterbalance the trend. The problem of aging faculty is indeed widespread, and encompasses universities in Mozambique, Tanzania, and Uganda (Sawyer, 2004).

Migration of Expertise: The “Brain Drain” Phenomenon

One of the most serious challenges currently facing capacity building efforts in particular, and socio-economic development in the sub-continent as a whole, is the exodus of high-level personnel from the continent. It may not be surprising that a region fraught with upheavals and dwindling resources generates such massive waves of one-way migration.

As salaries and compensation have dwindled over the years (particularly when compared to inflation rates), and as institutions failed to provide the most basic facilities and services for teaching and research, faculty sought employment opportunities elsewhere. As the crisis in the continent mounted, it escalated the flight of high-level experts to an attractive market with a favorable and liberal immigration policy.

Brain drain is a common and serious phenomenon throughout the world, with particular implications for the African sub-continent. Many Ethiopian, Nigerian, and Zambian academics are employed in the southern part of Africa—particularly in Botswana, Namibia, and South Africa—while a significant number of highly-talented South Africans have migrated to Canada, the United Kingdom and the United States for better pay, working conditions and living environments. In a certain region of Canada,

for example, South Africans make up 20% of the migrant population of medical doctors (Teferra, 2004b). In 2003, according to the U.K. General Medical Council, over 7,400 South African and 1,900 Nigerian registered doctors were working in the United Kingdom alone (Dovlo, 2004). In 2003, more than 1,300 nurses from South Africa arrived in Britain, with another 500 coming from Nigeria (BBC, 2004).

Brain drain is most often used to mean the physical mobility of experts from one place to another, typically overseas. And yet “onsite” brain drain—in terms of poor utilization of existing expertise at home—has not yet attracted the attention it deserves. Severe financial and logistical constraints have hampered the productivity of those academics who remained behind. Even those who left for better remuneration in other areas or businesses hardly put their full expertise into practice.

Several national and international initiatives have been launched to curb the exodus of high-level expertise, but with little success so far. Some of the initiatives have been rather restrictive, while others have been cumbersome and poorly implemented. Some of the initiatives were simply ineffective and had to be scrapped and reinvented. Overall, we have yet to see an effective mechanism to replenish migrant talent.

There is, however, a growing interest in involving migrant African experts in academia, research, and business. The initiatives of the African Union to engage the intelligentsia of the African Diaspora in the socio-economic development of the region comprise one such important development. A number of ministerial meetings have recently taken place and a major conference, expected to foster the contribution of the Diaspora for African development, took place near the end of 2004. Moreover, the recently established Pan-African Parliament of the Union has slated seats for African Diaspora representatives.

HIV/AIDS

HIV/AIDS has emerged as one of the most serious health hazards of the 21st century, and seriously confronts the African continent. According to a recent United Nations report (UNAIDS, 2004), in 2003 alone an estimated three million people in the region became newly infected, and in some countries—such as Botswana, one of the richest countries of the sub-region—40% of certain age groups are reported to have been infected by the disease.

Universities often tend to offer a “liberal” and “open” environment for interaction between members of the opposite sex—more so than is common in a typical African cultural setting. A young, energetic and sexually matured population moves freely around and often lives together as dorm-dwelling students, far from the close scrutiny of parents, relatives and their immediate community. Such an environment creates a conducive situation for spreading the disease affecting the community both within the campus and beyond.

The impact of HIV/AIDS on higher education is tremendous. The sickness and death of a member of the university community is a direct drain on university resources, from providing health care to finding a substitute or replacement. Absence and ineptitude that emanate from associated ailments affect students, staff, and academics directly or

indirectly. Often academics and staff bear the burden of covering for ailing colleagues without compensation or extra benefits. Administrators are often reluctant to terminate the employment benefits of ailing colleagues, while they are also unable to make temporary replacements.

Overall, universities have not played a leading role in addressing this serious human catastrophe of major social, political, economic and cultural consequence. Though slow in their reaction, many universities have more recently recognized the depth and magnitude of the problem and initiated ways to mitigate it. What remains for universities across the continent is to ensure that the recommendations and initiatives from organizations like the Association of African Universities (AAU), the Association of Commonwealth Universities (ACU), and the South African Universities Vice Chancellors' Association (SAUVCA) are translated into vibrant action programs. Doing so will accelerate the transformation of traditional, piecemeal and somewhat cosmetic reactions to HIV/AIDS into dynamic, fully integrated, comprehensive, and proactive institutional responses (Kelly, 2003). Ottala (2004), however, observes that virtually all Francophone and Lusophone tertiary institutions still lack formal HIV/AIDS policies.

Academic Freedom and Autonomy

Sub-Saharan Africa remains one of the last bastions of government dictatorship and authoritarianism. The region is also known for its endless cycle of violence and civil conflict. More than 40% of the world's armed conflicts regrettably take place in the continent (Regher, 2004). Hostile environments such as these are not fertile ground for knowledge creation and knowledge dissemination.

When one speaks of universities in Africa, one is actually often referring to public institutions—although a considerable growth in private higher education has been recorded in recent years. The autonomy and governance of public institutions are thus generally determined and dictated by the goodwill of governments, which often provide more than 90% of their income.

University professors are known to be fired, imprisoned, tortured, or even killed for their points of view. Atrocities are committed not only by those agents acting on behalf of governments but also by fringe groups that consider academia a threat. In many countries, censorship—both self-imposed and sanctioned—reigns supreme, nurtured by fear of persecution, and as a consequence constraining the capacity for knowledge creation and free expression in the region.

The end of the Cold War and the winds of liberalization and democratization in the sub-continent have created a more favorable environment for academic freedom, as academicians are more openly expressing themselves within and outside their academic confines. The growth of opposition political parties and civil societies in the sub-continent has certainly moderated the long-standing stature of universities as barracks of opposition, monitors of social injustice, and agents of social transformation.

Sizeable ground gained through political reform has been lost, however, to heavy economic deprivation that confronted much of the sub-continent's higher education systems. The forces of political and economic liberalization, which appear to have given

more space to academic freedom, also had another sinister side, which constrained its engagement with the new global, regional, national, and institutional realities.

It is tempting to confine the analyses of academic freedom to institutional and ideological constraints posed by the state and the universities themselves. In the African context, the discourse ought to be more expansive, for it is quite evident that the pursuit of academic freedom involves not only struggles against the authoritarian predilections and practices of the state, civil society, and the academy itself, but it is also an epistemological one against paradigms, theories, and methodologies that inferiorize, misrepresent, and oversimplify African experiences, conditions, and realities (Zezeza, 2003).

Information and Communication Technologies

African institutions have benefited significantly from unprecedented developments in information and communication technologies (ICT). Before ICT development in the sub-continent became the main agenda focus of foundations, multilateral organizations, NGOs and private businesses, it was conceived and grown in the wombs of universities. Levey (2002) points out that, despite numerous hurdles, the major factor that catalyzed the development of ICT in the continent (especially e-mail), was the great thirst and enormous need for academic and scholarly communication in the land of forbidding cost and extremely poor communication services. Even though Africa and its institutions remain far behind the rest of the world in ICT access and development, the strides made and the benefits gained in the continent are tremendous (Teferra, 2003). In fact, the highest growth rate in connectivity is recorded in Africa, simply because existing infrastructure is woefully lacking.

ICT initiatives that relate to higher education institutions in Africa can be generally grouped into three broad categories: individual institutions' initiatives aimed at expanding access to ICT, as part of an institutional or national education network; regional initiatives that cover most countries or universities; and initiatives aimed at increasing the flow of content in higher education (Adam, 2003).

These initiatives have had a visible impact on teaching, learning, and research activities—and moreover, on the most chronic problem of African academics: communication with the outside world. Faculty have used the Internet to download materials and track the frontiers of their disciplines. They have used ICT to launch collaborative initiatives, instruct remotely, publish their papers, and engage in dialogue with colleagues around the world. ICT has also been widely acknowledged for easing the feeling of academic isolation (Teferra, 2003).

All is not that rosy though. A complex set of issues confronts the effective utilization of ICT in the sub-continent's higher education institutions. The most important challenge remains infrastructural: the phone lines, the power supply, the capacity to maintain and upgrade systems and machines, and narrow bandwidth are all issues of concern. While access to international knowledge sources using ICT has been encouraged and supported—and as a consequence some ground has been broken—the effort to create, develop and package knowledge in the sub-continent remains largely inadequate (Teferra, 2001).

A New Era of Higher Education in Africa

A new era of higher education in Africa began in the late 1990s, as leading think tank institutions and major donors elevated the status of higher education (which had been hitherto downgraded for over two decades, based largely on the account of a sloppy study) to a major policy and resource agenda item. The World Bank study, which in effect downplayed the importance of higher education for over two decades, now resurrected it in another report (World Bank, 2002), rather tacitly recognizing it as a critical element of development in which developing countries must build in earnest if they are to progress in an information age that feeds on knowledge and breeds on competition. In this seminal work, the World Bank stresses higher education as “more influential than ever in the construction of knowledge economies and democratic societies” (p. 1), in essence emancipating higher education in the sub-region from the shackles of decades of neglect.

However, long before this position paper was published, some positive developments were already emerging. The Partnership for Higher Education in Africa, a consortium of four major U.S.-based foundations, is probably the most notable one. This consortium—which comprises the Ford, MacArthur, and Rockefeller Foundations and the Carnegie Corporation of New York—earmarked \$100 million for strengthening higher education in Africa. These foundations, along with others—such as the Swedish Agency for International Development (SIDA)—have currently redirected their support toward the development of African higher education institutions.

Many conferences on African higher education have been organized recently, both in Africa and overseas. Research on higher education has also become a growing (albeit still small) activity of a number of institutions. In terms of publications, three visible initiatives are especially worth mentioning: the most comprehensive book on the subject available today, *African Higher Education: An International Reference Handbook* (Teferra & Altbach, 2003); the launching of a dedicated journal, the *Journal of Higher Education in Africa*; and a series of publications by the Partnership for Higher Education in Africa. A number of institutions have also launched a variety of initiatives in African higher education that include the Association of African Universities (Ghana), the Center for International Higher Education (Boston College), the Council for the Development of Social Science Research in Africa (CODESRIA, Senegal), the Organization for Social Science Research in East and Central Africa (OSSREA, Ethiopia), and the United Nations Economic Commission in Africa (Ethiopia). Other institutions, such as the Center for the Study of Higher Education (University of the Western Cape, South Africa), have in fact launched graduate programs in higher education administration and management. The launching of the International Network for Higher Education in Africa (<http://www.bc.edu/inhea>) and the effort to establish the Society for Higher Education in Africa are some of the ongoing efforts to enhance research, analysis, advocacy, and publication on higher education in the continent.

Reform initiatives and strategic planning to overhaul higher education institutions at national and institutional levels in many countries have also become commonplace. Numerous countries have undertaken strategic planning, often prompted by domestic imperatives and international pressure, which led to major reforms. The interest and

focus of overhauling the higher education system in Africa will not, hopefully, fade away under the weight of numerous competing priorities and the often quickly shifting interests and agendas of funding and donor institutions.

Conclusion

In the 21st century, higher education in sub-Saharan Africa faces numerous challenges. Escalating enrollments, declining resources, high outflow of academics (brain drain), equity and quality balance, and the scourge of HIV/AIDS are just some of the complex issues which confront the system. In this information age, where knowledge creation and dissemination are critical for socio-economic progress, the sub-region cannot afford to ignore these challenges.

Certain developments, however, call for some guarded optimism. Favorable national and international policies, increasing support from bilateral and multilateral donor and funding institutions, rising private higher education providers, expanding technologies in information and communication (that enhance onsite teaching, enable distance learning, and foster academic research), a growing trend in strategic planning, and other reform initiatives call for some optimism.

What is even more comforting is that the research community interested in African higher education is growing. Research, publishing and conferences on African higher education, inside and outside the sub-region, have grown visibly. One only hopes that these endeavors will in effect maintain the momentum in revitalizing higher education and development in the sub-continent.

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SECTION 2

National Perspectives

ARGENTINA

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The University of San Carlos, the earliest Argentine higher education institution, was founded in 1613. First built as a novitiate of the Society of Jesus, it later became the National University of Cordoba, following its incorporation by the national government during the mid-19th century. In 1821—a decade after national independence—the University of Buenos Aires (UBA) was founded in the wealthiest city of the country. The UBA has continued to be the largest higher education institution and the model for other Argentine universities. By the late 1950s, only nine universities had been established, mostly located in the main cities around the country. All were funded by the national government and were formally autonomous.

Autonomy has been zealously defended since the 1918 student movement in Cordoba City gave rise to “the Cordoba 1918 Reform.” This movement quickly spread throughout the country and to other Latin American countries. Student leaders criticized university control by a committee of professors and called for a self-governing university with the participation of students, professors, and alumni on university councils.

Another historical event that shaped the current Argentine higher education system originated from the Catholic Church’s contested pressure to foster the creation of private institutions, which concluded with the 1958 law that authorized their functioning under the regulation of the national government. This law promoted the expansion of private universities, especially in the City of Buenos Aires and other important cities in the country. The growth of the private sector has gone hand in hand with an increase in the number of public and private non-university tertiary institutions, mainly since the 1970s. These tertiary institutions comprised technical and vocational schools and teacher training colleges offering short-cycle programs.

The evolution of the Argentine higher education system in the last 20 years has produced a more complex and diverse structure. Throughout the 1980s and 1990s, the system became more heterogeneous. National and private universities now differ enormously in size, scope and range of studies, commitment to research, and their status in society. In spite of the diversity, these universities share a strong professional orientation and student concentration in only a few professional fields (such as law, public accountancy, medicine, the media, and psychology).

Enrollment Expansion

Compared to other Latin American countries, the Argentine university sector developed well before the rest. As a consequence, Argentina now has the highest higher education gross enrollment rate in the region—48% in 1999–2000—and a top female tertiary gross enrollment ratio of 60% (UNESCO, 2004).

In the 20th century, the average annual growth rate of higher education enrollment averaged 6.7% (see Table 1), but with significant fluctuations owing to the country's political and economic instability.

Between 1930 and the restoration of democracy in 1983, elected governments alternated with military dictatorships. The admissions policies under military regimes were determined by the central government and generally included entrance examinations. Under democratic governments, and at autonomous national universities, the admissions policy was determined by each institution or even by the individual schools. After the experience in restricted access under military governments, the authorities at national universities—in particular bowing to the pressure of student movements—regarded the open admissions policy as a symbolic opposition to the previous system. As shown in Table 1, the number of students in national universities expanded strongly under the democratic governments in place during 1952,¹ 1973, and 1983. Since then, the national university growth rate has stabilized at 6%, while the total population increased at less than 1.5% on average.

Fluctuating enrollment rates also reflected the evolution of the economy. Early higher education expansion from 1880 to 1930 was strongly linked with the country's economic affluence. Throughout this period, economic growth was led by the strong increase in agricultural exports, which integrated Argentina with international markets. Under these conditions, the fiscal revenues coming from sustained growth enabled the

Table 1. The Expansion of Argentine Higher Education, 1906 to 2000

| Period | Average Annual HE Enrollment Rate of Growth | Average Annual National University Enrollment Rate of Growth |
|-----------|---|--|
| 1906–2000 | 6.7% | 7.0% |
| 1906–1918 | 11.4 | 13.2 |
| 1918–1930 | 6.6 | 7.4 |
| 1930–1952 | 7.3 | 7.4 |
| 1952–1955 | 11.5 | 12.1 |
| 1955–1966 | 5.0 | 3.8 |
| 1966–1973 | 6.7 | 6.0 |
| 1973–1975 | 19.5 | 23.9 |
| 1975–1983 | –.03 | –4.4 |
| 1983–1984 | 16.7 | 26.8 |
| 1984–2000 | 4.1 | 6.3 |

Source: García de Fanelli, A. (2004). *Universidad Pública y Asignación de Fondos (Public University and the Allocation of Funds)*. Buenos Aires, Unpublished.

state to develop a good quality, cost-free public service to satisfy the demand of the newly developing middle class.

The disarticulation of international trade flows generated by the crisis of the 1930s interrupted the expansionist process. Faced with the challenge of introducing radical changes into its development model, Argentina—along with most Latin American countries—adopted a new strategy based on import substitution. This growth model relied much more heavily on fiscal resources than the previous export-oriented model. Constrained by rising social demands and costly industrial development strategies, the Argentine government began to suffer systematic fiscal crises beginning in the 1950s. In particular, 1975–84 marked a period of stagnation, de-industrialization, high inflation, and dramatic foreign indebtedness (Fanelli et al., 1992).

During the 1990s, the Argentine economy experienced major structural changes as a consequence of privatization, market deregulation, and macroeconomic instability. After a phase of high growth between 1990 and 1998, the economy suffered a significant slowdown that ultimately resulted in economic depression and crisis. In 2001–2002, the financial sector and the exchange rate system (the so-called Convertibility Plan) collapsed. As a consequence, labor market conditions worsened substantially, income distribution became much more skewed, and the Argentine global socio-economic situation deteriorated.

The macroeconomic volatility throughout the 1980s and 1990s had dramatically affected the level of higher education expenditure. Under these circumstances, the impact of the open-admission and the cost-free policies that facilitated the access of newly-integrated social groups to national universities completely differed from pre-1930 experiences. Increasing enrollment within a context of scarce financial resources led to a gradual deterioration in teaching and research conditions, especially in the more solicited professional programs.

Finance

In light of the economic cycles, the real value of higher education expenditures failed to grow during the hyperinflationary period of 1989–90 and the Convertibility Crisis of 2001. However, it rose throughout the growth period of 1993–98. As the enrollment rate increased during this period by an average of 6%, the expenditure per student fell dramatically. Some data estimate that the expenditure per student in the national university sector decreased by 32.6% between 1980 and 2003 (Becerra et al., 2003).

Public expenditure as a percentage of GDP also reveals sustainability problems in the Argentine higher education system. In 1998, public higher education expenditures were 0.59% of GDP and the public expenditure per student was barely 22% of per capita GDP (García de Fanelli, 2002). Moreover, while the higher education system has been expanding, it has received little funding for research and development (R&D). Total investment in R&D in Argentina (0.44% in 2002) fell far below the levels in industrialized countries, and even in other Latin American countries like Brazil (1.05% in 2000) and Chile (0.57% in 2001) (SECyT, 2002).

The federal government provides most of the financial support that national universities receive in the form of a block grant. Amounts are allocated mainly through

a mechanism based on the institution's previous share and its lobbying activity in Congress. Since 1990, new mechanisms to fund the higher education system have been introduced to improve efficiency and equity (García de Fanelli, 2002). First, since 1992, public universities have enjoyed greater institutional autonomy thanks to their freedom to negotiate pay scales within government thresholds. However, this policy has not been implemented at the largest and most important national universities due to political obstacles related to wage scale bargaining, especially in a context of stringent funding and growing enrollment. Second, an increased proportion of public funding between 1995 and 2000 was allocated through contracts on a competitive basis—for example, via the Fund for the Improvement of Quality in Universities (FOMECE). FOMECE was a mechanism that sponsored both the reform process and the betterment of public university quality. The distribution of resources was carried out through competitive procedures designed to support proposals embracing government-established goals (Marquís et al., 1999). Third, in 1994, the Secretary of Higher Education launched an incentive program for faculty who both teach and conduct research. The Program of Incentives for Research-Teachers prompted the comprehensive development of academic commitment and the increase in full-time posts. Fourth, the Secretary of Higher Education also implemented the use of formula funding to allocate a small proportion of public funds for national universities. As a test case, a formula was used to distribute a very low proportion of the budget in 1997, 1998, and 2003. Its implementation was interrupted between 1999 and 2002 as a consequence of scarce financial resources, political opposition, and technical problems in determining the input and output indicators used in the formula. In 2003, national government authorities and the National Interuniversity Council (CIN)—comprised of the national university presidents—negotiated the terms of a new formula for allocating public funds for national universities.

The Structure of the Higher Education System

In total, there are 94 public and private universities and university institutes² and 1,754 non-university tertiary institutions (see Table 2). In both sectors, private institutions outnumber public ones.

With 1.2 million students, the public university tier or “national university sector” is by far the most important in terms of student enrollment, academic staff, political visibility, social prestige, and functions. It is also the only educational sector under the jurisdiction of the national government. All other public institutions at the primary, secondary, and tertiary levels were transferred via a decentralization policy from the national government to the provinces between 1970 and 1990.

Within the national university sector, we find a widely differentiated university system, ranging from a few research-intensive schools (mostly in the basic sciences) in some traditional national universities to primarily teaching institutions in schools or universities devoted mainly to professional training.

While the average enrollment of national universities is around 30,000, the amount of students at each university varies considerably. There is one mega-university: the University of Buenos Aires (UBA). UBA, located in the wealthiest city of the country, accounts for 26% of Argentina's total enrollment, with nearly 326,000 undergraduate

Table 2. The Argentine Higher Education System: Institutions and Enrollment, 2002

| Sector | Number of Institutions | Undergraduate Enrollment | Graduate Enrollment |
|-----------------------------|------------------------|--------------------------|---------------------|
| University | 94 | 1,422,433 | 40,902 |
| Public | 42 ^b | 1,263,842 | 32,643 ^d |
| Private | 52 ^c | 158,591 | 8,259 ^e |
| Non-University ^a | 1,754 | 413,965 | 26,199 |
| Public | 760 | 243,600 | 10,431 |
| Private | 994 | 170,365 | 15,768 |

Source: MECyT (2002, 2004).

^aNon-university data correspond to the year 2000.

^bThirty-six public universities and 6 university institutes.

^cForty-one private universities and 11 university institutes.

^dAuthor's estimation. Data correspond to the year 2000.

^eData correspond to the year 1997.

students. There is also a large *Universidad Tecnológica Nacional* (national technical university), with almost 64,000 students and branches throughout the country. At the other end of the spectrum, some universities located in the provinces and other recently created ones have fewer than 4,000 students (MECyT, 2004). The diversity in the size of institutions is due to both the concentration of the population and economic activities in the metropolitan area of Buenos Aires City and Greater Buenos Aires,³ together with the government's policy in the early 1970s to establish at least one public university in each province regardless of the size of the population. Also, during the 1990s, new universities were created in several different locations throughout Greater Buenos Aires.

The increasing number of private universities has also contributed to the heterogeneity of the new structure of the Argentine higher education system. Although private universities outnumber public ones, undergraduate enrollment in the former is scarcely 11% of the nation's total (see Table 2).⁴ This is a consequence of four factors: (1) the public undergraduate level is tuition-free; (2) some national universities are more prestigious and offer a greater variety of programs than other private ones; (3) no public financial aid exists for students attending private institutions; and (4) the admissions process in the public sector is not very restricted—in fact, admission to public universities is granted to all high school graduates. Some universities or schools apply entrance examinations or require students to take specific courses—in particular, medical schools (Trombetta, 1999).

Like the public sector, the private university sector is also quite varied, and includes both secular and religious institutions. Using Levy's typology (Levy, 1986), there are demand-absorbing and elite institutions in the secular sector. Of the 52 private universities and university institutes, only a few probably fit the elite type (with high expenditures per student, full-time professors and full-time students, research activities, high-quality facilities, and good libraries). There are also some confessional private

universities—mainly associated with the Catholic Church—that incorporate religious perspectives into their objectives. Some of them are trying to compete with secular universities in the academic market niche of the demand-absorbing type, while others are trying to improve the quality of their educational programs in order to contend for a place in the elite niche of the academic market. Private universities depend almost entirely on private funding (donors, the Church, firms, etc.) and student tuition and fees. However, some private institutions have recently received public institutional grants as research centers, and their professors compete for public research funds at the national research agencies.

The non-university tertiary tier embraces such institutions as teacher-training institutes and technical and semi-professional schools, including those training paramedical personnel, social workers, artists, and technicians.⁵ This highly heterogeneous sector has been under the direct control and financial supervision of the provincial governments since the 1992 decentralization policy. The private non-university tertiary tier is also regulated by the provincial governments, but it depends financially on tuition and fees.

Undergraduate and Graduate Programs in the University Sector

The undergraduate level of education includes both the “*licenciado*” degree—following an average of 5 years of study—and professional degrees, generally with a longer duration, in fields such as medicine, engineering, public accountancy, architecture, psychology, and law. Compared with public universities, private ones show a greater concentration in the social sciences and a shorter duration of undergraduate programs (Balán & García de Fanelli, 1997).

Both the public and private sectors have not only shown important institutional growth but also a greater diversity of programs. The two main features of this expansion have been the increasing concentration in social sciences and humanities degrees, and the growth of short-cycle programs. As shown in Table 3, the majority (42%) of newly-admitted students at public universities study social sciences programs, while only 4% take basic sciences courses (biology, physics, mathematics, and chemistry). In

Table 3. Student Intake and Graduates at National Universities by Field of Study, 1990–2000

| Field of Study | Student Intake | | Total Graduates | |
|------------------|----------------|---------|-----------------|--------|
| | 1990 | 2000 | 1989 | 1999 |
| Social Sciences | 62,712 | 117,573 | 12,559 | 14,300 |
| Humanities | 20,015 | 40,573 | 3,822 | 5,068 |
| Applied Sciences | 55,114 | 71,268 | 8,667 | 9,374 |
| Health Sciences | 27,845 | 37,128 | 7,005 | 8,566 |
| Basic Sciences | 6,714 | 11,195 | 1,090 | 1,163 |
| Total | 172,400 | 277,737 | 33,143 | 38,471 |

Source: MECyT (2002).

addition, the enrollment trend by field of study shows a steadily increasing proportion of students and graduates in the social sciences, especially in business administration, public accountancy, and law. The growing supply of social sciences programs is directly related to student demand.

In terms of enrollment, the undergraduate level in Argentina is quite developed, while graduate education is radically underdeveloped (García de Fanelli, 2001). Several institutional and financial conditions help explain the current situation of graduate programs. First, only about 20% of those who enter national universities graduate within six years, and many of them eventually drop out. Second, unlike the undergraduate level at public universities, graduate education is almost totally financed by students and their families. The tuition level is determined by the total cost of the program and has to cover a professor's fees as the labor market dictates. Third, the few available scholarship programs target young, full-time students, yet most of the graduate students are in their 30s and study part-time.⁶ Finally, neither the doctorate nor the master's degree was a requirement for entry into (or promotion within) the academic profession until the 1995 Higher Education Act. As a result of these trends, the graduate academic market is very young, and clear public policies are necessary to foster its growth.

Governance and Quality Assessment

The 1995 Higher Education Law established a common framework for public and private institutions in both university and non-university tiers. The purpose of this was to help set the conditions for the formulation of policies to coordinate the system as a whole. Nonetheless, the real ability of the national government to coordinate higher education policy has been very limited owing to the autonomy of national and private universities and the control of the tertiary non-university sector by provincial governments.

The Argentine Constitution recognizes the autonomy and administrative autarchy of national universities which is enshrined in their individual charters or statutes. Collegial and executive bodies govern national universities, and the assembly is the highest authority. The assembly, composed of the executive and collegial bodies, is in charge of the construction of, approval of, and amendments to the university statute, as well as the election of the president or rector of the university. Members of the university councils are elected by professors, students, and alumni. Although the administration is controlled by the university president or rector and staff members, the university council rules over national universities (Balán, 1993).

The majority of Argentine universities are organized into professional or academic-based schools or *facultades* that enjoy considerable autonomy. Schools are run by the school council—comprising representatives from professors, students, and alumni—which also elects the dean of the school. Within each school, chairs are the main teaching units and the chair-holder enjoys considerable autonomy to design the curricula of the course and to manage the chair. One characteristic of these council representatives at public universities has been their ties with major national political parties. Consequently, there has been an element of partisanship about the way votes from the constituencies have been cast.

Unlike the national university sector, private universities are more hierarchical in their organization. This means that collegial bodies participate less in the decision-making process. Private university presidents are elected by university boards, whose composition reflects the orientation of the founding organization (for example, religious or business orientation). Faculty representation is very limited, and university presidents appoint deans and other administrative staff.

The higher education system is also composed of a large number of tertiary institutions that fall legally under the responsibility of the provincial government. Like primary and secondary level institutions, tertiary institutions are not autonomous and are vertically governed by the provincial authorities.

Although the 1995 Act recognizes university autonomy, it also encourages accountability in the use of public funds. In particular, the 1995 Act promotes the institutional assessment of all universities and the periodic accreditation of some professional programs (e.g., medicine, engineering, law, public accountancy, and psychology) and all graduate studies. The National Committee of University Assessment and Accrediting (CONEAU) is in charge of all these activities with the help of peer reviewers. The Ministry of Education, together with the Council of Universities,⁷ establishes the standards for the accreditation process. This policy is important, as CONEAU could influence the curricula by defining minimum criteria for program quality or standards. In addition, graduate programs can volunteer to accept to be accredited and to be graded as: excellent (“A”), very good (“B”) and good (“C”). Although the quality assessment review is not directly linked to the allocation of funds, there is a modest relationship—the distribution of some funds has been indirectly related to CONEAU’s results.⁸ CONEAU’s quality assurance is also quite important as a market signal of product quality. Accreditation and evaluation processes contribute to certifying educational quality and, by doing so, give more transparency to the academic market. CONEAU also monitors private universities during their period of provisional authorization. If the steering reports indicate that the university is performing well after 6 years, the institution will become autonomous (Fernández Lamarra, 2003).

In sum, the Ministry of Education does not have direct authority over the higher education sector and, in fact, cannot design the public policies that are to be automatically implemented within it. Public and most private universities are autonomous and public policies oriented to reforming the tertiary non-university sector must meet with the approval of provincial governments. In this context, a public policy to promote the improvement of the system and to encourage institutional innovation depends on negotiation. It must achieve a consensus among the main actors on new instruments that can indirectly steer the system via financial or quality assessment measures.

Teaching, Learning, and Research Activities

The positions of the Argentine academic profession generally comprise two broad categories: professors (full, associate, and assistant) and junior teaching staff (senior and assistant); they can be hired on a full-, half- or a part-time basis.⁹

To cope with the issues of demand pressure resulting from an open admissions policy and a context of public financial stringency, the public university has adopted a

policy of hiring more part-time and volunteer staff, especially—but not only—for the lowest academic positions (junior teaching staff). In 2000, full-time faculty represented only 14% of the total. Many of these faculty members are sometimes called “taxicab” professors because they work at several higher education institutions simultaneously and accumulate teaching hours at different schools or universities. This practice is quite prevalent among graduate programs (García de Fanelli, 2001).

Most of the national universities’ statutes establish that “regular” or “ordinary” faculty are appointed on the basis of periodic, openly competitive procedures.¹⁰ These statutes also stipulate that the authorities can make special and exceptional 1- or 2-year appointments with the institution. Professors and junior teaching staff hired under these conditions are called “interim.” In spite of the legal framework that determines the institutional conditions for the development of permanent (“ordinary” faculty) and non-permanent (“interim” faculty) labor contracts, the social practices deeply deviate from these formal arrangements. Some reports on the external evaluation of national universities and data from the Ministry of Education reveal that more than half of the faculty are interim and that many are under *de facto* permanent contracts without a periodic performance evaluation.

As a consequence, although the openly competitive contest is the best-known instrument for the appointment of professors, there is a clear perception among different academic members that it does not actually seem to be a workable procedure. The failures of the open competitive contests can be attributed to a fragile financial scenario, with increasing demand and open-admission policy, the lack of incentives to sit *ad-honorem* on a jury, the lengthy bureaucratic procedures, the rigidity of the chair system, and corporative and political vested interests.

Like interim and fixed-term contracts at national universities, the appointment procedure at private universities does not usually follow an openly competitive contest mechanism. The decision is generally taken by the governing board upon the recommendation of the faculty, based on the candidate’s academic and professional qualifications and personal contacts. Contracts are generally designed on an hourly basis, although there are some private institutions—mainly of the “elite type”—that hire their professors under a stable wage relationship.

Transnational education is also instituting new trends in higher education. In Argentina, this process has mainly targeted the graduate level, and takes the form of “branch campuses” or “joint programs.” The first corresponds to those universities that set up branches in other countries to offer one or more programs. This is the case of Bologna University in Argentina.¹¹ With respect to “joint programs,” some Argentine private universities and a few public ones have signed formal agreements with foreign universities to offer a joint degree at the graduate level, mainly in the social science fields. Both types of transnational programs hire faculty on an hourly basis and under self-employment of service contracts. As a consequence, employment relations in the transnational education programs follow the same structure as other local graduate programs: unstable, fixed-term contracts.

Like most faculty members, about half of the students at public universities attend part-time as they work and study at the same time. This and other factors related to the students’ academic background at the secondary level explain the very low

entry-graduation ratio: only about 20% of incoming students graduate within 6 years, and those who graduate take at least 50% more time to complete the formal duration of their program (MCyE, 2000).¹²

Although public universities and a few private ones carry out some research activities, most publicly funded research is organized by specialized research agencies, outside the universities. The most important of these agencies is the *Comisión Nacional de Investigaciones Científicas y Tecnológicas* (CONICET). CONICET supports research through subsidies, fellowships, and especially via the so-called research career. In 2004, over 3,575 researchers held positions at CONICET, most of whom are also professors at national universities (CONICET, 2004). Research activity at public universities is conducted by their full-time academic staff. Nonetheless, as was already mentioned, the proportion of full-time staff is quite small.

Although no exact statistics exist on the total number of professionals and scientists that have emigrated from Argentina to industrialized countries, some data confirm that the brain drain issue negatively impacts on the recovery of human capital investment. Many students that have studied abroad, especially in the United States, have not returned after their graduation. United States data offer some clues as to the dimension of the problem. There are approximately 7,000 Argentine researchers living abroad. Argentine scientists represent 9.5% of the total Latin American scientists that conduct R&D activities in the United States. This figure is only higher among scientists from Mexico (17%), Cuba (12.5%) and Colombia (10%) (Albornoz et al., 2002).

One public policy implemented in 2004 to improve research and teaching conditions—and, in so doing, reduce or prevent the brain drain—has been to raise the wages of CONICET researchers and full-time national university professors. CONICET has also increased the number of research scholarships available for Ph.D. training and for postdoctoral training. In addition, the Ministry of Education has launched a scholarship scheme to promote the study of engineering and other degrees that are considered relevant to the economic competitiveness of the country.

Conclusion

The Argentine higher education system has undergone a rapid and an unplanned expansion, both in institutional and enrollment terms, and in a context of financial volatility and political instability. In the early 21st century, two of the most important problems have been the lack of sustainable financing to develop an internationally competitive higher education system and the vertical and horizontal disarticulation.

Regarding the funding issue, it is often said that were it possible to increase public funds allocated to higher education, the main problems would still persist. Clearly the expansion in the amount of funds is not a sufficient condition for improvement and innovation, but it seems to be a necessary one for:

- increasing research activity, both in public and in private universities;
- changing the distortions in the present wage scale and improving the wage levels and labor conditions of the faculty;

- fostering the coordination role of the government via program-based contract and formula funding to allocate new resources throughout public universities—in this way, the government could develop an incentive structure to promote consensus among the main actors and foster an innovative university; and
- promoting equal opportunity through scholarships or loan programs.

Debates about the weaknesses of Argentine higher education also stress the system's inflexibility regarding student transfer from one institution to another, and even from one program to another within the same institution. The National Commission for the Betterment of Higher Education, comprised of academic and professional experts, recommended several areas of curricular reform in 2001–2002: shorten the length of the undergraduate programs; create a common 2-year first cycle in related fields within a group of universities; and articulate the university and the non-university forms of tertiary education. The discussion has also examined both the establishment of a credit system as a means to facilitate student mobility between programs, and the articulation between the first degree and the graduate level (specialization, master's, and doctoral programs). In brief, the betterment of the Argentine higher education system requires more funds for the design of new decision and incentive structures, and structural reforms to increase student mobility between institutions and programs.

Notes

1. Enrollment increased, in particular, when the Peronist government suppressed entrance exams and tuition and fees in 1952.
2. Since the 1995 Higher Education Act was ratified, a new type of university institution has developed: the "University Institute." These institutions specialize in only one field of study, for example, health care, engineering, or law.
3. Argentina is an urban country (in 2001 89% of its 36,260,130 inhabitants lived in urban areas), with most of the population (31.6%; around 12 million) concentrated in the metropolitan area of Buenos Aires City and Greater Buenos Aires (INDEC, 2004).
4. The number of students in public universities could be overestimated and underestimated in private universities. The main factor is that public university authorities seldom exclude inactive students and the private sector does not give accurate and updated information to the Ministry of Education. According to the 2001 Census of the National Population, 904,919 students attended public universities and 220,338 attended private universities. That is, one in five attended private universities (INDEC, 2004).
5. See Trombetta (1998), *Alcances y dimensiones de la educación superior no universitaria en la Argentina*. Buenos Aires: Unpublished Master's thesis.
6. Admission to doctoral and master's degree studies is based on the successful completion of a university program obtained after more than five or six years of study. Available statistics on the average length of study suggest that it is closer to nine. By the time students obtain their undergraduate degrees, they are about 27 years old. This can be explained by the fact that many students combine study and work.
7. The Council of Universities is comprised of the National Interuniversity Council (CIN) and the Council of Private University Presidents (CRUP).
8. For example, from 1995 to 1999 the graduate level received special funds through the Fund for Quality Improvement in Universities (FOMEC). Specifically, some graduate programs obtained funds to provide scholarships and to hire professors from abroad. To qualify for these grants, graduate programs should have an "A" or, at least, a "B" mark. Also, the National Council

for Scientific and Technological Research (CONICET) has established a system of fellowships addressing candidates in graduate training programs. It is a requisite that the programs must be accredited with an “A” or “B” qualification.

9. Most of the information about the Argentine academic profession is based on García de Fanelli (2004b).
10. This Argentine academic labor contract is similar to the Anglo-Saxon “tenure” contract. It is effective for seven years and is then renovated every seven years through a new competitive contest process.
11. CONEAU requires all foreign universities to follow the same approval procedure as Argentine private universities before they can operate in the country.
12. The author estimates that the dropout rate could be much lower, perhaps 50%. The difference can be attributed to the fact that students who have applied to the university, but have never actually passed any courses, cannot truthfully be considered “students;” further, there is often double counting, due to changes a student makes in their degree program, school, or university they attend. See García de Fanelli (2004a).

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AUSTRALIA

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Australia is an island continent in the southern hemisphere of 7.7 million square kilometers and a population of 20 million (2004) clustered in coastal centers with high urban concentration. It has a stable polity and developed economy, producing 1.4% of the world's GDP (2003). Australia originated in six separate British colonies established after 1788 on the basis of the dispossession, cultural destruction and partial genocide of the indigenous inhabitants. The federated colonies were granted "dominion" status by Great Britain in 1901. Though the British monarch is still head of state and Australia inherited British common law, most constitutional ties with the U.K. have been abolished. In terms of economics, military-strategic matters—and to some extent culture—Australia is now closer to the United States than the U.K. Nevertheless, Australia is a Westminster-style democracy, and its institutions—including higher education—are still marked by their British origins. Even in recent years, policy changes in Australian higher education have paralleled British developments more closely than those of any other nation. At the same time, like New Zealand (but unlike other English-speaking nations) Australia is located near East and Southeast Asia, has a closer relationship with China than does the U.S., and has extensive economic and educational ties throughout the Asia-Pacific region.

Australia is a federation of six states and two territories, plus islands to the north and in the Pacific, Indian and Southern oceans. The Commonwealth (Australian or national) government dominates military and international matters, tax and economic policy, and welfare payments. Publicly-supported education and health services are largely provided by state and territory governments, but the national government leads higher education policy. Australia's GDP of US\$518.4 billion (2003) ranks as 13th largest in the world. Gross National Income per capita was \$28,290 in purchasing power parity; 20th in the world, though Australia ranks second behind Norway on the UN Development Index (measuring broader living standards) (World Bank, 2004). Australia is a major minerals exporter, and has a technology-intensive agribusiness sector, though there are serious problems of land and water degradation in this driest and most ecologically fragile continent. Elaborately transformed manufacturing is weaker than in most OECD economies, as well as in the East and Southeast Asian nations that absorb most Australian trade. In the information and communications technology

(ICT) sector, Australia has the highest deficit in international trade of any OECD nation (OECD, 2003). However, Australia has a robust finance sector, is a strong exporter of transport, tourism, education and business services, and has certain strengths in research.

As a British settler state, Australia was formed by migration and sustains a higher rate of migration and population increase than most OECD nations, despite internal tensions about immigration and refugee policy. Migration modifies—though it does not eliminate—the trends of low fertility and an aging population. The majority of Australians originated from Britain and Ireland, with some via New Zealand or South Africa. But Australia also has continuing indigenous traditions, and since World War II has received waves of people from Northern, Central and Southern Europe; the Middle East; most nations of Asia; the Pacific islands; and the Horn of Africa. Large segments of the population are descendants of Greek, Italian, Vietnamese and Chinese settlers; in the two largest cities of Sydney and Melbourne, almost one in ten are Asian born, and Melbourne contains the second largest city population of Greeks in the world after Athens. Recent policy has favored skilled, professional and business migrants, often from Asian nations, many first entering Australia as foreign students. Australia combines these diverse starting points within homogenizing economic, educational, legal and political institutions, so that stable Anglo-American monoculture triumphs over complexity. Anglo-Irish descendants still lead business and dominate politics and the professions. The sole public language is English. At the same time, Australia practices a policy of “multiculturalism” which, though contested, encourages tolerance and some expression of cultural diversity, while normalizing economic, social and educational opportunities for non Anglo-Celtic settlers. While there are some intercultural tensions, especially in relation to indigenous people and in rural areas, open racism is no longer acceptable in the principal urban centers, and inter-cultural marriage is common.

Educational institutions have been important in cultural mixing. Australians of non-Anglo-Celtic origin generally outperform the majority in the first or second generation after arrival, with exceptions among some Middle Eastern families. On the other hand, there is less support for historically-derived legal, political and cultural rights of indigenous people than in the other British settler states of New Zealand and Canada. Indigenous people are severely disadvantaged in incomes, employment rates and health indicators, and have relatively low participation and success rates in tertiary education. The education system has been unsuccessful in connecting positively to indigenous traditions or providing an untroubled space for self-determining indigenous programs and institutions.

Australia shares with the U.K., Canada and New Zealand the British tradition of state-founded, self-governing and self-accrediting universities, organized in a national system, with broadly distributed research activities and doctoral qualifications as the faculty norm. Australia’s national higher education system, which includes only degree-level institutions, consists of 36 public universities and 13 smaller public and private institutions. Together they enrolled 929,952 students in 2003 (DEST, 2004) and produced 2% of the world’s scholarly publications. In 2003, 54% of higher education students were women.

In addition to the national higher education system, there were a further 30,000 students in government-accredited degree-level courses in 79 private institutions (Watson, 1999), which are ineligible for most forms of government research funding. Higher education institutions provide bachelor's, master's and doctoral degrees, plus shorter diplomas and certificates. Bachelor's degrees are three to four years, except some professional courses such as medicine (five to six years). Bachelor's-level students often enroll in combined degree programs. Some master's courses are only one year long, but 18 months or two years are more common. Fully commercial (full-cost tuition) programs are largely deregulated, and the duration and content is subject to much greater variation than with subsidized programs. The separate Vocational Education and Training (VET) sector included over 1.7 million students at sub-degree level in 2003, mostly part-time (NCVER, 2004). Several universities, mostly in Victoria, are "cross-sectoral" institutions, offering both VET and higher education. All higher education and VET programs are subject to the Australian Qualifications Framework, which specifies standards and equivalence. Articulation between VET and higher education is well established only in engineering, information technology and business studies. Less than 10% of beginning higher education students are from VET.

The rate of graduation from tertiary education in Australia (42% in 2001) is above the OECD country average of 30%. Spending on tertiary education is also higher than the OECD country average. Public spending on tertiary education was 0.8% of GDP in 2000, below the OECD average of 1%, but private spending at 0.7% is more than double the OECD level of 0.3% (OECD, 2003). Like other British-influenced systems, since the 1980s Australian higher education has been shaped by neo-liberal economic policies. It has shifted from state-funded higher education—largely free of direct tuition charges—to mixed public and private funding of entrepreneurial institutions competing for students and revenues. The system has become more status-differentiated, commercial ventures are growing and new private institutions are emerging. Students and families provide on average one-third of institutional revenues. Almost one student in four is a fee-paying foreign student.

History

Until World War II, Australian institutions were small, under-developed and isolated from their communities. Participation rates were very low. In 1939, only two Australians in every thousand attended a university. The sons (rarely the daughters) of affluent families often went to Britain for university education. For their part, the universities drew on British and European intellectual traditions rather than the emerging industries, democratic institutions and embryonic public cultures of the settler state. Higher education consisted of the universities founded in the six original colonies. The University of Sydney began in 1851 and the University of Melbourne in 1852, followed by Adelaide (1874), Tasmania (1890), Queensland (1909) and Western Australia (1911). Later, local university facilities were opened in the small national capital of Canberra (1930) and at Armidale (1938), under the supervision of the Universities of Melbourne and Sydney respectively. When Sydney and Melbourne were founded, there were four universities in England, four in Scotland and one in Ireland. The Australian universities drew more

from the Scottish model of daytime lectures and vocationally grounded courses than from the Oxford and Cambridge approach of personal development among leisured aristocratic scholars in residential colleges. In its first three decades, Sydney had more money and Melbourne more students, but both struggled to survive, handicapped by the attractions of more rapid methods of colonial advancement and the slow development of upper secondary education, which achieved mass character only in the 1950s. Initial degree programs in the classics, humanities, mathematics and natural sciences were soon joined by the professional disciplines of medicine and law, which established the premier status that they still enjoy in the utilitarian system today. The first woman graduate was Bella Guerin at Melbourne in 1883. Though research received little funding, there were surprisingly strong beginnings in the physical sciences, medicine, geology, biology and anthropology (Selleck, 2003). Nevertheless, until the 1960s most of the best research conducted by Australians, and most of the Ph.D. training, took place abroad.

In 1939, there were 10,354 degree students (less than a third were women) and just 81 students in graduate degree programs. Australia's contemporary mass higher education system had its origins in the World War II (1939–1945) and postwar reconstruction policies of the national government.

Government Formation of a Segmented National System

Constitutionally, education was the responsibility of state governments. In 1939, 45% of university revenues derived from state governments and 32% from student fees. The Australian government played a minor role only, primarily in research. But during the war, the government began to view the population as a “human capital” resource to be harnessed in the national interest—though the phrase was not heard until the 1960s—and in 1942, when it acquired from the states the sole power to levy income taxes, it secured the capacity to expand its role. Student numbers were shaped by wartime “manpower planning;” the government secured a constitutional amendment allowing it to provide benefits to students; and after 1945, places were provided for returned services personnel, temporarily doubling student numbers.

In 1946, the government founded the Australian National University (ANU) to conduct research and postgraduate training in the physical sciences and engineering, including nuclear physics; medical sciences; social sciences; and Pacific and Asian studies. ANU was to become Australia's best-funded and most internationally-focused university. In 1950, the national government agreed to contribute one-quarter of the operating costs of state universities, but this was not enough. In the long economic boom of the 1950s and 1960s, demand for university graduates expanded while the supply of students from secondary education grew dramatically. With the inescapable pressures to expand higher education, state financing of higher education became more inadequate, and reluctantly, the national government was drawn into the financing and planning of a national higher education system.

The key moment was a three-month inquiry into the universities in 1957, appointed by Liberal Party/Country Party Prime Minister Robert Menzies, and led by Sir Keith Murray, the Chairman of the U.K. University Grants Committee. The Murray

Committee found that the universities were short-staffed and poorly equipped, with high failure rates and weak postgraduate schools. It led to a Grants Committee (along U.K. lines), and an expanded national role in operating grants and capital funding. Student numbers began to grow sharply and new universities opened, led by the University of New South Wales (NSW) in Sydney in 1949, and Monash University (in outer-suburban Melbourne) in 1957.

Meanwhile, higher education had begun to play an important role in Australian foreign policy in Asia. In 1950, Australia initiated the Colombo Plan, supported by other English-speaking countries, to provide degrees and technical training for students in developing nations from Southeast and South Asia. It was designed as a neo-colonial alternative to communism. By opening an educational passage between Asia-Pacific nations and Australia, the Colombo Plan normalized the presence of Asian students at a time when Asian immigration was blocked by the White Australian policy. They congregated at the newer institutions: the ANU, the University of NSW and Monash University. The Colombo Plan students were followed by private students from Asia, who paid partial-cost fees and were subject to quotas.

During an economic recession in 1960, the government became concerned about the potential costs of university expansion, and established an advisory committee of the Australian Universities Commission, chaired by Leslie Martin, to create a second, cheaper and explicitly vocational segment of higher education as the main avenue for future growth. Though the committee extolled the benefits of liberal education, it was enamored of human capital theory and discussed education in explicitly economic terms. The colleges of advanced education (CAEs) were expected to provide sub-degree programs and liaise closely with industry. They were not expected to conduct research. Funding, administration and planning were shared by the state and national authorities, while the states managed teacher training and technical education, and provided bursaries for teachers-in-training. The national government took the main policy and funding role in the universities and funded university scholarships. Australia had committed itself to a binary system of mass higher education along British lines (DEET, 1993, pp. 1–13), grounded in a rather awkward national/state division of responsibilities. The burgeoning popular demand and growing cost of funded places—as well as the “credential creep” of the CAEs and teachers’ colleges into degree programs—soon became destabilizing elements.

Between 1960 and 1978, student enrollment increased from 53,391 to 312,943 (see Table 1), with postgraduate enrollment rising from 2,630 to 19,836—the greatest expansion in Australian history (Marginson 1997, pp. 9–73). Amid strong demand for staff, academic salaries relative to other professions reached an historical high in 1973. Shortages were alleviated by recruiting in the U.K., U.S. and central Europe. Between 1969–70 and 1975–76, national spending on higher education almost quadrupled in constant price terms. In 1974, the Labor Government (led by Gough Whitlam) assumed full national responsibility for funding universities, advanced education and teachers’ colleges (Marginson, 2003), so that the national government funded almost 90% of all institutional income.

Though the government claimed its abolition of tuition fees would abolish all financial barriers to entry, at the time only 20% of students in higher education paid fees, and

Table 1. Number of Students, Australian Higher Education, 1950–2000

| | Number of Students | Proportion (%) That Were Women |
|------|--------------------|-----------------------------------|
| 1950 | 30,630 | 21.6% |
| 1955 | 30,792 | 21.9% |
| 1960 | 53,633 | 23.1% |
| 1965 | 110,250 | 24.0% |
| 1970 | 161,455 | 27.1% |
| 1975 | 276,559 | 40.6% |
| 1980 | 329,523 | 45.3% |
| 1985 | 370,016 | 47.6% |
| 1990 | 485,066 | 52.7% |
| 1995 | 604,176 | 53.9% |
| 2000 | 695,485 | 55.2% |

Source: DEST (2004). Basis of calculation of student numbers differs from comprehensive calculation over full year that is used in Tables 2 and 3. Using same basis as those tables, total number of students in 2000 was about 805,000.

tuition was only 5% of institutional income. However, fee abolition had an important symbolic role, enabling many more Australian families to aspire to a university education, while grants for living costs received by two-thirds of students provided more substantial economic help. Between 1974 and 1980, private foreign students were also not required to pay tuition fees, though places continued to be limited by quota.

By 1978, there were 19 universities with a common mandate to conduct research and doctoral programs. Research activity was largely supported from federal operating grants, plus targeted research projects funded by the Australian Research Grants Scheme. Though some Ph.D.s continued to be earned offshore, for the first time most academic disciplines could reproduce themselves within Australia. The newer universities were founded in “greenfield” sites on the edge of the major cities, combining cheap real estate with the benefits of scholarly retreat. Some followed the example of the British University of Sussex (and others) in developing radical initiatives in cross-disciplinary programs, area and problem-focused studies, ecological research, student-centered learning, progressivist assessment and participatory internal government; Latrobe, Flinders, Murdoch and Griffith Universities were notable innovators. Along with the more orthodox modernist foundations preceding them, they attracted high quality young staff who welcomed the opportunity to work in more democratic institutions with a less Anglophile and traditional air than the older “sandstones” (Queensland, Sydney, New South Wales, Melbourne, Monash, Adelaide, Western Australia and ANU). It often seemed the postwar universities would eclipse their predecessors. There were also more than 100 CAEs, ranging from large institutes—focused on engineering, applied sciences and business—to small teacher training and specialist art and agricultural colleges. The policy authority of the states in advanced

education was increasingly overshadowed by Canberra. The federal government also established a national inquiry into technical and further education (TAFE)—the Kangan committee—leading to the declaration of a nationally coordinated TAFE system and shared federal-state funding. Federal policy and funding advice were coordinated by specialist commissions in each of the university, CAE and technical education sectors, under the overall authority of the Commonwealth Tertiary Education Commission (CTEC). The Commission was chaired by economist and statistician Peter Karmel, the most influential of all the public figures in a notable system-building period.

A Unified National System Based on Mixed Public-Private Funding

Following the oil shock of 1974 and the shift to a monetarist fiscal policy, federal funding was frozen in 1975 and the planned open university and extended TAFE funding were shelved. The expansion of universities was halted; the last institution founded during this period—Deakin University in Victoria—enrolled its first students in 1977. The period until the mid-1980s was a quiet time, marked by an initial decline in demand from secondary school graduates, expanded mature age entry in newer universities and the CAEs, aging staff, and mounting pressures to control costs. The large institutes of technology stepped up their degree enrollments, placing pressure on the arbitrary binary divide. Smaller teachers colleges were rationalized by closure or merger. After 1981, student retention through the end of secondary school began to rise, foreshadowing another wave of system expansion, but with a different political economy. In 1984 and 1985, a new policy consensus about higher education—inspired by the Thatcher government in the U.K.—developed in the Treasury and the Prime Minister's office. It was believed that while participation rates should be increased sharply, Australia could no longer afford free tertiary education. The way forward was to install mixed funding and market competition for tuition revenues and industry support, to create an export market as in the U.K., and possibly to create private universities. In 1985, a full-fee market for foreign students was announced; and in 1986, a Higher Education Administration Charge of \$250 per full-time domestic student was introduced. The CTEC was seen as too close to the institutions, and an obstacle to policy change; it was abolished in 1987, and in 1988 Labor Minister John Dawkins announced a wholesale reconstruction of the system and its financial base. Dawkins proved remarkably successful as a minister, and his policies were implemented in full.

Dawkins announced that participation rates would be increased close to North American levels, facilitating a massive increase in supply and (in effect) demand; between 1985 and 1995, the number of students rose from 370,016 to 604,177. This growth was partly financed by students themselves. Dawkins introduced a Higher Education Contribution Scheme (HECS), a uniform annual charge paid to the government (not the university), fixed initially at 25% of the average cost of courses and repaid through the tax system on an income contingent basis. At the time of its introduction, repayment of the HECS was deferred until a graduate's income reached the national average weekly earnings; later, this repayment threshold was eroded by inflation. The HECS was an innovative policy and attracted considerable international attention. It did not satisfy those neo-liberal reformers who wanted direct buyer-seller relations

between students and institutions, but it provided fiscal relief—between 1986–87 and 1989–90, public funding per student fell by 38.0% (Marginson, 2001, p. 206)—while minimizing the negative effects on access. In the early years, before HECS levels and repayment rates were increased and the repayment threshold was eroded, the deterrent effects were mild and near neutral by socio-economic background. At the same time, the policy rhetoric attending the HECS was to pave the way for future system marketization. Dawkins argued that because students secured private benefits from higher education, this should be mirrored in its cost structure, in which the private and the public components were treated as zero-sum. Because the private benefits could be identified by rates of return analysis, while the public benefits of higher education were essentially determined by policy assumptions—and because in a low tax environment, government had a vested interest in minimizing public spending—future reductions in spending were all too readily justified by the notion of higher education as a private benefit.

The changes to institutional identity and system structure were also profound. Dawkins reworked a cooperative system of two vertically segmented sectors into a unitary system of universities in which all institutions competed for teaching and research resources “on the basis of institutional merit and capacity” (Dawkins, 1988, p. 28)—a system grounded in formal equality but differentiated by market competition. In 1988, the Minister announced that full funding would be provided only to comprehensive universities with over 8,000 students. This triggered a process of mergers and institutional restructuring—assisted by state governments controlling the acts governing universities—in which many universities became multi-site institutions. Most existing universities made substantial acquisitions from the former CAE sector, and 18 new public universities emerged, doubling the total number. Two new private universities also gained recognition, though at first they received no funding and were out-competed by the public institutions with lower cost HECS-based places. The main new sources of funds were private fees from foreign students and postgraduate vocational students, and government funds allocated on a competitive basis. Part of the government’s operating grants were now allocated on the basis of research performance, instilling a performance culture in all institutions, while national research funds open to competition became the principal mechanism for funding research activities. There were wholesale changes in leadership, missions and internal cultures, facilitating administrative modernization and the creation of more economically autonomous institutions as favored by the government. The newly empowered layer of executive leaders were expected to build territory, activity and status in entrepreneurial fashion. Traditional academic cultures were placed under pressure and struggled to take root in the newer universities (Marginson & Considine, 2000).

After Dawkins, the government envisioned universities as competitive firms whose bottom line was comprised of their own resources and competitive position. The notion of the university as an independent quasi-firm suited the older sandstone universities, which had never been comfortable with national system building and the capacity of the government to use its funding power to intervene. At the same time, the system outcome was less egalitarian than Dawkins had hoped. The oldest universities, benefiting from concentrated research capacity and the long-term accumulation of

social support and prestige, were best placed to compete for public funds and leverage market revenues off their positional status. The new universities were expected to conduct research and doctoral training, but were never funded at a level sufficient to establish basic research infrastructure in all disciplines, as their pre-1987 predecessors had been. They were forced into a predominantly applied research orientation and to focus more on chasing immediate dollars than on building long-term scholarly capacity.

Government Formation of a Buyer-Seller Undergraduate Market

The Dawkins reforms were followed by a series of policy changes enhancing the role of private costs and market competition, especially after a Liberal-National Party government was elected in 1996. Government-source funding per unit of student load, which after 1995 was only partly indexed for cost increases and was specifically reduced from 1997, fell from US\$7,160 in 1990 to \$5,220 in 2001 (in constant 2000–2001 dollars; DEST, 2004). Between 1995 and 2000, public spending per tertiary student declined by 30%, the largest such decline in any OECD member, while the average OECD nation increased public spending per student by 5% (Vincent-Lancrin, 2004). The decline in public funding triggered strong incentives to raise market-related incomes and transformed university cultures and priorities. Foreign student fees were fully deregulated and scholarships de-emphasized (1988); postgraduate fee arrangements were extended (1987–1995); and later, income-contingent loans were introduced to facilitate domestic investment in those postgraduate programs (2001). HECS was differentiated into three levels according to field of study, and average HECS charges rose by two-thirds (1997). Meanwhile, the threshold for HECS repayment dropped to just over half average weekly earnings. These changes enhanced deterrent effects and fell more heavily on poorer students than others (Aungles, Buchanan, Karmel, & MacLachlan, 2002).

Resources were partially shifted from teaching and research, being increasingly targeted to revenue-generating activities, and the enhancement of institutional competitiveness. Areas of expenditure growth included marketing and management functions, new buildings, offshore recruitment and offshore branch campuses. In 2003, only 38% of effective full-time university staff worked predominantly in academic roles. The decline in the capacity to sustain teaching and basic research affected all universities and disciplines, but was most strongly felt in the post-1987 universities—particularly in the basic sciences, social sciences and humanities, disciplines viewed as less attractive to fee-paying students than business and information technology (IT). Resources for teaching and research declined, while the average student/faculty ratio rose from 14:1 in 1993 to 21:1 in 2003 (AVCC, 2004). The Canberra-driven installation of quality assurance in the early 1990s—and regular quality audits (principally for global consumption) by the Australian Universities Quality Agency after 1999—provided techniques for concealing the effects of resource decline while promoting a “customer focus.” Though the undergraduate core of higher education still consisted of HECS-based places subject to uniform charges, deepening resource problems and intensified competition—and particularly, tensions between the open-ended growth of

foreign students and the constraints on publicly-funded domestic student places—were continued sources of instability, laying the basis for another major system change.

The government made three attempts to establish a buyer-seller market. First, the West inquiry (1997) floated a voucher model; however, the inquiry committee was politically inept, and the proposed reform had little attraction within the sector. Second, then-Minister David Kemp prepared proposals for undergraduate fees supported by a loans scheme (1999), but after these were leaked prematurely there was a public backlash and the scheme was dropped. Finally, a new minister (Brendan Nelson) crafted a national review and introduced a package of marketization reforms that promised higher incomes to the strongest universities. The package was driven by the national Treasury, the most powerful department, continuing its long interest in the creation of market competition in higher education. These reforms were piloted through the national parliament in December 2003.

The Nelson reforms brought three changes. First, though the HECS remained a payment from students to the government covering only part of the average cost of student places (with the balance funded by government), it was moved closer to a market fee. Individual universities were permitted to vary the HECS up to 25% above current levels, or downwards to zero, a range of \$0–5,140 per annum in 2005. Most universities announced that they would opt for the maximum charge. There was little regard for the goal of maximum access with minimum deterrence that had underpinned the original HECS. Second, universities were permitted to charge direct tuition fees at any level, to up to 35% of the domestic students enrolled in each undergraduate course. Third, fee-paying students in both public universities and accredited private institutions were made eligible for a new system of income-contingent loans entitled FEE-HELP. As with HECS, there was to be no real interest rate on income contingent student debts, though students taking FEE-HELP loans would pay an annual surcharge of \$2,000, and there would be a \$50,000 ceiling on FEE-HELP debts. Further, in the longer term the government could reunify the tuition charging system as a buyer-seller market by lifting the caps on HECS levels and FEE-HELP loan debt and abolishing the \$2,000 surcharge.

Under the new regime, many students could be expected to opt for fee-paying places in prestigious universities and courses rather than HECS places in less desired courses. Further, the cost gap between HECS places in public universities and fee-charging places in private institutions was narrowed: together with the FEE-HELP mechanism in private institutions, this made a large-scale private sector viable for the first time. Because income contingent loans with no interest rate entailed public subsidy, via both the interest regime and the non-repayment of part of student debt, in the future these loans could be expected to place downward pressures on the direct public funding of institutions, and over time shift funding into a voucher regime.

There were two compensatory policies: scholarships of up to \$16,000 per course for a small number of students from low socio-economic or geographically isolated backgrounds; and the lifting of the income threshold for income contingent repayment to an indexed \$35,000 per year (not incidentally, this made the full-fee market economically accessible). Individual universities began to extend their own scholarship schemes. The Nelson reforms brought both the cost and culture of Australian universities closer to the U.S. They closed the gap between an Australian HECS place and an American in-state

public place, and by creating high-priced prestigious Australian degrees, encouraged Australian investment in American degrees.

Growth, Participation and Access

The Dawkins reforms broadened the mass higher education system, so that between 1993 and 2003 the proportion of the labor force with degrees rose from 12 to 21%—a further 33% held sub-degree tertiary qualifications—while the earnings of bachelor's-level graduates dropped from 100% to 90% of average weekly earnings (Gallagher, 2004). Private rates of return to bachelor's degrees declined by more than 1% after the cost of HECS rose in the mid-1990s (Chapman & Ryan, 2002). However, earnings levels for secondary school graduates also trended downwards, and the rate of unemployment for graduates was half the national average, so demand for university entry was maintained. Nevertheless, from 1995 to 2000, funded domestic student load was tightly constrained, rising by only 7.5% to 599,878. At the same time, foreign students—determined by market supply and demand, and constrained only by visa policy—increased by 107% to 95,607. In 2003, there were 719,555 Australian and New Zealand students and 210,397 foreign students (a data series break prevents precise comparison with the earlier years), with foreign students reaching a record 22.6% of all students. Between 2002 and 2003, foreign student enrollment rose by 13.7%, while domestic enrollment rose by only 0.9%.

In terms of level of study, the main growth areas were fee-paying vocational postgraduate programs (for both domestic and foreign students) and foreign student enrollments at the bachelor's level. The number of students entering master's programs, mostly in business studies and IT, rose by 122% in the decade after 1993, while the number of higher degree research (mostly doctoral) students rose by only 5% (Gallagher, 2004). In terms of field of study, the main growth in both higher education and VET was in business-focused programs (such as marketing, management and IT), followed by health studies. From 1988 to 2000, the proportion of all students enrolled in business, management and economics rose from 19% to 26%. The proportion in humanities and social sciences, the second largest group, was constant. During the early years of the new millennium, following shifts in labor markets, student demand for places in IT training leveled off and applications for teacher training increased. Participation by older students is high by international standards—in 2003, 29% of all students were at least 30 years old, many of them seeking a second qualification.

In sum, since the early 1990s national policy has shaped participation so that expansion has occurred in the market-driven areas, while domestic access from school into HECS-based undergraduate places has been restricted. Between 1996 and 2003, entry following secondary school completion fell by 13%, while entry scores rose sharply, particularly in Victoria and Queensland. The proportion of qualified young people applying for entry to degree programs but not offered a place reached 28% in 2004. Correspondingly, the number of young people commencing sub-degree programs in the VET sector has risen.

Reduced domestic access may become a main policy issue for the national government. Between 2000 and 2015, the Australian population aged 15–19 years is projected

to rise by 2%, while the average OECD country will experience a decline of 9% (OECD, 2004). It remains to be seen whether full-fee places supported by low cost loans will increase access after 2005. Many such places will be taken up not by students who would otherwise have failed to secure entry, but by those upgrading participation to a more prestigious institution and/or more attractive fields of study. Whether this opens up more participation in less prestigious institutions for a new layer of secondary school graduates depends on the attractiveness of those less prestigious institutions (which, in an increasingly stratified system, is likely to diminish), the effects of the rising private cost of those places, and whether government funding is maintained in the longer term.

The creation of a buyer-seller undergraduate market may undermine participation among already under-represented social groups, especially in the prestigious institutions where they will be increasingly crowded out by full-fee paying students, but also overall. Here, Australia has a mixed recent record. Between 1994 and 2003, domestic students from "low socio-economic status" districts as a proportion of total enrollments was almost constant at 14.5% in 2003, while domestic students from non-English speaking backgrounds dropped from 5.1% to 3.5%. Indigenous students remained almost constant at 1.2% of the student body in 2003, about two-thirds of the indigenous share of the Australian population. They were concentrated in the non-science disciplines, with low graduation rates. Meanwhile, the representation of women in non-traditional courses improved; by 2003, women constituted two-thirds or more of enrollments in education, health studies, creative arts, humanities, and social sciences, and half in business, agriculture and the basic sciences. They were still only one-third of architecture students, less than a quarter of students enrolled in information technology, and 16% in engineering and related technologies (DEST, 2004). Women remain severely under-represented in manufacturing and construction industry-related vocational training.

Internationalization

Australia educates 10% of all cross-border students and is the third largest exporter of degree-level programs after the U.S. and U.K. Education is Australia's third largest services export, generating US\$3 billion in tuition revenues and foreign student spending in 2003. That year, 74% of the 210,397 foreign students studied directly in Australia (as opposed to an overseas location), and 85% were from the Asia-Pacific region (Nelson, 2003; DEST, 2004). After commercial marketing was installed as the framework of supply in 1988, all universities became active providers of foreign education. There was extraordinary growth, fueled on one hand by middle-class Asian demand for English-language education (and migration status) and on the supply side by financial incentives, aggressive entrepreneurship by institutions, and coordinated marketing by the government's Australian Education International (AEI) and the university-financed International Development Program (IDP Australia). Australia also benefited from geographic proximity to Asia, a favorable climate and a reputation for being safer than the U.S. Further, for most of this time the average per student cost of tuition and living expenses was less than two-thirds of that in the American state universities and the U.K., a significant cost advantage.

Table 2. Students by Nation of Permanent Residence, Australian Higher Education, 2002 and 2003

| | 2002 | 2003 |
|-------------------------------|----------------|----------------|
| Australia* | 705,873 | 714,089 |
| New Zealand | 5,690 | 5,466 |
| Singapore | 29,956 | 29,878 |
| Hong Kong China | 26,956 | 29,169 |
| Malaysia | 23,725 | 27,267 |
| PR China | 19,956 | 27,020 |
| Indonesia | 11,981 | 11,865 |
| India | 8,390 | 11,133 |
| U.S. | 8,325 | 9,418 |
| Thailand | 5,202 | 5,815 |
| Taiwan | 3,977 | 4,410 |
| Norway | 3,868 | 3,991 |
| other nations | 42,722 | 50,431 |
| <i>All foreign students**</i> | <i>185,058</i> | <i>210,397</i> |
| All students | 896,621 | 929,952 |

Note: *includes students who were not Australian citizens but had permanent residence (31,9778 in 2003). **does not include New Zealand students who occupy an intermediate status.

Source: DEST (2004).

Almost two thirds of Australia's foreign students are enrolled in business studies and IT, followed by engineering and related technologies, and health sciences. Most are at the bachelor's level, with 28.2% enrolled in master's programs. There is little subsidization of foreign research degrees. In 2002, the ratio of full fee-paying places to scholarship places was 61:1 (DEST, 2004), and in 2003 doctoral degrees comprised only 7,821 of total foreign enrollments (i.e., 3.7% of all foreign students). Unlike the U.S., foreign students do not play a strong role in research and graduate teaching, narrowing the potential of internationalization. The main importing nations are Singapore (29,878 students in 2003), Hong Kong China (29,169), Malaysia (27,267), the People's Republic of China (27,020), neighboring Indonesia (11,865), India (11,133) and the U.S. (9,418) (see Table 2). Australia enrolls more students from Southeast Asia than do American universities, but is a lesser provider to China, Korea, Japan, and Taiwan, and the Indian subcontinent (though numbers from China and India have grown rapidly in recent years).

In 2002, there were 13 Australian universities with more international students than the University of Southern California, the largest American provider of international education in 2002–03 with 6,270 students (IIE, 2003; DEST, 2004). The largest foreign student enrollments were at Monash (15,996), Royal Melbourne Institute of Technology University (RMIT) (14,024), Curtin University of Technology (13,624), and NSW (10,179). Central Queensland University had 8,916 foreign students on seven campuses,

including Fiji, accounting for 40.3% of all its students (DEST, 2004). Internationalization has had a major impact on student services provision and campus atmosphere, but less dramatic effects on teaching methods and classroom discourse. There has been little change in curricula, and the level of cultural mixing between local and foreign students disappoints many foreign students (Smart, Volet, & Ang, 2000). Many universities are active overseas in franchising and twinning programs with local partners, especially in Singapore, Malaysia, Hong Kong and China. Some of the Asian-based partners work with several universities from Australia or the U.K., offering a choice of English-language degrees. A small number of Australian universities have overseas campuses—for example, Monash in Malaysia and South Africa, Curtin in Malaysia, and RMIT in Vietnam. These initiatives bring the Australian universities closer to Asian cultural and educational norms and in the longer term may stimulate a deeper internationalization.

Institutional Stratification

Australian higher education is divided into distinct segments with varying capacities and potentials. The establishment of the unified national system in 1988 closed one form of stratification (university/advanced education), but the new emphasis on competition and private income-raising opened others. In education markets, institutions with the most prestige and resources are best placed to compete. Over time their relative position is strengthened.

Table 3 provides details of the major segments of Australian higher education. The elite sandstones or Group of 8—Queensland, Sydney, New South Wales, Melbourne, Monash, Adelaide, Western Australia and ANU, all relatively early foundations—are identified as top choices by recent secondary school graduates as measured by entry scores, as well as research prestige and performance. The national Institutional Grants Scheme (IGS), allocated competitively on the basis of research performance, provides another useful indicator of elite status (Nelson, 2003, p. 103–104). In 2003, all sandstones received at least \$15.3 AUD million in IGS grants. The next highest recipients were Tasmania and Wollongong, pre-Dawkins universities with medical faculties, both of which received \$7.0 million AUD. Sydney, Western Australia and Melbourne enjoy what are in Australian terms high incomes from donors and private investments, partly insulating them from government intervention and commercial forces. The large universities of technology enroll many domestic and foreign students, but are weak in research funding per staff because they lack basic research capacity.

Until 2005, it was difficult for private universities to compete with the public institutions because of their fee structure. This also inhibited their capacity to build critical mass in research, though after 1996 some private institutions were made eligible for research grants. However, as noted earlier, the Nelson reforms render private institutions economically competitive for the first time, by establishing a system of tuition loans identical to that operating for full-fee places in the public system, and the national government has signaled its intention to encourage private sector development. The first major beneficiary is likely to be Notre Dame Australia, which in 2003 was granted a government-funded medical school in Sydney. The government also indicated that

Table 3. Segments of Australian Higher Education, 2002 and 2003 data

| | Med | Total Students 2002 | Student-Faculty Ratio 2002 | Research Student Share 2002 (%) | International Student Share 2002 (%) | Flexible Delivery Share 2002 (%) | Total Income 2002 (\$ million) | Non-current Assets 2002 (\$ million) | Institutional Grants Scheme 2003 (\$ million) |
|------------------------|-----|---------------------|----------------------------|---------------------------------|--------------------------------------|----------------------------------|--------------------------------|--------------------------------------|---|
| U. Melbourne | Y | 39,378 | 18.1 | 9.9 | 19.9 | 3.0 | 856.3 | 2,612.4 | 29.8 |
| U. Queensland | Y | 37,498 | 18.8 | 9.8 | 14.9 | 7.5 | 814.5 | 1,416.6 | 28.3 |
| U. Sydney | Y | 42,305 | 17.0 | 8.2 | 17.4 | 3.9 | 816.3 | 2,698.2 | 27.1 |
| U. New South Wales | Y | 42,333 | 19.3 | 6.3 | 24.4 | 10.1 | 701.5 | 1,273.3 | 25.4 |
| Monash U. | Y | 52,010 | 19.0 | 5.6 | 27.9 | 23.8 | 735.4 | 1,218.0 | 19.3 |
| Australian National U. | Y | 11,979 | 17.8 | 12.5 | 16.8 | 0 | 461.7 | 1,364.2 | 16.6 |
| U. Western Australia | Y | 15,885 | 16.2 | 11.5 | 16.0 | 0 | 360.4 | 1,134.9 | 16.1 |
| U. Adelaide | Y | 16,188 | 16.5 | 9.3 | 15.3 | 7.5 | 334.2 | 661.4 | 15.3 |
| | | | | | Sandstones | | | | |
| U. Tasmania | Y | 13,750 | 19.7 | 7.5 | 9.1 | 10.9 | 199.7 | 269.8 | 7.0 |
| U. Wollongong | N | 18,764 | 20.9 | 5.5 | 35.0 | 1.1 | 210.1 | 392.8 | 7.0 |
| La Trobe U. | N | 24,930 | 18.6 | 5.5 | 13.3 | 0.7 | 314.0 | 593.5 | 6.3 |
| Macquarie U. | N | 27,239 | 26.2 | 3.8 | 24.2 | 17.5 | 295.9 | 812.8 | 6.2 |
| Griffith U. | Y | 30,969 | 19.7 | 4.1 | 17.3 | 7.5 | 350.7 | 801.4 | 6.1 |
| U. Newcastle | Y | 23,502 | 19.1 | 5.3 | 12.8 | 7.5 | 256.9 | 709.3 | 5.4 |
| James Cook U. | Y | 13,189 | 21.1 | 5.1 | 10.5 | 17.0 | 173.5 | 387.1 | 4.9 |
| Flinders U. | Y | 13,644 | 17.0 | 6.6 | 12.1 | 10.9 | 177.2 | 242.5 | 4.5 |
| Murdoch U. | N | 12,734 | 19.5 | 6.0 | 17.4 | 24.1 | 156.0 | 312.5 | 4.3 |
| U. New England | N | 18,202 | 22.5 | 4.5 | 6.7 | 81.9 | 148.3 | 338.8 | 3.8 |
| Deakin U. | N | 33,033 | 24.9 | 2.7 | 12.9 | 54.7 | 325.8 | 665.3 | 2.9 |
| | | | | | Other Pre-1987 | | | | |

Continued

Table 3. Continued.

| | Med | Total Students 2002 | Student-Faculty Ratio 2002 | Research Student Share 2002 (%) | International Student Share 2002 (%) | Flexible Delivery Share 2002 (%) | Total Income 2002 (\$ million) | Non-current Assets 2002 (\$ million) | Institutional Grants Scheme 2003 (\$ million) | |
|------------------------|-----|---------------------|----------------------------|---------------------------------|--------------------------------------|----------------------------------|--------------------------------|--------------------------------------|---|--|
| | N | 33,240 | 20.6 | 4.8 | 34.0 | 11.5 | 360.9 | 623.6 | 5.2 | |
| Curtin U. Technology | | | | U. Technologies | | | | | | |
| Queensland U.T. | N | 39,192 | 25.7 | 2.8 | 12.9 | 15.1 | 365.2 | 516.1 | 4.9 | |
| U. South Australia | N | 30,627 | 22.5 | 5.7 | 29.0 | 22.0 | 286.1 | 618.0 | 4.5 | |
| Royal Melbourne I.T. | N | 38,280 | 23.0 | 4.8 | 34.9 | 3.7 | 478.2 | 1,224.4 | 4.5 | |
| U. Tech. Sydney | N | 29,290 | 19.2 | 3.1 | 17.9 | 0 | 287.7 | 730.1 | 3.6 | |
| | Y | 35,361 | 22.1 | 2.7 | 21.6 | 4.5 | 296.7 | 639.8 | 3.2 | |
| U. Western Sydney | | | | Other Public Universities | | | | | | |
| U. Canberra | N | 10,419 | 22.6 | 2.5 | 17.7 | [0.04] | 105.8 | 178.4 | 1.7 | |
| Swinburne U.T. | N | 14,404 | 24.2 | 3.7 | 22.2 | [0.01] | 233.2 | 398.1 | 1.7 | |
| Victoria U. Tech. | N | 19,475 | 16.1 | 3.4 | 23.5 | 1.9 | 277.8 | 632.6 | 1.7 | |
| Edith Cowan U. | N | 23,829 | 20.9 | 3.5 | 16.0 | 24.4 | 202.9 | 487.3 | 1.4 | |
| Northern Territory U. | N | 5,612 | 19.8 | 3.8 | 6.1 | 26.3 | 91.6 | 150.5 | 1.2 | |
| Southern Cross U. | N | 11,961 | 22.4 | 3.8 | 14.1 | 52.9 | 89.7 | 172.4 | 1.2 | |
| Charles Sturt U. | N | 39,776 | 33.4 | 1.1 | 20.9 | 83.4 | 187.4 | 337.1 | 1.2 | |
| Central Queensland U. | N | 21,763 | 38.3 | 1.5 | 42.2 | 40.9 | 210.6 | 182.9 | 1.0 | |
| U. Southern Queensland | N | 24,271 | 20.2 | 1.3 | 26.4 | 81.0 | 118.6 | 154.4 | 0.9 | |
| U. Ballarat | N | 6,615 | 23.8 | 2.8 | 31.9 | 0 | 106.9 | 216.5 | 0.5 | |
| U. Sunshine Coast | N | 3,947 | 27.5 | 1.6 | 10.5 | 11.3 | 32.5 | 57.3 | 0.1 | |

| | | | | Private Universities | | | | | |
|-----------------------|---|---------|------|----------------------|------|------|----------|----------|-------|
| Austral. Catholic U.* | N | 11,894 | 18.9 | 2.8 | 8.1 | 8.9 | 104.4 | 176.8 | 0.5 |
| U. Notre Dame Aust. | Y | 2,832 | n.a. | 1.0 | 18.7 | 1.7 | 20.2 | 38.6 | 0.1 |
| Bond U. | N | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | 0.1 |
| | | | | Minor Sites | | | | | |
| [various] | - | 6,250 | - | - | 9.6 | - | 69.4 | 233.1 | 0.4 |
| TOTAL | - | 896,621 | 20.4 | 5.1 | 20.6 | 19.2 | 11,614.1 | 25,496.2 | 277.6 |

Note: *Private university funded as public universities. Med = Medicine Faculty (Y = Yes, N = No). Dollar amounts in AUD, current prices. Research student share = research students as proportion of all students. International student share = fee-paying international students as proportion of all students. Flexible delivery share = proportion of students external (distance) students or multi-modal students, distinct from internal (wholly campus-based) students. Student-teacher ratio = ratio of effective full-time students to effective full-time academic staff designated teaching only or teaching/research, including casual staff. Institutional Grants Scheme awarded competitively on research performance: formula is 60% research grants, 30% research students, 10% publications count.

Sources: DEST (2004); Nelson (2003); Australian Vice Chancellors' Committee (2002).

it might facilitate the entry of foreign providers, possibly by negotiating with the state governments a loosening of the legal definition of “university.”

Policy, Governance and Accountability

All Australian governments have agreed that for an institution to use the title “university” it must fulfill certain conditions, including an independent governing body, academic freedom, teaching and research across a range of disciplines, and financial viability. These conditions normalize large comprehensive research-intensive universities and seal off the title from small specialist institutions, emerging would-be private providers, and foreign for-profits. However, some institutions have gained access to the title “university” without fulfilling all conditions. As noted, there are pressures to loosen the criteria, which at the time of this writing were under review.

There are 39 designated universities, and some non-university institutions, established under mostly state government legislation as self-accrediting institutions. These are also designated by Commonwealth legislation as part of the national higher education system and are eligible for national research funding. These designated institutions enroll more than 95% of higher education students. More than 93% of all students are enrolled in public institutions, which are required to report regularly to the government and are held accountable for the discharge of their purposes as specified in the legislation, including the prudential supervision of investments and the monitoring of commercial entities owned by the university. The governing council or senate of each university—some of whose members are nominated by the government—is responsible for performance and the supervision of executive officers.

From the Dawkins reforms onwards, the national government has encouraged smaller governing bodies, a diminished role for staff and student representatives and an enlarged role for external members from business and industry. Governing bodies do not always possess complete information about commercial entities, and practical operational control rests with university executives; much depends on the latter, particularly the vice chancellor. Accountability works less well in relation to partnerships than wholly-owned assets. Within this legal framework, individual universities have as high a degree of operational autonomy as in the U.K. They determine missions and developmental strategies, priorities and activities, control budgets, build buildings, appoint and manage staff, and determine programs of study, subject to the Australian Qualifications Framework and registration by relevant professional associations. Major site acquisitions and alterations may require state approval, and institutions have a restricted capacity to leverage their public assets to raise loan funds. Private entities such as Notre Dame Australia have more limited public responsibilities and a greater freedom in managing assets and composing governing bodies.

Prior to the Dawkins reforms, the national government exercised a detailed supervision of operating budgets and capital works through its financial power. Governmental influence is now secured more by positioning institutions as self-managed corporations and steering them from the distance. Likewise, the policy culture has shifted, from an often detailed specification of expectations about the contribution of universities to national purposes, to the assumption that competition for funds and prestige,

structured as the government determines, will drive efficiency, force accountability to industry and student “clients,” and secure production of public goods. The appropriate Enlightenment metaphor is not so much that of Adam Smith’s “invisible hand”, but the government as clock-maker. Once set in place, the clock seems to tick under its own momentum.

While universities enjoy unprecedented administrative and financial autonomy, the national government now shapes the university “product” via the performance-based funding of research and research training; innovation funds, which are subject to competitive bidding; the conditions governing the receipt of grants; standardized data collection; and the homogenizing effects of quality assurance systems. The government also controls the number of HECS-based places, and requires universities to meet a small number of direct targets in areas stipulated in the legislation covering grants—for example, the number of indigenous students enrolled. Quality assurance (QA) has become a standard organizational reflexivity. Within institutions, it takes a generic form, more manager- than discipline-driven, encouraging homogenization and the use of QA data for marketing purposes. Nationally, the Australian Universities Quality Agency (AUQA) conducts five-year audits of all self-accrediting institutions (including their offshore operations), and also audits the state/territory accreditation agencies. The creation of AUQA in 1999 was designed to strengthen the global reputation of Australian universities, following the emergence of similar national agencies in the U.K. and New Zealand.

In addition to the self-accrediting higher education institutions, a further group of private sector entities—normally designated as “colleges” or “institutes”—provide degree programs in specialist areas such as theology. Both institutional accreditation and the accreditation of each specific program are subject to periodic review by relevant state/territory governments. The autonomy of VET institutions is more limited than that of higher education institutions. They conduct their own commercial activities, but funded VET programs are supervised by state and territory governments, and are often subject to the authority of industry-training bodies.

Financing and Management

Between 1996 and 2002, the proportion of total university funding derived from public sources fell from 58% to 44%, while funding from students rose from 19% to 32%, half from the HECS. Revenue from foreign student fees increased from US\$389 to \$941 million (142%), while total fee income from domestic students in degree and diploma courses was less significant but almost tripled over the period. By 2002, more than one dollar in five was drawn from explicitly commercial activities, designed to create a surplus: foreign student education; vocational education provided to postgraduates; continuing professional education; commercial research and consultancy; and other services such as merchandising and the hiring of facilities. Whereas in 1996 foreign students provided 6.6% of total university funding, Table 4 shows that by 2002 the level of dependence on this source had reached 12.5% (DEST, 2004).

The rapid and major growth of market revenues and corporate expenditures has been accompanied by significant changes in internal organizational cultures, more obvious

Table 4. University Revenues by Source, Constant Prices, 1990, 1996 and 2002

| Source of funding | Total Funding from This Source | | | Proportion of All Funding by Source | | |
|-----------------------------|-----------------------------------|----------------------|----------------------|--|-------------|-------------|
| | 1990 (\$ million) | 1996 (\$ million) | 2002 (\$ million) | 1990 (%) | 1996 (%) | 2002 (%) |
| Government | 2,684 | 3,422 | 3,326 | 68.4 | 58.1 | 44.1 |
| HECS from students | 261 | 683 | 1,191 | 11.8 | 11.6 | 15.8 |
| International student fees* | 114 | 389 | 941 | 2.9 | 6.6 | 12.5 |
| Postgraduate student fees | 10 | 66 | 147 | 0.3 | 1.1 | 2.0 |
| Undergraduate student fees | 0 | 0 | 46 | 0 | 0 | 0.6 |
| Continuing education fees | 38 | 58 | 66 | 1.0 | 1.0 | 0.9 |
| All other sources** | 614 | 1,275 | 1,825 | 15.7 | 21.6 | 24.2 |
| Total | 3,922 | 5,893 | 7,542 | 100.0 | 100.0 | 100.0 |

Note: Constant 2000–01 prices, USD. \$1.00 AUD = \$0.67 USD. *includes international students at all levels of study **includes payments for contract research, donations and bequests, investment income, etc.

Source: DEST (2004).

in newer universities than the sandstones (where inherited academic cultures are resilient). Nevertheless, in all institutions the role and power of vice chancellors has been enhanced; the practical authority of their deputies and of full-time executive deans with resource powers has partly displaced that of part-time disciplinary leaders; and performance management and internal competition for resources have become entrenched. In many universities, peer assemblies of tenured academic staff now play a relatively minor role. Instead of academic decisions tending to determine resource flows, resource decisions tend to shape the academic landscape. Whereas research centers with income-earning capacity enjoy the autonomy of quasi-firms, in mainstream faculties and schools the content of teaching and research is increasingly affected by market demand, cost incentives, standardized accountability and management systems. Australian universities are distinctive in the extent to which business models of organization and internal marketing shape the campus environment (Marginson & Considine, 2000). They are also strong users of ICTs. Most teaching programs incorporate at least some online resource provision; many are provided in both face-to-face and full on-line delivery mode; and routine student administration such as enrollment is normally available via the Internet.

The Academic Profession

The academic profession is structured along British lines. The career grade for permanent staff is senior lecturer, equivalent to associate professor in the U.S. In Australia, the levels of associate professor and professor are reserved for superior performance—especially (but not only) superior performance in scholarship and research—as well as

for executive roles such as Faculty Dean. Tenure is granted after varying procedures and periods: there is no normalized pathway as in the U.S. Like academic appointments, tenure is more an administrative decision driven by financial and labor market considerations than a determination by scholarly peers on academic grounds, though scholarly achievement is part of the administrative consideration. Tenured posts are mostly linked to teaching: there are few tenured research-only staff outside the ANU's four research schools. Across the Australian higher education system, the rapid growth of student-faculty ratios has been associated with the mushrooming of untenured academic employment, much of it taking the form of "casual" or "sessional" teaching paid on an hourly basis, and the replacement of small tutorial groups by large classes. Conditions of work, largely regulated on a local university basis, are subject to industry-wide standards in specific areas (for example, the procedures governing the dismissal of permanent staff) supervised by the national Industrial Relations Commission. Academic pay is no longer centrally determined, but the National Tertiary Education Union has been able to control the university-by-university bargaining process so as to maintain parity across institutions and fields of study within a band of 10% or so, aside from additional clinical loadings in medicine and related fields, and at the professorial level, where a wide variety of arrangements apply and incentive and reward payments are common.

In exchange rate terms, the value of 12 months' salary and remuneration at the professor and senior lecturer levels in Australia is about two-thirds of the level of American salaries and average remuneration for the 9–10 months outside the summer period. It is widely perceived that there is a "brain drain" problem in Australia, but it is difficult to quantify. In terms of salaries and research infrastructure—and perhaps also in academic workloads and in opportunities for scholarly development—Australian universities are less attractive than Cambridge, Oxford, or the leading American doctoral universities. On the other hand, migration brings additional doctorally qualified personnel into Australia. In aggregate terms, Australia appears to gain qualified staff overall, but it loses some of its best researchers either at the postdoctoral stage or mid-career. The Australian government provides a small number of Federation Fellowships designed to keep world-class researchers in Australia and encourage expatriate researchers to return. In the coming years, the quality problems created by "brain drain" may be exacerbated by a quantity problem determined by demographics. Universities are about to undergo a phase of wholesale retirement and replacement. Although there is no mandatory age of retirement, withdrawal at ages 60–65 years is common: in 2003, 13,801 (38.5%) of the 35,867 full-time and fractional full-time staff with academic classifications were aged 50 years or higher (DEST, 2004). Though the position will vary greatly by field of study, it is unlikely that the number of Australians with doctoral qualifications will be sufficient to fill all vacancies. There may be substantial opportunities for foreign staff: given relative salaries, it is likely that many of these opportunities will be filled by faculty from China, Southeast Asia and South Asia. It is also likely that there will be major changes in the balance between different fields of study. University managers will take the opportunity presented by the large-scale withdrawal of staff from tenured positions to align numbers in different fields more closely to the map of student demand and revenue-raising opportunities.

Research and Graduate Studies

Most full-time academic staff are categorized as “Teaching/Research,” and are expected to be involved in scholarship and publishing. However, research with significant funding support tends to be concentrated in the older and stronger universities and among a minority of staff. Of the funding allocated in 2003 under the Research Training Scheme (RTS), more than half went to six sandstone universities, while only about one-fifth of applications for Australian Research Council (ARC) Discovery Grants were successful. The main forms of national government support for research include grants allocated by the ARC and the National Health and Medical Research Council (NHMRC) for projects, fellowships and research infrastructure; project funding from government departments; the component of operating funds allocated to universities on the basis of research performance under the Institutional Grants Scheme; grants for research training places and infrastructure under the RTS; and scholarships for postgraduate research students. In 2003, there were 1,550 new Australian Postgraduate Awards and 330 new International Postgraduate Research Scholarships. ARC and NHMRC allocate funding on the basis of the excellence of proposals and past researcher performance; the IGS and RTS allocations are performance-related; and project funding is client- and purpose-driven. The strengthening of industry funding and of university-industry links has been a principal objective of research policy, but only about 5% of the support for research in Australian universities comes from this source, due primarily to the weakness of local industry. Industry R&D inside and outside universities is below the average for OECD nations, while government spending on university research is above the OECD average. Donor and philanthropic funding supports a small number of research chairs and projects, but at a lower level than in the U.S.

Prior to the 1980s, research was conducted autonomously in academic disciplines, some (particularly the natural sciences) comprised by global networks and others more locally referenced. Though disciplines and cross-disciplinary centers remain primary sites of organization, designated research activity is now closely shaped by the systems of funding and management. National research funding is allocated primarily on the basis of past performance. In measuring this, income for research plays a much larger part than scholarly publications, so that research is viewed by some as a quasi-economy in which past resources generate future resources. Performance-related research funding tends to encourage concentration, and also augments the status of the most successful universities, encouraging institutional stratification. The other main development in recent years has been the growing role of international collaborations, and within that, the trend towards large-scale cross-country projects with multiple national funding. About 40% of ARC-funded projects involve international collaborations. Patterns of collaboration favor North America, the U.K. and Western Europe, though research linkages in Japan, Singapore and China are growing. Australian researchers have developed areas of global strength—as measured by publications, citation rates and quality indices in (for example) the chemical sciences, certain fields of engineering and technologies, geology, agriculture, veterinary and environmental sciences, areas of medicine, and some humanities (such as philosophy). The Australian government has

earmarked four areas for future development as global strengths: complex and intelligent systems, genome-phoneme research, nano- and bio- materials, and photon science technology.

The ANU is the strongest research university in Australia, with a high rate of international collaborations and concentrated strengths in the physical sciences and engineering, medical sciences, social sciences, and in Asian and Pacific studies (where it is considered a world leader). It has perhaps the largest group of academic experts on China and Indonesia anywhere outside those countries. In a 2004 survey of the research performance of the world's universities, conducted by the Shanghai Jiao Tong University Institute of Higher Education (SJTUIHE, 2004), ANU ranked 53rd, with the University of Melbourne (which has strong medical research institutes) at 82nd. The Universities of Queensland and Sydney were positioned among the world's top 150 research universities, and the Universities of New South Wales and Western Australia were among the top 200. Adelaide and Monash were ranked among the top 300. A further six Australian institutions were ranked among the top 500—Flinders, La Trobe, Macquarie, Murdoch, Newcastle and Tasmania. The Jiao Tong survey rankings indicate a somewhat disappointing view of Australian research, in terms of both the quality and spread of research capacity. As well as being eclipsed by larger nations such as the U.S., U.K., Germany, Japan, France and Canada, Australia's leading universities were clearly outranked by the smaller systems of Switzerland, the Netherlands and Sweden. By comparison, the closest international peer nation (Canada) had 23 universities in the top 500, compared to Australia's 14. None of the universities created by the Dawkins reforms of 1987 (or afterwards) had developed sufficiently so as to figure in the world's top 500 research institutions.

Conclusion

While the nation's mass higher education system had for many years been publicly funded and administered, over the last two decades Australia has dismantled that system by degrees, replacing it with a mixed-funded set of self-managed, corporate-style universities with unusual dependence on (and sensitivity to) short-term market signals. This has not noticeably improved the industry-university synergy, as was hoped, but it has rendered the universities quick to secure business opportunities in Asia, and developed their competence in marketing and financial management. The Nelson reforms introduced in 2004 took the process a step further by creating full-scale price competition in undergraduate education. Initial limits on the number of places subject to full fees are likely to be lifted. Viable comprehensive private institutions (as well as a plethora of specialist private institutions) will emerge, with the support of government subsidized loans for tuition. An increasing proportion of the remaining public funds for higher education will be absorbed by the subsidization of loans and the provision of the scholarships necessary to counter-balance the regressive social effects of full-price tuition. This is consistent with longer term trends across Australian social policy as a whole, away from the public funding of institutions and in favor of funding individuals as quasi-consumers (and voters). However, in higher education this structural change has placed severe pressure on basic research capacity. Growing

reliance on market-generated incomes has retarded the development of basic research capacity, which in Australia (as elsewhere in the world) had always been government-dependent.

Australia's relative standing in research was probably greater in the mid-1980s than the mid-2000s. With leading universities in Singapore, Taiwan and China strengthening their research at a rapid pace, there is a danger that Australia will miss the opportunity to maximize research synergies in the Asia-Pacific region, despite Australia's extensive regional activity in teaching programs. However, rather than reverse the shift to private funding, the Australian government has boldly placed more faith in the vision of Milton Friedman—that a freer play of market forces, in which student and industry beneficiaries of higher education pay the costs, will eventually enrich higher education overall. The outcome is a system more dependent on student funding than the U.S. Australia is a test case of whether Friedman was right.

The outcome is as yet unknown, but one thing is clear and universally agreed: the post-Nelson system will generate a more pronounced institutional stratification. The lesser universities will struggle. They will remain relatively accessible, but there is an obvious danger that mass higher education will become tied to price cutting, endemic quality problems will be only partly concealed by marketing and quality assurance, and research capacity will stagnate or decline. The more marketized system has two potential upsides: fiscal savings, and the potential to create a layer of stronger universities. The sandstone universities will use domestic fee-charging to improve their resource position, recruit more high-cost faculty, and raise their global profiles (while reducing their direct dependence on foreign students). The questions yet to be resolved are the extent to which the new private incomes, generated through teaching degrees, will transfer into long-term basic research capacity; whether the leading universities can adequately replace their senior research staff, who originated in the period of high public funding; and whether their global research performance will improve overall. If Australia can leverage an improved basic research capacity primarily on the basis of market-generated revenues, rather than government or philanthropic funding, it will be the first nation in the world to do so.

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BRAZIL

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Brazilian institutions of higher education were, from the beginning, part of a peculiar project of modernization launched by imperial Portugal at the end of the 18th century, transplanted to colonial Brazil with the Portuguese Court in 1808 and continued after political autonomy in 1822. It was led by Sebastião José de Carvalho Melo, the Marquis of Pombal, who was a minister of King D. José I from 1750 to 1777, known for the expulsion of the Jesuits from the Portuguese empire and the renovation of the traditional University of Coimbra in Lisbon.

Pombal hoped to free Portugal from the grips of Catholic restoration and conservatism, allowing it to share the benefits of the spreading scientific and industrial revolution without, however, incorporating new sectors in the ruling circles or allowing any major change in society or the economy. The Portuguese experience should be contrasted with that of other Western European countries, where the evolution of higher education was part of a much broader process of social and political modernization, mediated by different sorts of new professional groups—lawyers, the military, engineers, university professors, and scientists responsible for the progressive rationalization and institutionalization of the new social order. Portugal and Spain did not participate in the great religious and cultural transformations marking the end of the European Middle Ages, and never developed the strong professional, academic or religious corporations and movements that were present (to various degrees) in societies like Britain, France or the German states.

Brazil's enlightened elites, like their counterparts elsewhere in Latin America, entered the independence years of the early 19th century admiring and copying the French opposition to all forms of corporatist arrangements and privileges, including those of the Church and of the traditional universities. Once free from colonial rule, different versions of the Napoleonic system of higher education were created, taking away from the Church most of its role in providing elite education. When the first Brazilian professional schools were established in 1808, they were meant to prepare cadres for public administration—the military forces, the engineering corps, the hospitals and the handling of legal affairs—but lacked professional and scholarly traditions upon which truly modern institutions could be developed. They also lacked the pressures for performance and competence that would be required in conditions of intense competition

for social mobility. Latin America's enlightened elites could speak French and handle French concepts, including the democratic and rationalist ideals; their societies, however, remained restricted by the limits of their economies, based on a few export products, large pockets of traditional or decadent settlements, one or two major administrative and export centers, and in Brazil, a slave system lasting almost to the end of the 19th century. This double jeopardy led to the general lack of intellectual and institutional vigor typical of most scientific and higher education institutions in the region throughout the 19th century.

The first higher education institutions were established in Rio de Janeiro (for military engineering, and medicine), Salvador (medicine), Recife and São Paulo (law). After 1850, under Emperor D. Pedro II, Brazil entered a sustained period of political stability and economic growth, which allowed for the gradual expansion of its educational institutions and the consolidation of a few scientific centers, like the National Observatory, the National Museum and the Imperial Geological Commission. At the end of the 19th century, following the expansion of coffee plantations and the arrival of several million European immigrants to the Brazilian southern states, the old Imperial regime was replaced by a federated republic, and dozens of "faculties"—as well as a few new research institutions—were created in the state of São Paulo and in other regions. However, Brazil's first university—the University of Rio de Janeiro—was not established until 1920; created by the federal government as a loose federation of previously existing professional schools, it remained Brazil's only university for many years (Schwartzman, 1991).

The institutional and intellectual framework of contemporary Brazilian higher education institutions was established during the 1930s, with a major overhaul in 1968. The Getúlio Vargas period (1930–1945) was a time of growing political and administrative centralization, culminating in the fascist *putsch* of 1937. Political events in Italy, including the 1923 Giovanni Gentile education reforms, were permanent sources of inspiration both for the reform of secondary education and the organization of universities, all under close ministerial supervision. In 1931, the new government established a Ministry of Education and Health, and legislation was introduced defining the framework for the country's university system, which was to combine a faculty of philosophy, sciences and letters (responsible for basic research and teacher education) with independent professional schools in law, medicine, engineering, pharmacy and others. The curricula for all careers were to be defined by law and would be mandatory for all, while a National Council of Education would supervise and give stability to educational policies.

In 1934, the Vargas regime sealed a political pact with the conservative Catholic Church, granting it control over education policy and institutions. In 1939, the University of Rio de Janeiro was reorganized according to the 1931 legislation. With the creation of its *Faculdade de Filosofia* (Faculty of Philosophy), to be led by Catholic intellectuals, and a new name—the University of Brazil—these changes were meant to provide the model for all other higher education institutions in the country. However, the political and economic elites in the state of São Paulo, already the country's economic hub, maneuvered to keep their autonomy, and in 1934 had created their own university—the first to follow the letter of the 1931 legislation, but remaining

under local control. Its *Faculdade de Filosofia*, fully staffed with European academics, became Brazil's first university to conduct research as a permanent and recognized activity, and the first to grant advanced degrees (Schwartzman, Bomeny, & Costa, 2000).

Political centralization, authoritarianism and enthusiasm with European fascism receded in the early 1940s, particularly after Brazil joined the allies in World War II. However, the centralizing and bureaucratic tendencies of the 1930s would remain in the years to follow, less for ideological choice than for institutional inertia. A network of federal universities developed after 1945, in large part through the federalization of several state universities created in the 1930s and 1940s, and later by the notion that each state in the federation was entitled to at least one federal university. The state of São Paulo kept its tradition of regional independence and self-sufficiency, and developed its own system of public higher education. The Church and State pact of 1934 left its imprint, but receded with political liberalization, and the early 1940s saw the establishment of the Pontifical Catholic University in Rio de Janeiro, the first of several. Isolated faculties continued to be created both privately and by the federal, state and local governments in the following years, leading to the current *de facto* diversification of Brazilian higher education: a network of federal universities, a large state system in São Paulo, and a variety of smaller state and local institutions in other regions.

Growing demand for higher education since the late 1960s has led to a rapid and uncontrolled expansion of private institutions. Most recently, higher education in Brazil expanded dramatically during the 1990s, going from 1.5 to about 3.5 million students by 2002—still small, considering the country's population of about 180 million. Most of this growth was due to the expansion of the private sector, which today accounts for about three-fourths of total student enrollment. Postgraduate education has also expanded, and Brazil today offers the largest collection of master's and doctoral programs in Latin America (Balbachevsky, 2004; Durham, 2004).

Context

Higher education in Brazil was traditionally a channel of elite education and reproduction within a highly stratified, regionally unbalanced and unequally developed society. As education expanded, access to culture and expert knowledge provided new grounds for claims to social and political leadership, which changed in character as the number and social origins of the student body also evolved. In Brazil, as elsewhere in Latin America, political activism has been a permanent feature of university life. Political leadership, social mobility and, more recently, professional credentials and job security have frequently overshadowed the acquisition of professional skills required by the job markets as the main motivations for higher education.

In the past, most people lived in the Brazilian countryside; today, more than 70% are urban, leading to serious problems of housing, transportation, overcrowding, violence and other manifestations of urban decay. Modern industry is concentrated in São Paulo and other southern states, while large, capital-intensive rural enterprises dominate extensive parts of the land, including some of the largest frontier and demographically

sparse states. The densely populated northeastern states, dominated since the 17th century by sugar cane plantations, have remained in a state of chronic poverty for centuries, and have been a source of steady population migration to the southern and urban regions (Schwartzman, 2000).

Population growth was extremely high between 1940 and 1960, going from 41.2 to 70.1 million; two decades later, the 1980 census registered 119 million, a similar rate of increase. By 2004, Brazil had an estimated population of 178 million, but with falling birth rates, the expectation is that population growth will cease within a few decades.

Important ethnic differences are also apparent. Racial mixing is very high, but afro-descendants are still at the bottom of the social pyramid, in terms of education, employment and wealth. The native population that existed during the colonial period was either decimated or fully assimilated, except for small pockets of a few hundred thousand in some areas. There is only one spoken language, Portuguese, but socially unrecognized linguistic differences exist not only among regions but mostly among social strata, a condition presumably accounting for serious learning difficulties of lower class students in public schools. Italian, German and Japanese immigrants were forced to close their mother tongue schools in the 1930s, and it is still forbidden in Brazil to provide basic education except in Portuguese, except for a few private foreign schools providing bi-lingual education in the main cities. There are no higher education institutions organized along linguistic, ethnic or cultural lines.

When asked, most Brazilians declare themselves Catholic. Yet, Catholicism coexists with different forms of African and spiritualist cults, and some forms of Protestant fundamentalism have made substantial inroads among the poorer strata. The Catholic Church has traditionally been very active in educational matters, and still runs about a dozen universities, as well as many secondary and fundamental schools. There are also a few Protestant higher education institutions, but none related to the Afro-Brazilian religions.

Brazil is formally a federation of states, further divided into thousands of municipalities and local districts. The 1988 Constitution leaned toward decentralization, but except for the state of São Paulo, most regions are heavily dependent on federal transfers. Public subsidies, public employment and special access to privileged business opportunities are still the main source of living for the upper strata of the country's poorer or economically decaying regions. Economic transfers to the poorer sectors, however, have not been significant, owing to a lack of motivation, administrative incompetence or a sheer lack of resources.

Education closely mirrors this picture. Although access to first-year, public basic education is now generally available, the quality of educational services is very unequal. Repetition and dropout rates are very high, and strongly correlated with socioeconomic conditions. For the population older than 18, the average number of years of schooling for Brazil as a whole was as low as 6.5 years in 2002; in rural areas it was 3.4, and in the northeastern region, 5.1 years. Assessments carried out by the Ministry of Education and international comparisons confirm that large segments of the student population remain functionally illiterate after several years of schooling. Instead of investing in the solution to this qualitative problem, Brazilian society has moved toward the quantitative

expansion of preschool, secondary and higher education, leading to increasing gaps in access to good quality education (Oliveira, 2004; Soares, 2004).

Institutions

Brazilian higher education is formally unified along two lines: one (more traditional) related to the public regulation of professions, and the other (more modern) oriented toward the organization of knowledge in academic disciplines. These two unifying principles are not recognized as different, and their uneasy coexistence helps to understand the deep contradictions, differentiation and contrasts among higher education institutions that occur in practice.

The 1931 university legislation reinforced the traditional Napoleonic notion that higher education institutions were schools licensed by the state to teach and certify for the established professions. Each teaching institution was a *faculdade*, in the sense that they were granted the faculty, or franchise, to act on the State's behalf in providing education and extending legally binding professional credentials. This franchising system worked both for public and private institutions, leading to several important consequences. Since all institutions had to provide the same qualification, there was little room for academic autonomy. Education credentials acquired a value that was fairly independent from their knowledge content, increasing the demand for formal education with an incentive to do it as easily and cheaply as possible. Carriers of diplomas in new fields of knowledge and education—like economics, journalism or administration—lobbied to create their own market segments, and therefore brought their courses under the same principle of national uniformity and federal regulation; there was no place nor incentives for research or non-professional degrees, and no role—except a ceremonial or a purely bureaucratic one—for a unified university authority and administration.

An elaborate structure was set in place to keep this system under control. Each profession was to be controlled by professional councils, elected by their peers under ministerial supervision, and responsible for keeping standards, protecting the market against uncertified persons, and helping to draft the mandatory basic curricula for professional education. All teaching institutions were supposed to provide the same core curricula, with some room to add options and special emphasis. In practice, given the link between courses taken and professional privileges, the mandatory curricula often occupied the whole four or five years of study for each profession. This complex system was to be further controlled by a National Council of Education and its state counterparts, which were supposed to authorize the establishment of new institutions and care for their quality and reliability.

This system generated a large bureaucratic web of rules and regulations for student admissions, curricular change and degree registration, all to be inspected by the Ministry of Education and supervised by the education and professional councils. The public universities, as part of the civil service, were also subject to the administrative and financial regulations emanating from the central administration and the government's accounting offices. Most of this control, however, dealt with formalities. In practice, once an institution received authorization to teach, it would almost never be

revoked, and the basic equivalence of skills to be provided by the different institutions throughout the country was never achieved. Moreover, as the higher education system expanded, differences in quality tended to increase, and to become publicly recognized.

A 1968 reform bill sought to reorganize the traditional Napoleonic system along the North American model, centered on academically defined departments geared toward research and postgraduate education. The traditional chair system, led by prestigious part-time lawyers, medical doctors and engineers, was replaced by full-time academics organized in departments and research institutes. A two-year, college-like “basic cycle” was to precede professional education in all careers. Students were supposed to fulfill the educational requirements for their professional careers by picking their credits among different departments. Career programs were supposed to be coordinated by interdepartmental committees, with the disappearance of the traditional *faculdades*. Isolated and independent professional schools were supposed to disappear or be absorbed into university structures along the new framework. This whole conception was to be helped by the building of integrated campuses on the outskirts of Brazil’s main cities, to replace the old faculties’ buildings scattered in downtown areas. From the beginning, this reform faced at least three serious obstacles: the overall political climate in which it was implemented, the explosion of demand for higher education, and resistance from the traditional *faculdades*.

The year of 1968 was almost everywhere a time of political mobilization and youth protest, which in Brazil took the shape of huge student demonstrations against the military government that had seized power in 1964. Repression followed, and between 1969 and the mid-70s urban guerrillas clashed with the military in a climate of political repression and fear that was particularly hard on academic institutions. The implementation of a university reform law in such a context could only be perceived as part of the government’s repression against the students and the liberal academic community, and thus be taken with suspicion. That the innovations introduced by the reform had been copied from the United States only contributed to this perception. Nevertheless, the placement of research at the core of the universities, the end of the chair system and the establishment of postgraduate studies had been central to the aspirations of many who now faced confrontation with the military authorities, and remained in place since then.

The 1968 reformers failed to perceive the explosion of demand for higher education that was already taking place in Brazil as well as elsewhere in Latin America and the Western world. Admittance to Brazilian universities has always been arranged through entrance examinations, and in 1968 the large number of candidates denied access for lack of places became a political embarrassment for the government, which decided to increase the number of openings in public institutions and to ease the requirements for the creation of private and isolated *faculdades*. These new institutions were mostly low-cost teaching schools staffed with part-time and not well-qualified professors (working mostly in the evenings) and catering to students that could not meet the university’s entrance requirements, usually because of the low quality of their secondary education. Thus, while the reform postulated a gradual convergence of higher education toward a unified university model, it immediately began to diverge into a

strongly stratified system, with free, more prestigious and usually better public sector institutions at the top and an extended, low quality and paid private system at the bottom (Schwartzman & Klein, 1993).

The traditional faculties of law, medicine, engineering, dentistry and a few others were fairly successful in resisting the new legislation. They often kept their old buildings downtown, never moving to the new campuses. When introducing the department structure and the credit system, they did it in their interior, while resisting disciplinary unification with other careers and discipline-based departments and institutes. The chair system was often replaced by oligarchies of full professors. The traditional faculties also resisted the introduction of full-time employment, and were slow in establishing postgraduate programs. They kept almost everywhere, in short, the dominance of professional over disciplinary identity. The traditional professions' ability to resist occurred because the new legislation did not change the rule, or the general assumption, that each higher education career was supposed to lead to a nationally valid professional entitlement. As the system expanded, new professions were added to the old ones, each striving to get its own legal status and protection: pharmacists, veterinarians, psychologists, librarians, nutritionists, education supervisors, nurses, journalists, social workers, statisticians, geologists, economists, and so forth.

In spite of these difficulties, the new legislation led to the creation of discipline-based departments and institutes coming out of the old *Faculdades de Filosofia, Ciências e Letras* (Faculty of Philosophy, Sciences and Letters), which became responsible for the education of secondary school teachers and for postgraduate education and research (the two-year introductory basic cycle proscribed in the 1968 legislation was never implemented except in very few places). They also took charge of professional education in the new professions, alone or in cooperation with other departments. As the teaching load increased, the departments expanded very quickly, often by hiring young teachers without postgraduate degrees for full-time teaching tasks. Postgraduate education, however, expanded rapidly, supported by the Ministry of Education, the Ministry of Science and Technology, and state institutions such as São Paulo's *Fundação de Amparo à Pesquisa* (FAPESP). Thanks to this combined effort, Brazil now has the largest postgraduate education establishment in Latin America. In 2001, 6,000 students received their doctoral degrees and 30,000 their masters. This segment is heavily subsidized, and most courses are in public institutions. In 2002, the higher education census conducted by the Ministry of Education identified 242,000 teaching positions in Brazilian higher education, 21% of which were filled by doctoral degree holders. In public institutions, this proportion was 36%, compared with only 9.5% in the much larger private sector.

The end result of these developments is an extremely differentiated system of higher education, which is made particularly difficult to understand because the differences are not formally acknowledged. Ideally, there should be only research universities, or institutions evolving toward this model. In practice, there are profound regional inequalities: traditional professional schools, postgraduate programs with strong research components, low quality graduation courses in the "soft" disciplines, a large private sector with evening courses and lax admittance requirements, and a few highly prestigious public and private institutions.

Governance

In 1988, after 20 years of military authoritarianism, Brazil adopted a new Constitution reinstating the unity of higher education around the research university model, and granting full academic, financial and administrative autonomy to universities. The Constitution also guaranteed that public education should remain free of charge, and forbade any kind of public subsidy to the private sector, except for research projects or for “community” institutions. Many issues were left unresolved—including the true extent of “autonomy,” the regulation of non-university institutions, the role of the federal and state councils of education, and the legal status of universities and professors regarding the civil service. A comprehensive education bill was approved by Congress in 1996, recognizing for the first time the existence of university and non-university higher education institutions, and requiring periodic assessment of their academic quality and status.

The new legislation did not change the ways public and private institutions are managed. Brazilian public *faculdades* have been traditionally ruled by their schools’ “congregations,” or academic senates, made up of full professors and token representation from students and lower rank faculty. Appointments for the main executive positions—rectors and the schools’ directors—were usually made by the federal or state government from short lists produced by the institutions. The 1968 reform had strengthened the powers of the rector’s office (and the government’s control), and required universities to produce a list of six nominees (instead of the traditional three) from which they would choose to fill the position of university rector. Political liberalization after 1985 opened the way to pressure from students, teachers and employees’ associations, who sought equal weight in one-man-one-vote elections for executive posts at all levels in the public universities, equal representation in all deliberative bodies, and (after 1988) recognition that the universities were free to choose their authorities internally, without consulting any kind of external body or public authority. Most public universities adopted these procedures in one way or another, and the government usually appointed the most voted-for candidate for rectorship in the lists coming from the universities, therefore keeping the formalities of the law without conflicting with the universities. Private institutions, at the other extreme, tend to be ruled as proprietary institutions, without any degree of autonomy regarding their owners or controlling institutions.

Quality assurance has been a concern for many years, and Brazil has an important tradition of regular assessment of its postgraduate programs, carried on regularly by CAPES (*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*, an agency within the Ministry of Education) through the use of peer review committees and information on scientific and academic outputs. Each postgraduate course is rated on a seven-point scale every two or three years, with the higher grades given to courses considered of international quality. The ratings are used by CAPES to allocate fellowships and to provide other kinds of support to the postgraduate programs. Because of their reputation and reliability, CAPES’ evaluations are routinely used by other government and non-government institutions in their dealings with the country’s university research and postgraduate education programs.

For first-degree courses, the Ministry of Education started with a program to provide support for institutions willing to carry on self-evaluations, and in the 1990s moved to create two new mechanisms. One was the assessment of the material and human resources available for students, to be conducted by committees of specialists in the different academic fields. The other was the National Assessment of Courses, a procedure through which students completing their graduation degrees must take a national exam related to their chosen career field, leading to a national ranking of all professional course programs in the country while preserving the privacy of individual results. Except for extreme cases, there are no benefits or punishments associated with these assessments, but their publication has created a competition for perceptions of quality higher education which had not existed before.

Regardless of the legislators' intentions, sectoral differentiation will continue and increase in the near future. Besides the known differences between the public and the private sectors, regional initiatives are likely to grow and to find their own solutions to the problems of governance and financing. In 1988, the São Paulo state system, formed by the University of São Paulo, the University of Campinas and the State University of São Paulo, was granted full administrative and financial autonomy vis-à-vis the state government, and a fixed percentage of the state's main excise tax was provided for their expenses. The state council of rectors took the responsibility for the distribution of resources among the universities, and also for the definition of salary levels. This decision freed the state government from the constant pressures to ensure salary increases for teachers and administrative personnel, and placed them fully in the rectors' hands. It also placed a limit on the percentage of the state's budget that can be allocated to higher education. Another significant regional experience is that of the southern state of Santa Catarina, which developed a network of small community universities throughout the state's territory. This pattern partially comes from the fact that Santa Catarina is a small state with multiple urban centers, modern agriculture and industries and a fairly highly educated population, which could not count on either federal or state resources to attend to their educational needs. The state's community universities and schools are run by a combination of local authorities, business groups and the Church.

Public resources for higher education in Brazil grew steadily until the early 1980s, and then stabilized, with abrupt yearly variations due to the high inflation rates and general economic depression. Access to Brazilian public universities has been traditionally provided free of charge, and they are fully maintained by the federal or state governments. Most of the money goes toward salaries, which account for 80 to 90% of current expenses. Salary levels and privileges for professors and administrative employees in the public sector have been defined through bargaining between the government and the teachers and employees' association, leaving little latitude for the universities' internal decisions on salary levels, promotion rules and alternate allocation of salary money. Resource allocations are supposed to be done once a year in the federal and state budgets. However, high inflation has required many ad-hoc decisions on budgetary supplements, leading to uncertainty about the future and deteriorating conditions. Money for research, student fellowships and out of the ordinary projects have to be sought outside the regular budget. The National Research Council, the *Financiadora de Estudos*

e Projetos and São Paulo's *Fundação de Amparo à Pesquisa* are the usual sources of support for university research, while student fellowships for postgraduate studies can also be obtained from CAPES. In addition, universities can establish cooperative agreements with public corporations and some branches of the government, and also with the private sector. Foreign foundations and intergovernmental organizations are also available. Some departments in some universities have become extremely skillful in tapping these external sources (Schwartzman & Schwartzman, 2002).

Tuition can be charged in the private sector, but is limited because of the usually lower social origin of its students, and is often controlled by the government. The alternative for the private sector is to provide the cheapest possible type of education for the largest possible number of students. One strategy has been to concentrate in fields not requiring expensive equipment and teaching materials; another has been to hire only part-time teachers, which are sometimes full-time professors in a public institution nearby. A third strategy is to press for public subsidies, which were never very high, and were strongly limited by the 1988 Constitution. The only major kind of public support for the private sector that remains is a system of student loans, which is much smaller in the early years of the new millennium than it was in the late 1990s, due to high levels of non-performance, supporting less than 10% of the students in private institutions. More recently, a new sector of high quality, elite private institutions has begun to emerge, providing expensive degree programs in law and business-related fields.

Teaching, Learning and Research

Institutional and sectoral diversification in Brazilian higher education led to profound differences in the teaching and research staff, as well as in the quality of educational experiences the students receive. We can summarize these differences into three general categories, organized hierarchically (Schwartzman & Balbachevsky, 1996). At the top, there is an elite of about 28,000 faculty with doctoral degrees or equivalent titles, and about 100,000 students in M.A. and Ph.D. programs in the best public universities, mostly in the southern part of the country. Professors are endowed with reasonable salaries and can complement them with fellowships, research money and better working conditions; postgraduate students are selected from among the best graduates of public universities, do not pay tuition and usually get a fellowship for two or more years.

The middle strata is comprised of about 92,000 faculty in public universities, attending by about one million undergraduate students. Faculty teaching postgraduate courses in public institutions are also required to teach undergraduate students, and the academic qualifications of this group have been growing steadily—in 2001, 36% had a doctoral degree, and 30% a master's. Most of these academics have full-time contracts and civil service status, meaning job security and significant fringe benefits. However, their real salaries have been gradually deteriorating, and only those more active in research are able to complement their salaries with research or contract money. Formal regulations notwithstanding, many full-time academics also work in their professions, do consulting work or teach in private institutions.

Courses and facilities at this level are uneven, with the best in the central-southern region and in the traditional professions, and the worst in public universities of the

northeast and in the social science fields. Students in public universities have access to almost free restaurants and a few other facilities, but lodging is very rare, and physical installations, laboratories, research materials and teaching aids are scarce. Students in the most competitive public institutional programs (like medicine, dentistry, engineering, law and journalism) usually come from the best private secondary schools (which typically means middle- to upper-class families) and often pay for courses to prepare them for the university's entrance examinations—an industry by itself. As the educational system expands, these students are faced with increasingly serious problems of unemployment, in spite of the relative quality of their education. Entrance to the least competitive academic programs—mostly teacher preparation in letters, history, geography and pedagogy, or in the social sciences—is very easy, and the expansion of evening courses for these areas in recent years has led to an increase in students coming from lower socioeconomic backgrounds to public institutions.

Finally, at the bottom of the quality hierarchy there are around 150,000 lecturers serving about 2.5 million students in private institutions. Most of these teachers work part-time, are not well qualified, and have to take on a large teaching load in several institutions—or a combination of jobs—in order to survive. In 2002, 11% had a doctoral degree, and another 38% a master's; 16% had full-time contracts, and 56% did not have any permanent contract at all, working on a per-class basis. Some of these lecturers have full-time appointments in public universities, and moonlight in private schools; others are retired from the public sector. They are not organized, and do not reproduce the teachers' associations that prevail in the public sector. Tuition in these institutions is usually low; however, the students can barely afford them. Facilities and teaching materials are minimal or nonexistent. Courses are mostly in the "soft" fields, particularly in administration and law. Most students are already employed, and look for education as a means for job improvement or promotion; they are often more interested in credentials than in knowledge for its own sake.

This picture has been changing in recent years, as public institutions suffer from budget limitations and come under pressure to open up to students from lower socioeconomic backgrounds, including the establishment of racial quotas for black students or students coming from public secondary schools. Access for low-income students to public institutions is growing, and a niche is emerging for high quality private institutions in fields like economics, law, business and marketing, and in intensely disputed fields like dentistry. Today, although most students in higher education still come from middle- and upper-level social strata, the socioeconomic profiles of students in the public and private sector are similar, with most of the stratification taking place in terms of career choices and opportunities (Schwartzman, 2004).

These differences combine with profound regional imbalances between the southern states, and more specifically between the state of São Paulo and the rest of the country. São Paulo is Brazil's biggest and most industrialized state, encompassing about one-fifth of its population and one-third of its postgraduate enrollment. This is also the region where the dual nature of Brazilian higher education developed more fully. There is proportionally lower enrollment in public universities than in other regions, but the universities are usually better, while the private sector is much more complex and differentiated than elsewhere. There are few federal institutions in the state, which

contrasts with the country's poorest region, the northeast, where more than 70% of the students are enrolled in federal universities, with few alternatives in local institutions or in the private sector.

Career paths vary greatly throughout this diversified system. At the University of São Paulo, a doctorate is the minimum qualification for admittance to the academic career; in other public universities, a postgraduate degree is not an absolute requirement for a first-level position. Regular appointments are made after an elaborate and formalized process—including written exams, public lectures and evaluation of the candidate's credentials. Promotion to the higher ranks—to associate and full professorship—also requires similar procedures. Many Brazilian universities still accept the institution of *livre docente*—an adaptation of the old German *privatdozent*, which in practice is obtained through public examination and the presentation of an academic dissertation, and assures an academic status immediately below full professorship. In the past, *livre docência* was a mechanism to assure academic quality; today, it is most often a mechanism to avoid the doctoral degree requirement for admission and promotion, except again at the University of São Paulo, where the *livre docência* remains a required step, after the doctorate, in the path toward full professorship.

Once admitted at any level in a public institution, tenure is assured in practice except for extreme cases of misbehavior. Brazilian public universities are part of the civil service, and professors are hired as civil servants, which means (among other things) employment stability, generous retirement and other benefits. Recent legislation has reduced the retirement benefits for incoming or recently hired personnel, but did not change their stability. In the private sector, on the other hand, the rule is the absence of career structures and tenure mechanisms. Professors are hired as lecturers when needed, and dismissed at will.

The rigidity and formality of appointment and promotion procedures in the public sector have led to the search for alternate mechanisms. The University of São Paulo, for instance, can appoint professors by invitation for limited periods; however, their admittance to the regular career requires a formal examination. In the past, and mostly in the federal universities, similar mechanisms have led to the admittance of large numbers of people who were later granted the rights of stability and career promotion through ministerial decrees or judiciary decisions. One consequence was the low academic level of many institutions; the other was their inability to hire new and supposedly more qualified personnel, for lack of academic slots. Another feature of this system is that mobility between universities is almost nonexistent, since jobs and ranks are not transferable between institutions, even within the same system.

Academic power within Brazilian public universities is usually in the hands of two groups: academic units (schools, "faculties," or institutes), within the limits set by the government, and the professors' and employees' associations and unions. Curricula for the legally recognized professions and careers are established by the National Council of Education, and can only be expanded or interpreted locally. Universities are free, however, to establish new courses and careers, and have no limitations regarding their postgraduate programs, except the periodic evaluation by CAPES. Non-university institutions, even in the private sector, can only be created or offer new degrees with the formal authorization of the Federal Council of Education. The government has the

power to establish salary levels and the availability of slots in the public sector, and to regulate tuition prices in private institutions.

Academic power in the public sector is also influenced by the universities' teacher associations, which are nationally organized (as the *Associação Nacional de Docentes do Ensino Superior*, or ANDES) and affiliated with the country's more militant central union, the *Central Única dos Trabalhadores*. ANDES' militancy since the 1980s has been instrumental in assuring the salary levels and job stability of university professors, but has also helped to paralyze the government's initiatives in terms of university reform, and has led to the rigidity of rules and procedures of the public universities in matters of academic careers, placing a clear limit to the universities' formal autonomy. The employees' associations are a relatively new phenomenon in Brazilian universities, and have followed a general pattern of political and union organization of Brazilian civil servants. These associations have been active in several strikes at the federal and state levels, and participate wherever direct elections for executive offices in public universities are held.

Conclusion

The challenge of Brazilian higher education for the turn of the millennium is whether it will be able to accommodate the country's growing educational demands while fulfilling its role as centers for academic excellence and scientific research. The current situation—in which better quality education is provided free in the public sector, while low quality, mass schooling is only available privately—is changing, as the public sector comes under increasing pressure to broaden its coverage, and the private sector becomes more clearly proprietary and looks for quality niches. The educational role to be fulfilled by Brazilian universities is not limited to their current or prospective students. Basic and secondary education in Brazil today is plagued by an acute lack of qualified teachers, and it is not clear how the universities can recover their traditional role of teacher education, given the low prestige of the teaching profession and the poor educational background of those willing to join its ranks. The universities will also have to play a growing role in the continuous education for all professions, and in providing non-conventional courses for those who want to learn more but are unable or unwilling to attend the regular courses given along the traditional curricula.

These challenges will have to be met within a context of economic constraints. The Brazilian public sector is not likely to increase the share of the national budget going to education in the near future (which is already beyond 5% of GNP) nor the share of higher education vis-à-vis other educational levels. Pressures for evaluation, administrative efficiency and accountability are likely to increase, together with a growing movement toward new sources of income, including cost recovery from the better-endowed students. The full administrative, patrimonial and academic autonomy granted to the Brazilian universities by the 1988 Constitution and the 1996 Education Law, if properly implemented and coupled with a robust assessment system, could become a precious instrument in this search for a broader and more diversified role and a larger and more equitable financial basis. On the other hand, autonomy can also provide more traditional and shortsighted elements within the universities with a weapon for

retrenchment, isolation and resistance to the realities of the external world. This is the dilemma for the future.

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CANADA

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The second largest nation on earth, Canada has a population of 32 million and a population density slightly higher than Australia. The vast majority of its institutions of higher education, like its citizens, are situated within 200 kilometers of the southern border with the United States. This relatively narrow strip of land running east-west contains the core financial and industrial infrastructure that positions Canada as one of the G8 industrial nations. The population dwindles as one moves north, especially in central and western Canada, until one reaches Canada's three northern territories. The Canadian Arctic is one of the most sparsely populated areas on earth, and its citizens maintain many of the cultural traditions that have been associated with those lands for centuries.

Describing Canadian higher education is almost as difficult a task as defining the nation itself. Like its neighbors to the south, Canada boasts one of the highest participation rates in higher education in the world, and a number of its universities are frequently ranked among the very best. At the same time, the Canadian policy approach to higher education has been—and continues to be—unique, reflecting many of the complex social and economic factors that differentiate this country from its western, developed peers. The objective of this chapter is to provide a broad description and analysis of higher education in Canada, beginning with an overview of the institutions and structural arrangements, followed by a review of the historical development of higher education in Canada with a particular emphasis on federal and provincial government policy, and concluding with a brief discussion of key issues.

Overview

Canada is a federal state composed of ten provinces and three territories. Under the Canadian constitution, education is a provincial responsibility and the provinces have legislative and regulatory authority over higher education. This decentralized approach has led to substantive differences in higher education policy arrangements and institutional structures by province (cf. Jones, 1997). While the provinces have come to assume the central role in postsecondary education policy and the direct funding of public institutions, the federal government continues to play a role in higher education

through a range of initiatives viewed as justifiable under other areas of constitutional authority, especially in terms of skills training for employment, student financial assistance, research and development, and issues of national culture. There is little doubt that Canada's federal arrangement has had an enormous impact on Canadian higher education (Cameron, 1991), a topic that will be discussed in more detail later in the chapter.

Canadian higher education has been traditionally defined in terms of two broad institutional types: universities and non-degree postsecondary institutions (frequently captured under the umbrella term "community colleges"). However, this categorization has tended to ignore a range of postsecondary institutions and activities that fall outside the mainstream "public" sector, and Statistics Canada is currently experimenting with a far more inclusive classification system that more clearly illuminates the diversity of institutional structures and arrangements (Orton, 2004). Under this emerging classification system, Canadian postsecondary institutions are divided into five major types: universities and degree-granting institutions; colleges and institutes; school boards that operate adult and postsecondary programs; government institutions; and career colleges.

There are over 190 university and degree-granting institutions in Canada. The vast majority of students are enrolled in publicly supported, relatively autonomous universities, though there are now a handful of small private universities. The more traditional university sector includes 45 universities that offer primarily undergraduate programs, 15 comprehensive universities, and 15 medical/doctoral universities. In addition, there are three degree-granting institutions that have a specific mandate to address the needs of First Nations and Métis populations. The largest number of institutions in this grouping (116) are specialized, the majority of which have degree-granting authority, limited to the provision of religious and theological education, though there are also special purpose institutions focusing on art, music, and other field-specific programming. All of these institutions focus on degree programs.

The primary objective of colleges and institutes, in contrast, is to offer certificate and diploma programs that are three years or less in length. There are over 300 colleges and institutes, most of which are publicly-supported institutions operating under direct provincial government regulation. Over 30 colleges also have the authority to grant specialized degrees (often associate or applied degrees) in areas related to their core technical/vocational mission. Roughly 120 colleges and institutes offer a comprehensive range of postsecondary diploma programs, while 145 offer only a limited range of programs in specialized areas. Ten have a specific mandate related to Canada's First Nations.

Career colleges are the largest category of postsecondary institutions in Canada. There are over 550 such colleges registered by the provinces, and—given differences in the regulatory environment by province—many others that operate without the need for provincial licensure or recognition. Career colleges are private businesses that offer certificate and diploma programs, frequently focusing on specialized occupations or vocations. In addition, federal and provincial governments directly operate 27 different institutions designed to facilitate apprenticeship programs or provide specialized training related to public-sector careers, including police, coast guard, and air traffic control.

Finally, a range of adult (and, in some cases, postsecondary) education programs are offered by school boards. The vast majority of these initiatives focus on adult learning, language programming and basic-level employment skills.

National statistics on enrollment have tended to focus on the data collected from publicly supported institutions, but even with this limitation Canadian participation rates are very high in international terms. In 1998–99, Canadian universities enrolled over 580,000 full-time and almost 256,000 part-time students in degree programs. Colleges enrolled over 400,000 full-time and 91,000 part-time students in postsecondary programs. Junor and Usher (2002) note that if students in trade and vocational programs are included, the total number of Canadians enrolled in postsecondary programs in 1998–99 was 1.65 million (p. 35).

Canada has two official languages, English and French, and while federal government services are provided in both languages, there are substantive provincial and regional differences in language utilization and access to postsecondary education by language. New Brunswick is the only officially bilingual province, though many provinces have postsecondary institutions that offer programs in both languages, or offer programs to serve the needs of minority language populations.

Colonial Roots

Canada is a nation founded as a federation of colonies, and there is little doubt that this early colonial history influenced later developments in higher education. The French colonial regime lasted for a century and a half, beginning with the founding of Quebec by Champlain in 1608 and ending with the Treaty of Paris in 1763. The population of New France grew slowly; there were still only 65 residents by 1628 and, even after more active attempts at expansion, the figure rose to only 6,705 by 1673 (Philips, 1957).

The Roman Catholic Church assumed the core responsibility for education, though the earliest initiatives—primarily associated with the Jesuits and Recollets—focused on attempts to convert, school and generally “civilize” the neighboring native populations. Such an objective, with frequent variations, would underscore Canadian policy toward the education of Canada’s First Nations for the next three centuries. The first secondary school was founded by the Jesuits in 1635, and the classical program of studies that had emerged by 1655 would continue to play an important role in secondary education in Quebec until the reforms of the 1960s. More advanced courses were gradually introduced in mathematics and theology (Audet, 1970).

The effective end of the French colonial period concluded with the capture of Quebec by the British in 1760. Britain now controlled a colony dominated by French culture and language, and while the new regime destroyed many of the institutions associated with New France, it was generally tolerant of the educational work of the Roman Catholic Church. Dual educational systems eventually emerged, with Roman Catholic schools serving the Francophone population and distinct educational structures serving the Anglophone population.

In some respects, it was the American Revolution that had the most direct impact on the emergence of higher education institutions during this period. The revolution was, in some respects, a civil war, and the victory of those seeking to sever the relationship

with colonial authority led to the migration north of those who wanted to live under the protection of the crown. These Empire Loyalists also brought with them expectations of the social and cultural institutions that should be associated with a civilized British colony. Unlike the far more developed and densely populated jurisdictions that they had left behind, they would arrive to find that there were no institutions of higher education in any of the northern colonies, a serious omission for those who feared the spread of American republicanism.

A handful of colleges emerged within the British colonies in the late 1700s and in the first decades of the 19th century. Colonial legislatures awarded charters to King's College in Windsor in 1789 (Nova Scotia) and the College of New Brunswick in Fredericton in 1800, both based on the institutional model of King's College in New York (Bailey, 1950; Muir, 1994; Vroom, 1941). The estate of James McGill provided the financial support for the creation of McGill College (Montreal) under a royal charter awarded in 1821. Land endowments were associated with the royal charters awarded to the King's Colleges at York (Toronto) and Fredericton, both of which also included innovative governance structures and assigned the role of president to the local Anglican Archdeacon (Jones, 1996).

The response from other Protestant denominations, beginning in the 1840s, was to create their own institutions of higher learning. Queen Victoria granted charters for Queen's College in Kingston (Presbyterian), Victoria College in Cobourg (Methodist) and Acadia College in Horton (Baptist) in 1841. Created and supported by specific church organizations, denominational colleges became the dominant institutional model in the modest expansion of higher education during the rest of the century.

It is important to recall that these were all extremely small, financially struggling institutions; the fact that some colleges had access to public support through the revenues associated with crown endowments while others did not became the topic of considerable debate. In the case of King's College at York, the view of many Loyalists that a British institution supported by the crown should naturally be affiliated with the Church of England was in direct conflict with those who viewed the arrangement as unfair and discriminatory. A political solution emerged only after greater authority was delegated to the colonial legislatures under the rubric of "responsible government," and King's College at York was transformed into the secular, provincial University of Toronto in 1849. The University of New Brunswick assumed a similar role in 1858.

Confederation to 1945

The Dominion of Canada was created under the British North America (BNA) Act of 1867, a piece of British legislation governing the federation of colonies that became the provinces of Ontario, New Brunswick, Nova Scotia and Quebec. Higher education was far from a central issue in the discussions that led to federation, in part because there was so little of it to talk about. At the time of confederation there were only 1,500 students in the entire nation, and only five institutions could claim enrollments of 100 or more (Cameron, 1992).

The importance of the BNA Act to the development of higher education in Canada is difficult to overstate. The Act not only created Canada, it prescribed a federal governance arrangement that continues to be a component of the Canadian constitution. One of the lessons drawn from the enormous bloodshed of the American civil war was the need to create a strong central government. The new federal government was assigned responsibility for trade, in order to ensure economic stability, and defense, in order to address the recurring threat of American imperialism. The provinces were assigned responsibility for minor, local issues, including hospitals and education.

The fact that the BNA Act assigned responsibility for education to the provinces is neither unique in the broader context of federal states, nor surprising given the diverse local needs of the original colonies. Almost all federal state arrangements assign education to the local jurisdiction, and in Canada the notion of some form of uniform approach to education could never have addressed the needs of both the primarily French-speaking, Catholic population of Quebec and the largely Protestant, English-speaking population of Ontario. The uniqueness of the Canadian constitutional approach to higher education was not that it was delegated (under the rubric of education) to the provinces, but rather that the federal government has never been able to negotiate a clear, direct role in this policy arena. Canada may be the only nation in the developed world that has never had a national university or higher education act, or even a government minister assigned responsibility for higher education. The federal government does play an important role in higher education policy, but it is a role that has evolved through the dance of federal-provincial relations to the frequently discordant tune of Canada's constitutional debate.

While four provinces were created through confederation in 1867, the BNA Act also provided a framework for expansion, and over the next 80 years other colonies would join the Dominion and new provinces would be carved out of the western territories. In the central and eastern provinces, many universities were already in place at the time of federation and the new provinces simply inherited the modest higher education infrastructure (and the frequently less-than-modest problems) associated with the colonial period. In Ontario, the new provincial government decided to avoid the politics of denominational disputes by declaring that public funds would only be available to secular institutions. In most provinces higher education was not regarded as an important policy issue; few institutions received government grants, and the level of support (when available) was small.

In the western provinces, in contrast, the new governments moved to create new provincial universities, in part to avoid the potential denominational battles experienced in the east, but also with a conviction that institutions of higher education would play a role in the social, cultural, and economic development of the jurisdiction. Each of these four provinces created a single, secular, provincial university. Manitoba became a province in 1870 and the University of Manitoba was created, essentially as an examining body, in 1877, though the charter was revised in 1917 to more closely parallel the provincial universities of other western provinces. British Columbia became a province in 1871 and an initial attempt to create a provincial university was made in 1880, though limited interest and a shortage of provincial revenues postponed the creation of the University of British Columbia until 1908 (Harris, 1976). Alberta and

Saskatchewan became provinces in 1905, and both provinces moved quickly to establish provincial universities: the University of Alberta was created in 1906 and the University of Saskatchewan was created in 1907.

These four institutions were also influenced by the emergence of the American state university model (Campbell, 1978). Service to the broader community became an important component of institutional activities, often through distinct units focusing on “extension” programming. They also quickly established degree programs in applied fields directly related to local needs, such as agriculture.

While western universities were influenced by the University of Wisconsin’s notion of “Our campus the state,” a number of eastern universities became increasingly interested in the emerging model of the American research university. Given Canada’s colonial history, there was a natural tendency for the major Anglophone universities to look to Oxford and Cambridge as the shining examples of what universities could and should be, but the rise of the German model—and its translation at Johns Hopkins into research-based doctoral programs—was difficult to ignore. Canadian students began to pursue doctoral programs in the United States, and A. H. Young noted that “In the one case they are lost to their native land; in the other they propagate views which, if not hostile to England, are at least far from being friendly to her” (Friedland, 2002, p. 177). Queen’s College introduced a Ph.D. program in 1889; the University of Toronto followed suit in 1897, and McGill in 1906 (Friedland, 2002).

As publicly supported universities began to emerge in each province, institutions began to struggle with two questions: the relationship between the university and the state, and the appropriate structure for university governance. There was little common agreement on the role of government, and a range of different approaches to institutional governance had emerged in corporate charters. In Ontario, political interference in the work of the University of Toronto—including cases of political leaders making university appointments without consulting the president—led to the creation of a royal commission charged with the responsibility of reviewing both university-government relations and university governance arrangements.

The 1906 report of the Flavelle Commission established a model that was gradually adopted in many parts of Canada, and it clearly influenced the governance structures of the new western universities. The recommendations of the Commission were based on a central conclusion:

We have examined the governmental systems of other state universities upon this continent and have found a surprising unanimity of view upon the propriety of divorcing them from the direct superintendence of political powers (Alexander, 1906, p. 276).

This “divorce” would be accomplished through the delegation of state authority over the university to a corporate board composed largely of members appointed by government. The governance structure would be bicameral: a corporate board composed of lay members would oversee the administrative affairs of the university, but the senate—the academic governing body composed of representatives of the faculties, colleges, alumni and the administration—would be retained and assigned executive authority over academic issues. As Ross (1976) has noted, the senate followed in the English tradition

and was remarkably similar to the structure adopted by the University of Manchester in 1870. The draft University of Toronto Act, appended to the Commission's report, was quickly approved by the Ontario Government with few amendments (Wallace, 1927). While other institutions had already experimented with bicameral governance structures, the Flavelle Commission provided a rationale and a governance framework that was gradually adopted by almost every English-speaking university in Canada (Cameron, 1991; Harris, 1984; Jones, Shanahan, & Goyan, 2001).

The universities that emerged during this period were largely autonomous institutions, at least in terms of their relationship to government. The majority of universities were affiliated with a particular religious denomination, with most French-language institutions linked to the Roman Catholic Church and most English-language institutions affiliated with Protestant denominations. The level of Church influence on the affairs of the universities varied by institution, but provincial governments seldom interfered with the work of these privately supported and funded institutions. The relatively small number of publicly supported universities were also chartered as private nonprofit corporations, and while governments clearly took a greater interest in their affairs, the university-government relationship generally focused on annual decisions on the level of government grants, with little regulation or interference in university decision making. Institutional autonomy was a component of the Anglo-Saxon model of the university that the English-speaking institutions inherited from their British colonial roots (Amaral, Jones, & Karseth, 2002), but it is also true, as Neatby (1987) has argued, that there was considerable consensus on the mission of the university:

Universities trained the children of the political elites; they served as a finishing school for their daughters and prepared their sons for admissions to the liberal professions. These social functions were understood by governments and by university officials; there were no major confrontations over admissions, over course content or over student discipline because both groups shared the same social values. Cabinet ministers and members of the Board of Governors might belong to different parties, but they were all men of substance with similar views of the social order (p. 34).

The provincial governments had constitutional responsibility for education, but higher education was far from an important area of public policy. Governments provided modest annual grants to a limited number of institutions that were generally viewed as public, and these institutions expanded slowly. Most private institutions were struggling denominational colleges relying on donations and church support to supplement tuition revenues. Canadian universities received little public or political attention, a situation that would change dramatically following World War II.

1945 to 1970: Higher Education as Public Good

The federal government's involvement in higher education was extremely minor until the creation of the veterans benefit program following World War II. However, two government initiatives had an important and direct impact on the sector. First, in 1874 the Government of Canada established a Royal Military College in Kingston as a function

of the central government's responsibility for defense. There was no opposition from the provinces, though a century later the College would require the approval of the Government of Ontario in order to award degrees in that province. The second government initiative of importance was the creation of the Advisory Committee for Scientific and Industrial Research, later known as the National Research Council, in 1916 (Neatby, 1987). Noting the ways in which German scientists had revolutionized manufacturing processes in several industries, and following the lead of the British government, the Council was conceived as a mechanism for encouraging applied industrial research in order to promote economic development. While the original emphasis was on industry-based research, many of the Council members were professors, and the Council soon began to sponsor the work of a small number of university scholars and support graduate students in the sciences (Thistle, 1966).

The decision to provide qualified veterans with higher education benefits following World War II brought the federal government directly into the higher education policy arena. The terms of the benefit program had involved considerable discussion with the National Conference of Canadian Universities, a national association of university administrators and faculty that had been formed in 1911 (Pilkington, 1974). Under the arrangement, the government would pay the tuition for each veteran who qualified to attend a university, and the institution would receive a grant of \$150 per enrolled veteran (Cameron, 1991).

The program was enormously successful. Canadian university enrollment increased by 46% in 1945–46, when 20,000 veterans decided to pursue higher education. In 1946–47, the number increased to 35,000. As the doors of the universities opened to veterans, other citizens began to demand access, and a new generation began to view higher education as an achievable goal. Even excluding the veterans, total university enrollment increased by close to 70% between 1941 and 1951 (Cameron, 1991). Given this dramatic increase in demand, and the fact that the veterans program was only a short-term measure, universities turned to both the national and provincial levels of government for assistance.

The arguments for increasing government support for higher education were increasingly premised on the assumption that higher education was a public good. Canada's postwar economic and industrial transition had been enormously successful, and the economic boom brought with it a new sense of national identity and purpose. Higher education became increasingly viewed as an important component of Canada's economic, cultural and social development. The final report of the Royal Commission on National Development in the Arts, Letters and Sciences recommended that the Government of Canada provide direct grants to universities based on provincial population. Acknowledging that they were provincial institutions, the Commission concluded that universities must become part of the national agenda since "theirs must be regarded as the finest of contributions to national strength and unity" (Royal Commission, 1951, p. 132). Human capital theory would later provide support for the Economic Council of Canada's conclusion that funding higher education should be regarded as the highest priority of government (Economic Council of Canada, 1965).

There is little doubt that by the early 1950s it was clear to both the federal government and the provinces that access to higher education in Canada should be expanded, and

that this expansion would require a substantive investment on the part of the federal government; the challenge was to find an approach that satisfied all parties. As the veterans benefit program began to conclude, the Government of Canada decided to continue providing direct grants to universities based on enrollment and provincial population, in order to sustain (though not to further expand) enrollment levels. The provinces of Ontario and Quebec responded by accusing the federal government of interfering in provincial constitutional territory. Ontario's primary concern was that the new grants would be given to all universities even though provincial policy limited university grants to secular institutions. Quebec strongly advised universities not to accept federal support, and then increased provincial grants to universities in order to compensate for this lost revenue.

In 1958, Prime Minister St. Laurent announced a new funding program designed to support a massive expansion of university enrollment. The initiative was a direct response both to increasing demand as well as statistical projections of the future demand for higher education associated with the postwar baby boom (Bissell, 1957). Instead of direct government grants to universities, federal government funds would be routed through a new Canadian Universities Foundation (essentially operated by the National Conference of Canadian Universities). The new arrangement did not appease the concerns of Quebec, which continued to advise provincial universities to refuse grants and then once again increased the level of provincial grants. Funds for Quebec universities were initially held in trust by the Foundation, and then later transferred to the provincial government.

A third federal government approach to funding the expansion of postsecondary education was announced at a federal-provincial conference in 1966. Explicitly acknowledging that education was an issue of provincial jurisdiction, but asserting that the expansion of higher education was an issue of national importance, the federal government announced that direct grants to universities would be replaced with transfers to the provincial governments. The new mechanism involved three major components: a transfer of tax revenues from the federal government to the provinces; an equalization formula designed to address inequities in provincial revenues; and a guarantee that the federal transfers would fund no less than half of the operating expenses of the university sector. The federal government would no longer be in the business of providing direct operating grants to universities.

The federal government's role in financing the expansion of postsecondary education was not limited to operating grant support. The government initiated a range of programs dealing with capital construction, research funding, and cooperative housing and residence construction. In 1964, the federal government announced the creation of the Canada Student Loans Program, a federal program that—in typical Canadian fashion—was administered by the provinces and integrated with provincial loan and grant programs.

The 1966 federal funding arrangement reinforced the central role of the provinces in terms of regulating and funding postsecondary education, but most provinces had already taken steps to plan for the expansion and assumed core responsibilities for coordinating growth. In some respects, each province developed its own unique plan for expansion in response to local needs, but there were at least three common elements: the

movement toward a secular, public university sector; the creation of new institutions and institutional forms; and the development of new coordinating arrangements and structures.

Each of the four western provincial universities had been assigned a public monopoly over the ability to grant university degrees, and this notion of controlling degree-granting authority—while providing public support only to secular institutions—also underscored provincial policy in other jurisdictions (Skolnik, 1987). When Newfoundland joined Canada, becoming the tenth province in 1949, the new provincial government transformed Memorial College into Memorial University—a provincial, secular university with a bicameral governance structure and monopoly authority, similar to the “one university” concept in the west. In 1868, Ontario’s government determined that public grants would only be provided to secular universities, and many denominational universities began to reconsider their future direction in the new era of expansion, significant government grants, and increasing demand. The vast majority of these institutions decided to either become independent secular universities or enter into federation or affiliation arrangements with public universities, in order to retain their religious ethos in the broader scholarly community of a secular institution. The major reforms in Quebec shifted the role of the Roman Catholic Church and repositioned the state as the major entity responsible for Francophone education and higher education. By the early 1970s, Canadian universities were essentially viewed and defined as public, secular institutions.

Provincial governments also took steps to review the current state of higher education and consider how best to meet the economic, social, and human resource needs of the jurisdiction. Managing and coordinating the growth of higher education became the subject of provincial task forces that offered advice on the development of new coordinating structures and institutions. It was quite clear that existing universities needed to expand, but most provinces also decided to create new universities, and all ten provinces took steps to create new types of postsecondary institutions.

The “one university” concept was gradually abandoned in all four western provinces, either through the granting of independent university status to what had previously been campuses of colleges of the provincial university, or through the creation of completely new institutions. In British Columbia, Victoria College became the independent University of Victoria, and the new Simon Fraser University was created in 1963. The Calgary campus of the University of Alberta became the independent University of Calgary in 1966, while the provincial government created the University of Lethbridge and (in 1970) Athabasca University, specializing in distance education and open-access programming. Two colleges of the University of Manitoba (Brandon and United) were transformed into Brandon University and the University of Winnipeg in 1967. The Regina campus of the University of Saskatchewan became the University of Regina in 1974.

The exact opposite situation occurred in Prince Edward Island. Faced with two universities that refused to coordinate activities, the government decided to merge them to create the new University of Prince Edward Island. PEI and Newfoundland would become the only provinces to have a single, provincial university.

The expansion in Ontario included the creation of new institutions (such as Brock, Trent, and York), the transformation of denominational universities into secular, publicly supported institutions, and a shift in the legal status and mission of former government institutes or colleges (for example, the creation of the University of Guelph). Following the recommendations of the Deutsch Commission, New Brunswick began to consolidate its activities into one French-language university (the Université de Moncton) and two English-language universities (the University of New Brunswick and Mount Allison University).

By far the most dramatic reforms took place in the province of Quebec, largely because the reorganization of higher education was viewed as an important component of a much broader socio-political transformation frequently referred to as the “quiet revolution.” The rise of nationalist sentiment, the growing recognition of social and economic inequities based on language, and the shift in the role of the Roman Catholic Church within Quebec society combined to underscore the need for significant change. The responsibility for redesigning Quebec’s entire educational system was assigned to the Royal Commission of Inquiry on Education, chaired by Alphonse Parent, and the recommendations of the Parent Commission were revolutionary in scope and impact (Henchey & Burgess, 1987). The entire school curriculum was redesigned to replace the former classical curriculum, and secondary school would end at Grade 11. Following secondary school, students moved to one of the new *colleges d’enseignement general et professionnel* (CEGEPs). Created in 1967, these new colleges offered two-year pre-university programs as well as vocational education programs. Students could then apply to attend one of the existing universities or—beginning in 1968—one of the campuses of the new Université de Québec system. Until the University of Toronto moved to a tri-campus model in 2002, Quebec was Canada’s only multi-campus university system with both campus-level and system-level governance arrangements.

The CEGEP was not the only non-degree institutional form to emerge as a function of provincial government expansion of higher education. The need to increase access and address the new postsecondary training and educational requirements of industry had been highlighted in every provincial review and task force. The common solution was to create a new type of institution to complement the existing university structure, though the mission and structure of these institutions varied substantially by province. In British Columbia and Alberta, the new community colleges were designed to increase access to university education (by offering university transfer programs) as well as offer a wide range of technical/vocational diploma programs. In Ontario, the new Colleges of Applied Arts and Technology did not have a transfer function, but would offer a comprehensive range of vocation-oriented programs, including diploma programs ranging up to three years in length. Generally speaking, all of these new colleges and institutes were high-access institutions subject to higher levels of government regulation than their university peers; in fact, the New Brunswick college system was essentially an office of the provincial ministry.

The final common component of provincial reforms involved the emergence of provincial coordinating structures. The new colleges were generally coordinated and regulated by government, but there was a perceived need to find a mechanism to

coordinate the activities of the university sector while respecting institutional autonomy. Every province except Newfoundland eventually experimented with a coordinating body or commission for the university sector, frequently named after (but seldom resembling) the University Grants Committee of the United Kingdom. In the three maritime provinces (New Brunswick, Nova Scotia, and Prince Edward Island) these provincial bodies were later replaced by the regional Maritime Provinces Higher Education Commission, which provided advice to all three provincial governments. These intermediary bodies were later abandoned in Alberta, British Columbia, Saskatchewan, and, more recently, Ontario. Two provinces now have councils that provide the government with advice on both the university and non-university sectors: the Newfoundland and Labrador Council on Higher Education, created in 1992, and Manitoba's university coordinating body, which was transformed into a postsecondary council in 1996.

By the early 1970s, Canada had made the transition from elite to mass higher education. Both levels of government were involved in funding what was now largely regarded as a public higher education system: the federal government, through transfers to the provinces and through the direct funding of research, skills training, and a range of other targeted initiatives; and the provincial governments, through the provision of operating and capital support. New institutional types—commonly referred to by the umbrella term “community colleges”—had been created in every province, with the goal of increasing access and addressing the new educational needs of an increasingly diverse and specialized labor force. While the features and functions of these colleges varied dramatically by province, Canadian universities had become far more homogeneous during this period. All Canadian universities were now publicly funded, secular degree-granting institutions, with missions that included both teaching and research.

1970 to 2004: From Structural Stability to Major Reforms

The expansion of higher education did not end with the reforms of the 1960s; in fact, enrollment in postsecondary education continued to increase until the mid-1990s, although the political and economic environment shifted dramatically. The recession of the early 1970s led to a significant decline in provincial tax revenues, and governments at all levels began to look for ways of moderating—if not reducing—expenditures. There were no wholesale moves to restructure or substantively reform higher education in any Canadian province during the next two decades, and in many respects the approach of all governments was to simply stabilize or reduce the level of per-capita student grants in order to create greater efficiency, encourage increased levels of accessibility, and provide new targeted funds to encourage institutions to address particular priorities. The basic system-level structure of Canadian higher education remained relatively stable between (roughly) 1970 and 1990.

The new economic environment meant that universities could no longer count on huge annual grant increases, and they began to look for ways of reducing costs, furthering efficiencies, or increasing income. Given that faculty salaries represented by far the largest component of university expenditures, faculty began to look for ways of

protecting their rights and working conditions. Both faculty and students had successfully advocated for reforms in university governance arrangements during the 1960s, and most governing boards included both faculty and student representation (Jones & Skolnik, 1997). Faculty senates had been expanded to include student members, and the senate and board meetings at most universities were more open and transparent (Jones, 2002). While these changes had created more participatory governance processes, they did little to reassure faculty in the face of government cuts. Thus, beginning in the early 1970s, a number of faculty associations turned to unionization and collective bargaining as a means of protecting faculty interests. As Tudivor has noted, “by the mid-1980s, the landscape was transformed, with over 50% of faculty unionized on 29 campuses” (1999, p. 85). There was a second, minor wave of unionization in the 1990s. Today, even for those institutions where there is no faculty union, there is usually a contractual agreement between the faculty association and the university governing the salary negotiation process and the procedures associated with appointments, tenure, and promotion.

Enrollment in Canada’s community colleges continued to expand, and many colleges began to be actively engaged in the provision of specialized training programs sponsored by the Government of Canada—through targeted skills training initiatives—or by private industry. While the colleges in some provinces had an explicit university transfer function, in others—such as Manitoba and Ontario—questions began to emerge concerning the appropriate relationship between the college and university sectors. In the case of Ontario, the two sectors were essentially distinct, with little articulation at either the system or institutional levels.

Given the changing economic climate, the federal government—like its provincial counterparts—searched for new ways of controlling expenditures on higher education. Over time, the 1966–67 arrangement had lost its political luster. The provinces continued to be concerned that the grants were essentially “conditional,” since they were linked to provincial expenditures. From the federal government’s perspective, the 50% guarantee—the condition that concerned the provinces—also meant that the federal government’s level of expenditures was increasing at a rate determined by the other level of government.

A new fiscal arrangement was introduced in 1976–77. Established Programs Financing (EPF) linked a number of federal-provincial funding arrangements—including health care and postsecondary education—into a transfer envelope allocated on the basis of a new formula. Tax point transfers to the provinces were increased, and cash transfers were based on a population-based formula including an equalization component. Transfers for higher education under EPF were unconditional. Funds were transferred to the provinces, which had complete discretion in determining how these funds would be spent.

Arguing about the terms of the EPF arrangements soon became a major Canadian political pastime (Cameron, 1991). Within a few years, the Government of Canada began to argue that transfer payments were being spent on roads and bridges when they should be directed to postsecondary education, an argument disputed by the provinces and logically facile given the “unconditional” nature of the EPF arrangement. By the early 1980s, the argument was inverted, and provinces began to complain that EPF

transfers no longer provided the level of support needed given the rising costs of health care and postsecondary education.

Under the (Progressive Conservative) Mulroney government of the late 1980s, the federal government began to unilaterally tinker with the EPF formula. Cash transfers to the provinces were reduced in order to help reduce the federal deficit. The government also reduced expenditures in a number of targeted areas with implications for higher education, including the budgets of the research councils.

It was the (Liberal) Chretien government, however, that essentially transformed the financial arrangements underscoring Canadian higher education through two types of initiatives, roughly five years apart. In its 1995 budget, the Government of Canada combined EPF with the Canada Assistance Plan to create a new, expanded transfer envelope called the Canada Health and Social Transfer. It then slashed the level of support associated with the combined programs. As David Cameron noted, “rather than the 4.4% cut claimed by the Minister of Finance, the real cut amounted to some 37%” (1997, p. 27).

This sudden, dramatic decrease in a critical source of university funding had significant implications. Many of the provinces were already reducing grants to postsecondary education as a function of their own deficit reduction programs, and the sudden decrease in federal transfers simply exacerbated the situation. The second implication is that in many respects the 1995 budget signaled the political death of federal transfers as a major source of support for postsecondary education. The Canada Health and Social Transfer program continues to exist, but there is little doubt that Canadian voters have been far more concerned with the need to adequately support the increasing costs of health care than they have been with the level of cuts to postsecondary education. The current political discussion of provincial transfers focuses almost exclusively on health care.

The second type of federal initiative that had enormous implications for postsecondary education involved the emergence of a range of new programs focusing on research and development. The federal government had long been the major funding source for university-based research, primarily through the work of three granting councils that administered peer-reviewed research funding programs as well as graduate and postdoctoral fellowship programs. Given the federal government’s contribution to institutional operating support under EPF, these councils only supported the direct costs of research projects. The overhead or indirect costs associated with research, including physical infrastructure, the costs associated with administering the grants, and the salaries of principal investigators were never supported. In other words, federal funding mechanisms assumed that universities were obtaining the necessary overhead support through provincial transfers.

Some provinces also operated research funding mechanisms, though only Quebec operated a peer review-based granting council. Ontario operated a matching grant program to encourage university-industry cooperative research ventures, and devoted considerable resources to supporting a number of provincial Centers of Excellence—research centers linked to both universities and industry focusing on areas of study viewed as being of strategic importance to the provincial economy. These programs were not insignificant, but the federal government continued to play the key role in research funding.

Under the Mulroney (Conservative) Government, funds to the research councils had been reduced, but new programs focusing on strengthening the linkages between university and industry-based research were initiated. While each of the granting councils continued to support curiosity-based research, new “strategic” granting programs were created. The Government also created a federal Centers of Excellence program designed to link researchers from different universities in different regions with related industries.

Investing in Canada’s research and development infrastructure was a priority for the Chretien (Liberal) government, and while its attention was initially focused on deficit reduction, the movement toward a balanced budget (and eventually a surplus) provided a political foundation for a series of initiatives designed to address Canada’s poor record of national expenditures on research and development compared with other OECD nations (Wolfe, 2002). The largest of these initiatives was the Canada Foundation for Innovation, which provided massive infrastructure funding for research programs linked to private sector support.

A second major initiative was the creation of the Canada Research Chairs program in 2000. Allocated largely on the basis of prior institutional success in research council competitions, the program provided salary and some infrastructure support for the creation of 2,000 new research chairs at Canadian universities.

The Canada Research Chairs program was designed to strengthen the research capacity of Canadian universities, but it was also a response to growing concerns about a possible “brain drain” to the United States. At the apex of the dot.com phenomenon, stories of Canadian information technology professionals moving to high paying positions south of the border were commonly featured in the Canadian press. Statistics Canada studies noted that, in reality, only a small trickle of well-educated Canadians migrated to the United States, while Canada actually attracted a much larger number of knowledge workers from other countries (Zhao, Drew, & Murray, 2000). In terms of the professoriate, there was little doubt that major American research universities were able to offer salary packages beyond the means of their Canadian counterparts. With this in mind, the Canada Research Chairs initiative was designed to help universities attract leading international scholars and to retain leading Canadian professors.

The federal government also increased the budgets of the three granting councils. More recently, the government has taken steps toward providing institutions with support for the overhead costs associated with government-funded research.

These initiatives have signaled a dramatic shift in the role of the Government of Canada, and they have enormous implications for Canadian higher education. While Slaughter and Leslie (1997) suggested that Canada was the “odd country out” in terms of their analysis of “academic capitalism,” the recent trends of decreasing government operating support, combined with new investments targeted toward research as a means of furthering economic development, suggest that Canadian higher education policy is now paralleling trends in some other Anglo-Saxon jurisdictions. While there has never been an explicit institutional hierarchy within the Canadian university sector, these new initiatives are undoubtedly increasing the level of diversity within the sector based on research intensity. Finally, the reduction in provincial transfers and increased new support focusing on research in targeted areas has important regional implications;

generally speaking, universities in the Atlantic and prairie provinces have not been major beneficiaries.

There have always been differences by province in how higher education is funded, coordinated and regulated (Jones, 1997), and the mammoth decrease in unconditional federal transfers to the provinces simply exacerbated these differences. Neo-liberal government policies in Alberta, Ontario and, most recently, British Columbia involved substantive increases in tuition, decreases in operating grant support, the creation of performance funding mechanisms in Alberta and Ontario (though these mechanisms are associated with only a minor component of total operating grants), and initiatives designed to strengthen market-like forces within the higher education sector and increase linkages between institutions of higher education and private industry (cf. Jones & Young, 2003; Young, 2002). All three provinces have also expanded the range of institutions that can offer degrees, including community colleges (which in Ontario and Alberta now have the authority to offer applied degree programs), specialized colleges (such as the Ontario College of Art and Design and the Emily Carr Institute of Art and Design), and, subject to provincial review, private universities. The traditional binary divisions between the university and non-university sector are blurring. At the same time, other provinces—such as Quebec and Manitoba—have maintained low tuition policies as a mechanism for encouraging accessibility, and have not pursued neo-liberal reform agendas. Quebec CEGEPs do not charge tuition, and Quebec universities have quite modest fees.

Substantive tuition increases in some provinces, especially British Columbia, Ontario, and Nova Scotia, have raised important questions concerning the degree to which higher education in Canada can continue to be viewed as a “public” entity. Concerns about the impact of tuition on accessibility and the level of student debt led to a number of federal government initiatives, including the creation of the Canada Millennium Scholarship Foundation (which provides modest grants to supplement what is largely a loan-based Canadian student financial assistance system) and several tax/grant incentives designed to encourage families to save for postsecondary education. The government has recently announced that maximum loan levels under the Canada Student Loans program will be increased and that a new initiative will be available to support students from low-income family backgrounds. In general terms, however, Canada’s student financial assistance arrangements have not been reformed to address rising tuition fees and student maintenance costs, and they involve a far-from-transparent labyrinth of federal, provincial and institutional support mechanisms.

Higher Education in Canada: Issues of Balance

In many respects, higher education in Canada is in transition, and there are far more questions than answers concerning the impact of recent policy reforms and the future direction of the increasingly complex web of institutions, federal and provincial government policy arrangements, and coordinating structures that constitute postsecondary education in this country. The transition from elite to mass higher education in Canada, in contrast to the American experience, was largely accomplished through the creation of a network of relatively homogeneous, secular universities and new non-university,

government-regulated institutions that varied dramatically by province in terms of their form and mandate (Skolnik, 1986). The homogeneity of the Canadian university sector can no longer be assumed, in part because major sources of new government funding favor research intensive institutions that have the capacity to focus on research activities viewed as strategic to the knowledge economy, but also because of the increasing emergence and recognition of new degree-granting institutions. This increasing diversity of arrangements has led to the development of an entirely new classification system for Canadian postsecondary institutions, and there is little doubt that this new way of counting and classifying institutions will have an impact on future discussions and policy arrangements.

Canadian higher education continues to be defined in part by the highest levels of participation in the world—participation rates that might seem surprising given the public policy emphasis on supply rather than the demand side of the market equation—and decreasing levels of per-student operating support. Enrollment in Canada's universities and colleges increased steadily from 1945 until the mid-1990s, leveled off, and then began to increase again during the early years of the new millennium. Depending on one's point of reference, Canada's publicly supported universities and colleges can be regarded as either increasingly efficient or underfunded in comparison with their American counterparts, though it is important to note that their degrees and diplomas are widely accepted in international terms, and a number of Canadian universities are frequently included in rankings of the best institutions in the world. High participation rates do not, of course, imply equality of access. Canada's record of addressing the postsecondary educational needs of First Nations populations has been abysmal, and increasing tuition fees in some jurisdictions without significant reforms to Canada's student financial assistance mechanisms are raising increasing concerns about accessibility for low-income families and other traditionally under-represented groups.

It is important to recognize that there has never been a Canadian "system" of higher education, and even the provinces have seldom developed the coordinating arrangements and planning mechanisms that one would normally associate with a "system" of postsecondary education. To some extent, Canada's decentralized approach can be explained by the unique historical development of the political federation, but it is also a function of provincial government policy approaches that have favored steering autonomous universities through targeted funding and regulation rather than more heavy-handed restructuring and reform. Canada's universities continue to have considerable autonomy compared with many other jurisdictions (Anderson & Johnson, 1998), but it is an autonomy that is exercised by an increasingly complex institutional navigation through market-like policy approaches, private sector linkages, and a range of frequently uncoordinated federal and provincial government initiatives. Decentralization has also provided the foundation for the increasing diversity of institutions in what had previously been viewed as the non-university sector, including degree-granting colleges, public colleges that continue to focus on providing highly accessible technical/vocational programs, and a range of private providers. To what extent can this decentralized, autonomous approach be sustained in the face of increasing institutional diversity and differentiation without some form of national accreditation mechanism?

Perhaps the most important questions facing higher education involve issues of balance in the face of increasing—and often competing—demands. Regardless of how one defines the term, Canadian higher education is less “public” than it was two decades ago, and there is little agreement on the appropriate balance between public and private interests or objectives. The decline in operating support combined with new, massive investments in research and development may impact the balance between teaching and research within universities, and the fact that most of this research investment focuses on only a subset of disciplines and fields may have an impact on everything from faculty renewal and faculty workloads (by discipline) to the role of Canadian universities in the broader critical discussion of Canadian society. Canadian higher education is in transition, but it is a transition in which there is little clarity in terms of the overall direction or objectives, little analysis of what may be lost as a function of reform, and little sense of how the various components of this increasingly complex puzzle fit or do not fit together.

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CHILE

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Chile has not escaped the multiple pressures facing higher education across the world (Brunner, 2003). All countries face the urgent task of refocusing higher education through more flexible and adaptive institutions as a way of maintaining their social and educational relevance. Moreover, for developing countries, present choices require that higher education address an historic deficit—ensuring greater equity of access and opportunity—as increasing numbers of students achieve satisfactory primary and secondary education levels, thus leading to increasing demand among qualified applicants to higher education.

Any analysis of the response of Chile's higher education to the historic deficit and future needs must be broadened to include the history, policy and approaches of the institutions themselves. When compared to many European countries, for example, Chile's higher educational institutions are strongly autonomous and the role of the government consequently weaker. Indeed, there is no overall planning for the sector and government policy is limited to specific financial support (and, increasingly, persuasion). There is, however, a growing opinion that higher educational institutions play a key role in supporting greater economic competitiveness, crucial for Chile's open economy, and this recognition is creating a consensus about the value and importance of higher education among government, economic groups and the public at large.

Chile's response is shaped by the move, over the last 30 years, from a predominantly state-controlled to a market system in providing higher education (Brunner, 1997). Costs and funding have become the predominant issues, together with two characteristic market issues—economies of scale and regulation. Higher education in Chile today is shaped less by relations with the government than by interactions between the component institutions. Even so, there is a healthy recognition among policymakers and university leaders that educational excellence, based on international norms, must be a principal goal for higher education. For a market higher education system, where the units are autonomous, quality presents a formidable challenge. As government funding is limited, both as a matter of economics and policy, public policy relies on competition to provide these changes. Hence, the challenge of building a solid consensus about the value of higher education and its future role goes hand in hand with providing greater

opportunities to overcome the historic deficit and adjusting to competition for students and funds by higher education institutions.

Current Structure and Rules

The present structure of higher education in Chile consists of three types of institutions: universities, professional institutes (*institutos profesionales* or IPs), and technical training centers (*centros de formación técnica* or CFTs).¹ Universities can be subdivided into public and private; the former are supported by state funds and belong to the Council of University Rectors (CRU),² while the others are private corporations and do not have access to state institutional funding. Although the institutional map is unlikely to change in the next few years, the size and scope of the different components—and the relationship of one to the other—is altering quickly.

The current institutional pattern is provided in Table 1. Although university, professional and technical education implies a hierarchy of knowledge and prestige, there are important differences within (and increasingly between) the components, and the table illustrates three such features. First, the distinction between the CRU and private universities has a profound impact on the overall structure—far beyond ownership—principally because of funding. In fact, universities work under two general regimes: public (belonging to the CRU) and private universities. Those that belong to the CRU are described as “public” because the state guarantees part of their funding. However, within the CRU there are both old and new state and private universities, notably those of the Catholic Church.³ In contrast, private universities are corporations or foundations constituted under civil law as nonprofit institutions. Second, branches or local campuses reflect the reach of the different components across the regions. And finally, an important distinction comes from the way that higher education is evolving, with more

Table 1. Higher Education Institutions: Number and Branch Campuses, 2003

| Institutions | | Number | Branch | |
|--------------|---------|----------------|--------|-----|
| Universities | CRU | Traditional | 8 | 30 |
| | | “Derived”* | 17 | 101 |
| | Private | Autonomous | 24 | 87 |
| | | Non-autonomous | 14 | 20 |
| IP | | 52 | 111 | |
| CFT | | 113 | 183 | |
| Total | | 228 | 532 | |

Note: *refers to universities which were originally branch campuses of the eight universities that made up the system to 1980 and from which they evolved or “derived.”

Source: Ministerio de Educación, Compendio de Educación Superior, 2004. <http://www.mineduc.cl> and Comisión Nacional de Acreditación de Pregrado (2003).

and more institutions achieving autonomy and greater authority to make independent decisions.

While there are principles common to all higher education institutions, the differences (enshrined in law) determine behavior. The differences are in terms of the degree of autonomy, including legal rights and obligations; what can be taught; and how the different components are financed.

- *Autonomy*: All CRUs are autonomous by law, while private universities and IPs earn their autonomy after a period of 6 to 11 years of supervision by the Higher Education Council. CFTs are established under the supervision of the Ministry of Education and become autonomous by ministerial decision once the legal requirements are met.
- *Degree subjects*: Chile distinguishes between professional and technical qualifications and academic degrees. Academic degrees—*licenciaturas* and higher degrees such as the M.A. and Ph.D.—are reserved only for universities, as are 17 professional titles that require a *licenciatura*.⁴ IPs have the right to grant professional titles excluded from the reserve list and that do not require a *licenciatura*. And CFTs provide short (up to 3 years) technical certificate courses in vocational areas.
- *Financial support*: Whereas CRU universities receive institutional support from the government, private universities, IPs and CFTs have to rely on their own resources—principally fees, services and, with the exception of CFTs, donations. The government's principal transfer payment is the Direct Financial Contribution (AFD) delivered to the CRU, with 5% reserved as a competitive fund for excellence between members. The government also distributes funds according to the number of good students that higher education institutions can attract,⁵ known as the Indirect Financial Contribution (AFI). Other funds, notably for physical infrastructure and student loans, are reserved for the 25 CRU members.

Expanding Dimensions of the System

Between 1990 and 2004, higher education enrollment increased from 249,000 to 567,000 undergraduates, consistent with growth at the secondary education level. From 1980 to 2003, the percentage of the population between 18 and 24 years participating in higher education increased fourfold (see Table 2).

The number of university graduates has been growing accordingly, from 18,000 to 58,000 between 1980 and 2003. The total stock of professional and technical personnel in 2002 has been estimated at 522,000, of which around 17% received their degree after 1995, 20% are less than 29 years old, and 42% are between 25 and 34.

Policy Inheritance

Chile's higher education landscape is a combination of continuity and change. Continuity rests principally with the key role exercised by the eight "traditional" universities—those established during the 19th century (Universidad de Chile and Universidad Católica de Chile) and the other six established before 1960.⁶ Born of three different

Table 2. Higher Education: Total Enrollment, 1980–2003

| Institutions | 1980 | 1985 | 1990 | 1995 | 2000 | 2003 |
|---|---------|---------|---------|---------|---------|---------|
| Universities | 118,798 | 118,079 | 131,702 | 231,227 | 319,089 | 403,370 |
| CRU | | 113,128 | 112,193 | 161,850 | 215,284 | 246,750 |
| Private | | 4,951 | 19,509 | 69,377 | 103,805 | 156,620 |
| Professional Institutes | | 32,636 | 40,006 | 40,980 | 79,904 | 101,674 |
| Public | | 18,071 | 6,472 | 0 | 0 | 0 |
| Private | | 14,565 | 33,534 | 40,980 | 79,904 | 101,674 |
| Technical Education Centers | | 50,425 | 77,774 | 72,735 | 53,184 | 62,070 |
| Total Institutions | 118,798 | 201,140 | 249,482 | 344,942 | 452,177 | 567,114 |
| Participation rate (18–24 year-olds) | 7.4% | 11.5%* | 14.2% | 19.7% | 25.7% | 30.5% |

Source: Ministerio de Educación, Compendio de Educación Superior, 2004. <http://www.mineduc.cl>.

(*) estimate.

trends—the state’s commitment to professional education, knowledge as a civilizing instrument, and later, engineering and technology; the Catholic Church’s rivalry with the state and concern about moral values in education; and provincial universities, founded by local elites to meet local economic and social demands—by 1960 these eight universities were all recognized by the state and thus were publicly funded, did not charge fees, and are estimated to have enrolled around 20,000 students in 1957, of which around 35–40% were female. Their main task was to educate professionals, although there was an incipient commitment to research. Their profound influence and continued importance is all the more remarkable because of three radical policy processes in the second half of the 20th century: the student-led reform process of 1967; the re-organization of higher education by the military regime (1973–1990); and the recent emergence of a higher education market.

The historic inheritance has inspired policy and continues to determine present choices and influence future paths. The sequence—tradition, control and market—is useful shorthand for understanding the development of Chile’s contemporary higher education system.

During the period 1967–1973, Chilean universities underwent an intense period of reforms, first triggered from within by the student movement, and later conditioned from outside by the political process that deeply divided society between supporters and opponents of President Allende’s socialist government (1970–73). The achievements of the reform period were not trivial. Student enrollment grew to 146,000; the number of courses at the graduate, undergraduate and extension levels was expanded; and the educational role of universities, in terms of their staffing and curriculum, was redefined. For the first time, an academic profession emerged and research as a modern enterprise was established in some of the oldest universities. Although in many aspects the rhetoric

did not match achievements, discussion took place in an atmosphere of pluralism, which ended with the 1973 military coup.

The military brought with them a deep resentment of student and faculty politics and a general suspicion of higher education (Hunneus, 2002, p. 42). Even though most rectors had been critical of the UP government, the *junta* appointed retired and serving officers to these positions, who began the process of vetting and dismissing staff for political views, closing departments and research centers (particularly associated with the social sciences), and ending any possible discussion that did not support their position.

Until 1980, the military government's higher educational policy was limited to control and repression. But starting in 1980, a profound and far-reaching reform was launched with the aim of creating a higher education market with public and private providers, changing the funding structure of state-supported universities, and encouraging the differentiation of the higher education system into three different institutional levels (i.e., universities, IPs, and CFTs).

Policies During the 1990s

Chile's current higher education system is a modified product of the military government's reform of 1980. In fact, with the return of democracy in 1990, higher education's status quo was widely recognized as unsatisfactory. Teachers and staff were demoralized, financial resources had been declining, the CRU and research were underfunded, and too few middle class and lower income students had opportunities to obtain degrees. A higher education policy was urgently needed. In response, the government took a number of key decisions: first, a commitment was made to concentrate on educational equity to benefit the majority of Chileans—in other words, primary and secondary education—which was reflected in the distribution of public funds;⁷ second, the government sought to build an inclusive consensus about the value of higher education, and appeal to the institutions, researchers and staff; and third, a decision was made to use and modify the inherited institutional framework.

A key step in this reform process was the formation in 1990 of a commission (*Comisión de Estudio de la Educación Superior*, Higher Education Research Commission), 1990) with a broad representative membership and which reported to the President in March 1991. Their report made six policy recommendations: consolidate the institutional base of higher education; develop teaching and student quality; assure the system's equity and quality; support scientific research and cultural activities; increase and diversify higher education finance; and improve the legislative framework.

The government has used three general approaches to implement these recommendations and adapt them to changing conditions: first, ensuring that an independent body—the Higher Education Council (*Consejo Superior de Educación*)—uses clear and public criteria for granting recognition and autonomy to private universities and IPs; second, using rational self-interest of both public and private institutions to improve quality by a formal (although voluntary) process of accreditation,⁸ and making

Table 3. Higher Education: Public Financial Support, 1990–2003 (thousands of millions of 2003 pesos)

| | 1990 | 1995 | 1996 | 2000 | 2001 | 2002 | 2003 |
|--------------------------------------|-------|-------|-------|----------|-------|-------|-------|
| | | | | CRU only | | | |
| Direct Public Funds (AFD) | 60.6 | 85.7 | 89.9 | 100.4 | 101.7 | 105.3 | 105.3 |
| Institutional Development Fund | — | 9.2 | 13.7 | 24.6 | 26.7 | 29.6 | 34.2 |
| Student Support | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| Student Loan Fund | 27.7 | 19.0 | 22.3 | 41.9 | 43.6 | 47.3 | 49.2 |
| Scholarship Funds | — | 13.2 | 13.1 | 18.8 | 20.5 | 21.0 | 20.6 |
| Total Student Support | 27.7 | 32.2 | 35.4 | 60.7 | 64.1 | 68.3 | 69.8 |
| Other | — | 8.5 | 7.3 | 6.1 | 6.5 | 6.6 | 6.2 |
| Total to CRU | 88.3 | 135.6 | 146.3 | 191.8 | 199.0 | 209.8 | 215.5 |
| | | | | Mixed | | | |
| Indirect Public Support (AFI) | 19.6 | 19.7 | 19.6 | 17.5 | 17.4 | 17.5 | 17.0 |
| University Teachers Instruction Fund | — | — | — | 2.4 | 3.1 | 0.3 | 0 |
| New Millennium Scholarships | — | — | — | — | — | — | 2.4 |
| Science Research Council (CONICYT) | 10.4 | 24.9 | 30.3 | 34.1 | 37.0 | 41.2 | 41.0 |
| Subtotal Mixed Funds | 30.0 | 44.6 | 49.9 | 54.0 | 57.5 | 59.0 | 60.4 |
| Subtotal—State Funds (CRU & Mixed) | 118.3 | 180.2 | 196.2 | 245.8 | 256.5 | 268.8 | 275.9 |
| Donations (50% tax support) | 2.4 | 7.1 | 8.9 | 10.2 | 12.9 | 12.3 | 12.0 |
| Total | 120.7 | 187.3 | 205.1 | 256.0 | 269.4 | 281.1 | 287.9 |

Source: Adapted from González (2004, p. 101).

the entrance examination more consistent with the current secondary school curriculum and a broader range of learning skills; and third, increasing the amount, mechanisms and scope of financial support for higher education.

Finance is one of the government's strongest weapons and yet, as private higher education continues to grow, there are bound to be continued calls for a more equitable distribution of resources between components. For many observers, the difference between public and private universities is less their legal status than their receipt of government funds. As Table 3 shows, 74.6% of all public funds went exclusively to the CRU in 1990, a figure that grew to 78% in 2003. Mixed funds are open to both public and private institutions, and donations are important for both.⁹

In sum, the democratic government's success has been, ironically, to develop higher education using (and gradually changing) the rules inherited from the military government.

Student Demand and Access

Contemporary higher education reflects both Chile's economic dynamism and deep social changes—its policy inheritance—of the last 30 years. These features fuel one another as the economy demands more knowledge-based skills, more students complete secondary education and smaller families have the means to send their children to higher education institutions. Illiteracy is minimal. Chileans are spending more time at school and the education system provides more services in more parts of the country than ever before. The 2002 Census reports that 2.3 million respondents have attended higher education institutions (21% of the population aged 15 or over), compared to 1.1 million (11.4%) in 1992. When analyzed by age, younger cohorts are not only more likely to have completed secondary education but to have attended one of the three types of higher education institutions.

While Chile has shown impressive economic growth, there is concern that it cannot be sustained without better education and more relevant training. Although there are differences in approach, the broad consensus among policymakers, political parties and educators across the spectrum is that there must be greater investment in human capital for Chile to maintain competitiveness. The labor force changes show increasing educational input. In turn, the expansion of student numbers demonstrates a rational appreciation of Chile's current labor market. On average, university educated and salaried incomes were double those completing secondary technical education.

Other estimates suggest that the university premium is higher, with the average employed university graduate earning 3.68 times more than those completing secondary education.¹⁰ These private advantages are a main justification for Chile's policy requiring students and their families to pay greater proportions of higher education's costs.¹¹ Moreover, the private rates of return for completed university education are estimated to have grown from 18% to 21% between 1980 and the 1990s.¹² In consequence, higher education credentials have maintained their value, and demand for university education (in particular) has increased. Projections, supported by the Ministry of Education, foresee no decrease in the demand for professionals and technical occupations in Chile.¹³

The entrance examination's importance to student and higher education institutions cannot be overestimated; not only does it determine the university and profession that students might wish to follow but the possibility of financial support. And the exam is equally important for the university, for if a student is ranked among the top 27,500 achievers, the AFI system provides funding and prestige. The entrance examination results thus provide information regarding university segmentation, competitive financing and the quality of secondary schools. The examination is given in December and the results valid for that year's entrance only, so as a consequence, Chile has a thriving pre-university industry of aids, tutors and private preparatory schools and agencies.

Around 70% of students completing secondary education sign up for the entrance examination PAA in the same year, and slightly fewer present themselves for examination. Those that do not take it immediately are likely to take it later as, in recent years, it has been a characteristic that 30% of the total examinees are candidates from

Table 4. Higher Education: Distribution of Indirect Student Support (AFI)

| Institution | 1990 | 1996 | 2000 | 2001 | 2002 | 2003 |
|------------------------------------|-------------|------------|------------|------------|------------|------------|
| Total (thousands of current pesos) | 7,326,000 | 15,006,783 | 16,106,987 | 16,509,662 | 17,021,463 | 17,021,462 |
| | Percentages | | | | | |
| Universities | 92.7 | 98.8 | 99.2 | 99.1 | 99.2 | 99.4 |
| CRU | 84.1 | 86.9 | 85.5 | 84.0 | 84.5 | 82.4 |
| Private | 8.7 | 11.9 | 13.7 | 15.1 | 14.8 | 17.0 |
| Professional Institutes | 6.7 | 0.9 | 0.6 | 0.8 | 0.6 | 0.5 |
| With public support | 3.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Private | 2.9 | 0.9 | 0.6 | 0.8 | 0.6 | 0.5 |
| CFTs | 0.6 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Institutions with AFD | 87.8 | 86.9 | 85.5 | 84.0 | 84.5 | 82.4 |
| Institutions without AFD | 12.2 | 13.1 | 14.5 | 16.0 | 15.5 | 17.6 |

Source: Ministerio de Educación, Compendio de Educación Superior. <http://www.mineduc.cl>.

earlier years. Students must obtain at least 450 points to enter a CRU university and 475 to be eligible for a student loan distributed on a socioeconomic needs basis. The ability to attract good students has financial benefits for higher education institutions and increases their reputation. A university, IP or CFT that offers a place to one of the top 27,500 students, ranked by their test scores, receives a per capita public contribution (AFI).¹⁴ The scheme, which began operation in 1983, was originally intended to promote competition between higher education institutions by making attractive offers to students. Now, as a result of higher education expansion, AFI students make up both a smaller proportion of the student body—falling from 33% (1990) to 21% (2002) of combined university and IP students—and of the receipts of higher education institutions (see Table 4). Nonetheless, AFI students remain important because of the prestige (as much as income) they bring, and no more so than for private universities.

Student Funding and Equality Issues

Today, student funding (loans and scholarships) makes up an increasing proportion of government support to CRU universities, growing from 17.8% in 1995 to 25.2% in 2003 (see Table 3 above). Student credit is funded by the government but administered by each CRU as a separate university-specific fund. Loans rarely cover more than two-thirds of current tuition costs, and although formally based on specific criteria (family income, location, etc.), the universities have considerable discretion. Repayment (and collection) has proved to be one of the major weaknesses of the system, with average rates estimated to be around 55%. In 1994, a law restricted repayments to 5% of gross income over a 12-year period, but with the result that the government has had to replenish the fund annually. In 2004, the government proposed new, stricter repayment

rules and a new parallel funding scheme, to be managed through the banking system and open to all higher education students, regardless of institution.

Public funding of scholarships and loans (and the balance between both) represent key policy choices about higher education equity and efficiency. This balance is likely to change in favor of loans as enrollment continues to grow. First, the expansion of university education depends mostly on private universities, which now account for around 40% of first-year student enrollment. If scholarships or loans are not made available to potential non-CRU students, many will not attend or be able to continue. Second, the expense of going to a university is increasing as all universities raise fees to meet costs. Third, the government has become increasingly concerned about the management of student loan funds, their replenishment and poor repayment rates. Partial non-repayment is so widespread that the new stricter rules are unlikely to succeed unless university-based administration is replaced.

However, student finance—its coverage and organization—continues to be a key issue for students, higher education and the government. Without scholarships and subsidized loans, access could become restricted for many—if not the majority—of Chile's students and their families. In fact, university enrollment depends on entrance examination scores and capacity to pay. Opportunities and access are unequal because first, entrance examination scores are closely aligned to the type of school attended by the student, and second, funding is dependent on student or family income.

Students attending private secondary schools have a greater probability of scoring high on the exam than pupils from other schools. Students from private non-subsidized schools, on average, score 75 points higher than private subsidized school students, who in turn are 20 points higher than students at subsidized municipal schools. As a result, in 1998, 43% of students of the top 27,500 (AFI) students were from private paid schools, the remainder divided between the subsidized and public municipal schools.

Cost is the second filter of access to higher education, and it is no surprise that higher education is closely associated with the level of family income, as demonstrated in Table 5.

However, the increases in the lower quintiles—although unsatisfactory—should not be overlooked.¹⁵ Indeed, as this table indicates, access to higher education is spreading downward; each household income quintile in 2000 is higher than the level above in 1990. For example, the second quintile in 2000 is higher than the third quintile in 1990, and so on. These trends have been sustained, according to preliminary information for 2003, with encouraging growth in the lowest quintile of household income.

Institutions: Competition and Change

The rapid adjustment of higher education to accommodate an increasing number of students has been a key factor in the overall system's growth. And within higher education, the driving force has been the creation and expansion of private universities, to which the CRUs have responded. The new opportunities are also a function of higher education costs, which differ by place and institution, but are increasingly related to scale.

Table 5. Higher Education by Household Income, 1990, 2000 and 2003 (By quintile and total percent)

| Household Income Quintile | 1990 | 2000 | 2003 | Change 1990–2000 | Change 2000–2003 |
|------------------------------|------|------|-------|---------------------|---------------------|
| I | 4.4% | 9.4% | 14.5% | 5.2% | 5.1% |
| II | 7.8 | 16.2 | 21.2 | 8.4 | 5.0 |
| III | 12.4 | 28.9 | 32.8 | 16.5 | 3.9 |
| Subtotal I–III | 4.9 | 10.9 | 13.7 | 6.0 | 2.8 |
| IV | 21.3 | 43.5 | 46.4 | 22.2 | 2.9 |
| V | 40.2 | 65.6 | 73.7 | 25.4 | 8.1 |
| Subtotal IV–V | 12.3 | 21.8 | 24.0 | 9.5 | 2.2 |
| Total (I–V) | 17.2 | 32.8 | 37.7 | 15.6 | 4.9 |

Source: CASEN surveys; for 2003 preliminary.

Note: Income quintile measured as *ingreso autónomo per capita del hogar*.

The expansion of university enrollment—from 53% of total higher education enrollments in 1990 to 71% in 2003 (see Table 2 above)—has impacted both the CFT and IP, albeit for different reasons.

CFTs are characterized by short technical courses for part-time students,¹⁶ with fees one-half to a third lower than other higher education institutions. Yet CFT education is increasingly an outlier of the national system, with its future as dependent on the job market as educational opportunities. Originally conceived as part of a hierarchical system to train students in specific techniques, many CFTs now teach service skills. Both the proportion and number of enrolled students have declined since the early 1990s. In 1990, there were 161 CFTs; in 2001, only 111. CFT enrollment reached its peak in 1993 with over 83,000 students; enrollment declined to 50,000 in 1997, but has recently seen modest increases, to 62,000 students in 2003.

The CFTs' future depends on finding a stable and appropriate market, which has been difficult to do because of competition, costs and quality. First, there are now alternatives more closely aligned to either employment or technical skills. The new secondary technical curriculum is providing a solid education for employment, while firms have greater say and a tax credit with National Training and Employment Service (SENCE)-sponsored short courses. These, according to one calculation (Pollack, 2003, p. 220), helped train over 620,000 workers in 2000, principally managed through commercial firms. Second, this is a market dominated by a few large CFTs; most are small, with relatively simple infrastructure and scarce investment. As a result, staff tends to be part-time and not well-trained, and this in turn affects the quality of the education offered. The most popular courses—in part because they are cheaper to mount—are not in technology but in administration and commerce, catering to the growing service sector. This bias also reflects recruitment, with over 76% coming from the humanistic/scientific secondary stream (1996). Moreover, some universities have re-entered the short course market, with the encouragement of the government, and are creating their own CFTs. A university-sponsored technical certificate

Table 6. Higher Education by Enrollment and First Year Student Size, 2003

| | HE Total | CRU | PU | PI | CFT |
|---|-----------------|---------|---------|---------|--------|
| Total Enrolled Students | 567,114 | 246,750 | 156,620 | 101,674 | 62,070 |
| % Total by sector | | 43.5% | 27.6% | 17.9% | 10.9% |
| First year | 186,090 | 60,043 | 56,353 | 39,429 | 30,265 |
| % First year by sector | | 32.3% | 30.3% | 21.2% | 16.3% |
| Number of Institutions | 215 | 25 | 36 | 48 | 106 |
| Institutions with enrollment of 10,000+ | | | | | |
| Enrollment (% of Total) | 308,835 (54.5%) | 68.5% | 27.6% | 54.7% | 43.6% |
| First year (% of all First year) | 90,430 (48.6%) | 69.0% | 30.3% | 47.5% | 40.1% |
| Institutions | 19 | 11 | 4 | 2 | 2 |
| Institutions with enrollment of 5,000–9999 | | | | | |
| Enrollment (% of Total) | 111,113 (19.6%) | 22.5% | 31.0% | 6.8% | – |
| First year (% of all First year) | 36,824 (19.8%) | 20.9% | 36.3% | 9.6% | – |
| Institutions | 16 | 8 | 7 | 1 | 0 |
| Institutions with enrollment of 1,000–4,999 | | | | | |
| Enrollment (% of Total) | 111,280 (19.6%) | 9.0% | 31.0% | 27.5% | 19.1% |
| First year (% of all First year) | 41,608 (22.4%) | 10.1% | 29.8% | 19.1% | 17.6% |
| Institutions | 43 | 6 | 19 | 12 | 6 |

Source: Ministerio de Educación, Compendio de Educación Superior, 2004. <http://www.mineduc.cl>

offers better facilities and greater prestige. The dual challenges of costs and quality have increased competition for students between CFTs and among higher education institutions.

Professional institutes (*institutos profesionales*, or IPs) have grown steadily, and account for 18% of all higher education students in 2003. Over the last 14 years, the institutional base of this sector has shifted, dominated by two leading institutions. Since 1990, 24 IPs have had their licenses revoked, and others have moved upward to become universities. Of the ten leading IPs in 1990, two became public universities, and four private universities.

In all cases, student expansion has led to (and is created by) economies of scale. Table 6 shows the enrollment size differentiation of Chilean higher education by total enrollment categories together with the equivalent number of new students. The first column shows the total number of students and their distribution across institutions; the second column, reading down, shows the percent of students by category; for example, 54% of all students and 48.6% of first-year students attend institutions with an enrollment of over 10,000. In all, 78 institutions (out of a total 215 throughout the country) enroll over 1,000 students, accounting for 93.7% of Chile's total enrollment and 90.7% of all first-year students.

Enrollments in both CFTs and IPs are highly concentrated in relatively few institutions. For example, two institutions (*Instituto Profesional INACAP* and *Instituto Profesional DUOC UC*) account for 54.7% of all IP-enrolled students, and two

Table 7. Leading Higher Education Institutions, 2003.

| Type | Leading HE institutions (above 10,000 total) | Total | First year | Percent of all students in Chile | |
|------|--|---------|------------|-------------------------------------|------------|
| | | | | Total | First year |
| PI | Instituto Profesional INACAP | 33,651 | 10,023 | 5.9% | 5.4% |
| CRU | Universidad de Chile | 27,601 | 5,919 | 4.9 | 3.2 |
| PI | Instituto Profesional DUOC UC | 21,981 | 8,717 | 3.9 | 4.7 |
| CRU | Pontificia Universidad Católica de Chile | 19,945 | 5,056 | 3.5 | 2.7 |
| CRU | Universidad de Santiago de Chile | 19,252 | 3,496 | 3.4 | 1.9 |
| CRU | Universidad de Concepción | 19,099 | 4,331 | 3.4 | 2.3 |
| PU | Universidad de Las Américas | 15,918 | 7,085 | 2.8 | 3.8 |
| PU | Universidad Nacional Andrés Bello | 15,389 | 4,296 | 2.7 | 2.3 |
| PU | Universidad Mayor | 14,828 | 3,964 | 2.6 | 2.1 |
| CRU | Universidad Tecnológica Metropolitana | 14,511 | 4,705 | 2.6 | 2.5 |
| CFT | Centro de Formación Técnica Santo Tomás | 13,787 | 5,494 | 2.4 | 3.0 |
| CFT | Centro de Formación Técnica INACAP | 13,301 | 6,621 | 2.3 | 3.6 |
| CRU | Pontificia Universidad Católica de Valparaíso | 12,408 | 3,115 | 2.2 | 1.7 |
| CRU | Universidad de Playa Ancha de Ciencias de la Educación | 11,843 | 3,277 | 2.1 | 1.8 |
| CRU | Universidad Técnica Federico Santa María | 11,555 | 3,072 | 2.0 | 1.7 |
| CRU | Universidad Austral de Chile | 11,367 | 2,502 | 2.0 | 1.3 |
| PU | Universidad Diego Portales | 11,040 | 2,783 | 1.9 | 1.5 |
| CRU | Universidad de Valparaíso | 10,947 | 3,731 | 1.9 | 2.0 |
| CRU | Universidad Católica del Norte | 10,412 | 2,243 | 1.8 | 1.2 |
| | Total | 308,835 | 90,430 | 54.5 | 48.6 |
| | Total Percent | 54.5% | 48.6% | | |

Source: Ministerio de Educación, Compendio de Educación Superior, 2004. <http://www.mineduc.cl>.

institutions (*Centro de Formación Técnica Santo Tomás* and *Centro de Formación Técnica INACAP*) account for 43.6% of all CFT students. Further, two IPs are among the largest of all higher education institutions in Chile (see Table 7). Their performance dominates the sector and the fate of other IPs. The same can be said for the CFT sector, such that both are being driven by economies of scale.

Why are economies of scale so important? First, more students mean greater fee income, a stable income source. Attracting more students is the key to current university growth. Although most evident for private universities (with little government support), the CRU relies increasingly on fees and less on government transfers.

Average government transfers, less student support, make up 19.5% of total income, with a range of 7–46.5%. Only five of the 11 universities listed as leading higher education institutions received more than the average in 2002. Over time, this transfer (as a percentage of income) has declined for institutions, while costs have increased and universities have sought other sources of revenue.

Chilean universities, according to the World Indicators Program, rely on fees for 36% of their expenditures, surpassed only by Korea (46%) and Jordan (40%) (Bernasconi & Rojas, 2004, p. 161). Individual examples show that fees have increasing importance (González, 2004, p. 102). A broader analysis, including private universities as well as CRU, shows that between 1995 and 2002, all universities increased their average fees between 36% and 63%. The highest private university fees are, on average, little more than 18% above the eight traditional universities but with wide variations within subgroups. The value of annual tuition costs is around US\$2,500 for private autonomous universities and \$1,650 for traditional universities, or 59% and 39%, respectively, of Chile's 2002 per capita income of \$4,250. All university fees have increased in real terms, led by Santiago-based CRUs (63%), smaller CRUs (around 50%) and private universities (40%). There are wide variations, but two patterns stand out. First, private universities raise fees after they have gained autonomy and, presumably, a solid market position. Second, the growth in CRU fees reflects the demand for education and the knowledge that a high percentage of incoming students will receive either a loan or scholarship (Salas & Aranda, 2004).

In general, private universities are more aggressive marketers. Since the heady days of the early 1990s, there have been a combination of mergers and closures (including the revocation of nine licenses by the Ministry of Education), which have consolidated market leaders and their different orientations. Creating a successful university is a long-term investment which requires funds and educational commitment. Chilean private universities are no exception, and reflect different group interests associated with business, various Church orientations, non-confessional groupings and a variety of mission-based identities. A new phenomenon is the arrival of foreign direct investment, which began when Sylvan Learning (now Laureate Education Inc.) purchased a controlling interest in three leading institutions: the Universidad de Las Americas, the Universidad Andrés Bello and a professional institute. While universities may be profitable business—it is difficult to tell with the figures currently available—this group is assuredly looking for a return on their investment.¹⁷

Learning and Knowledge

What students study is important for their future job prospects as well as the public knowledge platform for the challenges of globalization. The former is handled, more or less, by institutional competition; the latter by policy, which is implicit in Chile. A future challenge is to ensure that incentives are in place to encourage high tech science, where Chile has declared an interest. Evidence of these processes can be glimpsed by an examination of knowledge categories, which (although broad) show the changing profile of undergraduate education and the contribution of universities, professional institutes and CFTs.

Table 8. Undergraduate Students by Subject Areas: 1990, 2000 and 2003

| | 1990 | 2000 | 2003 | Percent difference | |
|---------------------------|---------|---------|---------|--------------------|-----------|
| | | | | 1990–2000 | 2000–2003 |
| Undergraduate Enrollments | 245,408 | 435,660 | 542,580 | 190,252 | 106,920 |
| Area | % | % | % | % | % |
| Technology | 27.4 | 27.8 | 28.6 | 0.5 | 0.8 |
| Administration/Commerce | 22.5 | 15.1 | 12.6 | -7.4 | -2.5 |
| Education | 10.2 | 8.3 | 13.1 | -1.9 | 4.8 |
| Subtotal | 60.1 | 51.2 | 54.4 | -8.9 | 3.1 |
| Social sciences | 9.6 | 14.2 | 16.5 | 4.6 | 2.2 |
| Agriculture | 7.7 | 6.7 | 4.8 | -0.9 | -1.9 |
| Art and Architecture | 6.0 | 7.1 | 7.4 | 1.1 | 0.3 |
| Health | 6.0 | 6.7 | 8.5 | 0.6 | 1.9 |
| Humanities | 4.5 | 6.2 | 1.2 | 1.7 | -4.9 |
| Law | 3.7 | 5.5 | 5.8 | 1.8 | 0.3 |
| Basic Sciences | 2.4 | 2.4 | 1.4 | 0.0 | -1.1 |

Source: Ministerio de Educación, Compendio de Educación Superior, 2004. <http://www.mineduc.cl>

The changing profile is illustrated by taking two broad periods, the first decade of the democratic government (1990–2000) and the last 3 years (2000–2003). In the first 10 years, the system coped with an additional 190,000 students, and its dynamism is confirmed by the addition of 106,000 (or 56% of the 10 year total) in the last 3 years. Table 8 provides an overview of students by subject area as well as changes since 1990.

Three areas—technology, education, and administration/commerce—dominated in 1990 (60.1% of all students), a group of subjects that had declined in enrollments by 2000 and then recovered in 2003 because of the increase in education enrollments overall. Strong increases were also seen between 1990 and 2003 in the number of students in social sciences and health. Unlike the earlier 10-year period, 2000–2003 experienced not only proportional changes, but declines in the absolute numbers of students studying agriculture, basic sciences, and the humanities.

These changes are explained by a combination of preferences and/or opportunities. The demand for agricultural experts or technicians is declining as the sector's output and labor intensity alter. However, opportunities have been influenced as much by the changing institutional structure—particularly the growth of private universities—as economic prognosis. The presence of private institutions is changing study opportunities (and, it is presumed, quality) as students move, for example, from technical certificates to professional careers.

Graduate degrees can only be awarded by universities and make up a small but growing proportion of total higher education enrolment. Around 15,000 students (2003) are registered for degree (master's or doctoral) courses, with an equal amount registered for diploma or short courses (*post titulo*).¹⁸ Postgraduate studies continue to

be concentrated in the CRUs, which increased their enrollment from 6,500 to 9,500 postgraduates between 2000 and 2003; private universities also increased from 1,200 to 5,400 in the same period. Almost one-third study education, followed by social sciences, basic sciences and technology. Doctoral studies are in their infancy, with only 147 doctoral graduates from Chilean universities—although there are 1,600 enrolled, of which 448 are in their first year (2002) and over 50% are in the basic sciences. At present, doctoral degrees are offered by only 12 of the CRU, although a small number of private universities intend to open programs soon.

All the indications suggest that postgraduate education will grow quickly, reflecting the increasing number of graduates, the explosion in knowledge and employment requirements for up-to-date information and techniques. Until now, many domestically provided university postgraduate courses have been linked to external partners. While this will continue for certain specialized courses, the boom in diplomas and short courses demonstrates the increasing capacity (and confidence) of Chilean higher education. Although it is not possible to give reliable figures, the leading areas are education, engineering and management. A number of universities have begun postgraduate and online short courses.

Research and Development

Chile spends only 0.6% of its GDP on research, with around 80–85% of identifiable funds provided by the public sector. The National Science and Technology Council, established in 1967, is the principal public agency for science policy and planning, and handles around 70% of public research resources, almost all of which go to universities. Research monies are managed through three competitive funds for university-defined research, links with industry and centers of excellence. Around 60% is spent through the main fund—the National Fund for Science and Technology—which holds annual competitions, open to all subjects. Most important, projects are peer reviewed by Chileans and foreigners, and the experience has provided an important precedent for all later evaluations.¹⁹ CONICYT (*Comisión Nacional de Investigación Científica y Tecnológica*) funds are one of the few components of the higher education budget that has been increasing over the last 20 years.

Chile has a small research community. University research is dominated by the basic sciences, of which the greater proportion is concentrated in three universities.²⁰ Most universities have, in their search for income, established outreach departments targeting local industries and services. A number have attempted to follow the example of the *Fundación Chile* by establishing institutes for the analysis of scientific potential of natural resources.²¹ Research in engineering, forestry, fisheries and mining has helped build local expertise in a number of regions, and the government has been examining tax and credit policies to stimulate this trend further.

Effectiveness and Quality

Higher education's rapid expansion has raised questions about its effectiveness in terms of graduation rates, teaching and quality.

Graduation Rates

If standards have been lowered to attract students, then one would expect that graduation rates as a percentage of total enrollments would have declined. However, between 1995 and 1999, using cohorts and a standard number of years for graduation, there appears to have been little change between institutions, with CFTs (offering shorter courses) being able to retain their students more easily, followed by universities and IPs. Among universities the variation is greater, with CRUs having higher retention and efficiency rates than private universities. Seven of the 17 reserved professions—principally in health and education—show the best results explained by careful selection, a flexible curricula, and university policies which can identify failing students.²² If the system has remained relatively stable—and perhaps slightly more efficient—there is more concern but less information about first- and second-year dropout rates. Informal surveys suggest that as many as 30% of first-year students do not return to the same course in the second year. Whereas trial and error is sensible for both universities and students, it is expensive for students. University costs are increasingly passed onto students in the form of fees; lower income families or students may not be able to afford to continue without greater public support, which (as noted above) is limited. Also, as a result of rapid and continuous expansion, universities complain about some first year students' poor preparation and study skills for their courses. This is only likely to be overcome when universities pay more attention to the creation of a first-year educational safety net.

Teaching

Professional teaching and university management are becoming more established as a result of better salaries, prestige, educational levels and knowledge demands. There are now 13,000 full-time university teachers, 35% of all 38,000 teachers in universities and IPs. Of this total around 30% have higher degrees, notably among the CRU institutions. In some departments of the leading universities, appointments are no longer made without a doctorate or doctoral studies.²³ Around 15% of teaching staff conduct research.

The growth of part-time teaching—involving an estimated 25,000 faculty (in 2000)—reflects the expansion of student numbers. They are required to keep the system functioning and can be loosely divided into workhorses, professionals and an elite teaching cadre in the learned professions. Professional part-timers could very well teach a full load by giving the same set of courses in a number of universities.²⁴ There is worry that part-time teachers may not provide necessary quality, and that private universities have not encouraged full-time appointments for cost reasons.

Quality and Evaluation

These issues, together with a growing demand for more public information, have helped the Ministry of Education and Higher Educational Council's push toward a quality evaluation process. In 1999, the government created two commissions to explore and develop undergraduate and graduate program assessments.²⁵ Unlike the Council, the

Commissions' accreditation process is voluntary, includes both public and private universities, and is based on the work of specialized academic working groups by professional or subject area. By 2004, 108 undergraduate and 175 postgraduate programs had been evaluated, along with 13 universities. The process combines self-evaluation, documentation submitted to specialized groups (agreed upon by the Commission and university), and site visits. The institutional evaluation or accreditation examines institutional self-regulation and the organization and delivery of undergraduate courses, and then one specific feature, chosen by the applicant, which it defines as core to its institutional mission.²⁶ Although the process has ruffled some feathers, it follows procedures well known to Chilean academics and universities, and has been broadly accepted by the professional academic community.²⁷ In addition, the government's proposed student loan insurance scheme will only apply to evaluated or accredited institutions.

The effect of this initiative could be far-reaching. Not only will students and parents be able to consult better information, but there will be assumptions that approved institutions or courses are attempting to reach the same level. In the short term, it could broaden the discussion from access to standards, while in the longer term, public and private university prestige will be measured explicitly by program as well as institutional evaluation results. The involvement of both Chilean and foreign senior academics, anxious to preserve the values of their "invisible colleges," should ensure that the process remains rigorous and non-bureaucratic.

Challenges and Opportunities

The Chilean higher education system can best be described as a work in progress. The differentiated levels (university, IP and CFT) and sectors (public and private) are unlikely to change. However, within that structure, lines will become blurred in the university sector, as different universities compete for different markets; quality rankings will alter; research will play a greater role; and universities will choose between niche and mass markets. Given the state of universities in 1990, wilting under the shadow of the military government, the accomplishments made over the last 15 years have been encouraging. The 1990 Commission showed itself to be prescient about both the challenges and policy solutions.

Four challenges—social, economic, academic and managerial—still remain. They will not be decided by government, although it will be an influential factor, but by the messy process of negotiation, student demands, and academic and university leadership.

The principal social challenge is that of inclusion—to what point are higher education institutions willing to develop policies for disadvantaged students, over and above the current approach which reflects secondary education quality as much as capacity and intelligence? And how, given income distribution, are families from lower quintiles to pay for this education, without a broader student support policy?

The economic challenge is twofold. First, can universities contribute to production and services with applied research, particularly to the new, potentially profitable fields of biotechnology, materials science and informatics? Second, if universities are not part of a large conglomerate, how can they generate income consistent with their mission?

The future of smaller universities, catering to regions or providing an entrée for special segments (such as working adults) is not easily assured.

Third, the academic challenge is to reinforce knowledge institutions, their creation and diffusion; a meritocracy requires high academic levels and thus a greater proportion of well-trained academic staff. Finally, both the system and individual institutions will need to develop more flexible mechanisms to permit student transfer; and in some private universities, greater student and staff participation is needed to permit them to become learning organizations as well as degree institutions.

These four dimensions frame the contemporary challenges to Chile's government as well, and may lead it to play a more explicit role in building an active consensus about the value and role of higher education in the service of the nation.

Notes

1. Technical training centers (CFT) are classified by UNESCO's International Standard Classification of Education (1997) as level 5B, Professional Institutes as level 5A and Universities as levels 5A and 6.
2. CRU will be used throughout for universities that are members of the Council of University Rectors, IP for *Institutos Profesionales*, and the Spanish acronym, CFT, for Technical Training Centers.
3. There are in total nine private universities within this group; six Catholic universities and three regional, non-confessional universities.
4. These are law, architecture, biochemistry, dentistry, agronomy, civil engineering, commercial engineering, forestry, medicine, psychology, pharmaceutical chemistry; basic education, secondary education, special needs education (added in 1990); pre-primary education and journalism (added in 1991); and social work (2004). The reserved professions account for 55% of university enrollments.
5. According to the number of students they can attract from a pool of 27,500 who achieve the best scores in an annual national examination for university entrance.
6. University of Concepción (1919), the Catholic University of Valparaíso, (1928), the Federico Santa Maria University, (1931), the State Technical University, (1947), the Austral University (1954), and the Catholic University of the North (1956).
7. The higher education budget fell from 19% to 14% of Ministry of Education funds between 1990 and 2003.
8. The National Commission for the Accreditation of Undergraduate Programs and the National Commission for the Accreditation of Graduate Programs were both established in 1999.
9. Four institutions (Catholic University, University of Chile, University of the Andes and the IP-INCAP) received 46.1% of total donations (1998/2003) and 19 account for 85%.
10. Compared to incomplete technical or university education (1.55) or complete technical education (1.88). See Mizala and Romoguera (2004). Their analysis of occupations shows a strong increase in reported professional monthly incomes and a growing gap between these and other income categories with the exception of directors.
11. According to the OECD's calculation, in the year 2000, 74.7% of funds for tertiary education comes from private sources (OECD, 2003, p. 220), the highest of all non-OECD countries for that year, and similar to Korea (75.6%) the outlier among OECD countries. Total expenditure per student in higher education is given as US \$ 7,483 PPP (2000) compared to US \$6,118 for Korea (OECD, 2003, p. 197).
12. See OECD (2004, p. 205).
13. In response to concerns about possible market saturation, the government has set up a public observatory to track employment and wage trends. See www.futurolaboral.cl and Meller & Rappoport (2004), where it is claimed Chile has a professional deficit, compared to other emerging economies and OECD countries, and a need to improve quality.

14. The 27,500 students are divided by category according to their score. The basic unit is then provided in multiples of 1, for the first category, then 4, 6, 9 and 12. Thus a top student would contribute 12 times the value of a student at the cut-off point.
15. Income as the sole determinant must be treated with caution and may well be less important than parents' education, family social capital or good schooling; that is, it is necessary but not sufficient.
16. MIDEPLAN & CIDE (2000) report that 49% attended in the morning, 15% in the afternoon and 36% in the evening.
17. With 130,000 students studying in 35 campuses worldwide and online. Since May 2004, the conglomerate has traded on NASDAQ as LAUR.
18. An estimate as not all universities have reported their numbers at the time of writing.
19. FONDECYT spent \$16,714 mn pesos for 344 projects (2002). The other funds are FONDEF (Fund for the Promotion of Scientific and Technological Development) to improve applied science and technology for productivity and which requires a private partner to commit 20% of the funds; and FONDAP (Fund for Advanced Research in Priority Areas), which supports centers of excellence in, for example, biotechnology, with scholarships, equipment and research funds. In 2002 FONDEF spent \$9,460.7 million on 33 projects and FONDAP \$1,342 mn on 404 recipients (2002).
20. The University of Chile, the Catholic University and University of Concepción.
21. An autonomous technology transfer center which pioneered salmon farm fishing, fruit standards and wine processing in Chile. One of its current projects deals with informatics and education.
22. See the discussion of Uribe (2004, p. 161–163).
23. The Catholic University reports 823 of their 1,397 teaching staff have doctorates, the University of Chile, 473 of 1,658 and the University of Concepción 330 out of 1,119 respectively. They account for 55% of all Ph.D.s teaching at Chilean universities in 2002.
24. See the interesting discussion in Bernasconi & Rojas (2004, p. 138–141).
25. CNAP (The National Commission for Undergraduate Accreditation) and CONAP (National Commission for Postgraduate Accreditation).
26. Based in part on the U.K. model.
27. The evaluation techniques build on CONICYT's project assessment, the criteria established for 5% of Direct Financial contributions (AFD) distribution among CRUs, and the procedures used by the Higher Education Council to supervise and accredit new private universities and IPs.

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CHINA

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This chapter puts Chinese higher education in the context of modernization and globalization. It identifies particularities in China's response to these phenomena, with highly developed traditions shaping the modern institutions that emerged under the influences of Western capitalism, then of Western socialism, and finally of globalization. We begin with a historical overview, then provide an analysis of recent developments in three major areas: governance and finance, expansion and differentiation, and internationalization and nationalization.

History

Evolving over more than two millennia, higher education in China is one of the world's oldest systems. Traditional higher education institutions in China can be traced back to the 4th century B.C.E., when Confucius established a private academy (Galt, 1951; Gu, 1964). By the time of the Tang Dynasty (618–907 C.E.), there was a whole range of higher education institutions, headed by the Guo Zi Jian (school for the sons of the Emperors) and the Tai Xue, which took major classical texts of the Confucian school as their curricular content. There were also professional schools for law, medicine, mathematics, literature, calligraphy, and Daoist studies. In this period, publicly regulated examinations in both classical and professional areas were established, and meritocratic selection for the civil service was institutionalized. In the later Song dynasty (960–1279 C.E.), the Confucian classics were re-ordered to form a knowledge system that had to be mastered by all students aspiring to become scholar-officials in the imperial civil service. Examinations for professional knowledge fields such as medicine fell into disuse, as these areas became relegated to the category of techniques to be developed under the supervision of the scholar-official class. The imperial examination system thus dominated traditional higher education, creating a class of intellectuals who climbed the ladder from local to provincial and finally capital and palace examinations (Hayhoe, 1989a).

Traditional institutions of higher learning gradually lost their legitimacy and viability in the late Qing dynasty. China suffered humiliation in the face of Japanese and Western

military incursions. Reform and self-strengthening was essential. The evolution of modern Chinese higher education was thus deeply interwoven with influences from Japan and the West. These came through three major channels: Chinese reformers' efforts, study abroad programs for Chinese scholars and students, and the establishment of Western missionary universities and colleges in China.

The Late Qing Period (1860–1911): The Japanese Influences

Qing dynasty officials launched a self-strengthening movement, which involved the introduction of Western technology for the purpose of national salvation, while keeping intact the basic character of the Chinese empire. Japan was their most important model. The fact that Japan defeated China militarily in 1895 had a devastating psychological impact on China. How had it succeeded in the self-strengthening China so desperately needed? The Japanese model was believed appropriate in cultural terms, since the two countries shared the Confucian tradition (Chen, 2002). Convinced that Western techniques could be absorbed into a revitalized Confucian empire, China modeled its educational reform legislation of 1902 and 1903 closely on the Japanese education system as a pathway to modernization with the preservation of Confucian values (Hayhoe, 1989b).

The Hundred Day Reform (1898) was a first step toward radical reform and one of the earliest modern universities in China—the Capital Metropolitan University, later Peking University—was one of the innovations that lasted. It was patterned after the University of Tokyo, and was supposed to have a supervisory responsibility over all levels of the education system (Hayhoe, 1989b, 1996). A growing number of Chinese students were sent abroad over this period, mainly to Japan. By 1906, there were 7,283 Chinese students and intellectuals in Japan, the majority preparing to be teachers in the newly emerging modern schools (Abe, 1987; Chen & Tian, 1991).

The Republican Period (1911–1927): The European and American Influences

With the Revolution of 1911, the provisional government established by Sun Yat Sen in Nanjing decreed a major reform to instill Republican values. As the first Minister of Education, Cai Yuanpei designed higher education legislation which reflected a European model derived largely from his experience of the German universities of Berlin and Leipzig. The new higher education legislation made a clear distinction between specialist higher education institutions and universities. The arts and sciences were to be the core curricular areas of these Republican universities, rather than the Confucian classics, while professional fields of knowledge such as engineering and law were to be developed in separate higher education institutions. Cai felt that universities had a special responsibility for aesthetic education as a way of building a modern Chinese worldview.

The legislation laid a foundation for academic freedom and university autonomy along the lines of the German university model. These concepts were not to be realized in practice, however, until Cai returned from his second stay in Germany in 1917 and took up the chancellorship of Peking University. Under his leadership, the idea of

“professorial rule” provided for in the 1912 legislation blossomed into a transformative cultural movement, known as the May Fourth Movement.

The weakness of China’s central government from 1911 to 1927 provided China’s higher education with the possibility of vigorous experimentation. By 1921, there were 16 missionary colleges and universities in major Chinese cities, mostly chartered with American state governments and headed by American missionary presidents (Hawkins, 1991; Hayhoe, 1989a). There were also a number of private universities established by patriotic Chinese intellectuals and political figures, as well as a range of national and provincial level public institutions for higher learning. Educational legislation of 1922 and 1924 opened the way for increasing American influences on China’s emerging higher education system.

The definition of university was broadened to include most higher education institutions, including specialist professional ones. There was also less emphasis on autonomy, in terms of the rule of professors within the university, and more on social responsibility. Some universities experimented with American-style boards of trustees, which were responsible for finance, planning and major policy decisions. Some adopted a credit system, which resulted in innovative and unregulated approaches to the university curriculum.

The Nationalist Period (1927–1949): The Emergence of a Chinese University Model

As a result of legislation in 1922 and 1924, the number of higher education institutions calling themselves universities burgeoned, from eight in 1917 to 39 in 1930. With the accession to power of the Nationalist Party in 1927, the new government proceeded to develop policies and legislation for higher education that put a strong emphasis on practical knowledge and skills. In the legislation passed in 1928, the aims of higher education were expressed as follows: “Universities and professional institutions must emphasize the applied sciences, enrich the scientific content of their courses, nurture people with specialized knowledge and skills, and mold healthy character for the service of nation and society” (quoted in Hayhoe, 1996, p. 52).

There was considerable concern over academic standards and the lack of clear curricular requirements in many fields. Therefore, the Nationalist government found European patterns attractive due to their greater centralization and standardization. National policy for higher education was influenced by the advice of a delegation of high-level European intellectuals who came to China in 1931—under the auspices of the League of Nations—to study the education system and make recommendations for reform. The recommendations included establishing an academic chair system, clear national procedures for monitoring all academic appointments, and a comprehensive examination at the end of each university program to ensure a basic foundation in each discipline. In the legislation passed between 1933 and 1936, some of these recommendations were adopted, resulting in a greater measure of centralized governmental control.

Generally speaking, this was a period characterized by considerable maturity and independence of educational thought, with eclectic foreign influences being introduced by both Chinese scholars who returned from abroad and Western scholars who came to

China. A wide range of new higher education institutions developed and flourished, in spite of serious problems in economic development and a war with Japan lasting from 1937 to 1945. In the education legislation, it is possible to see European and American influences integrated within patterns that served Nationalist educational goals. Chinese universities went through a process of adaptation and indigenization that might be compared to the development of American universities in the 19th century (Hayhoe, 1996). A contemporary discussion in the Chinese intellectual community has reached the conclusion that Chinese universities in the Nationalist era had developed into mature institutions, achieving a balance between their Chinese identity and their ability to link up to the world community (Chen, 2002; Xie, 2001).

The Socialist Period (1949–1978): The Soviet Influences

At its birth in 1949, the People's Republic of China inherited a higher education system close to the American one in its knowledge patterns. Most of the institutions combined the pure and applied sciences with some social sciences and liberal arts, and were organized into colleges and departments that allowed for the cross-fertilization of knowledge areas. Rather than strengthening the pure and applied sciences within this context, the new government chose to carry out a total reorganization of the higher education system in order to serve a centrally planned economy.

The dominant slogan in China during the 1950s was to “learn from the Soviet Union.” According to the official rationale for adopting the Soviet model, “the Soviet Union . . . has a rich experience in socialist construction, and many major departments of science have reached or exceeded the most advanced capitalist countries” (quoted in Hu & Seifman, 1976, p. 44). Based on Soviet experience and advice, the first Five-Year Plan (1953–1957) focused on the development of heavy industry. Plans to reform the higher education institutions so as to emphasize technical education were finalized in 1951. The hallmarks of the Soviet model were “rational” organization based on bureaucratism and modern managerial leadership committed to technological change. The stress was on expertise, a centralized administrative system and a highly formal educational system. Education was viewed as a resource for the system of production.

The new system took shape between 1952 and 1957, with a complete reorganization of old institutions and the creation of new ones around a national plan. Curricular patterns ensured close coordination with the personnel needs of the state as well as a rational geographical distribution of higher education. The country was divided into six major geographical regions, and each of them had an educational bureau that coordinated planning for the region. At the core of the system were three main types of institution that were directly administered by a new national ministry of higher education: comprehensive universities with programs in the basic arts and sciences, polytechnic universities with a wide range of applied scientific programs, and teacher training universities responsible for setting national standards for education. Each region had at least one of each of these three types of institution, and their role was both a national and regional one.

In addition to these core institutions, there was a large number of sectoral institutions in areas such as agriculture, forestry, medicine, finance, law, language studies, physical

culture, fine arts, and minority education. They were managed by appropriate ministries and were distributed across the country, taking into account differences of regional emphasis by sector. Each institution was narrowly specialized in its programs, and its role was to train personnel for its specific sector. Each institution offered many more specializations than had been available under the Nationalist system. For example, the discipline of mechanical engineering had sub-disciplinary specializations in machine tools, casting, welding or forging, while thermal power engineering had specializations in boilers, turbines, internal combustion engines, compressors or refrigeration machinery, among others. Specializations matched the precise definitions of manpower needs in heavy industry.

In a situation where the priorities were to build heavy industry as the basis for a modern economy and establish a strong socialist governmental and education system, these patterns worked well at first, as there was a high degree of predictability in personnel planning. However, with a new emphasis on agriculture and light industry during the late 1950s, combined with the rapid growth of secondary education—which increased the pool of graduates competing for entry to higher education—many concerns about the equality of access and the suitability of the system to China's indigenous economic and cultural development came to the fore.

The Great Leap Forward of 1958 represented a bold and idealistic attempt to achieve an accelerated move towards communism. An important concept was “walking on two legs,” which meant the simultaneous development of industry and agriculture, national and local industries, large and small enterprises, and the simultaneous application of modern and indigenous methods. Another vital aspect of the new strategy was self-reliance at both national and local levels. It also marked the shift away from a centralized, technology- and capital-intensive economy, and toward a decentralized and labor-intensive economy. A timetable was set up to ensure that within 15 years university education would be available to all young people and adults who wished to continue their education. A radical change in the mission of universities would redirect their priorities toward advancing egalitarian social goals over those of economic production. This reform movement rushed the higher education system into expansion without either a rational plan or the resources to sustain the explosive growth in institutions and enrollments that ensued. By the early 1960s, retrenchment was inevitable, in the face of a faltering economy and the outbreak of severe famine.

The Cultural Revolution of 1966 represented a dramatic attempt at transforming Chinese society as well as the education system. If the education reform during the Great Leap Forward had been a reaction to the Sovietization of the early 1950s, this revolution in education was directed against all foreign education patterns and practices that had been imposed on China. In the destruction of old systems and the repudiation of foreign influences, the intention was to build an egalitarian system of education available to all, and achieve pure communist ideals. For three years, from 1966 to 1969, all regular recruitment to higher education was halted. Between 1971 and 1976, significantly smaller numbers of students were enrolled, selected (without examination) from among the workers and peasants who had practical experience, and who were expected to return to production after a few years' study. Unfortunately, efforts to run open-door institutions and link academic knowledge with social transformation

failed. This caused inestimable damage to the economy and society, especially affecting intellectuals and higher education.

The Reform Period (1978–Present): The Open Door Policy

With the death of Mao Zedong in 1976 and the emergence of a new leadership under Deng Xiaoping, a concern for modernization through economic revitalization became paramount. In an important national conference for science and education held in 1978, clear goals of service to economic modernization in the four areas of agriculture, industry, national defense and science and technology were set forth, resulting in dramatic change throughout the 1980s.

In 1985, the Chinese government's *Decision on the Reform of the Education System* emphasized the implementation of a three-level higher education management system at the central, provincial, and major municipal levels. The main rationale for reform given in the *Decision* was "to change the management system of excessive government control of the institutions of higher education, expand decision making in the institutions under the guidance of unified education policies and plans of the state, strengthen the connection of the institutions of higher education with production organizations, scientific research organizations, and other social establishments, and enable the institutions of higher education to take the initiative to meet the needs of economic and social development" (Central Committee of Chinese Communist Party, 1985, p. 186).

An important part of the re-emerging identity of Chinese universities in the 1980s was the role they played in helping China to re-connect with an international milieu after a decade of isolation during the Cultural Revolution. One of the major reasons that considerable support was given to higher education was the leadership's realization of a need for people who could build bridges to the outside world. Now the international relationships were both multilateral and bilateral, as opposed to learning from one specific foreign model in most of the earlier periods.

Among the multilateral interactions, the World Bank projects made the most substantial contributions to Chinese universities. In the early 1980s, the Chinese government was successful in persuading the World Bank to give a primary focus to higher education, and a total of about US\$1.2 billion was loaned on concessional terms (Hayhoe, 1996). This funding was crucial to a rapid improvement in academic and scientific standards in Chinese universities. The World Bank also encouraged structural reforms, such as the amalgamation of specialized local colleges into larger and more comprehensive higher education institutions (World Bank, 1997, 1999).

Chinese universities have also been involved in many bilateral projects. These projects are often organized under cooperative agreements between two governments. There are thus cultural dynamics which make possible the creative use of scholarly communities in China that have long historical links with particular foreign countries. Participation in bilateral developmental cooperation—under the auspices of organizations such as the Japan International Cooperation Agency or the Canadian International Development Agency—has also provided applied research and training opportunities that have strengthened the capacity of Chinese universities.

With Chinese higher education now increasingly connected with the international community, the reform of the system in the 1990s can be viewed as part of a global phenomenon. The logic underlying the current restructuring of the Chinese higher education system includes decentralization of the administrative structure and the expansion of university autonomy; diversification of the funding sources for higher education institutions; and the reorganization of universities for efficiency, effectiveness, and reasonable expansion. These trends reflect an international context characterized by a rising tide of human capital theory and “efficiency” movements.

The higher education reforms of the 1990s were derived from the *Decision on the Reform of the Education System*. It was only after 1993, however, when the *Outline for Educational Reform and Development in China* was adopted, that major reforms started to be implemented. This document highlighted China’s views on development, which included the belief that education and science are vital to catching up with the most developed countries in the world (Central Committee of Chinese Communist Party & State Council, 1993). The *Program of Educational Revitalization for the Twenty-First Century* took the reform ideas even further (State Council & Ministry of Education of China, 1999). The main points of these documents can be found in the *Higher Education Law* (passed on August 29, 1998, and in effect since September 1, 1999) is the first higher education law to be passed since 1949 (National People’s Congress of China, 1998).

Governance Reform: From Centralization to Decentralization

China’s educational leadership has been struggling with the issue of centralization and decentralization almost since the founding of the People’s Republic of China in 1949. There is a history of experiments with different levels and degrees of decentralization since the 1950s. Early efforts to shift authority from central to local levels were, however, different from the nationwide decentralization seen at present.

As the result of the reorganization in the 1950s, a nationalized system of higher education was organized on a model of state control, i.e., a model characterized by central planning, with all higher education institutions directly run by the state. In May and August of 1950, the (then) Government Administration Council issued the *Provisional Measures of Governance of Higher Education Institutions in Various Administrative Regions* and the *Decision on the Issue of Governance of Higher Education Institutions*, which stipulated the principle of placing all higher education institutions under the jurisdiction of the central Ministry of Education. In October 1953, the Council revised the *Decision*, and stipulated even more specifically the governance of higher education institutions: comprehensive and polytechnic universities were to be under direct jurisdiction of the central Ministry of Higher Education, while specialized institutions were placed under the control of relevant central ministries. Among the 194 higher education institutions in 1955, 75 were administered by the Ministry of Higher Education, 40 by the Ministry of Education, and 79 by other central ministries. None was run by local governments (Liu, 1993; Zhou, 1990).

During the Great Leap Forward, many institutions under the jurisdiction of central ministries were transferred to the control of local governments. Among the 791 higher

education institutions in 1958, 86 were under the jurisdiction of the Ministry of Education and other central ministries, and the remaining 705 were under the leadership of local governments (Liu, 1993). From then on a structure emerged that might be described as a combination of “columns” (institutions affiliated to central ministries) and “planes” (provincial institutions). The former tended to be large in size and well resourced, while the latter were small and poorly funded. With the failure of the Great Leap Forward, there was a reassertion of centralized efforts toward economic development. Most power that had been devolved was taken back. By 1966, the institutions directly administered by the Ministry of Education and other central ministries increased to 183, out of a total of 434 (Liu, 1993).

The Cultural Revolution represented another wave of decentralization, when all national institutions were transferred to the control of local governments. Then after 1976 there was a total reversal of these priorities. The university system that was re-established between 1977 and 1980 replicated the model of the early 1960s. The nationally unified entrance examination for higher education standardized enrollment and job assignment plans, unified curricula, and systematized rules and regulations were all restored. This centrally planned system continued to function up to the mid-1990s. In the peak year of 1994, 367 out of the total of 1,080 higher education institutions were under the jurisdiction of central ministries, including 36 belonging to the State Education Commission and 331 administered by 61 sectoral ministries (Hu & Bu, 1999).

The rigidity of this centralized model faced severe challenges in the 1990s, when the establishment of a socialist market economy was clearly the objective of economic and social reforms. This was an ideological as well as a theoretical breakthrough. Along with the shift to a market economy and the growth of diverse elements within that economy, the functions of the ministries of the central government in managing higher education were undergoing major changes. Under the old system of “columns” and “planes,” higher education institutions affiliated with the ministries developed in a closed manner. Although colleges and universities were established in local areas, they had few local connections and did not serve local economic development. Such a system was incapable of responding to rapid change and surviving in a market economy.

In the 1990s, a new wave of governmental restructuring aimed to devolve power to the localities. The *Outline for Educational Reform and Development in China* (1993) proposed that higher education institutions be managed on two levels—national and provincial—but with the main responsibility being at the provincial level. Over time, this new direction should result in more effective coordination in a number of areas which are spelled out in a 1995 document, *Some Opinions on Deepening Higher Education System Reform* (Zhou, 2001). These include:

Joint Construction: In this mode, provincial authorities are invited to participate in the sponsorship and management of centrally controlled institutions. There is now a central/local collaboration in institutions which used to be run solely by the central government. By 1999, nearly 200 institutions had been switched to joint investment and administration by central/local governments (see Table 1). The greatest significance of this move lies in integrating the separate “columns”

Table 1. Administrative Reform in Chinese Higher Education System: Institutions Involved

| Year | Joint Construction | Transference ^a | Cooperation | Amalgamation ^b | Total HEI ^c |
|------|--------------------|---------------------------|-------------|---------------------------|------------------------|
| 1991 | – | – | 8 | – | 1,075 |
| 1992 | 5 | – | 11 | 54(20) | 1,053 |
| 1993 | 10 | 1 | 109 | 22(9) | 1,065 |
| 1994 | 25 | 4 | 58 | 28(11) | 1,080 |
| 1995 | 16 | 2 | 50 | 51(21) | 1,054 |
| 1996 | 44 | 3 | 39 | 46(17) | 1,032 |
| 1997 | 14 | 161 | 50 | 41(17) | 1,020 |
| 1998 | 83 | 55 | – | 77(29) | 1,022 |
| 1999 | – | – | – | 77(31) | 1,071 |
| 2000 | – | – | – | 209(85) | 1,041 |
| 2001 | – | – | – | 83(38) | 1,225 |
| 2002 | – | – | – | 79(35) | 1,396 |

^aThe transference includes such formats as (1) from central sectoral ministries to local jurisdictions; (2) between the central sectoral ministries; (3) from provincial sectoral departments to the education authorities; and (4) from adult to regular institutions.

^bThe numbers in brackets refer to those of the consequent institutions after amalgamations; involved institutions include non-formal (adult) institutions, but exclude a few specialized secondary schools.

^cNumbers in this column refer to the regular higher education institutions.

Source: Adapted from (Ministry of Education of China, 2001, 2003a, 2003c; Mok & Lo, 2004).

and “planes” of a closed system into an organic and open system. It replaces a one-on-one affiliation relationship with a multiple partnership model. Higher education institutions become closer to the provinces and more active in serving local interests, while the financial burden of the central government is relieved.

Jurisdiction Transference: This occurred when some of the central ministries were dismantled due to administrative restructuring or were reduced in size to enhance efficiency. Higher education institutions under these ministries had to look for someone else to “adopt” them. Transferring affiliation signified a complete change from central ownership to provincial ownership. By 2002, out of the original total of 367 regular higher education institutions administered by the central ministries, nearly 250 had been transferred to local administration (Ministry of Education of China, 2004b).

Institutional Cooperation: This mode can denote various kinds of cooperation between institutions of different jurisdictions and types, on a voluntary basis, with their financial resources remaining unchanged. It is aimed at coordinating the advantages that each institution can offer and allowing intersecting disciplines to improve educational quality.

Institutional Amalgamation: Mergers among higher education institutions are intended to consolidate small institutions into comprehensive universities. Consolidation changes the landscape of the administrative structure of higher education in China. Mergers are seen as a shortcut to producing large, comprehensive and

academically prestigious universities. Consequently, university giants have mushroomed through mergers. By 2002, 597 higher education institutions had been involved in mergers, resulting in 267 new institutions (Ministry of Education of China, 2004b) which are larger in size and more comprehensive in programs offered.

Table 1 reflects how the higher education system has changed between 1991 and 2002, as a result of these four forms of restructuring.

Financial Reform: From Centralization to Diversification

From the 1950s through the early 1980s, higher education institutions received their funding exclusively from a central government appropriation according to a unitary state budgetary plan. All funds were allocated according to rigid norms on a non-fungible line item basis. The budgetary planning horizon was usually a one-year period, and higher education institutions were notified of their budgetary allocation at the beginning of the year. The amount of funds for each was determined by an “incremental approach,” which was based on what the institution had received in the previous year. Institutions had no freedom to decide how to spend their budget (Min & Chen, 1994; Wang & Zhou, 1991). This tightly controlled budgetary system provided no incentive for efficiency gains, nor any incentive for institutional initiative.

Since the economic reforms of the 1980s, local authorities have been allowed to retain much of their income and decide their own spending plans. In practice, there has been a demarcation between central and local control of income and expenditure. Since 1994, there has been a further financial reform—taxation. The net effect of the reform is to demarcate between legitimate authorities of taxation, so that both local and central governments have legitimate sources of income. A distinction between local and central taxes has thus emerged.

In conjunction with financial decentralization, local governments have become responsible for investing in local higher education institutions since 1980. Indeed, among the 404 institutions founded between 1980 and 1988, over 300 (74%) were established by local governments. This has resulted in three categories of higher education institutions in terms of investment mechanisms. The first category includes the institutions directly administered and financed by the Ministry of Education. The second group comprises institutions whose budgets and appropriation are taken care of by central ministries. The third are local institutions, which are financially controlled by the provincial governments. Generally, the first two categories of institutions are far better off (Min & Chen, 1994).

Nevertheless, during the rapid expansion between 1977 and 1988, the total number of higher education institutions rose from 598 to 1,075. Along with this rapid growth and development, the Chinese higher education system faced increasing financial constraints. This situation was exacerbated by inflation in 1988. Universities started to experience serious deficits, as allocations from the government covered only two-thirds of their operating expenses (Johnson, 1989). Inflation led to a situation where government funding covered only basic salary requirements, leaving little for

library and program development, equipment acquisition, and general maintenance. Institutions were forced to seek new sources of income, which became indispensable for survival. At some universities, income from alternative sources came to constitute 50% of the total budget (Du, 1992).

There are basically four principal sources of self-generated income: (a) income from university enterprises; (b) income from commissioned training for enterprises, where institutions that offer applied subjects have an advantage; (c) income from research and consultancy, where research universities are in the best position to offer this kind of service; and (d) donations, for which the beneficiaries tend to be prestigious universities with large networks of influential alumni.

Before the reforms of the mid-1980s, university admissions were tightly controlled by the state, with students paying no fees and being assigned jobs upon graduation. The 1985 reform allowed higher education institutions to admit students outside the state plan, as long as they were either sponsored by enterprises or self-financed. In 1989, institutions were allowed to collect fees for accommodation and sundry items. Revenues from tuition and fees at the national level in 1992 accounted for nearly 5% of total revenue in higher education. Starting in 1994, 37 institutions participated in a pilot scheme whereby all students, whether in the state plan or not, were required to pay fees, and the institutions were given the discretion to fix their own fees in accordance with the living standards of their region (Ministry of Education of China, 2003b).

National policy changed in September of 1995, when a reform initiative known as “merging the rails” started to unify the admissions criteria and fee levels for those students within the national plan with those outside it. Since 1997, all higher education institutions have charged student fees. The general tendency is to charge a fee of less than 25% of the recurrent unit cost (Cheng, 1998; Ministry of Education of China, 2003b). Table 2 shows the change in the sources of revenue for higher education over the period 1995 to 2001, with public allocations falling from 73.29% to 51.95%.

Expansion and Differentiation

With the establishment of a market economy, there has been an increasing demand for different types of talents from government, industries and the labor market. At the same time, the newly emerging market economy has increased the income of many families, who in turn seek wider access to higher education for their children. These twin demands have resulted in the rapid expansion of higher education since the 1980s, along with an increasing diversification of the system.

Expansion: From Elite to Mass Higher Education

The issue of expansion has two aspects: the aggregate size of the higher education system, and the average size of each institution. Aggregate size can be proxied by the total number of undergraduate students and the number of regular higher education institutions. The appropriate aggregate size is a matter of policy in relation to the role of higher education in national development. Institutional size is measured by the number

Table 2. Revenue and Sources for the Regular Higher Education Sector (%), 1995–2001

| Year | Total Investment | Education | | Endowment | Tuition & Fees | School-Run Enterprise Income | | Enterprise-School Investment | | Social Organization Investment | | Others |
|------|------------------|-----------|------|-----------|----------------|------------------------------|-------------------|------------------------------|--------------------------------|--------------------------------|-------|--------|
| | | In-Budget | Tax | | | School-Run Enterprise Income | School Investment | Enterprise-School Investment | Social Organization Investment | | | |
| 1995 | 100 | 73.29 | 0.29 | 1.09 | 11.89 | 8.30 | 0.22 | 0.16 | 0.22 | 0.16 | 4.77 | |
| 1996 | 100 | 70.37 | 0.73 | 1.13 | 13.66 | 7.92 | 0.27 | 0.17 | 0.27 | 0.17 | 5.75 | |
| 1997 | 100 | 67.72 | 0.91 | 1.50 | 14.82 | 7.98 | 0.31 | 0.17 | 0.31 | 0.17 | 6.58 | |
| 1998 | 100 | 61.00 | 1.36 | 2.09 | 13.31 | 2.05 | 0.54 | 0.28 | 0.54 | 0.28 | 19.38 | |
| 1999 | 100 | 59.63 | 0.97 | 2.28 | 17.04 | 1.75 | 0.17 | 0.46 | 0.17 | 0.46 | 17.69 | |
| 2000 | 100 | 55.23 | 0.91 | 1.66 | 21.09 | 1.77 | 0.26 | 0.72 | 0.26 | 0.72 | 18.37 | |
| 2001 | 100 | 51.95 | 0.71 | 1.30 | 24.21 | 1.38 | 0.20 | 0.56 | 0.20 | 0.56 | 10.88 | |

Source: Adapted from (Department of Finance, Ministry of Education of China & Department of Social Science & Technology Statistics of the State, Statistics Bureau of China, 2002; Department of Finance, Ministry of Education of China, 2001).

Table 3. Scale of Regular Higher Education System in China by National Development Periods

| Period | Year | Number of Institutions | Enrollment Size* |
|----------------------|------|------------------------|------------------|
| Reorganization | 1949 | 205 | 116,504 |
| | 1957 | 229 | 441,181 |
| Great Leap | 1958 | 791 | 659,627 |
| Forward & Adjustment | 1960 | 1,289 | 961,623 |
| Cultural Revolution | 1965 | 434 | 674,436 |
| | 1966 | 434 | 533,766 |
| Reform | 1970 | 434 | 47,815 |
| | 1976 | 392 | 564,715 |
| | 1978 | 598 | 856,322 |
| | 1983 | 805 | 1,206,823 |
| | 1988 | 1,075 | 2,065,900 |
| | 1993 | 1,065 | 2,535,500 |
| | 1998 | 1,022 | 3,408,800 |
| | 2002 | 1,396 | 9,033,600 |

Note: *undergraduate enrollment.

Source: Educational statistics published by the Ministry of Education/State Education Commission of China.

of students in an institution, and reflects the degree of efficiency in the use of scarce educational resources.

The appropriate aggregate size of higher education has been a subject of intense policy debate among Chinese leaders and educators in post-1949 China. Conflicting views on the subject have been associated with large shifts in student enrollment at the tertiary level. At least three episodes of debate and policy change can be identified. The first episode was seen during the period of the Great Leap Forward and the retrenchment that followed. As part of an ambitious effort to realize full communism, the leadership set a policy of rapid expansion and curriculum reform for higher education in September 1958. The goal was that access to higher education would be provided to qualified youth and adults from all backgrounds in about 15 years' time. Based on the approach of "walking on two legs," the government and non-governmental organizations at central and local levels were encouraged to set up different types of postsecondary institutions. The number of institutions increased from 791 in 1958 to 1,289 in 1960 (see Table 3). Student enrollment jumped from 660,000 to 962,000 in the two-year period, an increase of 46%. This rapid increase put a heavy burden on the financial resources of the government and had an adverse effect on the quality of higher education. Retrenchment inevitably followed, and by 1965 the number of institutions was reduced to 434, while student enrollment had dropped back to the 1958 level.

The second large swing in aggregate scale came during the period of the Cultural Revolution. As the higher education system was paralyzed by political activism, there

was a big contraction in student enrollment, with a decline from 534,000 in 1966 to about 48,000 in 1970. Over these years, class background prevailed over merit as the important determinant of entry into higher education. In 1970, students from peasant and working class backgrounds were admitted into the university as part of the strategy of ensuring that education served the interests of rural and working class people.

The third episode took place during the reform period. Actually, for many years there has been considerable agreement among leaders in China about the role of higher education in the preparation of highly skilled personnel and in the development of science and technology. During the decade from 1978 to 1988, the aggregate scale of higher education was on an upward trend, with significant increases in both student enrollment and the number of institutions (see Table 3). The expansion was a response to the need for highly skilled personnel in a rapidly growing economy.

The expansion of the aggregate scale of higher education slowed after 1988, and different views emerged regarding the pace of higher education expansion. One view favored a relatively slow rate of expansion, believing the economy might not be able to absorb all the graduates if its growth slowed down, and that the widespread unemployment of university graduates could cause political unrest. This view prevailed during much of the 1990s. Thus, between 1989 and 1998 enrollment grew at only 5.3% per year, and the number of institutions actually declined from 1,075 to 1,022 (see Table 3).

The other view of higher education expansion maintained that the growing national economy, which was increasingly driven by technological change, could absorb more university graduates. It pointed out that there was a strong parental demand for the expansion of higher education, and it would be a wise national policy to direct private consumption into educational investment. The government adopted this view in the late 1990s, and approved a large increase in new entrants into regular higher education in 1999—from 1.08 million in 1998 to 1.53 million in 1999, a 42% increase—despite concerns voiced by educators about the likely negative impact on quality. The government's motivation was largely economic. Since the onset of the Asian financial crisis of 1997, economic growth in China had slowed from an annual average of 9.5% to about 7%. It was assumed that the increase in higher education enrollment could induce additional private consumption and provide a boost to the rate of GDP growth. In the *Program of Educational Revitalization for the Twenty-First Century* (1999), the government announced a plan to increase new enrollment to 12.5% of the age cohort in 2000, and to 15% by the year 2010, the internationally acknowledged threshold of mass higher education.

While the expansion of the 1980s was characterized by a pattern of creating new institutions, which was probably a legacy of the Soviet model of higher education, expansion in the 1990s switched to a more efficient pattern based on increases in institutional size. Confronting the tensions of growth versus quality, and expansion versus cost-effectiveness, the central government sent a clear message to the higher education sector that no encouragement would be given to build new institutions, and that expansion in enrollments was to be achieved through tapping existing resources and expanding existing institutions. Table 4 shows how the average enrollment size of higher education institutions—and by extension, the student/faculty ratio—increased steadily from 1990 to 2002.

Table 4. Average Size of Regular Higher Education Institutions in China, 1990–2002

| | 1990 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Number of inst. | 1,075 | 1,054 | 1,032 | 1,020 | 1,022 | 1,071 | 1,041 | 1,225 | 1,396 |
| Average size | 1,919 | 2,758 | 2,927 | 3,112 | 3,335 | 3,815 | 5,289 | 5,870 | 6,471 |
| Student/teacher ratios | | 9.83 | 10.36 | 10.87 | 11.62 | 13.37 | 16.30 | 18.22 | 19.00 |

Source: Educational statistics published by the Ministry of Education/State Education Commission of China.

Differentiation of the System

Since the mid-1980s, the Chinese government has implemented a new process of restructuring the higher education system, with the goal of task differentiation, rationalization and redefinition of functions (Central Committee of the Chinese Communist Party and State Council, 1993; Central Committee of the Chinese Communist Party, 1985). This recasting of the policies through which the purposes of higher education are construed has profound consequences for the meaning of diversity in this phase of massification.

The government has encouraged the expansion of adult higher education and the emergence of private higher education institutions. The system is thus moving toward a more diverse one, embracing an increasing variety of institutions and programs in terms of prestige, status, mission, emphasis, services and constituencies. Clearly, differentiation is a means through which the massification of higher education is being achieved, as demonstrated in Table 5.

The most dramatic differentiation process can be observed in the university sector, where a rationale for the current reform has been the creation of “comprehensive universities” from the fragmented and specialized institutions of the 1950s. This represents a horizontal differentiation targeted at correcting the reliance on the Soviet model, and reflects the contemporary patterns of knowledge development and institutionalization in the international arena. Differentiation is also occurring vertically; while Chinese universities had long engaged in a systematic hierarchical ranking—by prestige, level of administration and concomitant resources—this hierarchy is being sharpened in the transition to mass higher education, in the name of enhancing excellence and responding to a greater diversity of needs in the labor market.

The reorganization of the higher education system in the 1950s reflected a rigid institutional separation of pure and applied fields of knowledge, and a strong classification in the impermeable boundaries between disciplines and specialties, as noted earlier. Now, by contrast, there is a clear move towards more comprehensive patterns of knowledge, with all higher education institutions seeking to broaden their curricular coverage, and quite a remarkable development of social science and humanities programs in institutions originally designated as highly specialized technical institutes. The whole process could be seen as a dramatic reversal of the reorganization that took

Table 5. Diversity of the Chinese Higher Education System, 2001

| Sector | Institutional Diversity | No. of Institutions | No. of Students |
|---------------------------------|---|---------------------|-----------------|
| Regular higher education | Institutions offering graduate studies programs | 411 | 371,600 |
| | Institutions offering undergraduate programs | 597 | 5,212,000 |
| | Non-degree and vocational colleges: diploma | 628 | 1,978,700 |
| Adult higher education | Broadcasting & TV (open) universities | 45 | 400,300 |
| | Professional training institutions | 409 | 351,100 |
| | Farmers' training institutions | 3 | 800 |
| | Management cadres' institutions | 104 | 153,900 |
| | Teachers' training institutions | 122 | 304,400 |
| | Independent correspondence course institutions | 3 | 15,500 |
| | Correspondence, night and continuing programs affiliated to regular higher education institutions | – | 3,333,800 |
| Other types of higher education | Military academies | – | – |
| | Self-study examination system | – | 13,691,300 |
| | Accredited private higher education institutions (offering degree or diploma programs) | 89 | 151,100 |
| | Non-accredited private higher education institutions | 1,202 | 1,130,400 |
| | Religious institutions | – | – |

Source: Adapted from (Hao, 2001: pp. 8–9; Ministry of Education of China, 2002).

place during the 1950s under Soviet guidance. Comprehensive universities have developed a range of applied disciplines, while polytechnic and specialist universities have mainly established departments of basic sciences as well as various social science fields and humanities, in many cases.

Since the late 1950s, there has been a select group of elite institutions which are privileged in terms of the resources they enjoy—the key-point universities. The original number was six in 1954, and it was increased over the years to a total of 98 by the early 1980s (Liu, 1993). The selection of these institutions was done by the government, in accordance with its planning priorities and with the expectation that they would perform as leading institutions within the overall system.

In the 1990s, key-point status has been achieved in quite a different way, with higher education institutions taking the initiative rather than the state. In the 1993 reform document, Project 21/1 expressed the state's intention to identify and give special financial support to the 100 best universities by the 21st century. It put aside significant

Table 6. Proportion of Project 21/1 Universities' Major Resources out of National Total

| Resource Item | Project 21/1 Universities' Proportion (%) |
|--|---|
| Library book volume | 25.65 |
| Assets of instrument & equipment | 38.70 |
| Bachelor's degree & sub-degree student enrollment | 18.33 |
| Master's degree student enrollment | 69.14 |
| Doctoral degree student enrollment | 86.01 |
| International student enrollment | 58.19 |
| Ratio of full professors (national average 9.77) | 18.85 |
| Ratio of faculty with doctoral degrees (national average 7.14) | 19.25 |
| Research funds | 70.10 |
| National key laboratories | 100.00 |
| National key programs | 83.61 |
| Patent registration | 72.81 |

Source: Adapted from Guo, 2003, p. 16.

incentive money so that its limited resources could be concentrated on the very best institutions. Rather than selecting these, as it had done in the past, institutions had to apply for the funds and demonstrate their excellence through institutional strategic plans. The movement has already caused competition among institutions, with some of the mergers noted earlier being made in order to increase their competitive edge. Of the pre-reform key-point institutions, over 72% were successful in getting into Project 21/1, and now account for nearly 73% of the total. Of the 27% of Project 21/1 universities which formerly did not have key-point status, over 42% are from the developed coastal region, 46% from the medium-developed central region, and less than 12% from the underdeveloped region (Zha, 2003). In spite of the open competition, hinterland institutions are thus clearly disadvantaged. Table 6 shows the striking gap in resources and prestige between the universities in Project 21/1 and all the rest.

The latest developments in this saga began in July of 1999, when the government decided to concentrate its investment on an even smaller number of universities (around 10). Project 98/5, given this name because it was approved during the centennial anniversary of Peking University in May of 1998, aims to nurture a small number of universities at a world-class level. The Project 98/5 universities are all institutions that had key-point status before the reform movement.

Privatization and Marketization of Higher Education

Soon after the founding of the People's Republic of China, all education institutions were converted to government institutions by the new leadership. This was aimed at

riding the country of Western influence and reducing social differentiation. Between 1949 and the late 1970s, the collective ideology was dominant, and individual goals were submerged in favor of social goals.

However, the *Decision on Reform of the Educational System* (1985) indicated that the state would diversify educational services by encouraging non-governmental organizations and individuals to voluntarily contribute to developing education by various forms and methods (Central Committee of Chinese Communist Party, 1985, p. 188). In 1987, the (then) State Education Commission issued *Provisional Regulations on Social Forces Running Educational Establishments*, which established guidelines for “people-run” (*minban*) institutions (Zhou, 1995).

Recognizing the fact that the state alone could not meet people’s pressing educational needs, the Chinese leadership deliberately devolved responsibility for education to various non-state sectors. In 1993, the *Outline of Chinese Education Reform and Development* stated for the first time the national policy towards the development of non-state-run education as “active encouragement, strong support, proper guidelines, and sound management” (Central Committee of Chinese Communist Party & State Council, 1993, p. 6). In 1995, China’s *Education Law* was promulgated, with Article 25 reconfirming that the state would give full support to enterprises, social forces, local communities and individuals to establish schools under the legal framework of the People’s Republic of China (National People’s Congress of China, 1995, p. 10). On September 1, 2003, the National People’s Congress (China’s national legislature) officially enacted the *Law on Promoting Private Education*, which finally put the governance of private education on a firm legal basis (National People’s Congress of China, 2002).

By 1986, there were altogether 370 private higher education institutions across the nation. This number has been steadily growing ever since, reaching 880 in 1994, 1,219 in 1996, 1,277 in 1999, and 1,321 in 2000. These institutions enrolled more than one million students in 2000 (National Center for Education Development Research, 2001). This resurgence and growth of private higher education indicates that China has already shifted from a state monopoly to a mixed economy of education. Yet only a handful of the private institutions are officially recognized by the government, and most of their students are those who have failed to gain access to state higher education institutions. In terms of the prestige hierarchy, then, China’s private higher education institutions are thus clustered at the bottom of the national system.

Internationalization and Nationalization of Chinese Higher Education

The twin forces of internationalization and nationalization are propelling current reforms in Chinese higher education. These reforms are occurring under the influence of globalization, with an evident convergence of reform policies in higher education around the world. China and its higher education system are no longer immune from international forces. In today’s Chinese higher education, there is an increasing stress on market-related notions: management efficiency and strong executive leadership; unit cost effectiveness; institutional responsiveness to socio-economic demands; effective

utilization of resources; the tendency of decentralization and devolution; and the introduction of cost-sharing and cost-recovery principles.

Internationalization combines three main elements: international content in the curriculum; the international movement of scholars and students; and international cooperation programs (Harari, 1978). As early as 1983, the architect of the ongoing reform in China, Deng Xiaoping, put forward his famous call that “education must face modernization, the world, and the future” (Department of Policy & Legislature of State Education Commission, 1992, p. 140). The internationalization of curriculum and research has been characterized by eclecticism, with curricular materials drawn from diverse Western countries and real efforts made to adapt them to China’s own development needs. Students are being sent to many parts of the world, and collaborative partnerships in academic exchange and socio-economic development have been established with many countries, allowing for interesting experiments in knowledge transfer and adaptation. Thus, different strands of China’s own evolving traditions are being linked up with various foreign influences.

Several hundred thousand Chinese students have taken advantage of the open door to study abroad, with the largest concentration in North America and increasing numbers in Europe, Japan, Australia, New Zealand and elsewhere. Officially published statistics indicate that 700,200 have been sent abroad since the late 1970s, and to date only 172,800 have returned (Liu, 2004). Since the mid-1990s, Chinese students abroad have begun to see new opportunities for a professional contribution in China, both in higher education and in industry. Thus, the number of returnees has been rising at an annual rate of 13% during the most recent 5 years (Wei, 2003). As a result, the faculty in China’s top universities are now as internationalized in outlook and experience as those in major Western universities, if not more so. One recent report indicates that 78% of the presidents of the universities under the jurisdiction of the Ministry of Education, and 62% of the doctoral program supervisors in those universities, have had the experience of studying abroad (Liu, 2004). The same report notes that 81% of academic professionals at the Chinese Academy of Sciences are returnees.

China’s growth as an international power has been accompanied by increasing calls for the revival of traditional values. The current process of selecting diverse elements and integrating them within China’s own emerging practice is an expression of the search for national identity and national strength. While in most of the earlier periods under discussion, there were one or two foreign influences that tended to be dominant, the current process is neither a matter of all-out negation of traditional Chinese culture nor all-out westernization. Rather, it represents a transition from critiquing tradition to critically absorbing tradition, from a holistic copying of foreign patterns to a more eclectic selection of what is best suited to China.

The combined effects of the deep-rooted strength of Chinese cultural traditions and the open door policy, with the increasing number of returnees from the West, have allowed China to offer a unique model of successful East-West academic integration. With Project 21/1 and Project 98/5, China has set out to make a few of its universities world-class. As these universities gain the resources needed to pursue world-class

standing, they may well bring new vitality and new cultural resources into the world community.

Conclusion: The State of Chinese Higher Education Today

Major Successes

Looking back to the beginnings of the reform program in China, it is obvious that the Cultural Revolution left a difficult legacy. Nevertheless, the reform of Chinese higher education has achieved notable success. First of all, there has been a successful decentralization process, and a new model has emerged, characterized by the localization of institutions, the diversification of their funding sources, and a dynamic responsiveness to the local economy. Related to this change is the emergence of private institutions. The movements of localization and privatization have further reduced the role of the state, increased the individuality of institutions, and mobilized local initiatives and resources. These trends, in turn, have contributed a great deal to the remarkable expansion of the system.

Higher education in China has expanded tremendously, with over a threefold increase in enrollment (from 2.1 million to 9.1 million) between 1990 and 2002. If part-time students and those enrolled in non-formal and private institutions are included, the student population in 2003 reached 19 million, a figure that represents the largest higher education enrollment in the world, surpassing even the United States (Hayhoe & Zha, 2004). At present, about 17% of China's population between 18 and 22 are enrolled in some sort of postsecondary education (Ministry of Education of China, 2004a), which means China crossed the threshold of mass higher education nearly a decade ahead of its original plan, within an education system that is receiving less than 4% of the government's budgeted expenditure. Another success is the longevity of the reform program despite the controversial nature of some of its goals. Unlike the sudden policy shifts of the past, the essential thrust of the current reform has remained intact for over two decades, despite emerging tensions.

Emerging Tensions

The sweeping changes to Chinese higher education in the reform period have brought problems as well as achievements. The first problem is the paradox of state-led decentralization, which is manifested by the disparities between the policy intention and some of the measures taken in the process of reform. The policy shortcomings of the Chinese higher education reform are somewhat heightened by the paradoxical role of the Chinese government in the reform process: initiating innovations in the universities on the one hand and adopting an instrumentalist approach on the other. As we have noted, a series of policy documents between 1985 and 1999 tended to grant more and more autonomy to Chinese universities, and bring market elements into their management and operations, while the *Higher Education Law* (1998) defined their autonomy and status as legal entities. However, these policy documents have never limited the

power of government, which still exercises the right to manage, direct and even punish the university from time to time. The overwhelming policy emphasis has been on higher education as an instrument of economic development, and any discourse on the idea of a modern university has been avoided. The emphasis has been on short-term considerations, with little attention given to the “substantive” autonomy of the university.

Second, the dramatic increases in tertiary enrollment throughout the 1990s were accompanied by disproportional higher education budget allocations. For the period 1993–2002, enrollment in the formal higher education sector increased nearly three-fold, from 2.5 million to 9.1 million, yet the average expenditure per student increased by only 50.6%, and the average public expenditure per student by only 20.2%. While the state’s tertiary funding has increased in absolute terms, it has decreased in per capita terms. This is also evident with the fact that governmental appropriations now account for only around 30% (on average) of the institutions’ annual operating funds (Tsinghua University Education Research Institute, 2003). This governmental retreat from investment in higher education has forced the universities and colleges to find their own funding—a move that could better integrate them into society, and yet has also forced them to design a market-oriented education to meet the needs of the economy. Rather than being academies for learning, universities have to function as educational enterprises. This has aroused concern over the issue of academic quality.

Third, deep divisions between elite and non-elite institutions, formal and non-formal institutions, and public and private institutions are being aggravated by the decentralization of the system, and by deliberate stratification policies. China is divided into three major economic development zones: the coastal area includes highly developed provinces, the central zone comprises medium-developed provinces and the west is a less-developed region. Higher education development differs in each region due to very different socio-economic conditions. For example, during the 1990s, the vast investments in the eastern coastal area—and the economic, scientific and technological advantages it enjoys as a result—have resulted in increasing disparities between this region and the hinterland. Furthermore, Project 21/1 and Project 98/5 have focused central resources on elite universities, which are mainly located in more advantaged regions. Even in a culture of meritocracy, this phenomenon of increasing inequity has been attracting negative attention.

Last but not least, the hierarchical structure and financial disparities affect university internationalization. Higher education institutions with prestige or in more developed areas are in a much better position to engage actively with foreign partners and gain funding to support these efforts. By contrast, institutions without prestige or in poorer areas often feel helpless when faced with the difficulty of gaining opportunities for international involvement. The increasing differentiation among Chinese higher education institutions means that the elite and better-resourced institutions can take greater advantage of opportunities brought by globalization and internationalization, which then creates a tension for them between maintaining integration with global trends and satisfying local needs.

Chinese Higher Education in the 21st Century

The objective of the current reform journey is to establish a higher education system with “Chinese characteristics” (Yang, 1998). Thus, the future of Chinese higher education depends greatly on the interpretation of “Chinese characteristics.” For more than five decades, the Chinese leadership fought over alternative goals and approaches to national development, and the higher education system served as a reactive vehicle for realizing the leadership’s development objectives rather than an autonomous institution for social change. For some years to come, higher education will likely remain a “driven” social institution, with the degree of autonomy it enjoys (*vis-à-vis* the Chinese state) depending on the extent of political reform.

Nevertheless, the decentralization process has begun, and Chinese higher education reform reflects the international context of devolution and marketization. Hopefully, ongoing reforms will nourish an intellectually vibrant and internationally competitive system. Domestically, higher education institutions will provide a foundation for national development based on science, technology, and a comparative advantage in human resources. As knowledge becomes a productive force in its own right, what we are going to see is an incorporation of higher education into the central framework of China’s society. Higher education will increasingly function as a promoter of both social and individual development. The large size and multipurpose orientation of most Chinese universities will enhance their capacity to make a transformative contribution to political and social change within China. Internationally, Chinese higher education will be keen to build an international dimension to its knowledge base by pooling wisdom with diverse countries facing similar problems, by using an international template to view domestic development in a fresh light, and by drawing international benchmarks to assess the performance of its own system.

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EGYPT

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In 2008, Egypt will likely celebrate the centenary of its first modern university, known today as the Old Egyptian University. Originally established as a private institution in 1908, it became the State University in 1925, was later renamed Fouad the First, in the name of the King of Egypt, and then became Cairo University after the 1952 revolution. There is no doubt that Cairo University—with its remarkable architecture—today constitutes one of Egypt’s leading “places of memory,” to use a term by the French historian Pierre Nora (Nora, 1997). From national historiography to cinema, from novels to autobiographies, it seems that the university campus has always been seen as an actor in—or at least a witness to—the country’s historical events (not to mention the millions of personal lives that the university has significantly changed). Like in most historical commemorations, Egyptians will have mixed feelings (and some bitterness too), when comparing the magnified glories of the past with the university’s present situation.

While commemorating the past, no doubt politicians and members of the academic community will point to ongoing reforms. Their aims are to modernize and rationalize the acquisition, transmission and evaluation of knowledge according to global standards, while driven directly by local problems—especially those of employment and employability of higher education graduates. In February 2000, a National Conference on Higher Education endorsed a long-term Higher Education Enhancement Project (HEEP)—funded primarily by foreign donors in concert with local resources—comprising 25 initiatives regarding access, quality assurance, efficiency, relevance and finance of higher education. The first phase of HEEP is to be implemented through 2007, and covers 12 priority components such as quality assurance and accreditation; the reform of faculties of education and of technical institutes; and the improvement of information and communication technologies (Said, 2004).

Today, some 12 state universities (including several branches) are spread throughout Egypt. The country’s university landscape also includes al-Azhar University, offering religious as well as secular academic courses; an American University in Cairo, established in 1920 under a special agreement; and nine private universities, established between the 1990s and 2005, enrolling roughly 36,834 students. The higher education system also includes higher and intermediate institutes, both public (around 52)

and private (90). State universities and institutes are the principal providers of higher education, with the latter enrolling about 22% of Egypt's 18–22 year-old age group (about 1.95 million registered students, according to 2004 official figures). The Ministry of Higher Education and Scientific Research and the Supreme Council of Universities exercise overall control over the system.

While the terms of recent higher education reforms seem to proceed partially from a global agenda, the outcomes will remain local. In preparing for the expected commemorations of Cairo University's centenary, authorities will try to bridge the gap between the past and the future, and will probably explain how the ongoing reforms will make a difference. But will this be the same university? If the time has come for virtual universities, what is the role of the campus and prestigious buildings? Higher education graduates and students constitute a significant part of the population as well as a key factor of the political equilibrium, in a society that is still characterized by a high rate of illiteracy. Therefore, we should expect that higher education's stake will not be reduced to managerial or technical aspects, while sociopolitical considerations are somehow absorbed into academic dimensions. Should we dissociate higher education from what have always been the representations that were associated to the campus as a public space: success, social status and social mobility, the best jobs and salaries, self-esteem and dignity, contentious politics and citizenship? Will higher education remain among the public goods, and who is entitled to define the frontiers of public goods? How can a symbol of national pride become a national burden? How does the State's orientation meet with the individuals' expectations, and how are these multiple and changing expectations affected by a set of socio-political variables, including employment, the social value of knowledge, and new forms of social inequities?

While it is clearly difficult to answer these questions about the future, they frame an intellectual context in which this chapter will examine the socio-historical construction of a set of dilemmas, questions and representations that are associated with the acquisition of the highest form of knowledge. As in other Third World countries, higher education in Egypt has been deeply rooted in a modernization and nation-building narrative. Collective as well as individual dreams for a better future have been encompassed in higher education's promise, although nowadays, it seems to be associated with the counter-narrative of the failure of modernization. Indeed, from the lack of democratic values to unemployment crises and weak industrialization, higher education has been rendered responsible for a series of problems. The first part of this chapter will examine the questions and the conditions of the formative period at the beginning of the 20th century, then turn to the heritage of the 1960s—a period that had long-lasting and decisive effects that are still present in Egypt. Finally, the chapter will focus on three major items of contemporary debate—quality assurance, corruption and privatization—and the ways in which they may introduce changes in the higher education system.

From Philanthropy to State University

Beginning in 1990, severe criticisms were directed toward higher education in the Arab world, lamenting the conditions of knowledge transmission and acquisition in overcrowded campuses; the inadequacy of qualifications with job market prerequisites

as well as with fundamental research necessities; the social selectivity of admissions; the geographic disparity of access; the gender gap in student participation; and the imbalance between humanities and science programs (UNDP, 2003). One response was that, compared to the Europeans, universities of the Arab world had a late emergence in an inadequate context, and were designed according to a pattern that was already beginning to face a crisis in its original context. This is at least what is suggested by the Egyptian demographer Nader Fergany, editor of the well-known Arab Human Development Report. According to Fergany, “Higher, especially university, education has already achieved in industrialized countries widespread coverage, at a high level of quality, in an integrated (social, economic, political and cultural) context that was partly made possible through the active contribution of higher education itself. Such societal context is far from complete in Arab countries and, in particular, higher education did not contribute to building such a context yet. Perhaps the most salient feature of modern higher education institutions in the Arab countries is their relatively recent origins” (Fergany, 2001).

Focusing on the case of the Egyptian university at the beginning of the 20th century allows us to formulate significant questions about the stakes of the formative period. For example: Who were the founders? What did they have in mind when they thought about a university? To what models were they referring? And to start with, what was particular about this new establishment and how was it going to fit with the other components of Egypt’s educational system at the beginning of the 20th century?

The state system of education was established in the 1820s under the reign of Muhammad Ali, Viceroy of Egypt (1805–1849), who governed the country on behalf of the Ottoman Sultan. A top-down, integrated and selective system of official primary and secondary schools led to prestigious higher schools, according to the needs of the state apparatus, and graduates were systematically oriented to the army or civil servant functions and gained a prestigious social status. They were in essence adopted by the state. Scientific missions, foreign advisors and teachers, and studies abroad were seen as essential parts of this system. Parallel to this was the *azhari* system, where the aims were different; after a few years of Koranic basic schools, students could have access to al-Azhar University and leave it at any age. The degrees earned through this system were rather authorizations to transmit knowledge and to perform religious rituals. By the end of the 19th century, there was also a set of missionary schools and private Egyptian schools founded by philanthropic elites. This allows us to understand why the founders of the first Egyptian university stressed two particular dimensions—for them, a university meant both all branches of knowledge as well as knowledge that was different from what already existed within the state’s higher official schools.

It is worth noting that the political context was first marked by British colonial rule (1882–1922), and that educational policies were among the major grounds in the battle between national elites and foreign domination. For educated elites, this had to do with patriotic feelings as well as social mobility perspectives and political leadership. While a national movement for an Egyptian university was launched in 1907 and raised substantial donations from educated elites and rich landowners, under the patronage of Prince Fouad the First, intellectual debates were addressing the aims of the new establishment and raising questions and criticisms. Since 1890, there had

been suggestions about merging the various higher schools into a university, while other debates addressed possible patterns and examples like the Muhammadan Anglo-oriental College (in India) or the Syrian Protestant College of Beirut. These models seemed unsatisfactory to the Egyptians, as these universities didn't teach all disciplines (like Oxford).

When Cairo University was inaugurated on December 21, 1908, initial programs of study focused on history and humanities, particularly western knowledge about Arabs and Islam (or what was commonly known as orientalism), taught mainly by foreign professors. This was something effectively different from what was already taught in higher official schools, and such knowledge was not directed toward preparing for a civil servant career.

A brief description of the university's formative years (Bedayr, 1950) indicates that this modern, secular, somehow mundane yet enlightened institution followed the pattern of al-Azhar, while incorporating some common features of early European universities (such as Heidelberg and the Sorbonne during the Middle Ages) (Le Goff, 1985). The result was an open institution for broad cultural diffusion, embracing knowledge for the sake of knowledge. Among regular students, belonging to several nationalities, there were civil servants, teachers, judges, lawyers and members of other liberal professions (like writers and journalists), and even ladies from high society. However, the majority of students were those who were already students of the high schools or al-Azhar, seeking another kind of knowledge.

It is important to note that between 1908 and World War I, the university sent to Europe about 50 of its students in order to prepare them to assume staff and leadership roles in the university. Among them were many children who were sent to primary education in European schools. This is not to say that the Egyptian society had no modern idea about childhood education, but rather, that the modern civil institutions were perpetuating state practices of the 19th century as well as the Court *habitus*: in fact, young Prince Fouad himself was raised in Italy.

University professors were either Egyptians or Europeans with a variety of profiles and credentials, ranging from azhari graduates to famous orientalists, or "cultivated gentlemen." Years later, the criteria for measuring academic competence were spelled out more clearly, but the cosmopolitan feature was still in effect. Between courses at home and missions abroad, a network of foreign masters and Egyptian disciples developed. Through this system, Durkheim's ideas were diffused through his Egyptian students, while young French teachers at the university became great names upon returning to their home countries—like Alexandre Koyre, the historian of sciences. Under the state university policies and the progressive trend of Egyptianization, there emerged several struggles placing Egyptians in opposition to foreigners (mainly British). However, in other cases, Egyptians had access to professorial positions simply as disciples and successors of their foreign teachers. To this we should add a serious competition between the French and British over the new institution. One should note that with foreign teachers at home and national students abroad, this early internationalization of knowledge, although unequal, did not have to wait for free trade agreements, and in spite of modern facilities, moved across political borders more easily than today. Some researchers raised important concerns about scientific societies in Egypt at that

time, particularly regarding the pros and cons of European influences in academe: for example, should we speak about colonial sciences or universal scientific knowledge?

Hybrid practices within the first Egyptian university were balanced by progressive institutionalization: the courses were organized in a faculty of arts, exams were made mandatory, and the university delivered degrees and even doctorates. However, since its establishment there was a critical question related to state recognition and accreditation, and hence, eventual access to public employment. Significantly, the issue was raised when the university began to negotiate official positions for the students who had returned from their missions abroad. An unemployed “Docteur d’Etat” of the Sorbonne was something that no one could accept. Around World War I, the university was characterized by a decline in the number of registered students and by a financial crisis. In 1917, there was another trend toward a state university and the argument was quite similar to that of 1907; higher schools are not enough.

A long process of negotiations between state authorities and the university eventually led to the foundation of the State University in 1925. It is only with this foundation that “academia as a new profession” was established in Egypt (Reed, 1991, p. 83). The originally private philanthropic institution, which was gradually transformed into a Faculty of Arts and a newly founded Faculty of Sciences (based on the previous scientific branch of the Teacher’s College), was merged progressively with the state’s higher schools (law, medicine, engineering, etc.) under the single banner of Fouad University. It is worth noting that the American University in Cairo was inaugurated in 1920, and that at the time the British representatives in Egypt were not hostile to the State University, although they had been reluctant to accept the philanthropic institution established earlier in the century.

In the mid-1930s, a series of rather independent factors contributed to reshape—for quite a long period of time—the face of the State University. On one hand, students began demonstrating against corrupt political elites who failed to achieve Egypt’s national independence. This was by no means their first form of political activism, as they were usually engaged in anti-colonial actions. However, contesting the national political elites revealed a new potential for the students’ movement—to serve as a protest movement. What was known in Egypt and other Arab societies as “the youth years” should be considered within the scope of youth movements that emerged in Europe during the same period. On another hand, there was a conjunctural employment crisis following economic depression, and the state—the main employer—was unable for a while to provide jobs for graduates. University students were thus demonstrating against both corrupt leaders and the lack of jobs. It is worth noting that although there was no codified state obligation in terms of employment, students’ and graduates’ claims were considered fully legitimate. At the same time, Egypt was experiencing broad worker unemployment and underemployment (although unemployment among illiterate workers was considered an entirely different phenomena), and while this was treated in the realm of larger social questions and the battle against poverty, delinquency and dangerous class containment, the unemployment of graduates was considered to be merely a political issue (Farag, 1999a, 1999b). It is obvious that as soon as the university was labeled as a state university, it brought heightened employment claims and expectations. While the financial crisis was presented as the main reason

for the collapse of the first university, one may wonder about a set of multiple and complementary reasons related to the viability of the pattern; the university could not make it without the state's umbrella, while the state's umbrella was simultaneously translated into legitimate expectations of access to employment.

Toward Mass Universities: The Heritage of the 1960s

When a group of officers launched the July 23, 1952 Revolution and put an end to the monarchy, Fouad the First University was re-named Cairo University. However, some facts about the social and political impetus of Egypt's universities were already well established. A university degree had become a prestigious social asset, providing access to the most distinguished and well paid jobs. Academia was at the heart of intellectual life, and being a professor at the university was seen as the highest level of excellence, giving social prestige, good salaries, political careers, access to the media and the legitimacy that authorized professors to give their opinions on questions far removed from their academic specialties. The campus was a significant component of the polity, and university students were the most visible group acting politically; they constituted properly the wealth of the nation, and hence their demands and claims had a significant political impetus. The campus was thus a very particular and central place, and—despite its lack of autonomy from political power—had its own rules of the game. This was the set of representations that the Free Officers inherited from the Old Regime, which can be summed up in one sentence: if there was a prominent citizen in Egypt, he was a higher education graduate.

Free education began in 1950, starting with the primary education level and then extended to other levels progressively, eventually including higher education in 1962. During these years, the ideal type of a higher educated “son of the revolution” could be described as follows: he belonged to a poor family, his father was a worker who was benefiting for the first time in history from codified working conditions and a secure job in the public sector, or a peasant who had access to land property thanks to the agrarian reform. The young higher educated were mostly represented as an engineer—one of the actors of Egypt's industrialization—or a physician contributing to the well-being and modernization of a backward country. From movies to social realistic paintings, this image of the university graduate constituted the basis for a social contract. It is still difficult to measure how far the representation was effective. Several investigations demonstrate that most of those who benefited from higher education already possessed social assets that enabled their access to free higher education. A majority of them were sons of white-collar families. Urban and middle-class biased social politics comforted social reproduction mechanisms. Still, new social groups had an uneven access to higher education. Most important is the fact that education was established as the main channel for social mobility as well as a means for correcting what has been presented as centuries of injustice and deprivations. Although times have changed, mentalities have not; it is not exaggerating to say that people's expectations still carry this emotional and symbolic charge that associates education with dignity, and knowledge with social power. This can justify in a sense an approach that supercedes classical political chronologies to focus on change and permanence in expectations. In sectors like education or health, it

takes years and generations before public policies produce facts, social conducts and representations that validate their reality. As described later in this chapter, a number of changes may have affected the social (as well as political) contract, including changes in value systems, disconnections between wealth (or at least well-being) and knowledge, and what is known in Egypt as the erosion of the middle class.

The 1960s had another major effect on higher education, by consolidating the relationship between education and employment. Under the old regime, this relationship was already well established. During the 1960s, what had been a political norm was consolidated and took the legal form of a formal commitment by the State to secure jobs in the government administration and in the public sector. It was first applied to higher education graduates (in 1961–1962) and then extended to graduates of secondary schools and technical education (in 1964). It should be noted that at the time, private sector employment opportunities were considerably reduced, and in addition to better salaries, employment in the public sector was stable and complemented by a series of social guarantees. In a sense, one can say that guaranteed employment gave a boost to education, at least within some social groups. For about a quarter of a century, solid expectations considering higher education were fostered and deeply rooted.

This state commitment to providing employment has been progressively abrogated since the end of the 1970s; the public sector still does recruit higher education graduates, although in reduced numbers. It is important to note that for those graduates who have limited social capital and nothing to compete with on the job market except their degrees, employment in the public sector and the government remains a first (and yet sometime inaccessible) choice. Despite weak salaries, these positions offer a level of job stability, retirement and health insurance benefits that most of the private sector companies or the informal sector cannot guarantee. Further, most young educated people do not seem convinced of the potential benefits of self-employment. In addition, reduced bureaucratic working hours allow those who work for the government (regardless of their academic qualifications) to hold a second or even third occasional job in the so-called informal sector, which is becoming larger than the formal one. Multiple employment activities have become the norm, and several researchers have demonstrated that young educated people are learning how to live with uncertainty, how to deal with changing circumstances and to develop nomadic working strategies (Tourné, 2003).

However, the expanding private sector has so far been unable to compensate for declining state employment opportunities, while migration opportunities to Gulf States—a strong employment market—were drastically reduced. While trying to earn a living through occasionally, weakly regulated and more or less temporary jobs (that do not correspond to their academic background), most higher education graduates today actually face two competing and complementary prospects. On one hand, small and micro-projects are offered to encourage young entrepreneurs to develop into big entrepreneurs. On the other hand, for a few highly qualified graduates with additional skills, impressive social networks and selective academic backgrounds, there are prospects for highly remunerated positions in certain sectors of the economy related to technological and managerial competencies. Here, the job market is no longer a national one, but is instead tied to global standards.

Contemporary discrepancies of employment in Egypt lead some commentators to speak about the failure of the educational policies inherited from the 1960s. In their opinion, the expansion of higher education was nothing more than an attempt to produce a populist response to people's expectations, and was not preceded by a coherent vision about what to do with the higher educated.

Impact of the Expansion of Higher Education

Were Egypt's higher education expansion efforts a failure or an overt success? A closer look at some of the dynamics related to the expansion and its internal effects on higher education is instructive. In its first academic year (1925–1926), the State University had only 2,027 students. By 1983, enrollment had reached 150,000—even though, according to a UNESCO-sponsored study, Cairo University's buildings were appropriate for only 35,000 (Reed, 1991, p. 221). What goes for Cairo, which benefited from the exceptional historical conditions of its foundation, goes for most of the other 11 universities in the country as well, in terms of limited physical space used by increasing numbers of students, academic staff and administration. This in turn has impacted the conditions of learning and teaching in overcrowded amphitheaters. The already authoritative relationship between professors and students has been reinforced, and magisterial courses tend to replace class discussions. In some departments, students have come to the conclusion that attending courses is relatively useless, and for them the campus remains more of a leisure place where they can at least meet their friends. With growth in enrollment, teaching and learning also rely more heavily on textbooks and notes, amid a scarcity of resources in university libraries, although in some disciplines, private lessons are helping students succeed in their exams.

Further, an already unsatisfactory student/faculty ratio was aggravated during the 1970s by an important wave of Egyptian academic migration to the Gulf countries. This migration has additional social effects, particularly by widening the gap between the standards of living enjoyed by those professors who migrated to the Gulf universities (where they received substantial salaries), and those professors who remained in Egypt, whose salaries appeared insignificant and undervalued by comparison (Reed, 1991, p. 216). Since the 1970s, teaching staff salaries have remained low and particularly incongruent with the perceived social status and prestige of academic positions. Further, while Egypt exported academia to the Gulf countries, it imported several forms of conservatism as well as new lifestyles and modes of consumption.

The expansion of higher education in Egypt was geographic as well. After Cairo (1925), universities were founded in Alexandria (1942); Ain Shams (1950) and Hilwan (1975) near Cairo; Assiout (1952), Minia (1976) and South Valley (1994) in the south of Egypt; and Tanta (1972), Mansoura (1972), Zaqaq (1974), Menufiyya (1976), and Suez Canal (1976) in the north of Egypt.

The original pattern of a campus—i.e., that of Cairo University, with its impressive physical presence—was still effective, at least as a pale shadow, but the resources were diminishing. The conditions for establishing the newest public provincial universities seem less comfortable. To begin with, most of the recent ones were established as branches of main universities, remaining so until seven faculties met the requirements

that enabled them to be gathered under the title of an autonomous university. Today, critics nostalgic for the past still recall that it took seven years to establish Assiout University, and that a comprehensive and integrated body of advanced students was sent abroad years earlier to prepare them to become the academic staff. According to some commentators, it is political pressures and not the ability to satisfy prerequisites that dictate the foundation of universities. Today, the total number of state universities could increase from 12 to 20 simply by decrees merging branches into universities. However, the Egyptian authorities seem reluctant to reform traditional practices. Still, there are campaigns in favor of establishing new universities to absorb the growing number of secondary certificate holders, under identified and fully recognized umbrellas; to rectify geographic disparity, which is seen as a social bias; and to provide deprived provincial centers with new faculties. Overall, despite expansion (primarily during the 1970s), real access to higher education in Egypt remains far below international standards, particularly in terms of the size of Egypt's population and its demographic growth.

The so-called provincial universities deserve particular attention in this discussion. Under the conditions of their establishment, the number of faculty in provincial universities has been historically lacking, and has typically not met the basic requirements of a coherent and integrated foundational education. Although decentralized, they rely heavily on the central universities, especially concerning teaching staff. Over-reliance on the "express professor" (a variant of the "taxicab" professors of Latin America and elsewhere) is surely one of the main reasons for a lack of scientific achievement in many of these universities. Some commentators add that provincial universities are more subject to pressures and interventions from local elites, and are less transparent in terms of management, accountability, and public resource allocation. Paradoxically, some new provincial universities seem to be too close to Cairo's political centrality, while too far from Cairo concerning other aspects of higher education development.

Despite these considerations, if one needs to qualify the relationship between higher education and social change in Egypt, provincial universities constitute an ideal unit of analysis in that they introduced major and radical changes in the dynamics of the provincial cities. Here, as elsewhere, what a campus means socially and politically ranges from a myriad of small shops and coffeehouses to political demonstrations. In the relatively quite conservative south of Egypt, it means much more visibility in the public space for female students. Additionally, recent figures have shown a dramatic reversal of migration patterns away from Cairo and instead contributing to the population growth in middle provincial towns. Universities may have been one of the main factors in this transformation. However, from a social history perspective, there is certainly room for more research on higher education.

In general, universities provide privileged spaces where boys meet girls, and where demonstrations and the collective and public expression of discontent are allowed. Knowing that, any sociological attempt to understand the history of Egypt should consider the role of the university campus. Students coming from different and multiple social backgrounds experience a new environment and face different *habitus*, manners and ways of presenting oneself. Fashion—Western dress versus Islamic veil—offers an arena for confrontation and cohabitation, as does political discourse, reflected in

frequent confrontations between university security offices and activists students (either leftists or Islamists).

Focusing on the role of the campus in social change should not lead us to neglect the forgotten and impoverished rural areas, as well as some urban and semi-urban ones. Here, the population is still far from benefiting from adequate basic services, especially in education, health and sanitation. And even if free educational services are said to be available, at certain levels of poverty people cannot benefit from it. In this respect, and despite the expansion of higher education and the growing numbers of university students, Egypt still maintains the social contrasts between illiterates and highly educated graduates.

Students and Graduates of Higher Education

Who are Egypt's highly educated? An examination of the concrete modalities of access to the universities and the way they affect the composition of student cohorts yields interesting findings. Since the mid-1950s, a central administration (the Placement Bureau of the Ministry of Higher Education) has been responsible for providing admission to universities and institutes, within the framework of numerous regulations imposed by the Supreme Council of Universities. Apart from the aptitude tests used to determine access to particular disciplines, admission to all higher education faculties depends on the scores a student achieves on the Secondary Examination Certificate, a nationwide examination which is increasingly taking the form and function of a highly selective and exclusive academic competition. While about 75–80% of applicants are accepted into universities, the remaining portion is distributed among public and private institutes, which constitute an integral part of the higher education system, although they are often socially devalued when compared to the universities.

High scores enable access to distinguished faculties: the better the applicant's marks, the more choices are open for him or her. High scoring applicants usually prefer prestigious faculties, who accept few students, while others are driven towards less prestigious and more numerous ones. Though the rigidity of the system has been the focus of much controversy in recent years, alternative methods of university acceptance—such as institutional evaluation exams—do not seem to be under consideration. Beside orienting students to academic studies that are not corresponding to their wishes or aptitudes, this kind of scientific and practical equity has in fact several kinds of structural limitations. The first is obviously a social and scientific hierarchy between faculties, disciplines and universities; emphasis on elite faculties (including medicine, engineering, and political science) has led to a steady depreciation of humanities and social sciences, while the so-called hard sciences are much more valued (both socially and academically). Scientific faculties recruit far fewer students, while other faculties are open to those applicants who have fewer choices.

This situation is far from being new, as the Egyptian philosopher and specialist of English literature Louis Awad (1914–1990) observed during the 1960s. He criticized the state's overemphasis on technology and technicians, arguing that excellence should be applied to forming creativity and exceptional minds, including in philosophy and humanities, and that knowledge should follow neither job market rules nor the dictates

of development and industrialization policies (Awad, 1964). Further, as many critics have noted, elevating certain disciplines to an elite status, and limiting their student enrollment (and by extension, the number of graduates produced), is actually detrimental to the long-term scientific advancement of the country.

This problem has not been unique to Egypt. Indeed, a recent Arab Human Development Report concludes that since the 1960s, the misallocation of human resources in sciences and technology has led to a widening technological gap between the Arab countries and the rest of the world, resulting in a lack of scientific culture as well as having negative effects on economic productivity. Further, according to the Report, overcrowded universities—a situation that applies particularly for Egypt—have been driven by political and populist considerations rather than by an assessment of the country's needs (UNDP, 2003).

Beyond the impact of discipline-based issues of higher education enrollments, one must also consider how the social background of a student influences their access to the university. The great majority of students who obtain high marks on the nationwide Secondary Examination Certificate come from private secondary schools, where they benefited from a better education—or at least better conditions in less crowded classrooms—while their families could also afford to provide them with expensive private lessons. The hierarchy between disciplines was slightly modified according to job market conditions and demands for new qualifications. Beginning in the 1970s, foreign languages gained more importance because of the expansion of the tourism sector and Egypt's open door economic policy (which relied on foreign investors and companies). More recently, computer science has become a top choice for degree-seeking applicants to higher education. Many students who seek eventual state employment attend colleges of education, because teacher recruitment is still important. Such diversity in higher education opportunities (and in a student's access strategies) requires consideration of diverse job markets. If we add to this the other types of cultural and social capital an individual may have, it is obvious that equivalent degrees do not make for equal graduates. Employment opportunities in Egypt are heavily dependent upon such considerations.

Finally, among the heritage of the 1960s we should note a deep differentiation within the body of higher education between universities and the so-called institutes, both public and private. Institutes are less prestigious, because they constitute the last chance for those who were not able to obtain access to state universities. Their relatively low place in Egypt's higher education hierarchy has some impact on the self-image of these institutes and their members. For example, research conducted in one of the particularly well-equipped technical institutes found that symbolic and verbal violence, if not physical, was the main feature of relationships between teachers, students and administrators (Farag, 2004). A number of other differences exist as well. Unemployment among graduates of institutes is much higher than for graduates of universities. For some observers, this has to do with the curricula of the institutes and the abilities of its graduates. Also, in recent years, there has been an uneven expansion in the number of private institutes, resulting in broad criticism towards these institutions, ranging from concerns over the lack of state scientific control to allegations that some institutes make false promises and charge over-exaggerated fees. Thus, some argue,

students without access to the universities are paying a lot, not for knowledge but for an under-valued degree.

Significantly, a recent debate deals with the growing number of private higher education institutes, which are designated as “academies.” While it is obviously an attempt to by-pass the stigmatizing label of “institute,” it appears that there are no clear criteria that allow using this label, which will likely be condemned to stigmatization as well. Far from the prestigious universities, private institutes are often seen as part of a corrupt market, strictly driven by profit and lacking any academic considerations. In essence, as Donald Reid (1991) aptly observed, the legacy of higher education during the 1960s is that a “job was secured by the state, and high university enrollments and widespread illiteracy went hand in hand . . . the prestige of general academic schools and white-collar employment kept technical and vocational schools anemic, and the slow pace of industrialization pushed the government into becoming the employer of last resort” (p. 186).

Old Debates and New Actors

In a controversial book about the educational institution, a French sociologist noted that education is always under a continuous reform (Milner, 1984). The reason is that concrete realizations remain by definition far from the educational ideal. Contrary to other public policies such as health, transportation or sanitation, it seems that societies are never fully satisfied with their educational systems. While it is surely difficult to evaluate such a general statement, it seems correct in the case of Egypt. Every new cabinet brings new plans. In the newspapers, the debates on education are continuous and often seem to be the most sensible meeting point between state policies and social practices. Reforms also take the particular form of reports that are widely discussed and publicized and which actually constitute the self-history of the educational apparatus. From the 19th century’s “Reports to their Royal Highness” to the now-obsolete “Perspectives for the End of the 20th Century,” this kind of literature measures progress accomplished and gives us an idea about the way Egypt’s rulers think about the future of the society, even if the analysis remains attached to formal aspects and quantitative measurements.

It is also worth mention that official and semi-official critics are sometimes much more severe than informal ones. Interestingly, the American report “A Nation at Risk” (1983) has been widely cited by Egyptian commentators: for them, if the educational situation is so alarming in the most powerful country in the world, what could we say about Egypt? It seems obvious that Egyptian commentators are not familiar with the critics of this report (Gabbard, 2003).

Will the ongoing reforms follow the same path? While it is difficult to estimate their future outcomes, it is clear that most of the identified problems are by no means old ones. It also bears mention that a partly new language—which is both technical and political—is emerging. Finally, in spite of a steady reform scheme, there is a set of new social actors more or less institutionalized, whose interventions will feature prominently in the future of higher education, as well as the formulation of its actual problems.

In recent years, several factors have contributed to transforming the pattern of the relationships between Egyptian higher education and a new set of actors. To begin with, one should mention the growing influence of foreign aid devoted to higher education enhancement—foreign donors are not exercising pressures per se, but there is clearly a lack of solidarity among the interests and points of view between them and their local counterparts in the national bureaucracies and among national experts. One should also mention the key role of some political institutions in giving support to particular reforms, like the prominent “Policies Committee” within the ruling party (National Democratic Party), headed by the son of President Hosni Mubarak. New forms of privatization, involving wealthy businessmen with connections within the state apparatus and the political elite, have also had a significant impact. The formal political arena has seen a renewal of some prominent actors like the Education Committee of the Peoples Assembly, headed by an influential politician (who is also a businessman, while belonging to academia). What seems important to underline is the multiple social identities of those actors who can shift from one formal position to another. We may also mention the pressures coming from beneficiaries and public opinion, provided that we take into account that the latter is not a unified entity. Indeed, the growing diversity (in the forms and institutional frameworks of higher education) has deepened the conflict between multiple and divergent social interests.

Such a multi-dimensional perspective allows us to understand the recent features of higher education that have been discussed as the most salient and urgent. Quality assurance, corruption and privatization seem to focus much of our attention, and this influences the actors that are involved in the reform of higher education in Egypt.

Quality assurance was first introduced into the educational debate as an element of the package called “following global standards.” Political endorsement proved to be effective in transforming the slogan into a project. A national independent institution for quality assurance is currently being implemented. Here (as elsewhere) the focus is on the ability to compete on the international level, and there are references to the experience of southeastern Asian countries. Such an institution will not be in charge of solving educational problems but will evaluate quality and conceive differential policies according to quality. Although the pattern is an international one, the Egyptian context poses several questions, such as how to prevent such an institution from becoming a bureaucratic prestigious committee. Another question involves the criteria for determining quality and standards. On one hand, international standards seem too high to apply to any of the components of Egypt’s educational system. On the other hand, locally adapted criteria may comfort the status quo and will not be enough to improve the competition for quality between educational establishments, which is among the major aims (Al-Ahram, 2004).

Other questions relate to the political as well as administrative autonomy of a national institution for quality assurance, and how it may curb the scope of action of other institutions, individuals and networks. As it has been proven for comparable bodies, being directly accountable to the presidency or the prime minister (rather than to the ministry of education) does not appear to constitute a sufficient guarantee of institutional authority. Overall, quality assurance constitutes a key term in a partly new vocabulary that allows new agencies to identify some of the problems of higher education.

A similar challenge to quality stems from what has been known as academic corruption. The debate over corruption is far from new; indeed, in 1994 a famous book written by a journalist identified several figures of corruption within the university (Hashim, 1994). However, it seems that there are new voices from inside and outside academia who are willing to confront corruption and are working on new methods to denunciate it. This is partly the content of a Declaration for Reform, signed in July 2004 by more than 100 professors, addressing basically the political autonomy of the university. In the media, regular investigative campaigns periodically uncover more or less anecdotal stories, where students are obliged to purchase expensive textbooks written by their professors as a condition for passing exams or even attending the courses. Such practices are semi-officially tolerated, as they are merely considered as compensatory measures resulting from weak salaries. Private lessons may constitute another type of corruption. In some cases, results of exams have been modified to guarantee success for sons of professors or political personalities. Among academic staff, several cases of plagiarism have been noted. Equally disconcerting is the lack of transparency in the procedures of academic upgrading and promotion of the teaching staff, where personal considerations tend to overcome meritocratic ones. Finally, master's and doctoral studies constitute another field of potential corruption, as advanced students remain under the personal (and sometimes arbitrary) control of their supervisors. We should add that some of these cases have been taken to court, while university authorities deal with others.

It is pointless to ask whether corruption constitutes a series of numerous isolated cases or a nationwide phenomenon. If academic corruption constitutes a system, one must address those components and reciprocal arrangements that allow a system to function. Some commentators note that academic corruption is simply the way universities are influenced by the overall society, while others recall a time when academic ethics were perceived as a model that should be diffused from the university to society.

Finally, new forms of privatization in higher education deserve special attention. Several years ago, partial privatizations were implemented within public universities. State universities introduced foreign language programs for which tuition is charged, allowing students originally from private foreign language schools to follow a curriculum partly in English or French. This ensures a higher quality education and better job prospects for those individuals already endowed with economic and cultural capital. Furthermore, some private schools are authorized to award diplomas from foreign secondary schools. Their students are thus able to avoid the nightmare of the Thanawiyya 'Amma (nationwide final secondary school examination), which simplifies access to the university (Farag, 2000). Since 1998, an Open University Cairo center has been devoted to those who were not able to join the university under standard conditions.

In spite of the numerous forms of privatization, it seems that Egypt's newly-established private universities have been the focus of much recent attention primarily because of political reasons. Although these institutions have gained some amount of political and social acceptance over the last few years, there are still questions under consideration, and it seems that the formative period has contributed to even more questions. What is striking is the fact that within the small number of private universities, there is already a classification that distinguishes among them the "most

serious” (in terms of scientific reputation), which are also said to be “the least capitalist.” These were established with close relationships to foreign country partners (including German, French, Canadian and British), although all new private universities are strictly Egyptian. Indeed, most of the contemporary criticisms about private higher education concern the other universities that were established during the mid-1990s.

Although six years do not constitute a sufficient period for an evaluation, and looks like a quite arbitrary time horizon, the growing conflicts between the higher education authorities and private universities seem to have accelerated such a critical appraisal. Among different opinions and sources, we can rely here on what seems to be the most substantial one, which is a report of the Education Committee of the People’s Assembly (Parliament).

The report first notes growing criticism against private universities in recent years, including accusations that they do not correspond to the needs of the country, nor do they provide new specialties or research and training facilities. In addition, there are flagrant irregularities concerning rates of admission, numbers of admitted students, regulations for exams, and rules of transfer from one university to another. Critics also point to the fact that private universities make profits at the expense of quality. The report also notes the overlap between institutional owners and administration, and the negative effects of this on academia’s autonomy. Further, a cursory review of the lists of founders and owners, administrators and even professors and heads of departments, reveals that some universities—not all of them—belong to the “family business” category. Thus, among the recommendations of the report is the necessity of disengaging ownership and administration.

The lack of financial transparency—along with archaic management and budgetary procedures—has been another point of criticism. But perhaps the most critical argument of the report has to do with the initial purpose of the private universities; they were legitimized for years as the sole provider of new and advanced disciplines that public universities could not offer. However, the report notes that the curricula do not differ from those of public universities, and that the mediums are rather traditional. Instead of emphasizing the most attractive disciplines and providing access for those who can afford high tuitions, private universities should work for the future of Egypt, according to the report.

These criticisms speak to the incoherencies of a whole system. Once an official authorization is given to establish a private university, people tend to consider this as a state recognition for the degree, but from the state’s point of view, recognition does not mean systematic equivalence; indeed, the latter depends on the Supreme Council of Universities. The same problem is raised for foreign students and the recognition of these degrees in their home countries. In 2003, private universities had about 32 faculties, and some 16 degrees were recognized as equivalent to those of the state universities (Al-Ahram Al-Iqtisadi, 2003).

The case of private universities in Egypt provides an example of the intersection between the political and academic worlds, and involves issues of both political and scientific legitimacy. One could say that the magnitude of this debate has become disproportionate to the small number of private universities or students enrolled in private universities. However, the debate does correspond to the predictable conflicts of

interests and the political costs that entail any establishment of private versus public arrangements. Also, it bears mention that an important part of the foundation costs of some of the private universities were covered by loans from the banks. One should also note the social and political power of wealthy families who were able to pay for high tuitions, and have since felt betrayed either by the Egyptian state (for failing to provide quality higher education to its citizens) or by the private universities' promoters (for promising a level of institutional quality that has yet to be delivered), if not both. According to some observers, most of the private universities are nothing but profit-driven projects, which have nothing to do with the values, aims and academic disinterests that motivate such establishments in other parts of the world. One may wonder about such an idealized representation.

To illustrate the scope of the conflict, one can look to an anecdotal but still revealing event; for an entire week, a private university published a full-page advertisement in several daily newspapers—under the title “Address to the Public Opinion”—to claim the innocence of the university against false charges and allegations, and to denounce arbitrary state bureaucratic measures. The climax of this drama came a few months later, with the death of the university's founder.

However, it seems that the private university experience has created the foundations for future forms of privatization, while contributing to new questions and doubts. For example, a debate has ensued about so-called parallel higher education, which consists of admitting a proportion of students to public universities, although their secondary examination scores were below the standards set by those universities, who are required to pay high tuitions. The idea is that they can benefit from the same curricula, same teaching staff, and within the same campus, but during different hours of instruction. This projected system has raised detailed questions about rates of admission and the proportion of admitted students, as well as practical questions about the “time-sharing” system of the campus. However, the basic idea of this two-fold system of higher education (free during the day and privatized by night) must also be questioned. The defenders of the system argue for the resources generated, which can help in enhancing the quality of public universities and supplement academic and administrative staff salaries. On the other hand, critics note that while financial arrangements can help, they do not provide adequate solutions for the complex academic problems faced by Egypt's universities.

Conclusion

In conclusion, it may be said that job market considerations and economic conditions in general have already affected social choices concerning higher education. It is also obvious that the system will have to go through further adjustments, although it is not easy yet to identify precisely the amount of social costs or the victims. The classical dilemma of equity versus quality has to be put in a multidimensional context. Some analysts assume that the decline of knowledge rewards (in terms of job, wealth and social positions) is leading to a devaluation of education. One should distinguish in fact between two kinds of considerations. On the one hand, there is a widening gap between expectations and possibilities; university graduates in Egypt are either fighters

or privileged. On another hand, it seems that education as a value remains solid, even (and particularly) for those who cannot have access to it. This is at least what has been proven in the past. Further investigation may confirm it for the future.

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FRANCE

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Describing the higher education system of a country always brings to mind how idiosyncratic such systems are and how what seems obvious for local inhabitants may appear strange and lead to difficulties in comprehension for external observers. On the one hand, it is tempting to simplify complexity in order to keep the text readable but, on the other hand, one must go into detail in order to avoid false similarities. It also inevitably leads to somewhat overemphasizing the specificity of each country in order to better characterize it. This chapter will not escape these biases. In the first section, the particularities of the history of universities in French higher education will be stressed. In the second one, the main features of today's French higher education system will be described. In the third section, some reflections and data on the French academic profession and its related academic labor markets will be presented. The final section will deal with the ongoing evolutions and the forthcoming challenges of higher education in France.

A University Framework Inherited from the Middle Ages but with Recent Universities

France has a long university tradition, being one of the first countries where the university was created (around the end of the Middle Ages).¹ But, as argued by the French philosopher A. Renaut (1995), it would be wrong to understand the present higher education system as the direct product of this long tradition. The history of French universities is not one of continuity but of ruptures that sometimes even provoked their disappearance (Verger, 1986). For this reason, French higher education today owes little to the Middle Ages, and instead should first of all be studied in light of the French Revolution. During this period, it was decided to suppress corporations of any kind—including the university corporations—and to foster the development of professional schools (Chevallier, Grosperin, & Maillot, 1968). This led, for instance, to the creation of the *Ecole Polytechnique* and the *Conservatoire National des Arts et Métiers* in 1794.

For about 15 years, French higher education had no other higher education institutions. It was Napoleon who finally allowed their rebirth, but on a very special basis.

Instead of rebuilding universities, he created discipline-based structures—i.e., *facultés* (in law, medicine, science, humanities, theology)—independent from one another and all gathered under a national structure, which also included high schools: this structure was called the Imperial University. These events deeply influenced the development of the French higher education system for many years. First, the *facultés* (and especially for sciences and humanities) were no more than a prolongation of high schools; they had very few students, and higher education developed very slowly during the 19th century. This left room for the *grandes écoles* (professional schools) to expand and to become a crucial sector. It also confined the French academic profession to teaching and to the delivery of diplomas, research activities being anything but frequent. Second, this created a national corporation, managed from Paris, instead of the local institutions that existed before the Revolution.

The *Conseil de l'Instruction Publique* (Council for Public Education), composed of Parisian teachers—each responsible for steering his discipline (in terms of teachers' careers, study programs and so on)—became a powerful central body (Gerbod, 1965) managing a vertically and hierarchically structured, as well as discipline-based, academic profession. While the Humboldtian reforms in Germany were promoting the rebirth of universities, and while American higher education was developing through the creation of private higher education institutions (Clark, 1987), the disciplines (i.e., the *facultés*) were becoming the cornerstone of the French university system. The geographical proximity between the ministry and the *Conseil de l'Instruction Publique* (Council for Public Education) favored the development of corporatist co-management between the academic profession and the central public authorities.

The reforms implemented by the end of the 19th century only marginally modified the Napoleonic design. They had a decisive role in promoting the development of French higher education (as shown by the rise in student numbers around 1900 and after; cf. Prost, 1968), and also confirmed the monopoly of universities in the delivery of national university degrees,² but they failed in two other respects. First, the attempt to transfer the German model to the French one—and more precisely to promote the development of research activities within the *facultés*—did not succeed (Charle, 1994); French academics remained, first of all, teachers. Second, the re-creation in 1896 of administrative entities called universities, gathering in one institution all the *facultés* of a city, did not weaken the power acquired by the latter during the 19th century.

Three reasons may explain the failure to redistribute power to the universities. First, the successive reforms implemented since 1875 all aimed at giving more prerogatives and more autonomy to the *facultés*; they were thus more powerful than ever when the last round of reforms was promulgated and universities re-created. Second, the newly created “universities” were allowed (by contrast) very small margins for strategic maneuvering and, moreover, their direction was left to high civil servants (called *recteurs*) appointed by the ministry and not by academics. Third, the management of the academic profession by a Parisian discipline-based central body composed of academics was confirmed, preventing the development of direct and dense relationships between the universities and the ministry. As a result, the deans (*doyens* at the head of the *facultés*)—and not the *recteurs*—became the relevant interlocutors for the central authorities and for the lay academics.

To compensate for the low capacity for innovation among each *faculté*, new curricula developed outside the universities, reinforcing the central role played by the *grandes écoles* in the education of the elite and allowing room for new schools to develop. The same process—consisting of externalizing the higher education missions or activities that universities were not able or willing to carry out—led to the creation of the *Centre National de la Recherche Scientifique* (CNRS, National Center for Research) in 1939, and of more specialized research institutions (including the CNES, for space research, and the INRA, for agronomical research) after World War II. Each of these national institutions is oriented towards fundamental research, and recruits and manages their own staff of permanent researchers.

No important reforms occurred until 1968, despite a great deal of criticism against the *facultés* system (cf. Antoine & Passeron, 1966; Colloque de Caen, 1966). But after the “May 68 events” (which started with massive student demonstrations and riots and led to a general strike that paralyzed the French economy for an entire month), the Faure Act (November 1968) suppressed the *facultés* and created new multidisciplinary universities, structured into *Unités d’Enseignement et de Recherche* (UER, Research and Teaching Units)³ governed by an elected academic (called the “président”) and deliberative bodies composed of representatives of teachers, administrative staff, students and “stakeholders.”⁴ Furthermore, the Faure Act aimed at providing the universities with pedagogical, administrative and financial autonomy. This did not succeed (Cohen, 1978), because the French ministry quickly limited the new margins for institutional maneuvering; it did not modify its traditional practices of co-management with the academic profession; and it did not recognize the new universities as relevant interlocutors. As a result, 1968 is the official date for the rebirth of French universities (as institutions, therefore, they are less than 35 years old), but they remained weak actors on the French higher education scene (Charle, 1994; Compagnon, 1998; Friedberg & Musselin, 1989).

The contractual policy introduced in 1989 somewhat modified this situation (Berrivin & Musselin, 1996; Chevaillier, 1998; Musselin, 1997, 2001 [2004]; *Rapport Frémont*, 2004). Since then, every four years each university gathers data on its activities and collectively decides on future actions, priorities and orientations to be developed. It also prepares a strategic plan and negotiates with the ministry its budget allocation for the next four years. This new procedure, despite the fact it involves no more than 10% of the operating budget⁵ (salaries not included), modified the state universities’ relationships and favored the emergence of stronger higher education institutions. The preparation of strategic plans, which frequently relies on a participative process, enhanced collective reflection while reinforcing institutional commitments and promoting common objectives.

This resulted in a stronger university management. The presidents became less *primus inter pares*, behaving more as managers and developing a more professional perception of their function (Mignot-Gérard & Musselin, 2002). Nevertheless, these new conceptions are not equally shared. If an alliance is often to be observed between the presidential teams and the university administrative staff—both being convinced by the necessity to run universities more professionally and to develop institutional strategies and policies—there is often a gap between them and the faculty level, where

the discipline-based logics and the individual academic autonomy are more valued than institutional development. Nevertheless, it cannot be denied that over the last decade, France has finally recovered its “university institutions.”

Main Characteristics of the Modern French Higher Education System

A Differentiated Higher Education System

The French system is first of all segmented into various sectors: university versus *grandes écoles*; long-term general programs versus short-term job-oriented curricula; and finally, higher education institutions versus research institutions. Moreover, these sectors are less homogeneous than it may initially seem. This is especially true for the *grandes écoles*, some of which (e.g., the top engineering schools) are public and depend on a Minister as well as on the Minister of Education, while others (e.g., business schools) are mostly private. Some are recognized by the state, while others are not. Some are almost free (again, the best engineering schools), and others require high fees. Short-term studies are also varied: they consist of *instituts universitaires de technologie* (IUT, university institutes of technology) programs, located within universities, as well as in *sections de techniciens supérieurs* (STS, vocational training) programs, delivered in *lycées* (high schools).

This differentiated structure is represented in Figure 1, which shows the various possibilities offered after passing the *baccalauréat* (a national exam that completes a student’s high school education). One can choose job-oriented training leading to a vocational diploma in two years at either STS or IUT—in both cases, there exist possibilities (often used by the holders of an IUT diploma) to enter the university (at the third year level) or, in fewer cases, to enter a *grande école*. One can enter the university and pass a diploma called the DEUG (after two years), a *licence* at

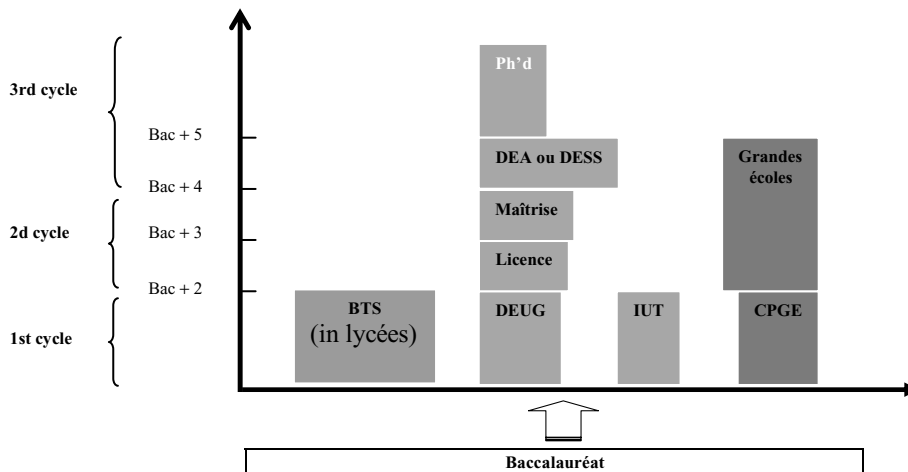


Figure 1. Tertiary education before the generalization of the Bologna process.

the end of the third year, a *maîtrise* at the end of the fourth, and then a DEA (research oriented) or a DESS (job-oriented) diploma. DEA holders can work toward completion of a Ph.D. After each diploma, one can decide to leave the system or to continue (sometimes after passing a selection process). Finally, one can choose to study for the selective examinations required to attend a *grande école* and in this case would first attend the two-year courses offered by some *lycées* and called *classes préparatoires* (preparatory courses). The holders of a *grande école* diploma who want to prepare a Ph.D. must first attend a DEA program of study and obtain this type of diploma from a university.

The complexity of the system is growing, as the frontiers among the sectors are increasingly blurred. As a matter of fact, the best *grandes écoles* still train the French industrial, intellectual, administrative and economic elites, and the universities are frequently “chosen” by default by those who could not enter the *classes préparatoires* (preparatory courses which prepare the student for the selective exams leading to the *grandes écoles*) or the selective short-term studies (IUT or STS). Nevertheless, some rapprochements have occurred between the two sectors. On the one hand, *grandes écoles* are increasingly involved in research activities;⁶ some developed doctoral programs or deliver such programs in collaboration with universities; and their teaching staff are increasingly required to have attended the usual academic socialization (e.g., doctoral training) and possess academic credentials (e.g., Ph.D., publications, participation in conferences, and so forth). On the other hand, since the 1970s, universities have diversified their offerings and now provide selective job-oriented curricula, beginning after the first two university years. *Grandes écoles* share more academic characteristics than before, while reciprocally, universities challenge the *grandes écoles* in the domain of training.

A System Mostly in the Public Domain

Until now, however, the trends mentioned above have simply amended the general structure of French higher education without truly transforming it. The divide between universities—which welcome about 80% of the students and are all public—and the *grandes écoles* is still a reality, even if somewhat modified. Further, some of the *grandes écoles* are public; thus nearly 90% of the students attend public higher education institutions, with very low fees. For instance, the fees at all French universities ranged from 141 to 280 euros for most undergraduate and graduate diplomas in 2003–2004, and between 500 and 900 euros at one of the best French engineering schools.⁷

Most of the resources for this public sector come from the state but they remain low,⁸ and the contribution per student varies considerably from one institution to another. According to the French Ministry, the average public expense for a university student was 6,850 euros in 2002, but almost 9,100 for an IUT student, 12,000 for an engineering school student in the public sector, and more than 13,000 euros for students attending the *classes préparatoires*.⁹ Furthermore, in a recent report, Aghion and Cohen (2004) compared the average 6,589 euros expense for a university student in 2001 with the average 7,879 euros a year for a student in a public high school, and noted that within 25 years the former increased by 25% while the latter increased by 50%. Universities are

not the most well-off part of the French higher education system, even if they have the larger proportion of the student population and house a large part of the public research activities (for which they also receive public funding). According to the calculations proposed in a 2001 experts' report¹⁰ written under the direction of A. Frémont on the implementation of the contractual policy in French universities (*Rapport Frémont*, 2004), the operating budget (without the salaries) for research reached 986 million euros. Of this amount, 42.8% was provided by the Ministry of Education or other ministries, 20.3% by the national research institutions, 9.2% by local authorities, 14.3% by firms, 7.9% by the EU and 5.5% by other sources. This means that the public portion (national or local) of these resources reached 85%. If salaries are included, this percentage is close to 94%.

A Mass System of Education

Since the beginning of the Fifth Republic, France has supported a mass system of public higher education. After the *baccalauréat*, access to higher education depends on the sector: *grandes écoles*, university short-term curricula and *lycée* tertiary education (STS) are selective, while traditional university curricula are non-selective as far as access to the first year is concerned. This explains why, even though all sectors expanded, universities absorbed more of the student increase than other sectors during the 1960s. Because the *baccalauréat* (national exam completing a student's high school education) is sufficient for admission to undergraduate programs at the university, the policy launched in the 1950s to broaden access to high schools automatically and mechanically led to an increase in students at the university. This resulted in the first wave of massification in the French higher education system during the 1960s (increasing at a rate of between 11 and 18% a year).

Stability in the rate of the *baccalauréat* holders (at about 25% of an age cohort) during the 1970s (and thus the "decision" not to further expand access to the high schools) slowed down the increase of student numbers in higher education until the 1980s. During this period, the rate of expansion reached 2–4% a year, reflecting the nation's demographical trends more or less. But in the mid-1980s, the creation of new types of *baccalauréats*, and the objective set by the socialist government for 80% of an age cohort to reach the level of the *baccalauréat*, further increased the number of "bac" holders. Between 1988 and 1995, therefore, a second wave of massification occurred, as reflected in Table 1.

Again, the universities were directly affected by this growth, and in absolute numbers attracted most of the new students (over 630,000) but among them the selective short-term curricula (IUT) and those of the engineering schools located in universities registered a sharper increase (respectively 119% and 253%, against an average 72% growth rate for universities). The increasing desire for more selective and more job-oriented curricula during this period was also reflected by the enrollment growth in STS and in *grandes écoles* (including engineering and business schools). In both cases, this expansion was absorbed less by an increase in the number of students admitted in the already existing *grandes écoles* than by the creation of new schools—which, for the moment, do not threaten the prestige of the traditional ones, whose prestige is all

Table 1. Evolution of Student Numbers by Institutional Sectors

| | 1980–1981 | 1990–1991 | | 1990–1995 | | 1999–2000 | |
|------------------------------------|-----------|-----------|------|-----------|------|-----------|------|
| Universities | 871,008 | 1,199,284 | 38% | 1,571,651 | 80% | 1,501,616 | 72% |
| <i>Selective short term</i> | 53,667 | 74,328 | 38% | 103,092 | 92% | 117,407 | 119% |
| BTS | 67,908 | 201,384 | 197% | 230,239 | 239% | 242,385 | 257% |
| <i>% of private</i> | 36% | 41% | | 30% | | 30% | |
| Preparatory classes | 42,911 | 71,478 | 67% | 78,626 | 83% | 80,228 | 87% |
| Engineering schools | 36,952 | 57,653 | 56% | 75,640 | 105% | 82,751 | 124% |
| <i>Public in universities</i> | 8,330 | 17,325 | 108% | 24,186 | 190% | 29,378 | 253% |
| <i>Public, not in universities</i> | 20,132 | 26,326 | | 32,765 | | 35,181 | |
| <i>Private</i> | 8,490 | 14,002 | | 18,689 | | 21,192 | |
| Business schools | 15,824 | 46,128 | 192% | 50,668 | 220% | 56,303 | 256% |
| <i>Ecoles Normales supérieures</i> | 2,840 | 2,675 | −6% | 3,051 | 7% | 3,209 | 13% |
| Total | 1,037,443 | 1,578,602 | | 2,009,875 | | 1,966,492 | |

Source: Ministry of Education, 2004.

the more intact because they did not proportionally increase the number of students enrolled.

According to the Organization for Economic Cooperation and Development (2003), 35% of the French population between 25 and 34 years old have attained tertiary education (compared to 40% in the U.S.), as have 29% of those between 45 to 54. However, the democratization project that stood behind this openness of the system has not been achieved. There is indeed an increase in student numbers, but also high dropout rates among university undergraduates, and this more strongly affects the holders of the newly created types of *baccalauréat*,¹¹ who themselves more frequently originate from lower socioeconomic backgrounds than the holders of more traditional *baccalauréats*. Moreover, a comparison of the socioeconomic backgrounds of undergraduate students with those of doctoral students clearly shows that the selection process at the university is also social. The conclusions are even more dismal when one looks at student recruitment in the more prestigious *grandes écoles*—where, even if most of them charge no tuition fees, the homogeneity of the students socioeconomic backgrounds (mostly upper class) is striking (Euriat & Thélot, 1995).

The French Academic Profession

To fully understand the state of French higher education today, it is important to examine its academic profession. It is all the more necessary given that the structure and the organization of global academic labor markets is probably the main feature differentiating one country from another.

Incomplete Data

The data at hand to describe the French academic profession strictly reflects the complexity of the higher education system described above. Because most *grandes écoles* are either private or public but have their own staff (as they previously were not linked to the Ministry of Education but only to the Ministry for which they trained elite professionals), we lack aggregate figures about their teachers. The statistics gathered centrally by the Ministry of Education mainly concern teachers in universities. They do not include the secondary teachers training STS or *classes préparatoires*, but they include secondary teachers who hold specific positions within universities. There is also no information about the number of “temporary” lecturers recruited to teach a specific course (because of a lack of competent permanent staff to teach it or because there are too many students for the number of permanent staff available). The diversity of the French academic profession, as reflected in Table 2 is therefore very incomplete, as it concerns only the university sector and the institutions managed by the Ministry of Education.

The permanent staff represented in this table consist exclusively of civil servants employed by the state, most of them in permanent positions managed by the state. Those who are not permanent are mostly doctoral students with a ministry fellowship¹² or young doctors on temporary positions. They can apply for *maîtres de conférences* (assistant professors) positions, which are permanent, after the discipline-based central body called the *Conseil National des Universités* (CNU, National University Council) decides they are qualified enough to send applications to the recruiting departments. In sciences and humanities, writing a *habilitation à diriger des recherches*¹³ (HDR, literally “agreement to supervise research”) is the next step for a *maître de conférences* to be eligible for a professor position. Again, the CNU has to “qualify” the applicant. In other disciplines (including management, economics, law, political sciences, medicine), the *habilitation* is not enough, and there is no qualification from the CNU; instead, the applicants have to pass a highly selective national exam called the *agrégation du supérieur*.

Maîtres de conférences and professors are expected to teach 192 hours a year and to dedicate half of their time to research activities. According to a recent report (CNER, 2003), these university staff members represent 75% of the French public staff engaged in research activity. By contrast, the academic staff in national research institutions (16,430 tenured researchers) have no teaching duties (although individual researchers may teach if they want to).

French Academic Labor Markets

Beyond this formal description, four main features help characterize the way French labor markets operate. First, they always use tournaments—i.e., a procedure in which a few positions are offered and a large number of candidates apply.¹⁴ This holds true for recruitments as well as for merit-based promotions.

Second, access to permanent positions occurs early in the career, shortly after the Ph.D. period—which is considered as an apprenticeship, during which a “disciple

Table 2. Teaching Staff by Status and Institution

| | | Faculty by Status | | | | | | | | |
|----------------------------------|--|------------------------|-------|-----------|---|-------------------|---|---|--------|--------|
| | | Tenured | | | Non tenured | | | Tenured on contracts | | |
| | | Maitres de conférences | | Sub-total | Specific medical staff | ATER ^b | Moniteurs ^c | Secondary school teachers in universities | Others | Total |
| Professors | | 33,570 | 1,460 | 54,021 | 4,193 | 5,993 | 5,168 | 14,029 | 421 | 83,925 |
| Faculty by Types of Institutions | | | | | | | | | | |
| Universities ^d | | IUT | | | Institutions or grandes écoles included in universities | | Other institutions managed by the Ministry of education | | Total | |
| | | 66,517 | 9,444 | | 1,141 | | 6,823 | | | 83,925 |

Source: Adapted from Bideault and Rossi (2002).

^aThis category is disappearing as its members retire or become *maitres de conférences*.

^bShort-term teaching postdocs.

^cDoctoral students with fellowships and teaching duties.

^dIncluding technological universities.

to master” relationship still predominates. This has remained the case even though the creation of *écoles doctorales* (graduate schools) during the second part of the 1990s led in some cases (with increasing frequency) to the development of doctoral study programs, and sometimes encouraged less bilateral relationships between the doctoral students and their supervisors. On average, the candidates are 33 years of age when they first become *maîtres de conférences*,¹⁵ but access to this first permanent position does not mean autonomy is completely acquired. The *maîtres de conférences* are not considered to have the same competencies and prerogatives as the professors. In some departments, this does not make much difference because there is a rather equivalent allocation of tasks, but in some others there is a clear segmentation: *maîtres de conférences* do not teach graduates students, never give lecture courses, and so forth (Becquet & Musselin, 2004). In principle, socialization and apprenticeship end with access to position of professor.

Third, the French academic labor market is characterized by poor incentive mechanisms (i.e., poor professional regulation as well as poor institutional regulation). Nevertheless, as in some other countries, the best way to “make a career” is to go through competitions and accept institutional mobility until one enters one of the most reputed departments in his or her discipline. Some (few) departments are well-known for recruiting their professors only among top academics. Nevertheless, a lot of French academics remain in the institution where they began: they are recruited, promoted and become professors in the same place.¹⁶ The main point to mention here is that universities have very few incentives to manage this “sedentary” staff. In other words, their internal labor markets (Doeringer & Piore, 1971) are very poorly regulated. Once recruited as *maître de conférences*, it is in theory possible to escape any kind of work assessment. Teaching evaluations are seldom used (albeit they are supposed to be compulsory since the Bayrou Decree of 1997). If the faculty member is not integrated into a research unit labeled by one of the national research institutions or by the ministry (which is the case for about 20% of the faculty), their research production and activity is never evaluated. And if they belong to one of the labeled research units, evaluation occurs only every four years and has no real impact. It is also possible for a *maître de conférences* to never write an HDR (or pass the national selective exam called *agrégation* for the disciplines concerned) and to never compete for a professorial position.

Fourth, the French academic labor market is characterized by a bureaucratic price setting. A system-wide scale determines the salary of each university teacher according to his or her seniority and ranks. Thus, the salary of a *maître de conférences* with no seniority is exactly the same whatever the discipline or the institution. It is fixed at the national level and not by each institution. The only way to get a better salary is to follow a quick career path—i.e., to write the *habilitation* a few years after being recruited as *maître de conférences*, be recruited as a professor and quickly go through the different ranks up to the exceptional class. Academic rewards are therefore more reputation-based and symbolic than monetary. The recognition of one’s research unit by one of the national research institutions is a way to get more visibility, more reputation and more resources. Obtaining research contracts through public calls for proposals or with private firms is a supplementary way to increase one’s scientific reputation

and to get access to more funding. Such processes create some differentiation among academics, but have no impact on the salaries or on the teaching duties of the more talented academics.

Globally, the same holds true for the tenured staff of the national research institutions, even if their activities are systematically evaluated every two years (but also with no impact on salaries). The poor incentive mechanisms, the (not always) compulsory individual assessment, and the narrow reward system are routinely criticized, and there is no doubt that the French academic labor market could be much improved. But at the same time, the heavy workload of many French academics raises the interesting question: how to explain so much work for so little reward and a declining social position within French society?

Recent Evolutions and Future Challenges

Having described the current situation of French higher education, this chapter now turns to highlight the most recent main evolutions and the forthcoming challenges.

The Redefinition of the Relationships Between Public Authorities and Universities

The first point to stress concerns the transformation of the relationship between the universities and public authorities over the last decade. The contractual policy briefly mentioned in the first section of this chapter is part of this process. Universities became seen as a relevant partner for the central administration, weakening the co-management model that had existed between the state and the academic profession. This transformed the nature of the relationships with the universities, introducing negotiation processes as well as the recognition of some differentiation among the various institutions, which in turn resulted in closer relationships between the ministry and all the country's institutions of higher education. It is too often forgotten that the centralized public governance of France is often associated with poor communication and knowledge exchange between the center and the periphery. French higher education did not escape this rule: a study led at the ministry level during the late 1980s showed how poorly informed the central administration was (Musselin & Brisset, 1989). The introduction of contracts somewhat modified this, as the related negotiations forced both partners to share more knowledge and to keep each other better informed. For this reason, the contractual policy can be seen as a more open kind of governance, as well as a more efficient one for the ministry. Nevertheless, it did not improve the "evaluation culture" within the French higher education system. There are in fact a lot of assessment, control, and audit procedures and bodies in the French system (Belloc, 2003), but most of them are *ex ante* rather than *ex post* (or input-based rather than output-based). Thus, the strategic plans receive more attention than their realization. Evaluations are often not linked to resource allocation¹⁷ and some territories remain rather unexplored. There is, for example, virtually no teaching assessment and no evaluation of the quality of student learning.

Parallel to this evolution, leading to more intensive and more institution-based relationships, another transformation occurred in the same period which challenged the bilateral and rather monopolistic interactions existing between the state and universities. Local authorities (especially regional ones) increased their interest in higher education¹⁸ during the 1980s, and some of them developed scientific policies and funded research projects. The regions were also asked by the Ministry of Education to be more involved in planning the university's development as well as financing it for at least as much as 50% of the state funding. This occurred through two contractual processes, U2000 (beginning in the 1990s) and U3M (University of the Third Millennium, launched toward the end of the 90s). Furthermore, the contractual policy which also developed between the states and the regions resulted in the signing of state-region contracts in which higher education topics are very often addressed.

The opportunities offered by the European framework programs for research and development, and the involvement of French academics in such programs, further offered possibilities to relax the traditional monopolistic dependence of French universities vis-à-vis state funding. Nevertheless, while institutional dependence on the central government may have decreased without deeply affecting the bulk of public funding for higher education,¹⁹ these changes must be viewed in context of a much longer and slower evolution toward greater autonomy for French universities (Musselin, 2004).

The European Influence

The concern for European issues is also a recent evolution on the French scene. This influence was almost absent from the transformations mentioned above, which were first of all "national" changes—i.e., reforms motivated by national problems, for which national solutions were developed without looking at related challenges or responses in other countries (Musselin, 2000, 2001[2004]).

The Sorbonne Conference in 1998, which resulted from an initiative launched by Claude Allègre (at that time Minister of Education), introduced what became known a year later as the "Bologna process." Through this, European higher education systems (29 in 1999, increasing to 40 in 2004)—including that of France—are transforming their former structure of study programs into a new one consisting of a bachelor's degree after three years, a two-year masters degree, and the Ph.D.²⁰

By 2006, French universities will thus be aligned with others in Europe, as illustrated in Figure 2.²¹ The holders of a *baccalauréat* can still chose to attend a STS or IUT and pass a vocational diploma in two years, or to prepare a selective exam to attend a *grande école*, but the study structure at the university is transformed. Universities can still deliver DEUG and *maîtrises* (see Figure 1), but the curricula are now organized in a 3-year program finishing with a bachelor's degree (called "license"), and allows students to attend a 2-year program finishing with a master's degree. These two programs are organized around the accumulation "credits" according to the European Credit Transfer System, in order to favor student mobility from one institution and or (European) country to another. In order to be more visible on the European (international) scene, most *grandes écoles* will deliver diplomas which will be labeled as equivalent to a master's level.

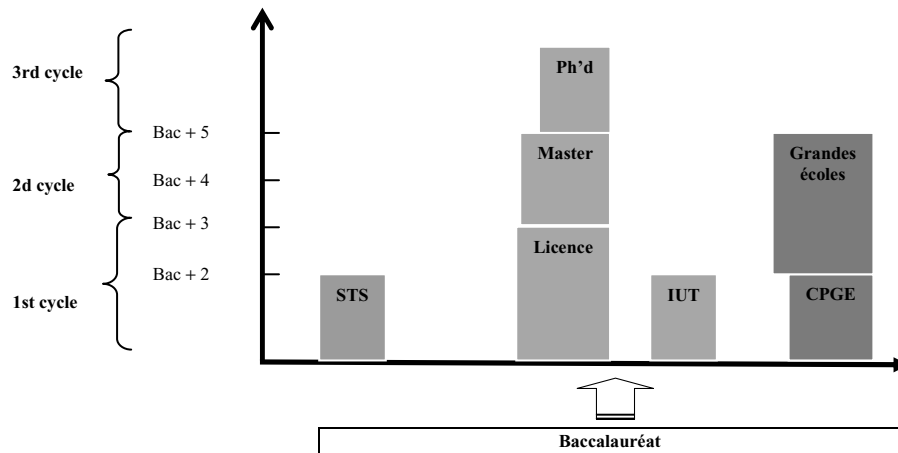


Figure 2. Tertiary education after the generalization of the Bologna process.

This harmonization process of the study programs among European countries is taking place concurrently with an opening of the national French system. French academics, institutions and public authorities are becoming increasingly concerned with the European perspective on higher education. In a way, they are becoming aware of the potential weakening of national borders (a trend expected by some, feared by others) and of the necessity to represent oneself (as individual, institution or public actor) not only as part of a country but also within a larger area (at least the European one, if not also the international one). The global competition for students and academics among higher education systems has thus become a recurrent topic of concern over the last several years, as shown by the numerous papers and declarations about the risk of brain drain (particularly from France to the U.S.) and the declining numbers of foreign students.

Future Challenges

The continual evolution described in this chapter is not to be discounted, but could nonetheless appear rather limited in a few years if some of the potential transformations under discussion were to become true. As a matter of fact, many observers today feel that the French higher education and research systems are in decisive times. The demonstrations and protests that occurred in 2004—launched by researchers against the instability of public funding from one year to another and against the low number of permanent positions opened to the recruitment of young doctors in research institutions and universities—testify to a strong feeling of crisis. But if the unrest revealed a general consensus on the need for change, it also showed a lack of agreement on what and how to change. The numerous documents²² produced by different bodies or groups of academics in the following weeks clearly express the variety of scenarios and the divergence on issues such as the respective role of research institutions and universities,

the level of autonomy the latter should have, the management of the academic staff,²³ and the funding process.

Among the decisive orientations that could be followed in the years ahead, two seem of special importance. The first deals with increasing the institutional autonomy of French universities. The Raffarin government tried twice to introduce a new law relaxing the strict regulations of the Savary Act of 1984 and offering the possibility for universities to make decisions that are difficult to reach nowadays,²⁴ but it has twice been withdrawn and seems to be no longer on the agenda. It can nevertheless be expected that some of its aspects would be implemented without going through the legislative process. For instance, the introduction in all French administration and public services of a new budgetary process (called LOLF, for *loi organique relative aux lois de finances*, or “Act on Public Budgeting Procedures”) will probably “constrain” universities anyway, forcing them to change their budget practices, develop global and consolidated budgets and to implement a program of outcome-based evaluation. By law or not, the issue of university autonomy will thus have to be addressed: the contractual policy launched a move towards more autonomy, but universities are now in midstream. Remaining there is probably the worse that could happen!

The second crucial issue deals with academic careers. The retirement waves which are expected in the near future (Fréville, 2002) are often seen as a good opportunity to modify academic positions and profiles. Regarding positions, the recent (but contested) orientation was to reduce the number of permanent positions in research institutions and to delay access to permanent positions by developing postdoctoral positions and temporary contracts. In terms of academic profiles, the rather simultaneous recruitment of young talent is expected to renew and stimulate the entire profession. But the idea is also to redesign the university-faculty relationship and to give the former the possibility of directly managing the latter.²⁵ The report written under the direction of the former university president Eric Espéret on academic work and faculty duties (*Rapport Espéret*, 2001) and the report written under the direction of the former university president Bernard Belloc on the status of French faculty members (*Rapport Belloc*, 2003), for example, plead for the recognition of the diversity of academic work and for the opportunity for university presidents to negotiate and sign contracts with each faculty member regarding his or her teaching duties, involvement in research activities, and participation in collective services or administrative tasks. The *Belloc Report* even suggested an incentive bonus system to financially reward differentiated commitments.

Many things are thus on the political agenda for higher education; many of them are quite sensible, and it is indeed very difficult to say, at the moment of this writing, whether the challenges universities are confronted with will be met or not. But it is certain that the coming years will have a decisive long-term impact on the French higher education system and its capacity to be a relevant player in a more open and competitive global environment.

Notes

1. For more on the early history of universities in France, please see the chapter by Harold Perkin in volume 1 of this *Handbook*.

2. This means that the *licence* (diploma that can be passed at the end of the third university year) or the *maîtrise* (diploma that can be passed at the end of the fourth university year) can only be delivered by a university. A *grande école* (professional school) delivers its own diplomas, which can be national if recognized by the French state, but that cannot be called *licence* or *maîtrise*.
3. Since the Savary act of 1984, they are called UFR (Unités de Formation et de Recherche, or Research and Training Units).
4. This is certainly not the vocabulary that was used at that time but the so-called *personnalités extérieures* (individuals who do not belong to the university) were appointed among local industrialists, politicians, etc.
5. The rest being allocated on criteria, such as the number of students, the number of square meters, etc.
6. Many *grandes écoles* had almost no research activities in the recent past.
7. Top French private businesses ask for 7,200 to 7,600 euros a year.
8. According to Aghion and Cohen (2004, p. 33), in 1999, public expenses for higher education represented 1% of the GDP and private expenses 0.1%.
9. French Ministry of Education website: <http://www.education.gouv.fr>.
10. In France, the President, Prime Minister, one of the Ministers of the Government or some specific institutions can appoint a committee of experts placed under the direction of a French personality (here Armand Frémont, an academic who has had various administrative responsibilities at the Ministry of Education) and ask them to write a report on a specific question. Such reports are then called Rapport X or Commission X, X being the name of the personality chosen to lead the work of the experts. In this chapter, the Rapport Frémont, Rapport Espéret, Rapport Mudry and Rapport Belloc will be mentioned. I shall describe each time precisely what their mission was.
11. Only 45.5% of the students obtain their DEUG in two years (almost 80% if one takes into account those who need five years to obtain this two-year diploma), but only 17.1% of those having a *baccalauréat technologique* (40% in two to five years).
12. In France 11,500 doctoral students received a fellowship from the Ministry (among them 5,168 have teaching duties), but there are 64,170 doctoral students according to the CNER report (2003: 14), not all of them being funded.
13. This is a kind of second Ph.D. The applicant prepares a volume in which he/she presents his/her research program and results over his/her career. He/she provides all his/her publications. A defense is organized and the jury decide whether the applicant is *habilité* (agreed) or not.
14. Satisfying criteria is therefore never enough: one has to be “the best”, whatever this means.
15. There is, most of the time, a short period between the end of the Ph.D. and the first recruitment which may slightly vary from one discipline to another, as the average age of access to a *maître de conférences* (tenured assistant professor) position does. In the health sciences, for instance, candidates are expected to do a postdoc after the Ph.D.
16. According to Cytermann, Bideault, Rossi, and Thomas (2003), this concerns 55% of the professors in sciences and humanities. In such a case, the progression from *maîtres de conférences* (tenured assistant professors) to professor, which can only occur if a professorial position is vacant and if a recruitment procedure is launched and an ad published, is obtained by giving priority to local candidates over the external ones.
17. The institutional evaluations produced since its creation in 1984 by the evaluation agency called the CNE (*Comité National d'Evaluation des universités* or National Committee for the evaluation of higher education institutions) are up to now independent from the budget allocations made by the Ministry.
18. This gave rise to the creation of *antennes universitaires* (university branches) for undergraduates in small cities around the town where the university head office is located. Some of these antennas were not even recognized by the ministry and lived on local resources (Felouzis, 2001; Filâtre, 1997).
19. According to the report written under the direction of the former university president Michel Mudry on university budgets (Rapport Mudry, 2004), about 62% of the universities' operating budget (salaries excluded) is public (56.5% funded by ministries, 5.21% from local authorities)

but one should not forget that salaries represent about 60% of the state resources for higher education.

20. For more on this, please see the chapter by Hans de Wit in this volume.
21. Not surprisingly, the IUT are lobbying to offer a three-year curricula.
22. For instance, the report of P. Aghion and E. Cohen (2004) for the CAE, the report published by the Cercle des économistes (Cohen, 2004), the declaration of the University Presidents Conference (CPU, 2004), the report "Du nerf" written by F. Jacob, P. Kourilsky, J.-M. Lehn and P.-L. Lions—all four professors at the College de France—or the report diffused by the president and general director of the CNRS (Larrousurou & Mégie, 2004).
23. The Conference of university presidents, for instance, asks for the suppression of researchers' positions in national institutions and for a unified status, meaning that the latter should all become university teachers.
24. For instance, changing one's university status with a university majority of 50%, where before it should have reached two-thirds.
25. Some ask the positions to be directly managed by each university.

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GERMANY

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German universities have their roots in the development of the European university during the medieval ages. The earliest universities were those of Paris and Bologna, and they served as the basic model throughout the continent long before the foundation of the European nation-states. Already in the medieval ages, universities had the right to regulate their own internal affairs and to award academic degrees. Despite an early differentiation into lower (*artes liberales*) and higher (theology, medicine, law) faculties, the education of students sought to encompass the acquisition of all knowledge available at the time. In order to study at any of the three higher faculties, successful completion of the lower “artistic” faculty was required. Students and teachers formed a community at each university, but it was also normal for both groups to be mobile and to change universities. Mechanisms were in place to recognize academic degrees acquired at any of the European universities (cf. Ellwein, 1985; Stichweh, 1991). Students typically paid their professors for each lesson, and the common language of teaching was Latin.

The first German universities were founded in the late 14th and early 15th centuries, the oldest being Heidelberg, which celebrated its 600th anniversary in 1986. Most universities of the late medieval ages were small. There were two or three professors in each faculty and between 100 and 200 students per university, sometimes fewer. Around the year 1500, the total number of students in the German states and electorates amounted to about 3,000. Only men were allowed to study at this time—the access of women to universities was paved much later, at the beginning of the 20th century during the Weimar Republic. By the year 1700, Germany had about 40 universities serving approximately 8,000 students.

The conceptualization and foundation of Humboldt University in Berlin by Wilhelm von Humboldt—who was head of department and responsible for culture and schools in the Prussian Ministry of the Interior around 1810—marked a decisive point in time for the idea and ideal of the German University which is basically still valid today. Although many experts have argued that neither Humboldt himself nor other responsible actors succeeded in putting the ideal into practice, the main principles laid out in Humboldt’s famous memorandum about the “internal and external organization of the higher scientific institutions in Berlin” (cf. Humboldt, 1810 [1993], p. 255) still

determine the self-understanding of the German university: the unity of research and teaching; academic freedom; the unity of the disciplines under one university roof; the education of character through academic knowledge; a relatively high degree of governmental control coupled with the responsibility to finance the institutions; and the right of universities to regulate their internal and academic affairs themselves. Humboldt's memorandum emphasized in particular that research (and academic learning through research) involves a never-ending search for truth which must be continuously pursued.

Using a modern notion frequently applied within the context of "higher education marketing," it is possible to say that Humboldt's university model became an export commodity. With the exception of the Anglo-Saxon system, most higher education systems in central, east and northern Europe adopted this model for their emerging university systems, as did the United States for its graduate education (although it developed a different direction over the course of time).

The number of students and professors in Germany increased continuously during the 19th century. Universities were internally governed by the chair holders (the full professors), who viewed their institutions as elite—a view which affected a variety of issues related to access, public service, and scholarship. Within the context of German Idealism, the sciences developed and blossomed, leading to a number of important inventions and discoveries. Germany became the most important scientific nation during that time (Ellwein, 1985, p. 131).

Between 1933 and 1945, the time of the National Socialist regime under Hitler, German universities played a rather discreditable role by submitting (to a large degree) to the Nazi ideology. Many teachers, researchers and students—in particular those of Jewish origin—were forced to leave the universities. Access to higher education for women was limited. In the short time span of only 5 years, between National Socialism coming into power and the beginning of World War II, the number of students was reduced by half, from 121,000 in 1933 to 56,000 in 1939 (Peisert & Framhein, 1994, p. 5). Many of the best German scientists emigrated, quite a number of them to the United States. The consequences these events had for German research—especially in the natural and social sciences—can hardly be accounted for even today, but in essence, Germany clearly lost its leading position as a scientific nation. Also, as a result of World War II, the separation of East and West Germany led to the development of two markedly different systems of higher education over the next four decades.

Higher Education, the State and Society after 1945

Higher Education Development in the Federal Republic of Germany

West German higher education policy in the immediate postwar period was under control of the western allied forces (Great Britain, France, and the United States). It focused primarily on the reconstruction of buildings and infrastructure demolished by the war, on de-nazification (i.e., removal of national socialist professors and institutional leaders), and on re-education (i.e., learning democracy). However, in West Germany the notion prevailed that the German higher education system of pre-1933

had been basically sound and should be reconstructed on the basis of Humboldt's idea of the university. With the foundation of the German Federal Republic in 1949, German federalism was reinstated according to the tradition of the Weimar Republic (1918–1933), which meant that the individual states (and not the federal government) were responsible for culture and education. Sixteen universities and nine technical universities became the starting point for the postwar development of the West German higher education system. The resulting development of the system—until the fall of the Berlin Wall in 1989 and subsequent unification of the two German states—can be divided into five phases (cf. Peisert & Framhein, 1994; Kehm, 1999): decentralized reconstruction (1950s); system-wide initiatives (1960s); cooperative federalism (early 1970s); reform and legislative dynamics (mid-1970s); and post-experimental truce (1980s).

The 1950s can be described as a phase of “decentralized reconstruction,” guided by federalist principles which were implemented after World War I. However, there was also a growing need for an overall coordination of the educational policy of the West German States. For this reason, the Standing Conference of the Ministers of Culture in the Western Allied zones of Germany had been established as early as 1948. Its task was to assure a certain degree of homogeneity in the West German system of education, including higher education. A federal ministry for education and science was established in 1955, but with limited competency in education. The Science Council, an intermediary body between the federal government and universities, was established in 1957 to advise and recommend on the quantitative, structural and functional development of the West German higher education system.

A second phase of “system-wide initiatives” characterized the early and mid-1960s. After the “Sputnik shock”¹ and Picht's famous essay about the “German educational catastrophe” (Picht, 1964), a new era of higher education expansion began. Plans were made to increase the number of higher education institutions as well as the number of students in order to produce a higher percentage of graduates for the labor market and thus secure future economic growth. Within 10 years, the number of students in West Germany doubled, the number of professors more than doubled, and the number of non-professorial teaching and research staff tripled. Efforts were made to improve equal opportunities for women in higher education, and a system of financial assistance for students from low income families was established by the federal government. In addition, the Federal Ministry for Education and Science acquired some competences in higher education policy by supporting the states with funding for research.

The years around 1970 can be called a phase of “cooperative federalism.” In 1969, the West German Constitution was changed to define selected issues in the field of higher education as joint responsibilities of the states and the federal government, in particular the funding of new buildings, the coordination of educational planning and research promotion. For these tasks, joint commissions were established. In addition, debates emerged about a new framework law for higher education, which was finally passed in 1976.

The early and mid-1970s saw a phase of “reform and legislative dynamics.” The student movements of the late 1960s and early 1970s had led to a change in government from conservative (via a conservative and social democratic coalition) to a liberal and social democratic coalition government in 1969. Many traditions in higher education

were questioned, and far-reaching reforms were demanded. The debates about the role of universities in society were more heated than ever before. The exclusive decision-making power of the professors in the departments and faculties (as well as in the senate) was substituted by a more participative model which included representatives of students, non-professorial and even non-academic support staff in all decision-making bodies of the universities. Furthermore, the basically unitary system of West German higher education—which consisted of universities and technical universities—became a differentiated system with the development of universities of applied sciences (*fachhochschulen*) and, in at least some of the German states, comprehensive universities. Also, new procedures for the development and renewal of curricula were developed, and national curriculum reform commissions were established.

A final phase used to describe the historical development of the West German higher education system lasts from about 1977 until the end of the 1980s, and can be termed a phase of “post-experimental truce.” The high hopes for substantial changes had been dampened since the mid-1970s, amid increasing concerns about a growth in graduate unemployment. Demographic prognoses projected a sharp decline in the number of students beginning in the late 1970s. Under these conditions, representatives of higher education institutions and political decision makers arrived at an agreement in 1977 to continue following a policy of open access to higher education for all eligible school leavers without increasing funding and teaching staff. Thus, the institutions were expected to educate an “overload” of students for about a decade until the expected decline in student numbers would re-balance the situation again. In return, political decision makers promised not to start any substantial reforms during the coming period. However, in contrast to these prognoses, student numbers actually increased—continuously and considerably—during this phase, while the numbers of academic staff stagnated. A few legislative changes were carried out—e.g., a change in the higher education framework law in 1985—but generally, this last phase of West German higher education development was clearly less dynamic than those of the previous decades.

Higher Education Development in the German Democratic Republic

Immediately following the end of World War II in 1945, the East German higher education institutions—six universities and three technical universities—picked up their work again generally where they had left off before the War. Throughout the next 10 years, several new institutions of higher education were founded, most of them specialized and mono-disciplinary. The higher education system of the German Democratic Republic expanded altogether earlier than the system of the Federal Republic of Germany. Expansion basically took place by establishing specialized institutions rather than full universities covering the whole spectrum of disciplines. By 1970, the number of higher education institutions in the German Democratic Republic had increased to 54 institutions.

Higher education development in the German Democratic Republic between 1945 and 1989 can also be divided into five phases (cf. Buck-Bechler, 1997; Kehm, 1999): early reforms (late 1940s), nationalization (1950s), expansion (1960s), ideological and industrial focus (1970s), and binary differentiation (1980s). The first phase was

dominated by higher education reforms, which were implemented under the military control of the Soviet forces between 1945 and 1949. The state governments still existing at that time were given the task of carrying out the reconstruction of buildings and denazification of academic staff. Reforms focused on the creation of adequate structures and conditions to enable access to higher education for young people from families of workers and farmers. To bridge possible gaps between their school qualifications and the level of knowledge required for higher education, so-called workers' and farmers' faculties were created.

A second phase of development began with the official establishment of the German Democratic Republic as a country in 1949, and lasted until the building of the Berlin Wall and the Iron Curtain in the year 1961. This phase was characterized by the introduction of socialist educational principles, while Marxism–Leninism became an obligatory part of all degree programs in higher education. In 1952, the five states of the German Democratic Republic were dissolved and a centrally planned economy was introduced. Responsibility for higher education planning as well as the leadership of all higher education institutions became part of the State Secretariat. Higher education institutions lost their traditional institutional autonomy in all academic matters. Further, students were no longer allowed to study the subjects of their own choice. They were organized into study groups which were increasingly headed by functionaries of the Free German Youth, the only East German youth organization. Work placements in industry and agriculture became integrated parts of each degree program. Finally, the principle of “democratic centralism” was introduced into the leadership and management of higher education institutions, and research planning was adapted to the 5-year plans of the general economy.

The years between 1961 and 1971 can be characterized as the main phase of higher education expansion in the German Democratic Republic. During this time, ten new higher education institutions were established, and a new higher education law was passed in 1965, regulating the adaptation of higher education institutions to the requirements of scientific and technological progress. Applied research and development became more important, while the education and training of students would focus on forming the “socialist character” of students. In addition, greater emphasis was placed on developing and expanding continued education programs and opportunities. The proportion of students in distance learning courses for working people, called correspondence courses, increased to one-quarter of the total number of students. Existing planning and management structures in the institutions changed as well—in particular, the traditional division of disciplines or groups of disciplines into faculties and institutes was substituted by a division into sections.

The main phase of higher education expansion ended with the eighth general meeting of the Unified Socialist Party (SED) in 1971, which marked the beginning of a new—more ideologically focused—phase of development, which lasted until about 1980. The general meeting of the SED in 1971 brought about a change in party leadership from Walter Ulbricht to Erich Honnecker. Under Honnecker, ideological education was intensified and the continuous expansion of higher education was regarded as a development in the wrong direction. Beginning in 1972, access quotas were reduced and distance or correspondence courses lost their importance. Relationships between

higher education and industry were institutionalized and cooperation was regulated. The curricula of all degree programs were subjected to central planning, which was accompanied by the desire to organize the transition of graduates into the world of work. The annual number of new students was set at 30,000 and remained the same from the mid-1970s onwards. This number was tied to the respective manpower requirement figures of the 5-year plans for the economy. In comparison to West German higher education developments during the same time period, this led to a clearly more favorable student/faculty ratio in East German higher education. However, the proportion of new students among the respective age cohort remained considerably lower (between 10% and 13%) than in West Germany (slightly less than 20%)—in other words, East Germany during this period saw significantly lower levels of access to (and participation in) higher education.

The final phase of this historical review covers the years 1980 through 1989, during which a binary system of higher education was established in East Germany. This consisted basically of universities with a broad spectrum of disciplines and degree programs (on the one hand), and specialized, often mono-disciplinary institutions of higher education (on the other). This differentiation was the result of a targeted access policy which directed student enrollment toward those subjects in which a high demand for graduates existed from the economy (e.g., engineering), or toward those subjects in which central planning saw a need for highly qualified labor to achieve economic progress.

The fifth (and last) higher education conference of the German Democratic Republic, which took place in 1980, aimed at improving the quality of higher education by giving greater emphasis on undergraduate education and the improvement of general and labor market-related contents of study programs. By increasing the flexibility of study plans, students were granted more freedom and autonomy. Finally, the cooperation between higher education and industry was intensified even further by increasing applied and commissioned research.

Effects of German Unification on Higher Education

The fall of the Berlin wall in November 1989 and the subsequent dissolution of the socialist regime in the German Democratic Republic led to the unification of the two German States which had been separated since 1949. The Unification Contract was signed on August 31, 1990 and set off a process of immense change. Political, economic, and social conditions in the five new federal states of East Germany were adapted to West German conditions. Along with many other regulations, the Unification Contract envisioned the adaptation of the basic structure of the West German system of education to East Germany.

Apart from a few specifics, the West German status quo served as a model for the transformation of the East Germany system of higher education (cf. Mayntz, 1994; Buck-Bechler & Jahn, 1994; Schramm, 1993). The task of East German higher education renewal slowed down reforms which had been initiated in the West German system of higher education toward the end of the 1980s. The West German higher education framework law served as the legal basis for the restructuring and transforming

of the East German system. The distribution of rights and responsibilities followed the federalist principles of West Germany after the five federal states of East Germany had been re-established. Within higher education institutions, academic self-governance in internal affairs and freedom of teaching and research were reinstated.

Research carried out by the institutes of the East German Academy of Sciences was evaluated by the West German Science Council. Research staff and research structures were reduced, and many institutes and groups dissolved. Those surviving quality assessment and political screening were either re-integrated into higher education institutions or—for the most part—became one of the non-university institutes or research groups of the Gottfried Wilhelm Leibniz Association.²

The main activities of higher education restructuring and renewal in East Germany can be summarized in five aspects (cf. Kehm & Teichler, 1996):

- (a) *De-politicization*: All departments for Marxism–Leninism as well as all political higher education institutions (party, police, military forces) were closed; political activities of academic staff were evaluated; departments and subjects with close links to the previous political system—in particular law, economics, social sciences, and education—were dissolved and eventually re-established with new (often West German) academic staff.
- (b) *Reorganization and evaluation of extra-university research*: Many institutes of the Academy of Sciences, the main organization for basic research, were dissolved; high quality research groups and institutes—the performance of which was positively evaluated—either became part of the Leibniz Group of non-university research or were re-integrated into the universities to strengthen university research in East Germany.
- (c) *Establishment of universities of applied sciences (Fachhochschulen)*: The remodeling of previously specialized higher education institutions into universities of applied sciences was coupled with the establishment of a number of new universities of applied sciences.
- (d) *Restructuring of subjects and disciplines*: Composition, size and curricula were adapted to West German standards, although with a certain degree of leeway for innovation. The high level of specialization was abandoned.
- (e) *Reform of the staff structure*: Staff structures typical for the West German system of higher education were introduced. The political involvement and academic performance of scientific staff were assessed, and in cases of negative outcomes, employment contracts were terminated. In cases of positive outcomes, staff members had the option to either apply to one of the advertised staff positions (thus having to compete with other East German as well as West German academic staff applying for the same position), or to join one of the special research groups of the Leibniz Association. Transition into premature retirement and enforced unemployment were also widespread.

This dramatic German–German “tour de force” required extensive resources in terms of staff and money in order to adapt the East German conditions and structures as much as possible to the West German status quo, although the latter was in dire need of reforms as well (cf. Peisert & Framhein, 1994; Science Council, 1992).

The question of a dual reform of the East German and the West German system of higher education was frequently discussed among experts and political decision makers during that time. Views differ about the issue of whether the West German system of higher education missed a historical opportunity for reforms. However, there was widespread agreement that reforming the West German system—while at the same time restructuring and renewing the East German higher education system—was an impossible mission. Still, the process of German unification has led to unexpected challenges and new questions as well as to new problems and opportunities for both parts of the system of higher education.

Within this context, one cannot underestimate the role which East German higher education has played (and is still playing) as both a challenge and stimulus for reforming the entire contemporary German higher education system. In particular, three factors have contributed to this:

- The process of transformation was seized upon by many East German higher education institutions as an opportunity to introduce innovations in areas like management, teaching and curriculum development.
- The East German tradition of emphasizing teaching rather than research within higher education institutions and providing a favorable student/faculty ratio continues to determine attitudes and self-understanding of academic staff at East German institutions.
- The newly established structures of higher education in East Germany are less consolidated, so that there is generally more openness for experiments and reforms.

Two further challenges and reciprocal influences warrant mention here. First, the rigorous evaluation of the quality of academic work at East German higher education institutions and extra-university research institutes (including the Academy of Sciences) affected West German higher education institutions in a particular way. The resistance of West German professors against any kind of external assessment of their teaching and research performance broke down after they had become involved to a considerable extent in such an exercise in East Germany. Second, the structural transfer of the West German system of higher education did not lead to an identical development in the forms and contents of teaching, studies and research in East Germany. Some of the most interesting and promising innovations in the organization of teaching and study programs came from East German institutions, and serve as models of good practice with which West German higher education institutions can experiment as well. Overall, a new dynamic became visible from the beginning of the mid-1990s onwards, which gradually seized the whole German system of higher education and provided a new thrust for reforms and innovation. This dynamic was later focused on reforming degree structures towards the bachelor's/master's model, triggered by Germany's involvement in the Bologna Declaration.

Structural and Quantitative Developments

In 1989, the starting point of the dramatic structural and quantitative developments described in this chapter, there were 244 higher education institutions in West Germany,

categorized by the following six types: 68 universities (including technical universities, special universities, and one distance university); 30 art academies; 121 universities of applied sciences (including those for public administration); 16 theological seminaries and institutions; eight teacher training colleges; and one comprehensive university (cf. BMBF, 2000). In the same year, a total of 70 higher education institutions existed in East Germany, categorized as follows: nine multi-disciplinary universities; 12 technical universities; 29 special institutions (including engineering, teacher training, art, and agriculture); three medical universities; and 17 political institutions (party, police, union, and military).

The process of restructuring and renewal of the East German higher education (including institutional mergers and new denominations) led to 16 universities, 11 art academies, one teacher training college and 31 universities of applied sciences—a type which previously had not existed in East Germany. In addition, 11 theological seminaries and a few private higher education institutions were established. In 2000, 10 years after the signing of the Unification Contract, the German higher education landscape consisted altogether of 350 higher education institutions. An overview of the recent expansion of Germany's higher education system is provided in Table 1.

The German higher education system is characterized as a binary system, with the vast majority of students enrolled in either universities or universities of applied sciences. In 2000, Germany had slightly more than 1.6 million students, the majority of whom (slightly less than 1.2 million) studied at universities. Nearly 46% of all students were women; however, in a number of subjects (e.g., medicine, biology, cultural and social sciences, and languages) the proportion of female students is higher than 50%.

Table 1. Development of Higher Education Institutions in Germany (1960–2000)

| Institutional types | 1960 | 1970 | 1980 | 1990 | 1996 | | | 2000 | | |
|------------------------------------|----------------|------|------|------|------|------|-------|------|------|-------|
| | (West Germany) | | | | West | East | Total | West | East | Total |
| Universities | 33 | 41 | 55 | 70 | 73 | 17 | 90 | 78 | 18 | 96 |
| Theological seminaries | 17 | 14 | 11 | 16 | 14 | 2 | 16 | 14 | 2 | 16 |
| Teacher training colleges | 52 | 51 | 13 | 8 | 6 | – | 6 | 6 | – | 6 |
| Art academies | 24 | 26 | 26 | 31 | 35 | 11 | 46 | 37 | 12 | 49 |
| Comprehensive universities | – | – | 9 | 1 | 1 | – | 1 | 1 | – | 1 |
| Universities for applied sciences* | – | 98 | 115 | 122 | 144 | 32 | 176 | 148 | 34 | 182 |
| Total | 126 | 230 | 229 | 248 | 273 | 62 | 335 | 284 | 66 | 350 |

Note: * = including *Fachhochschulen* for Public Administration.

Source: Federal Ministry for Education and Research: Basic and Structural Data 2001–2002, Bonn.

The proportion of foreign students was approximately 12% in 2000, although a third of students with a foreign nationality were either born in Germany or had gone to school in Germany. Nearly 214,500 students successfully completed their degree program and finished their final examinations in 2000. Furthermore, Germany produces the highest number of doctoral degree holders among the European countries, namely about 25,000 annually.

German Higher Education in the 21st Century: Challenges and Perspectives

By international comparison, the German higher education system has traditionally been characterized as one of tight state control. In the second half of the 1990s, public and political criticism increased with respect to the quality and attractiveness of German higher education institutions. Political actors in particular thought that German higher education institutions were lagging behind in international competitiveness and had lost their attractiveness to foreign students. The institutions themselves did not accept this criticism but complained instead about chronic underfunding and an overload of students. There was also talk at all levels about a “reform congestion” and about inefficiency, deficits in the quality of teaching, high dropout rates and an overly long duration of studies. Among the many current challenges facing German higher education institutions, these five topics are deemed to provoke the most debate and have the most potential to result in important changes to the system as a whole.

Organizational Management and Market Orientation

In order to address the challenge of “reform congestion,” political decision makers proposed a withdrawal of the state from tight control over higher education institutions. Institutions of higher education were allowed to become more autonomous in order to organize their tasks in more efficient and competitive ways. This autonomy was implemented by a far-reaching reform of the higher education framework law in 1998. However, this autonomy was not unconditional. New instruments other than state control were used to enable higher education institutions to react more flexibly to the new demands, including lump sum budgeting instead of the traditional form of line item budgeting. These reforms also included provisions addressing the evaluation of the quality of teaching; accountability; performance-related funding; and contract management.

Within the institutions, internal organizational reforms were expected to contribute to the development of unique profiles and missions, and to a strengthening of the roles of rectors and deans. Although a market orientation has been rather alien for the German system of higher education, a number of initiatives and programs have been launched in recent years to support the export of German courses and programs to students in other countries, and to introduce new competitive activities to market German higher education.

By means of continuous underfunding through the state, institutions are also compelled to try and find an increasing part of their budget from other sources, including the extension of continuing academic education programs (and increasing the price for such programs); the introduction of tuition fees for students who have been enrolled for more than 5 or 6 years without graduating; greater efforts to market research results; a more active acquisition of third party funding for research projects; new attempts to solicit external donors; and the establishment of alumni services. To date, studying in Germany is still tuition free, but this principle is eroding at its margins.

Another important element of organizational reform in German higher education has been the strengthening of institutional management. This includes the gradual dissolution of the traditional collegial model of governance, in which the rector or president is “the first among equals.” Currently, more hierarchical models of governance are being introduced which are oriented toward managerial approaches. Increasingly, performance-related contracts are being used to regulate the relationships between the various levels of governance—i.e., between the state government and the individual institution, between institutional management and departments, and between departments and the individual professor or other academic staff members. Higher education institutions in Germany are also increasingly expected to function according to the principles of the market, although there is currently no consensus about the general introduction of tuition fees, so that artificial or “quasi-markets” have to be created.

Reforming the Academic Profession

A second challenge of the reform agenda in German universities has been widely acknowledged for quite some time now: the structure of the academic profession. However, all proposals to improve the situation have met with disagreement. Professors in Germany are life-tenured civil servants, and other academic and non-academic support staff are employees in the civil service, often with tenure, making changes in their employment contracts very difficult.

The introduction of sanctions for low performance was not allowed by unions or professional organizations. Performance-related pay typically involves some extra money, but never less.

The structure of academic staff has become polarized over the years. While professors are tenured for life, other academic staff are predominantly employed on fixed-term contracts of 6 years before the awarding of a Ph.D. degree, and 6 years after that at most. Among the academic staff below the professorship, those with tenure have decreased continuously over the last 10 years. Criticism is mostly directed against the lack of flexibility of this structure. The professional mobility of professors is deemed to be too low and happens only practically within the framework of negotiations for a chair at another university. Another issue is the duration of the qualification process, be it in the framework of getting a Ph.D. or the second formal qualification phase needed to become a professor. In general, junior academic staff are kept employed at the will of their supervisor or the chair holder for too long. Two reforms dealing with staff

structure and the pay scale structure were initiated in the years 2001 and 2002, and it is hoped that they might contribute to a change in this situation.

In 2001, the Federal Ministry of Education and Research started a support program of more than six million Euros for the introduction of the so-called “junior professorship.” The objectives of the program are to reduce the duration of qualifying junior academic staff until a professorship is achieved (doing away with the habilitation) and provide professorships for highly qualified young academics. Despite continuous skepticism from higher education institutions as well as from some German states (not all German states participate in the program to create junior professorships), a number of institutions are in the process of introducing the new position. Funding from the Ministry provides the resources necessary for the junior professors to get started in their job. Other conditions of employment—e.g., the salary level and teaching load—are determined by the ministries of the respective state.

Junior professors are civil servants on fixed-term contracts. After 3 years, their performance is evaluated and their contract can be renewed for another 3 years. After a second successful evaluation it will be possible to change the junior professorship into a regular professorship, which includes the award of a chair at the institution at which the junior professor has been employed. Traditionally, an academic staff member could not become a professor at the institution at which he or she acquired the habilitation.

The second reform, initiated in 2002, introduced a new salary structure for professors and junior professors. In this structure, elements of performance-related pay will increase, and higher education institutions can determine for themselves the levels of compensation they will offer their faculty. Four instances may lead to a higher income:

- negotiations with the home institution in the case of an offer to become a chair at another institution;
- outstanding performance in teaching, research, art and/or continuing academic education;
- taking responsibility for particular functions in academic self-governance; or
- special funding for teaching and research from third party project funding.

These changes in the organizational culture of German higher education institutions, together with other governmental reforms, reflect a clear trend toward the dissolution of the traditional, non-hierarchical self-governance dominated by the “academic oligarchy.” Higher education institutions are being strengthened as organizations in order to be able to react more flexibly to the demands of a changing environment. Further elements to increase flexibility have also been recently introduced: changes in the statutes of institutions, widening the range of resources for funding, and professionalization of institutional management. Amid the changing relationship between higher education and the state, described earlier in this chapter as a shift from state control and regulation to more market elements, changes are being made in the internal organization of institutions, involving a shift from the dominance of professors to a more important role of the organization as a whole. From these shifts, German higher education institutions can become more independent and strategic actors in various societal and political arenas. They will also acquire more power to shape their own

development and direction, resulting in greater institutional diversity throughout the system.

Teaching Quality

The third challenge is created by widespread dissatisfaction with the quality of teaching, mainly at (West) German universities, and less so at universities of applied sciences. Criticism with regard to the long duration of studies and high dropout rates had already begun in the second half of the 1980s. But after the participation of West German professors in the evaluation of East German higher education (following the fall of the Berlin Wall and the unification contract), resistance to the assessment and evaluation of teaching quality finally broke down. Since then, most higher education institutions have introduced a regular evaluation of teaching quality, in particular by means of student questionnaires. Only a few universities have implemented more elaborate procedures of evaluation or use external evaluators. External or peer observation of actual class teaching continues to be taboo in German higher education.

All consequences and measures to improve poor results of these evaluations—e.g., seminars for professors and other teaching staff to improve their teaching skills, financial incentives, stricter controls over whether professors actually and regularly teach their classes and whether they fulfill their teaching load, or measures to improve contact with (and advice for) students—have so far been rather vigorously contested. The prevailing skepticism is mainly due to two reasons. First, prestige and career boosts within the scientific community are continuously gained through successes in research and publications, and not in teaching. Second, many professors claim that students today are less well-educated and prepared for studying than in previous times. Therefore, the claim is that higher education institutions should be given the right to select their own students in order to improve the quality of teaching.

Still, during the last 7 or 8 years, efforts have been made to develop and implement appropriate instruments and procedures for the evaluation of teaching in cooperation with universities and their departments and to carry out regular evaluations. Commissions or agencies have been set up either by the respective state ministries or by regional networks of higher education institutions to do this or to support the institutions in carrying out such evaluations themselves. Methods and procedures used have been mostly standardized by now. In these undertakings it became clear that in contrast to a ranking of institutions which is typical for the Anglo-Saxon and American systems of higher education, an institutional ranking in Germany does not make much sense. However, departments (or subjects or disciplines) are being increasingly compared with each other because it is generally assumed that one university cannot be first class in everything.

Results of external evaluations are typically discussed within the respective department and the reports agreed upon with the members of the evaluation commission. Mostly, the reports are not made public. As a rule, the respective department promises to improve upon their weak points, and their success in doing so is re-evaluated after 3 or more years. Most evaluations of teaching quality carried out in Germany are based on the principle of measuring a department against its own goals and objectives. No

external standards are imposed apart from procedural ones. Finally, in cases of filling a chair or creating a new professorship, candidates for the position must provide proof of their teaching skills.

Degree Programs

The fourth challenge which is currently making a profound impact on the German system of higher education is the implementation of a tiered system of degrees on the basis of the bachelor's/master's model. When 30 European Ministers of Education signed the Bologna Declaration (1999)—two more signatory states joined somewhat later—they triggered a reform process aiming at the creation of a European Higher Education Area by the year 2010.³ The Bologna Declaration and the ensuing reform process, called the Bologna process, formulated a number of goals and objectives to which all signatory states committed themselves. The Ministers also agreed to meet every 2 years to take stock of the implementation process. Thus, they met in Prague in 2001, in Berlin in 2003, and will meet in Bergen in 2005. The main goals that are expected to result in a European Higher Education Area are: (1) the introduction of a system of easily understandable and comparable degrees (bachelor's and master's); and (2) the introduction of a system of study programs based on two main cycles (undergraduate and graduate studies). The first cycle should have a duration of at least 3 years, followed by a second cycle of 1 or 2 years, without surpassing a duration of 5 years altogether. When the Ministers met in Berlin in 2003, doctoral education and training was added to this structure as a third cycle of studies.

Since 1999, more than 1,200 bachelor's and master's degree programs have been introduced in Germany. To a rather large extent, universities—as well as universities of applied sciences—are giving up their traditional degrees. Until recently, all new degree programs had to be examined and endorsed by the respective state ministries, a process which could take 2 years or more. With the decision to introduce the new bachelor's and master's degree structure, another important decision was made, namely to establish accreditation agencies. There are currently seven agencies in Germany—some subject-specific, others general—which examine applications for the introduction of bachelor's and master's degree programs according to criteria like quality, consistency and practicability. The application process and the evaluation of the applications have been standardized in order to speed up the accreditation process. The respective state ministries have reserved the right to authorize the legal aspects of the new degree programs—namely, the study and examination regulations.

Currently, the majority of higher education institutions offer the old degree programs parallel to the new ones. This is basically due to the fact that a particular law prescribes that students have a right to finish their degree program on the same conditions they started it. However, it is assumed that within a few years all students will have moved to (or started with) the new degree programs.

One of the conditions for the introduction of bachelor's degree programs was that students would be provided with sufficient key qualifications and professional competences within 3 years, to ensure a reasonable transition to employment; the term used in this context is “employability.” Some subjects, however, continue to resist the

introduction of the bachelor's/master's structure (e.g., architects and engineers), arguing that in their field no proper professional qualification can be acquired in 3 years. Also, potential employers are still unclear about how (and in which positions) the new graduates can be employed, and what their first salary levels and career paths might be, because they are unfamiliar with the qualifications, knowledge and competencies of a person holding a bachelor's degree. Still, the German labor market for graduates from higher education institutions has always been predominantly determined by supply rather than by demand, and it is expected that a better marketing of the new degrees as well as more information will eventually lead to a smooth transition. Overall, political actors and decision makers hope that the introduction of a tiered degree structure will achieve a reduction in dropout rates, as well as decreasing the time-to-degree for the majority of students, thus relieving universities from the "overload" of students about which they have been complaining since the second half of the 1970s.

Internationalization

The fifth challenge universities are confronted with is further internationalization, in particular within the context of the General Agreement on Trade in Services (GATS). Since World War II, the internationalization of German higher education has advanced in several thrusts. International cooperation and the mobility of students and teaching staff in the German Democratic Republic was basically restricted to other socialist or communist countries. Higher education institutions in the pre-1989 Federal Republic of Germany cooperated mainly with other highly industrialized western countries and the member states of the European Union. Although the European Commission at first had no competencies in the field of education (which was defined to be a purely national affair), it succeeded through the ERASMUS program to establish one of the most successful support programs for mobility and cooperation in the history of higher education internationalization. Despite the fact that the ERASMUS program has not achieved its ambitious goal of supporting 10% of all European students for a limited period of study abroad (usually between six and 12 months), nobody today doubts the success of this program. But cooperation and exchange of German students and academic staff is not restricted to ERASMUS and to Europe. Within the framework of national support programs—which are predominantly administered by the German Academic Exchange Service (DAAD)—cooperation of German higher education institutions is supported with institutions from non-European countries.

A period of study abroad has almost become a normal option for German students as part of their degree program. To those students who for various reasons cannot or will not go abroad for a period of study, students and teachers from other countries at their home university offer an opportunity to become familiar with foreign cultures and different styles of teaching and learning. Within the framework of increasing higher education internationalization since the mid-1990s, a growing number of barriers which tended to prevent mobility of staff and students have been removed. Throughout Germany, efforts have been focused on improved counseling and advice for foreign students as well as a professionalization of the international relations offices. With the help of funding from the Federal Ministry of Education and Research, special study programs have

been established—most of them taught in English—which are particularly directed at attracting students from abroad.

In sum, internationalization has moved from a marginal to a central position in the activities and policies of many higher education institutions in Germany. Further, the content of studies is becoming increasingly international—be it through an emphasis on international comparisons, a focus on the international aspects of particular issues or the subject matter as a whole, or the development of joint study programs with partner institutions abroad, often finishing with a double degree from both institutions. Above all, the internationalization of study programs and degrees is an important element of the efforts to increase the attractiveness of studying in Germany for foreign students. A competitive advantage is that all bachelor's degree programs and most of the master's degree programs are still tuition free. But apart from the introduction of internationally recognized degrees, the new study programs developed for these degrees are also modularized to a large extent. Credit points are used to indicate successful completion of individual modules, and “diploma supplements”—an account of the subject matter of all degree program modules in the English language—are used to create more transparency in terms of what an individual student has learned.

Conclusion

The efforts of the European Commission and the Ministers of Education of the European countries to create a European Higher Education and Research Area, in order to make Europe the most dynamic and competitive knowledge economy of the world, have triggered far-reaching reforms of the German higher education system that clearly surpass the scope of previous reform phases. Higher education institutions have acquired a new (and for them, a still somewhat unfamiliar) role as autonomous and strategic actors in this process. It is uncontested that higher education institutions are an important element in the emerging knowledge society—not only in terms of their role in the production of new knowledge and in the search for solutions to societal problems, but also in terms of their responsibilities for developing the competencies of an ever-increasing proportion of the population. In order to fulfill these roles and responsibilities effectively, they need to be able to react in a flexible way to the demands of their environment, regardless of whether this environment is regional, national, international, or even global. The first steps have been taken. In the year 2010 or 2020, studying in Germany will clearly be different from today.

Notes

1. “Sputnik shock” is a key term used to denote the lost technological competition of western industrial nations for supremacy in space. In 1957, it was the USSR who first succeeded to launch a rocket, called Sputnik, into space.
2. In this Association, all East and West German extra-university research institutes are organized which are not part of the Max Planck Society (basic research) or the Fraunhofer Society (applied research).
3. For more on this topic, please see the chapter by Hans de Wit in this volume.

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INDIA

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India was one of the earliest among the developing countries to have established universities and colleges, and it now has the third largest academic system in the world (behind China and the United States). After a long period of protected expansion with state patronage until the mid-1980s, this system is now experiencing unprecedented change. The adoption by the Government of India in 1990 of structural adjustment reforms has meant the gradual withdrawal of state patronage for higher education and a simultaneous privatization of that sphere. However, with the government dithering about the long-term policy to be adopted in this regard, higher education in India is now passing through a period of stunted growth and uncertain future. Based on an analysis of the development of India's higher education and its contemporary realities, this chapter¹ examines the metamorphosis of a system that was not long ago dubbed as "an immobile colossus" (Dube, 1988, p. 46).

Historical Background

Origin and Growth

The foundation for India's present system of higher education was laid by the British colonial regime in the mid-19th century (Ashby & Anderson, 1966, pp. 54–146). The initial efforts of the Christian missionaries and the East India Company generated a protracted controversy between the "Anglicists" recommending a Western approach and the "Orientalists" favoring an indigenous direction. William Bentinck finally resolved this controversy in favor of the Anglicist orientation, barely a month after Thomas Babington Macaulay had penned his (in)famous *Minute* (on February 2, 1835). Charles Wood's *Despatch* (of July 19, 1854) reaffirmed his policy. Upon the recommendation of the committee appointed on January 26, 1855, the first three universities were established at Bombay (now Mumbai), Calcutta (now Kolkata) and Madras (now Chennai) in 1857.

Modeled after the University of London (established in 1836), these pioneer universities were largely affiliating and examining bodies with very little intellectual life of their own. All the universities that were subsequently established developed in an

isomorphic fashion set on the pattern of the original universities. The British educational implantation in India was conceived to serve the economic, political and administrative interests of the British, and in particular, to consolidate and maintain their dominance in the country.² It emphasized English, which not only was taught as a language, but also was made the exclusive medium of instruction in higher education. The content was biased in favor of languages and the humanities, and against science and technology.

It is not as if the British rulers did not realize the problems associated with such an educational implantation or its adverse consequences for the colonized society. Yet it was only during the early years of the 20th century—thanks to the initiative of Lord Curzon, the then Viceroy of India (1898–1905)—that efforts were made to “rescue the original concept of the university from its corrosive narrowness.” Several inquiries were instituted during the last three decades of colonial rule, but “hardly any of their major recommendations were translated into university policy or practice” (Tickoo, 1980, p. 34).

Thus, the legacy of higher education inherited by India at the time of her independence in 1947 was already crisis-ridden. As an integral element of colonial underdevelopment, higher education was “anemic, distorted and dysfunctional.” Low levels of enrollment, the “liberal” nature of education, “enclavization” of the institutes of higher learning, and spurious modernization were its festering features (Raza et al., 1985, p. 100–109). While the general obsolescence of the inherited system of higher education persisted, the system itself underwent such a phenomenal expansion as never before seen in the world.

In 1947, India had 20 universities and 496 colleges catering to 241,369 students.³ During the next 55 years, she built up a massive system of higher education: in 2001–02, there were 323 university-status institutions (178 state and 18 central universities, 18 medical and 40 agricultural universities, 52 institutions “deemed-to-be universities,” 12 institutes of national importance, and five institutions established under State Legislature Acts), 13,150 colleges, and about 900 polytechnics. The system now employs 350,664 teachers and caters to about 8,275,000 students.

The rapid expansion of higher education in India has taken place within a socioeconomic context in which a substantial percentage of the population is illiterate (34.6% of the over 7-year-old population, according to the 2001 Census), and despite the low rating of education per se in the order of national priorities (the educational expenditure as percentage of the Gross Domestic Product rose only marginally, from 2.80 in 1980–81 to 3.93 in 2000–01). The characteristics of the continuing crisis in higher education in India are directly traced to “over-production of “educated” persons; increasing educated unemployment; weakening of student motivation; increasing unrest and lack of discipline on the campuses; frequent collapse of administration; deterioration of standards; and above all, the demoralizing effect of the irrelevance and purposelessness of most of what is being done” (Naik, 1982, p. 163).

Post-Independence Policy Initiatives

After independence, the Government of India appointed the University Education Commission (1948–49) to examine the development of higher education and make proposals

for its future expansion and improvement. The Education Commission (1964–66) was the first commission in India’s educational history to look comprehensively at almost all aspects of education, and to develop a blueprint for a “national system of education.” Having influenced the two statements on the National Policy on Education (1968 and 1979) and, through them, the policies and programs adopted in the Fourth, Fifth and Sixth Five-Year Plans (1968–83), the Report of the Education Commission (Ministry of Education [ME], 1971) was on the anvil for nearly two decades. However, the Ministry of Education, which processed the Report, obliterated it by treating in a piecemeal fashion selected aspects of what was conceived to be a package deal (Naik, 1982, pp. 31–2).

In 1985, the new government proposed to embark on the complex task of “restructuring the system of education.” Toward this end, in August of that year the Ministry of Education (since reorganized as the Ministry of Human Resource Development [MHRD]) presented to Parliament a 119-page document titled *Challenge of Education: A Policy Perspective*. This document placed the utmost emphasis on higher education, since it “can provide ideas and men to give shape to the future and also sustain all other levels of education” (Ministry of Education, 1985, p. 6). Key policy measures it contemplated included the delinking of degrees from jobs; the diversification of courses; placing a moratorium on the expansion of the conventional pattern of colleges and universities; selective admission to higher education based on “scholastic interest and aptitude;” establishment of new centers of excellence; decentralization of educational planning, administration, and monitoring; and depoliticization of academia.

The Program of Action of the National Policy on Education (MHRD, 1986) was reviewed by the Acharya Ramamurti Committee (MHRD, 1991). The recommendations of the Central Advisory Board on Education that considered the review report were adopted by Parliament in May 1992. Still, considering the nature of the constraints that had to be encountered, one could hardly have been too optimistic about their outcome. As with earlier reform policy initiatives, this policy too resulted in ad hoc piecemeal tinkering with the system, rather than its overhaul with grit and determination.

Nature and Scope of the Indian Higher Education System

Definition and Scope

Broadly defined, the label “higher education” in India includes the entire spectrum of education beyond 12 years of formal schooling. Candidates who are successful at the secondary school certificate examination (conducted at the end of 10 years of schooling) have the choice of two tracks of postsecondary education. The first track consists of several vocational, technical, and para-professional courses leading to a variety of certificates and diplomas. The duration of these courses varies from 1 year, as in industrial training or teacher training institutes, to 3 years, as in polytechnics. Of these, only the 3-year polytechnic course leading to a diploma is regarded as “higher education.”

The second track, generally described as the “plus-two” stage, is a prerequisite for collegiate education, and is of 2 years’ duration. It is offered in two different types of

educational settings: junior colleges, which offer this exclusively; and schools, which offer it as standards eleven and twelve. This second track is organized and administered by a separate state-level body. Candidates who successfully complete the “plus-two” stage can take up either a general degree course (such as bachelor’s of arts, bachelor’s of science or bachelor’s of commerce) of 3 years’ duration or a professional degree course (such as bachelor’s of medicine and surgery [5 years and 6 months], bachelor’s of dental surgery [4 years], bachelor’s of engineering/technology [4 years], bachelor’s of nursing [3 years], etc.). In both these types of courses, a postgraduate degree (master’s degree) would entail 2 to 3 years of further education.

After the successful completion of any first-degree course (general or professional), a graduate can pursue a second-degree course such as bachelor’s of education, bachelor’s of library science or bachelor’s of law. Since the mid-1980s, a 5-year “integrated” degree course in law has been introduced by many universities. Another year of postgraduate education would earn the graduate a master’s of education, master’s of library science or master’s of law degree. In all courses, further higher education leading to master’s of philosophy (1 to 2 years) and doctor of philosophy (3 to 5 years) is possible.

The post-“plus two” level of education is offered in colleges and/or university departments. Based on the nature of their management, we can broadly identify four types of collegiate-level educational institutions: private unaided institutions, private grant-in-aid institutions, institutions managed by the state government (through the directorates of collegiate education, technical education or medical education), and institutions managed by the universities. While there are internal variations in the principles and practices of management among these institutions, as far as their academic organization is concerned they are all regulated by the university to which they are affiliated.

These institutions offer a variety of courses. If the level of instruction imparted depends on the structural type of institution (i.e., junior college, polytechnic, college, or a university department), the quality of teaching often varies with the basic facilities available in a given institution. This again is determined both by the extent and nature of the resources the administrators can mobilize and their motivation to do so.

Typology of Institutions

As for their structure, the largest number of Indian universities belongs to the *affiliating* type. They have a central campus housing departments or schools of study that offer instruction at the postgraduate level and undertake research. In addition, a large number of colleges generally offering first degree education are affiliated with them. A major task of such universities is to determine and oversee the academic standards of these affiliated colleges and conduct centralized examinations for the candidates enrolled in them. These affiliated colleges may be dispersed geographically, but are under the jurisdiction of a university as determined by law.

The *unitary* type of university, on the other hand, is self-contained, and has no colleges. Most of them offer both undergraduate and postgraduate courses and undertake research. A few universities are in some sense a mixture of these two types. The territorial jurisdiction of the *mixed* type of university (e.g., Delhi University) is usually

confined to the city in which it is located. Besides affiliated colleges, this type of university manages its own colleges.

Of the 277 university-level institutions for which data are available, 171 are conventional *multidisciplinary* universities; 96 are *professional/technical* institutions oriented to studies in a few related disciplines like agriculture (including forestry, dairy, fisheries, and veterinary science) (37), health sciences (16), engineering and technology (38), law (4) and journalism (1); and 10 are open universities (Association of Indian Universities [AIU], 2004, p. xi).

The Government of India has conferred upon 12 university-level institutions the status of “institutions of national importance.” These include the five Indian Institutes of Technology (IIT), three institutions specializing in medical sciences, and one each specializing in statistical techniques and the Hindi language. These institutions are empowered to award degrees which, according to the University Grants Commission (UGC) Act of 1956, can be granted only by a university. The five Indian Institutes of Management (IIM), which are also national-level institutions, are not vested with the power to award degrees, though their “fellowships” are treated on par with university degrees.

By 2001–02, the central government had recognized 52 institutions as “institutions deemed-to-be universities” under the UGC Act. These institutions either specialize in some area of knowledge or are heirs to a tradition. They are not expected to grow to be multidisciplinary universities of the general type.

Outside the university orbit are research institutes funded by the Indian Council for Social Science Research and research laboratories established under the auspices of the Council of Scientific and Industrial Research or maintained by the Ministries of the Government of India. These institutions are not oriented toward the granting of degrees, though they are recognized as centers for doctoral research work, and many scholars working in them are recognized as guides for doctoral students registered with universities.

The concept of an “open university” to impart “distance education” is yet another landmark in higher education in India. The open university seeks to cater to the educational needs of those who for whatever reasons could not enroll in traditional forms of higher education, or those who want to pursue their studies at their own pace and time. Introduced in 1962, this channel of higher learning was in the beginning under the control of the conventional universities. In addition to 10 open universities, there are 104 institutes of correspondence courses or directorates of distance education functioning under conventional universities, and these cater to about 820,000 students, accounting for 13% of the total enrollment in universities and colleges.

Governance

Universities in India are established by an Act either of the union Parliament (“central universities”) or of the state legislature (“state universities”). In some states, all the universities are covered by a common “State Universities Act.” While the “institutions of national importance” are established by an Act of Parliament, and those deemed-to-be universities are given that status under the UGC Act. Generally, the President of

India, in his capacity as the Visitor, acts as the Chancellor of the central universities, and the Governor of a state acts as the Chancellor of all the universities established by the state legislature.

Both in central and state universities, the vice chancellor is the administrative and academic head of the university. Statutory bodies such as the *academic council* (which exercises general control over all academic matters), the *senate* or *court* (which exercises general control over statutes and budget), and the *syndicate* or *executive council* (which supervises the executive actions of the university, and is responsible for the general management of the university) govern the universities. The size and composition of these bodies vary from university to university. Nominees of central government or state government, as the case may be, represent the respective governments in these statutory bodies. The institutions of national importance and the institutes deemed-to-be universities are also governed by similar statutory bodies.

Problems and Prospects

Enrollment Rates and Background

The bulk of the expansion in enrollment at the postsecondary level took place during the 1950s and the 1960s, when the rate of expansion was as high as 13–14% per annum. During the last decade or so, the rate of expansion has come down markedly. It was 6.1% in 1982–83, peaked at 7.4% in 1989–90, and has declined to remain stable at 4–5% since then. While this rate of expansion is apparently of a manageable magnitude, the university system has never been tuned to the effects of the earlier expansion of enrollment. The shortages in the infrastructure then have only become magnified now.

Despite the massive growth in higher education, barely 8–9% of the 18–23 year-old age group are currently enrolled in higher education institutions. Unrealistically though, the Tenth Five-Year Plan (2002–07) hopes to raise this percentage to 10% by 2007. Analyzing the data for 2001–02 (Kaur, 2003, p. 366) reveals that those enrolled in arts (46.1%), science (19.9%) and commerce/management (17.9%) together accounted for nearly 84% of the students in higher education. Among the rest, 6.9% were enrolled in engineering and technology, 3.2% in law, 3.1% in veterinary science, and 1.3% in education.

As for gender, women's representation is higher in education (51.2%) and medicine (44%), as compared with arts (38%), science (38%), and commerce (35.6%), and is least in engineering/technology (21.5%) and agriculture (17.4%). Women's representation in higher education has improved over the decades, and they now form about 40% of the total enrollment. They are better represented in higher education in the states of Kerala (60%), Goa (58.6%), Punjab (52.9%) and Pondicherry (52.6%), and the union territories of Andaman and Nicobar Islands (57.8%) and Chandigarh (55.5%). In another 15 states/union territories, their proportions are between 40% and 50%. However, their representation is very low in Rajasthan (32.6%), Arunachal Pradesh (29.7%) and Bihar (23%).

A substantial number of places in institutions of higher education are by law reserved for the Scheduled Castes, Scheduled Tribes and Other Backward Classes. The last of this is a flexible category, and in many states quite a large number of people are covered under it. The number of students belonging to these groups has increased over the years, and in 2002–03, they constituted about 10% of the enrollment. However, their participation in some faculties (like medicine and engineering) is too small and insignificant. While the policy of protective discrimination in favor of these caste groups has created some academic problems, it has without doubt helped these traditionally disadvantaged sections of the population in a substantial way.

India's present system of education can be considered top heavy—that is, secondary and tertiary sectors appropriate about 60% of educational expenditures. As for socioeconomic class, the main beneficiaries of this system belong to the top 30% of the income groups, who occupy about 70–80% of the places in secondary and university levels. Moreover, there is a pronounced urban bias in higher education; about 60–75% of the students in different courses hail from urban areas. In sum, there is an enormously unequal distribution of opportunity and benefits throughout India's higher education system—an issue with significant political, social and economic ramifications.

The Quality Dimension

As is to be expected, rapid expansion of higher education has been at the cost of its quality.⁴ The quality of education offered is, no doubt, highly varied. Some institutions, despite the general deterioration of quality, have maintained very high standards, including the Indian Institutes of Technology (IITs) at Chennai, Kanpur, Karaghpur, Mumbai, and New Delhi; the Indian Institutes of Management (IIMs) at Ahmedabad, Bangalore, and Kolkata; the Indian Institute of Science (Bangalore); the Tata Institute of Fundamental Research (Mumbai); the National Law School of India University (Bangalore); and a few exceptional departments in some universities. Some affiliated colleges also have maintained high standards.

The deterioration in quality is most glaring in the state universities in general, and at the undergraduate level in affiliated colleges in particular. This crisis now encompasses the conventional postgraduate (M.A., M.Sc. and M.Com.) courses offered in the university departments, too. These courses are now performing an extended “babysitting” function. This is understandable considering the relatively low unit cost of running these courses, and that the students entering this stream pay absurdly little toward their education—far less than what students in the private-sector primary schools pay. The unregulated expansion of this sector of education has been invariably identified as the main cause of its quality crisis.

What goes on in the name of higher education in many a state university and college is pathetic: in many institutions, the physical facilities are so deplorable and the library and laboratory facilities are so woefully inadequate that they have earned the nickname “academic slums” (Jayaram, 1999, p. 112). While lack of resources—a general refrain heard in this context—is primarily responsible, we cannot blame it alone. What is serious is that even the prescriptions governing the minimum qualifications for the

appointment and promotion of academic staff are violated; the minimum number of working days is not met; the calendar of academic activities, if at all, exists only on paper, and the administration has virtually collapsed. All this has adversely affected the quality of education imparted in India's colleges and universities.

The undue emphasis on certification rather than on the teaching-learning process has distorted the orientation of university education. Practically all that takes place in the university system is geared toward examination. Not surprisingly, it is in matters relating to examination and certification that we find a host of problems and scandals. Obviously, many innovations undertaken in the university system relate to examinations—e.g., weighting for internal and external evaluations, grading systems, continuous evaluation, etc.—and the prevention of tampering or faking marks cards and certificates, e.g., the computerization of examination records, insertion of holograms on marks-cards, lamination of degree certificates, etc.

Appreciating the need for a centralized authority vested with the power to provide funds and to set and coordinate standards of higher education, within a decade of India's achieving independence the University Grants Commission (UGC) was established by an Act of Parliament in 1956 (Singh, 2004). Though modeled after the British UGC (established after World War I), the UGC in India is endowed with the responsibility of regulating academic standards. It receives money from the central government and is accountable to Parliament.

The UGC has undertaken several schemes to provide substantial support to universities and colleges in order to strengthen their teaching and research activities. Among the schemes supported by the UGC, the Committee for Strengthening Infrastructure in Science and Technology, the College Science Improvement Program, the College Humanities and Social Science Improvement Program, the Faculty Improvement Program, and the Special Assistance Program deserve special mention. Financial assistance is extended to teachers to do research and to attend seminars, symposia and workshops. Promising young teachers with a research proclivity are offered funds under the Career Award Scheme, and the renowned among senior teachers are given a National Associateship. These schemes have, no doubt, injected a degree of vitality in the system, but the trend toward their ritualization is too apparent to be ignored.

Though the UGC is expected to play a lead role in higher education, it is endowed with very little power. Considering the inordinate number of universities and colleges it is required to oversee, the UGC has been virtually reduced to a fund-disbursing agency, incapable of enforcing its own recommendations. Also, given the diarchy in higher education—with the UGC expected to oversee it and the state governments regulating it in practice—higher education has virtually remained an unbridled horse (Pinto, 1984, pp. 63–107).

The standards of academic performance in professional education are coordinated and regulated by statutory bodies such as the Indian Medical Council, the All India Council of Technical Education, the Bar Council of India, the Dental Council of India, the Pharmacy Council of India, and the Nursing Council of India. The Indian Council of Agricultural Research looks after agricultural education, and the Central Advisory Board of Education is the national level coordinating body for making general policies on education.

As a step in the direction of quality control in higher education, following the National Policy of Education (MHRD, 1986), in 1994 the UGC established an autonomous body called the National Assessment and Accreditation Council (NAAC) (Stella & Gnanam, 2003). Initially, the scheme of assessment and accreditation was voluntary, but the idea of an external institution doing this was not received well by universities and colleges. By March 2004, the NAAC had assessed and accredited only 104 universities and 1,034 colleges. The scheme is now mandatory, and the universities and colleges failing to get themselves assessed and accredited will be deprived of developmental grants. How far this will improve the state of affairs in higher education, even if indirectly, remains to be seen.

The “Shadow Education”

The decline in the standards of formal education has fostered the phenomenon of “shadow education,” or private tuition conducted through “coaching classes.” With the existing colleges being unable to teach effectively and the students wanting to sharpen their competitive edge, parallel private tutoring has become a vital supplemental industry and is thriving. The competition for admission into reputed institutions and for prized courses—like medicine, engineering and technology—is too stiff, with the cut-off percentages for admission being very high. The alternative to government-subsidized professional education is to join private institutions that charge hefty fees. So, students appearing for various public examinations—including the school leaving certificate and the higher secondary and national-level entrance tests—invariably seek extra lessons or coaching.

Since teachers involved in coaching classes are, by and large, formally employed in colleges on a full-time tenured basis, private tutoring raises the question of professional ethics. On the one hand, their being engaged in private tuition is a reflection of the substandard teaching that their colleagues in the college are doing. On the other hand, since they know that students anyhow go for private tutoring, they themselves do not take their teaching in the college seriously. In brief, the private tutoring industry seems to have caught the teachers and the taught in a vicious circle.

Private tutoring, given by individual teachers or by a group of teachers (coaching classes), is not a new phenomenon. It has now become a money-spinning enterprise and is institutionalized. Institutes offering coaching classes even advertise in the newspapers and claim credit for the success of students in the merit lists of various examinations. Some reputed teachers have taken voluntary retirement or resigned from their jobs in their colleges to engage in this profitable enterprise. The dynamics of this dimension of education are seldom covered in discussions on the privatization of higher education.

The UGC has always been critical of college and university teachers engaging in private tutoring, but has not been able to do anything about it. State governments have been ambivalent about private tutoring. While in principle they are opposed to it, many states have introduced special coaching classes for students belonging to the traditionally indigent sections of the population—the Scheduled Castes, Scheduled Tribes and Other Backward Classes. Some states have formally banned private tutoring

and coaching classes, but find it impossible to implement this ban. Teachers' unions are silent over the whole issue.

Distance Education

As compared to conventional university education, the distance mode of education can have better spread and coverage; its recurring expenditure is low; it is cost-effective; and it is flexible, both for the administration and for the students. Some universities initially introduced this mode as an innovation to provide opportunities for employed persons to pursue their studies and to those who, for various reasons, are unable to enroll in traditional programs of study. Its scope was later enlarged to encompass the concept of the "open university." This mode is now institutionalized; many universities have established an office or directorate for this purpose, and states have begun establishing open universities. The Indira Gandhi National Open University (IGNOU), established in 1985, coordinates the educational efforts under this mode at the national level.

The concepts of open university and distance education are laudable, especially in view of increasing the coverage and equalizing opportunities. However, the way open university programs are run in most universities is far from satisfactory. Whipping up unrealistic aspirations combined with the nonfulfillment of promises leaves many candidates in the lurch. Poor quality of study materials, inadequacy and ineffectiveness of the contact programs, and lack of study-center facilities have virtually ritualized such programs. Not surprisingly, the rate of failure is very high for such courses. One wonders why universities should duplicate what the IGNOU is more effectively doing. The bitter truth is that they have found in the open university concept a "cash cow" to supplement their dwindling resources (Jayaram, 1999, p. 114). Plans are on the anvil for the IGNOU's Distance Education Cell to assess and accredit distance education offered by various universities.

Medium of Instruction

The striking feature of the colonial educational transplantation in India was English, which was not only taught as a language but also became the medium of instruction. While the secondary school certificate examination was conducted only in English until 1937, English was almost exclusively used at the university level right through the colonial period. Immediately after independence, the University Education Commission (1948–49) recommended that higher education be imparted through the regional languages, with the option of using other Indian languages as the medium of instruction. The National Integration Council and the Emotional Integration Committee endorsed this recommendation in 1962. The Education Commission (1964–66) emphasized the need "to move energetically in the direction of adopting the regional languages as media of education at the university stage" (Ministry of Education, 1971, p. 527).

A review of the trends in the medium of instruction in higher education (Jayaram, 1993, p. 112) reveals that English is still the predominant medium of instruction. This is especially true at the postgraduate level and in science and professional courses, as well as in the agricultural universities, the institutions of national importance and

the institutions deemed-to-be universities. The progress in the switch from English as the medium of instruction, though still insignificant, is relatively better in the Hindi-speaking states than in the non-Hindi speaking states. Even so, such a switch is, by and large, confined to arts, education, and (to some extent) the basic science courses at the undergraduate level.

The Academic Profession

One consequence of the rapid expansion of higher education was the unprecedented demand for teachers. Many postgraduates churned out by the state university system found in teaching an easy employment avenue. The cumulatively adverse consequences of the reckless manner in which teachers were recruited and allowed to function soon became evident. In its nationwide sample survey of teachers and students in higher education and members of the wider community, the National Commission on Teachers (NCT) recorded the “widespread feeling that no profession has suffered such downgrading as the teaching profession” (NCT, 1985, p. 21). The NCT’s observations referred to the situation in 1983–85, and there is no evidence suggesting that the situation has changed for the better since then.

Studies on college teachers have invariably stressed the sad deficiency of academic preparation for—and declining commitment to—the profession. The NCT (1985) also bemoaned the fact that most teachers are simply making a living rather than following a vocation. This has, no doubt, a lot to do with the deplorable standards obtained at the postgraduate level education. More important, however, is the fact that for decades most master’s degree holders easily found employment in colleges, and even in universities, with absolutely no training in (or orientation to) teaching, and with doubtful aptitude for that vocation.

To arrest this trend, and to ensure proficiency in the subject and aptitude for teaching or research on the part of candidates aspiring to become teachers, the UGC introduced the scheme of the National Eligibility Test (NET). This test is held twice a year. The UGC has permitted many state governments to conduct a State Eligibility Test (SET), which is treated as equivalent to the NET. However, due to various demands in some states, the standard of the SET has been significantly diluted, forcing the UGC to withdraw its permission to conduct the SET in those states.

The Academic Staff College (ASC), instituted in selected universities (51 as of December 2003), is entrusted with conducting programs for properly orienting people entering the profession of teaching, and improving the knowledge and skills of those already in the profession. To instill a sense of seriousness, an element of compulsion has also been introduced—those entering the profession are required to attend an “orientation course” before they complete their probation. Those in service are required to attend two “refresher courses” to become eligible for career advancement or promotion. Unfortunately, as with all initiatives carrying an element of compulsion, the original objectives behind the establishment of ASCs have been lost, and the courses have been ritualized.

The combination of structural adjustment reforms and changing market forces has had a profound impact on academia. Not only has the prospect of employment in

the academic profession become dim, but also the security of employment—which was once taken for granted in the academic profession—is increasingly becoming problematic.⁵ Most state governments have imposed an embargo on the recruitment of teachers. This has meant a freeze on the establishment of state-supported colleges, downsizing the number of permanent teachers in existing colleges, and optimization of resources by re-deployment of teachers through a policy of transfers. Further, most governments have also introduced “voluntary retirement schemes” (giving incentives to teachers who want to retire from permanent service before they complete their tenure), and some state governments have reduced (or are contemplating reducing) the retirement age for teachers.

The downsizing of the academic profession through freezing of recruitment, re-deployment of excess staff, appointment of guest lecturers, etc. is now a pan-Indian phenomenon. Moreover, it is not confined to the conventional liberal science colleges, and has been strongly advocated in technical education as well. However, in those burgeoning fields where the expansion has been most rapid—such as computer science, information technology, and biotechnology—there is a dearth of qualified teachers. The problem of teacher shortage is most acute in medical education.

Be that as it may, the academic profession does not have much achievement to boast of: most teachers do not avail themselves of opportunities for professional development; the research output of teachers is quite low; with the exception of some universities and the IITs and IIMs, peer review or student evaluation of teachers is virtually non-existent; and “self-appraisal” by teachers, as recommended by the UGC, has either not been introduced or is perfunctorily done and, as such, it has seldom formed the basis of any action.

Interestingly, teachers’ unions are not strong anymore. Even the All India Federation of University and College Teachers Organizations does not command the mass support it once did. The strike continues to be the predominant mode of protest by teachers’ unions. Still, judging by how the government has dealt with strikes by much stronger unions of employees in other sectors during the last few years, teachers cannot take the material success of their strike for granted. Let alone an all-India agitation, even state-level agitations are running out of steam. It appears that whatever strength teachers’ unions manifest is not due to any intrinsic qualities, but due to the soft attitude of the government toward them.

Teachers have often blamed inadequate salaries and unattractive service conditions for the deterioration in the status of the academic profession. With the major revision of pay scales in 1998, following the Rastogi Committee Report, the teachers have received the best deal regarding salary. While the UGC pay package has been accepted in principle all over the country, there are significant variations in its implementation by different states. While some states have postponed the date of implementation, a few have not given arrears accruing from delayed implementation of the scales. Thus, the gross salary of different categories of teachers in terms of their institutional affiliation is not the same across the country. Even so, the increased gross salary of the teachers has practically brought every teacher into the income tax net.

Furthermore, to give adequate and suitable opportunities for vertical mobility to teachers at multiple stages in their career, while noting the new pay package, the UGC

has incorporated a career advancement scheme based on the professional development of teachers. Ironically, the improvements in pay scales and service conditions have come at a time when the profession has been declining. Teachers are largely happy with the pay package, but they are also worried about the gradual withdrawal of state patronage for higher education.

Educational Planning and Implementation

In a quasi-federal polity like India, educational planning is a part of the overall national planning. Besides assuming an active participation of the constituent states, the national planning tends to be expenditure-oriented and overwhelmingly macro in perspective. Moreover, since higher education is the concern of more than one government department, the educational plan does not present a coordinated picture. Inevitably, all this adversely affects the implementation of the plan.

Under the Constitution of India, education was largely the responsibility of the states, the central government being concerned only with certain areas like coordination and determination of standards in technical and higher education. In January 1977, the 42nd Amendment empowered the central government to legislate on education concurrently with the states. Though the central government thereby established supremacy over education, the hopes of reform that this amendment aroused failed to become real. With the gradual deterioration of the relationship between the center and some states, no government at the center can confidently take any bold steps in the realm of education.

The absence of a single machinery to look after higher education planning has often been commented on. The responsibility of higher education is divided among various central government departments (e.g., education, finance, health, social welfare and technology), with the state governments' involvement being only peripheral. The state governments pass the buck to the universities which, being totally dependent on state funding, plead their inability to take on this responsibility. Presuming that the state governments can chalk out an excellent plan for higher education, they can hardly be assured of its implementation, as they are humiliatingly dependent on the central government for funds.

Contemporary Scenario

Market Economy and the Changing Demand for Courses

Structural adjustment reforms adopted since the early 1990s have had a significant impact on the demand structure of higher education. At last the expansion of traditional programs of study seems to have outstripped the demand for them by students. While generally the brighter students have always avoided these programs, even the not-so-bright ones appear to be turning their backs on them now, invariably opting for professional programs such as medicine, computer science, information technology, and business management. If they cannot make it into any of these programs, they would rather try their hand at some courses with narrow but specialized job prospects, such

as packaging, plastic technology, fabric designing, air conditioning and refrigeration. The fact that good students are no longer taking up basic science courses has seriously affected the academic programs of reputed science institutions such as the Indian Institute of Science (Bangalore), which has now come out with incentive schemes to urge meritorious students to take basic sciences at the graduate level.

The lack of a link between conventional courses and the job market seems to have become too apparent for students and their parents.⁶ At best, the employers—not only in the private sector, but also in the government—use the conventional degrees as sieves for filtering the large number of applicants for the limited number of jobs. The unemployment situation, particularly among conventional degree holders, has worsened over the decades, with the government no longer able to absorb them in public employment. Aggravating the situation is the economic liberalization program, which demands knowledge and skills generally not possessed by conventional degree holders. It is only natural that those who have been using conventional courses as waiting rooms are either seeking early entry into the job market at lower levels, with the option of obtaining formal university qualifications later, or entering courses that carry better job prospects. Those who still seek conventional graduate courses are generally the left-overs and dregs, or the first-generation students from rural and indigent backgrounds (the Scheduled Castes and Scheduled Tribes), especially those who are supported by financial assistance from the government.

While the demand for conventional courses has tapered off, the demand for professional and other allied courses has been incessantly increasing, in spite of escalating unemployment even among the professional degree holders. Many educational entrepreneurs are unduly eager to offer such “moneymaking” courses in medicine, dentistry, nursing, engineering and technology, business management, computer science, and education. The latest scandal in the universities concerns the granting of permission to colleges to start these courses. Many of these institutions are inadequately equipped to offer any education, let alone professional education. The gross and brazen violation of the norms stipulated by such bodies as the Medical Council of India or the All India Council for Technical Education is a matter of serious concern.

To enhance their marketability and employment prospects, students taking professional courses try to specialize in a given field or obtain qualifications and skills in some sophisticated courses not generally offered by the universities. A glance at Indian newspapers reveals the number and variety of courses currently offered by various institutions outside the sphere of the university system. These institutions, and the academic entrepreneurs who run them, seem to be extraordinarily sensitive to the variety of knowledge and skills demanded by the changing market economy. They are also extremely flexible, both in what they have to offer and how they go about offering it. While the demand for skills and knowledge is their *raison d’etre*, the maintenance of quality is their badge of success. As in any commodity market, one has to pay more for better-quality education.

It is important to note that in spite of (or essentially because of) the fact they are outside the orbit of the university system, such institutions of higher learning have not only survived but even thrived. Some of them have earned a niche for themselves in higher education, and even recognition from academia and employers abroad. As statutorily

established academic entities, the Indian universities have sadly lacked competition, and they tolerate no competition either. With the liberalization of the economy and the state gradually shedding its responsibility for higher education—and with the UGC being no more than a mute witness to the gradual decaying of the university as a public institution—the Indian university system is progressively becoming nominalized and marginalized. Regardless of one's ideological predilections, it is now conceded that the future of higher education in India will be determined by the market economy and the private sector.

Decline of State Patronage

While public expenditure on education in India has always been inadequate for meeting the needs of “education for all,”⁷ throughout its history the state has significantly subsidized higher education (Tilak, 2004a). Structural adjustment has meant a drastic cut in public expenditure on higher education: between 1980–90 and 1994–95, the share of higher education in development (plan) expenditures decreased from 12.6% to 6%, whereas the share of higher education in maintenance (non-plan) expenditures declined from 14.2% to 11% (Tilak, 1996). Overall, the allocation for higher education, which had peaked at 28% in the Fifth Five-Year Plan (1974–97), has steadily declined in the successive Plans to just 8% in the Tenth Five-Year Plan (2002–07), which is the same as the allocation in the First Five-Year Plan (1951–56).

The annual growth rate of public expenditure on university and higher education, which was 13.1% between 1980–81 and 1985–86, had fallen to 7.8% by 1995–96 (Shariff & Ghosh, 2000, p. 1400). As a proportion of total government expenditure, the share of higher education declined from 1.57% in 1990–91 to 1.33% in 2001–02. Considering the trends in per student expenditure—from Rs 7,676 (US\$154) in 1990–91 to Rs 5,873 (US\$117) in 2001–02 (in 1993–94 prices)⁸—the decline in public expenditure on higher education would appear even more drastic (Tilak, 2004b, p. 2160).⁹

Thus, the state, which had hitherto been the dominant partner in funding higher education, is finding it harder even to maintain the same level of funding for higher education. Financial constraint, however, does not affect all sectors of higher education equally: invariably, non-professional courses are more adversely affected than their professional counterparts. Furthermore, the efforts to privatize higher education by encouraging private agencies to establish institutions of higher learning have enjoyed limited success in general education and non-professional courses. Thus, state universities and their affiliated colleges are the ones in financial doldrums.

The gradual decline in state patronage of higher education has been accompanied by its inability to address the need for reforms within conventional higher education. The National Policy on Education (Ministry of Education, 1985), its Program of Action (MHRD, 1986), and their review by the Acharya Ramamurti Committee (MHRD, 1991) were all pre-structural adjustment reform initiatives. Neither the phenomenal fall in the demand for conventional courses in the B.A. and B.Sc. streams, nor the remarkable spurt in the demand for courses in such areas as computer science and information technology, biotechnology, and management studies, was anticipated.

Private Initiatives in Higher Education

The void created by the waning state patronage for higher education is now being filled by private entrepreneurial initiatives. Two types of private initiatives in Indian higher education can be identified. First, there are private colleges and institutes that are formally affiliated with a university. They offer courses approved by a university, and their students write examinations conducted by that university; the successful among them are given degree certificates by the university. While the institutions belonging to the minority communities enjoy certain administrative privileges granted by the Constitution of India, in all academic matters the private colleges and institutes are governed by the university.

Many of these private colleges receive financial assistance to the tune of 80–85% of their expenditures; in addition, they are permitted to collect a small fee from the students to make up the balance. As such, these colleges must observe the grant-in-aid code formulated by the government. At the other end of the spectrum are the unaided private colleges that have to generate their own financial resources. They have considerable leeway concerning administration and the collection of fees from the students.

The concept of a purely private university (of the American type) is new in India. The bill to provide for the establishment of private universities, introduced in Rajya Sabha (the upper house of Parliament) in August 1995, is still pending. While the government is keen on privatization, the private sector is unhappy with some clauses of the bill, such as those concerning the formation of a permanent endowment fund of Rs 100 million (US\$2 million), the provision of full scholarships to 30% of the students, and the government monitoring and regulation of the system (Tilak, 2002, p. 12).

Meanwhile, invoking the existing legal provisions (e.g., the UGC Act), several private institutions of higher education have been given the “deemed-to-be university” status. Also, considering that higher education is a concurrent subject under the Constitution, some states (like the newly formed Chattisgarh) have enacted private university acts of their own, and private universities have begun to mushroom in these states. This has, no doubt, attracted the adverse attention of the UGC, which, however, feels helpless. A public interest litigation suit has been filed in the Supreme Court of India challenging the constitutional validity of the Chattisgarh legislation allowing the registration of private universities without providing for even basic educational facilities.¹⁰

In contrast are the privately owned and managed colleges, institutes and academies conducting courses outside the purview of the universities. Typically, they offer courses in such areas as aviation and pilot training, glass technology, plastic technology, packaging, corporate secretaryship, marketing management, financial management, foreign trade, portfolio management, operations research, hotel management and catering technology, tourism administration, software marketing, computer applications, fashion design, beauty aids, etc. Unlike the diploma courses offered by the polytechnics, some of these courses offered by well-known institutes are accredited with professional bodies in the area, often even outside the country.

Another educational innovation that has come from private initiatives is the concept of the “twinning program.” This program involves collaboration between two educational

systems, with both systems taking responsibility for teaching and training of students and one of them holding the right to award educational credentials. The program may involve collaboration between an Indian institution and a system abroad (international educational collaboration), or between two systems of education within the country (intranational educational collaboration).

International educational collaboration is slowly gathering momentum. In India, it was originally devised as a way out of the governmental stranglehold on private institutions of higher learning and the enervating rigidity of the university system. Such international educational collaboration is not, however, confined to professional education. To meet the demand for high quality first-degree education, especially in areas such as computer science, some private colleges have entered into twinning programs with universities abroad.

Such international educational collaboration involving twinning programs is significantly different from the more direct marketing endeavors of foreign educational establishments. Several universities—not necessarily reputed ones—in Anglophone countries such as Australia, Canada, New Zealand, the United Kingdom, and the United States of America are enrolling Indian students for their educational programs. Often there is a distance education component, but most of them have arrangements with reputed institutes in the country for offering contact programs for students taking these foreign university examinations. Some of these universities even hold educational fairs in Indian cities to familiarize those interested in pursuing their educational programs.¹¹

All this necessarily implies opening the sphere of Indian higher education to foreign educational establishments. For more than a century, the well-to-do in India have been sending their wards abroad for higher education, with the most talented students obtaining fellowships from the Government of India or foreign foundations. Given the globalization of higher education, such facilities are now being brought into the country. This is akin, no doubt, to the operation of multinational companies in industry and business, and as such it cannot be expected to be free of socioeconomic costs.

It is well known that such high-quality education involving multinational arrangements, often involving job placements, is expensive, especially as compared to the absurdly low-cost education offered by Indian colleges and universities. The concept of twinning programs is now taking root intranationally as well. Such programs have effectively combined the advantages of regular and distance modes of higher education. It is also significant that the educational institutions involved are putting their physical, material and human resources to optimum use.

Considering this, it is ironic that the concept of autonomous colleges has not been given the effort that it richly deserves. In light of the current crisis confronting the university system, the need for liberating the best affiliated colleges from their bondage to the university can hardly be exaggerated. The National Policy on Education (1985–86) recommended the granting of autonomy to select colleges and the UGC endorsed this recommendation. By 1990, 500 colleges were envisaged to be given an autonomous status; yet by 2003, only 135 colleges had been granted this status (AIU, 2004, p. xii). Vested interests of the university managers and the political bureaucracy of the state governments have ensured that this innovation remains virtually grounded.

The Uncertain Future

The structural adjustment reforms adopted by the Government of India since 1990 have necessitated a policy of disinvestment of the public sector and open privatization in various spheres of the economy. For higher education, however, the government is hesitant to pursue this policy vigorously. Rather, a different strategy is in operation: there is now a moratorium on the establishment of new educational institutions (especially of the conventional type) under the public sector and an imposition of ceilings on student strength in the existing institutions. The academic profession is being downsized through a freeze on recruitment, reduction in the number of teachers, and rationalization of teachers' work. There is a proposal to introduce the contract system for hiring teachers in the future. At the same time, self-financing colleges (especially in areas of professional education) are encouraged, and the proposal to raise fees in the public higher education institutions is on the anvil. These measures, it is feared, will raise the cost of higher education and make it less accessible to the masses, on the one hand, and—given the government's inability to regulate the private educational institutions—adversely affect the quality of education, on the other (Kumar & Sharma, 2003).

Closely related to these trends is the internationalization of higher education referred to earlier. This is in conformity with the policy of liberalization of education as a service sector under the General Agreement on Trade in Services (Bhushan, 2004). While the requisite legislative provisions are not yet in place, the education sector "opened-up" in April 2004, and foreign universities and educational institutions (especially from the Anglophone countries like Australia, Canada, the United Kingdom, and the United States of America) have begun to offer competition to the existing educational institutions in the country. As observed earlier, there is a fear that this might result in draining resources from India, as well as introduce strong cultural and political influence by foreign countries (Kumar & Sharma, 2003, p. 607).

The lack of a coherent long-term policy perspective is characteristic of higher education in India today. While the Government of India—regardless of the ideological predilections of the party combinations in power—is committed to structural adjustment reforms and liberalization, which necessarily imply gradual withdrawal of state patronage for higher education and the privatization and internationalization of this sector, it appears to be dithering on the issue. Ad hoc policies and the multiplicity of actors—the central and state governments, the UGC, the All India Council for Technical Education, the universities and colleges, and the emergent private sector—dealing with the unfolding needs in higher education in their own way portend a period of stunted growth and uncertain future.

Conclusion: The Challenge in Higher Education

The conventional university system in India, confronting as it is a systemic crisis, has been incapable of introducing any significant educational innovation or effectively implementing any educational reform. Given the mounting pressure for increasing accessibility and over-democratization, the trend in the universities is toward reducing everything to the lowest common denominator or leveling down quality, rather than

raising it. The Indian university system is extraordinarily rigid and pronouncedly resistant to change: the impetus for change does not come from within the system. When experiments or innovations are introduced from outside, they are resisted; if enforced, they are ritualized. The fate of such innovations as the merit promotion scheme, faculty improvement program, vocationalization of courses, semesterization of courses, curriculum development center, annual report, college development council, academic staff college and refresher and orientation courses, are too well known to warrant elaboration. It is indeed ironic that higher education, which is expected to function as an agency of change, should itself be resistant to it.

The void created by the paralysis and drift of the conventional university system is being filled by private entrepreneurial initiatives. Thus, significant educational innovations and experiments are currently taking place in institutions outside the university orbit and in the private sector. In view of the rapid expansion of (and increasing variety in) knowledge and skills, there is enormous scope for educational innovations and initiatives. The private institutions have been more responsive to the demands of the economy and industry and the changing employment scenario. They have also shown their ability to match relevance with flexibility both in costs and regulation. This does not, however, mean that all private institutions are necessarily good. Some of them are brazenly commercial establishments out to swindle gullible people looking for better-quality education at affordable prices.

Privatization of higher education is apparently a fledgling but welcome trend: higher education requires it to maintain creativity, adaptability and quality, while the economic trail of liberalization and globalization demands it. Considering the chronic paucity of resources, gradually unburdening itself of the additional responsibility for higher education may be advisable for the government. Instead, it could better utilize the scarce resources for realizing the goal of universalization of elementary education and for improving the quality of school education.

Privatization of higher education, however, is not without social costs. In a polity such as India's, where structured inequalities have been entrenched, privatization is sure to reinforce existing inequalities and to foster inegalitarian tendencies. This necessitates the social supervision of the private sector and effective measures for offsetting imbalances resulting from unequal economic capacities of the population. How to advance equality without sacrificing quality? How to control the private sector without curbing its creativity and initiative? Here lies the challenge for higher education in contemporary India.

Notes

1. In writing this chapter, I have drawn on my earlier work on higher education in India (see Jayaram, 1997, 1999, 2003), and have reproduced portions from my recent work (Jayaram 2004).
2. The British rule gradually supplanted the pre-colonial indigenous system of education consisting of Buddhist *viharas*, Hindu *pathashalas* and *tols*, and Muslim *madrasas* by stopping financial aid. The Indian urban elite, too, welcomed English education as it was viewed not only as an avenue to jobs but also an instrument for social and political regeneration of India (Basu, 2002, p. 168).

3. The statistical data cited in this chapter are drawn from Institute of Applied Manpower Research (2002), Kaur (2003), Ministry of Information & Broadcasting, Government of India (2003), and Association of Indian Universities (2004).
4. Lacking any objective measurement of higher education standards over a period, it is, no doubt, difficult to determine precisely the nature and extent of deterioration. Nevertheless, there is no denying that India's standards compare unfavorably with the average standards in educationally advanced countries. The Education Commission had drawn attention to this as early as the mid-1960s (see ME, 1971, p. 66). No wonder, then, that degrees awarded by Indian universities are not regarded by many foreign universities as equivalent to their degrees. In fact, employers in India, including the government agencies, are wary of these degrees.
5. Only about 70% of the university and college teachers have permanent employment with all statutory benefits. The others are either "temporary" (with no guarantee of continuation) or "ad hoc" (appointed against a leave vacancy for a short period) lecturers. Besides, new categories of teachers such as "part-time" lecturers (who teach for a specified number of teaching hours in a week) and "guest" lecturers (who help the college/department "to complete portions of the syllabus") have been added. Such teachers are paid on "hourly basis," and they do not enjoy other privileges that go with a permanent or even a temporary or an *ad hoc* teacher.
6. Being aware of the disorientation of the conventional courses, the UGC had recommended the introduction of job-oriented courses at the first degree level. Many universities have introduced a job-orientation component in their undergraduate curriculum mainly to avail the funds provided by the UGC for the purpose.
7. An international comparison revealed that in a list of 86 countries, India (with an expenditure of 3.8% of the Gross National Product [GNP] on education) ranked only 32nd in terms of public expenditure on education as a proportion of GNP (quoted in Shariff and Ghosh, 2000, p. 1396).
8. In August 2004, Rs 1 = US \$0.02 and US \$1 = Rs 46.40.
9. It is significant to note that the Government of India's discussion paper on "Government Subsidies in India" (1997) classified elementary education as a "merit good" and higher education as a "non-merit good" warranting a drastic reduction of government subsidies. The Ministry of Finance has since reclassified higher education into a category called "merit 2 goods" which need not be subsidized at the same level as merit goods (Tilak, 2002, p. 12).
10. *Sunday Times of India*, Mumbai, February 01, 2004, p. 6.
11. In its vision document for internationalization of Indian higher education, the UGC's standing committee for the Promotion of Higher Education Abroad recommended holding of Indian International Education Fairs in the Gulf countries, Africa and Southeast Asia, and encouraged Study India Programs and partnership with foreign universities.

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INDONESIA

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At the threshold of the third millennium, public policy decisions regarding higher education must respond to a wide variety of far-reaching changes taking place throughout Indonesian society. Significant shifts in social stratification, enrollment demand, cost containment, consensus on financial support, concerns about quality, and technological advancement will have serious impacts on higher education. Policymakers must recognize that state mandates, regulations and funding formulas stand as major impediments to improving higher education. They provide little incentive for institutions to work together on issues of mutual concern—improvement of lower-division instruction, purposeful growth, and expansion of technology-based education programs. In many ways, they place significant constraints on institutions' ability to cut costs, develop new programs, collaborate with one another and experiment with new ways of doing things. New ways of structuring, governing and financing higher education are needed, such as decentralization and deregulation, performance-based funding models, increased investment in technology, and a greater emphasis on strategic planning, coordination and partnership.

At the same time, the entire nation is facing a critical transition toward a more democratic civil society. After experiencing the worst economic crisis ever, the nation is in a reconstruction period. A new democratic civilian government is in place and community participation is encouraged. After more than three decades under an authoritarian government, however, the credibility of the government and other formal institutions is very thin. In order to truly develop a democratic civil society, it needs a credible moral force as its counterpart. Universities are probably one of very few institutions that can be expected to play the role of a moral force in supporting the nation's democratic evolution. A credible moral force, however, should also have its own house in order, and in this area a critical analysis reveals that fundamental changes are needed in university management.

The objective of the national strategy in higher education system is, therefore, to improve the competitiveness of Indonesia's higher education system by developing institutional credibility through restructuring the nationwide system as well as the internal university system. Universities should be given autonomy, but should also be held accountable to the public, demonstrating high operational efficiency and ensuring

the quality and relevance of its outputs. An internal management structure that is publicly transparent, and complies with acceptable standards of quality, is also vital to public confidence in the higher education system. As a credible moral force, universities should also contribute by direct involvement in solving the problems of society, and particularly the strategic issues. The higher education sector of Indonesia, in response to these challenges, has introduced a concept of management as its new strategy called the *new paradigm*. The implementation of the concept—which relies on autonomy, merit-based tiered competition, and user participation in planning, transparency, democracy, and higher accountability—has been chosen as the best-suited strategy for higher education. Nevertheless, it must be understood that structural adjustment under this concept is not an objective by itself, since the real objectives involve improvements in the outputs and outcomes of Indonesia’s higher education system in the new millennium.

An Early History of Higher Education in Indonesia

Higher education and the development of scholarship started in the Indonesian archipelago 13 centuries ago. Records show that in the year 671 a Chinese scholar (named I-tsing) visited Che-li-fo-che, known to Indonesians as Sriwijaya. He came to Sriwijaya from Guangdong (Canton, China) to study, although he had already spent 14 years at Nalanda in Southern Bihar, India (near Rajargha on the banks of the Ganges), which was one of the premier institutions of higher learning at the time. The university at Sriwijaya existed at least until the year 1023, as records show that at that time a student called Srijnana Dipankara or Atisa studied there in the years 1011–1023 under the guidance of professor Dharmakirti.

The quest for knowledge among Indonesians has ancient roots. Old records from India show the presence of students from Indonesia studying at Nalanda. The records also show that a dormitory for Indonesian students was built around the year 860 as a gift from Balaputradewa. The only way Indonesian students could get to India then was by sea, indicating that Indonesians must have mastered ocean navigation and other sciences like astronomy and geography at that time.

Time spent at Nalanda enlarged the knowledge and vision of the Indonesian students. The beauty and grandeur of the temples built later in Indonesia were based on a number of Indian temples called Silpasastra. Reliefs of famous Indonesian temples like the Borobudur, which was built in the 8th century, showed scenes of teaching and learning, surrounded by fauna and flora common to the Indonesian archipelago.

The History of Modern Higher Education in Indonesia

Modern forms of higher education in Indonesia were introduced by the Dutch as a means to develop qualified manpower for their colonial government. The first of such institutions, the “Sekolah Dokter Jawa” or School for Javanese Doctors, was established in 1851 at Jakarta to obtain qualified manpower for the colonial army and health service. This school was called a “barefoot doctor” school, as the students were not allowed to wear shoes in classes. The languages of instruction were Malay and Dutch.

In 1902, the status of the school was elevated and was named “School tot Opleiding van Inlandsche Artsen,” abbreviated to STOVIA or School for the Training of Native Doctors. Teaching was in Dutch and a senior high school program was included in the curriculum.

In 1914, a second medical school was established, called “Nederlandsch-Indische Artsen School” (NIAS) or Dutch East Indies School for Medical Doctors, followed by a school for dentists, established at Surabaya, called the “School tot Opleiding voor Inlandsche Tandartsen” (STOVIT) or School for the Training of Native Dentists.

In 1909, a law school called the “School voor Inlandsche Rechtskundigen,” or School for the Training of Native Lawyers, was established in Jakarta to meet the need for government justices and attorneys. In 1922, the name “Native” was deleted and the school became known simply as “Rechtsschool” or Law School. In 1920, a group of Dutch private entrepreneurs established the “Technische Hoogeschool” or College of Engineering at Bandung, to fulfill the need for qualified engineers. In 1924, this college was taken over by the Dutch colonial government. Also during this year, the status of the law school was elevated to that of a law college or “Rechts-hoogeschool,” and the STOVIA became a college of medicine, or “Geneeskundige Hoogeschool,” at which time both institutions began to enjoy a status equivalent to similar institutions in Holland. The number of native students during the years 1920–1940 in all three colleges (medicine, law, and engineering) was only 1,489 (out of a total number of 3,242 students), while only 230 of the 532 graduates were native students.

During World War II and the occupation of Holland by Nazi Germany, the Dutch opened two other institutions of higher education: the “Faculteit der Letteren en Wijsbegeerte,” or Faculty of Letters and Philosophy (founded in 1940 at Jakarta), and the “Landbouwkundige Faculteit,” or Faculty of Agriculture (founded in 1941 at Bogor). Calls for the establishment of a university in Indonesia were heard in the colonial parliament or “Volksraad” since 1918, led by (among others) by Dr. Abdul Rivai, a native representative. In 1942, plans were made to combine existing institutions of higher education into a “Universiteit van Nederlandsch-Indie” or University of the Dutch East Indies, but this could not be accomplished because of the Japanese invasion later that year. During the period of Japanese occupation, only two institutions of higher learning were kept open—“Ika Daigaku” (the College of Medicine) at Jakarta and “Kogyo Daigaku” (the College of Engineering) at Bandung. The language of instruction at both colleges was Indonesian.

Following the proclamation of independence on August 17, 1945, the Indonesian government established the “Balai Perguruan Tinggi Republik Indonesia” (BPTRI)—The Republic of Indonesia Institute for Higher Education—in Jakarta, consisting of the faculties of medicine and pharmacy, letters, and law. BPTRI had its first graduation of 90 medical doctors the same year. When the Dutch colonial army occupied Jakarta at the end of 1945, the BPTRI was moved to Klaten, Surakarta, Yogyakarta, Surabaya, and Malang. Meanwhile, the Dutch colonial government, which by 1946 had occupied the big cities and surrounding areas in Indonesia, established a “Nood Universiteit” or Emergency University at Jakarta in 1946. In 1947, the name was changed to “Universiteit van Indonesie” (UVI) or University of Indonesia. In December 1949, the government established a university at Yogyakarta called Gadjah Mada University.

In February 1950, when the sovereignty of Indonesia was officially transferred to the Republic of Indonesia, the government established a state university in Jakarta called Universitas Indonesia, comprised of units of the BPTRI and UVI. The name Universitas Indonesia was later changed into Universitas Indonesia (UI).

In 1950, UI was a multi-campus university with faculties in Jakarta (medicine, law, and letters), Bogor (agronomy and veterinary medicine), Bandung (engineering, mathematics and natural sciences), Surabaya (medicine and dentistry), and Makassar (economics), presently called Ujung Pandang. In 1954, the Surabaya campus became Universitas Airlangga; in 1955, the Ujung Pandang campus became Universitas Hasanuddin; in 1959, the Bandung campus became Institut Teknologi Bandung (ITB or Bandung Institute of Technology), while the School for Physical Education, which was also located in Bandung, became part of Padjadjaran University in 1960. In 1964, the Bogor campus became the Institut Pertanian Bogor (IPB or Bogor Agricultural University), and the Faculty of Education (FKIP) at Jakarta, became IKIP Jakarta.

Since 1950, successive Indonesian governments have increased the number of institutions of higher learning in Indonesia, so that at present there are 98 state tertiary institutions and one open university. There are also about 1,300 private institutions.

The Indonesian National Higher Education System

The Indonesian Constitution says that the government should organize education as a “national education system.” Within this framework, the goals of national education in Indonesia are: (1) to educate the people to be agents for development and change with Pancasila traditions; and (2) to develop the human resources needed for national development. A new law on education (Law No. 20/2003) was enacted in 2003, establishing a binary higher education system in Indonesia—i.e., there is an academic stream and a vocational/professional stream. The vocational stream consists of the polytechnics and the *akademi*. Programs offered in this stream are 1-year, 2-year, 3-year, and 4-year diploma programs (D-1, D-2, D-3, and D-4), ranging from accountancy to engineering, information technology, languages, and nursing programs. The practical components of the programs range from 80% in the D-1 programs to 20% in the D-4 programs. Most programs are D-3 programs. D-1 to D-3 programs are terminal programs, although some D-3 programs offer transfer to a D-4 program after graduation. D-4 programs, offered only in a very limited number of subjects, are a continuation of the D-3 programs lasting for a year, and can only be entered by those holding a D-3 diploma.

The academic stream (*sarjana* programs) consists of 4-year undergraduate (S-1), 2-year master’s (S-2), and 3-year doctoral (S-3) programs. The academic stream also includes academic professions (labeled specialist programs, or “Sp”) like medical doctors or accountants. For certain programs it is also possible to transfer, after graduation, from the vocational stream to the academic stream (D-3 to S-1, D4 to S-1, or D4 to S-2) as reflected in Figure 1.

As in other countries, there are universities and special institutes of higher education for engineering, agriculture and education. The curricular system used is the semester

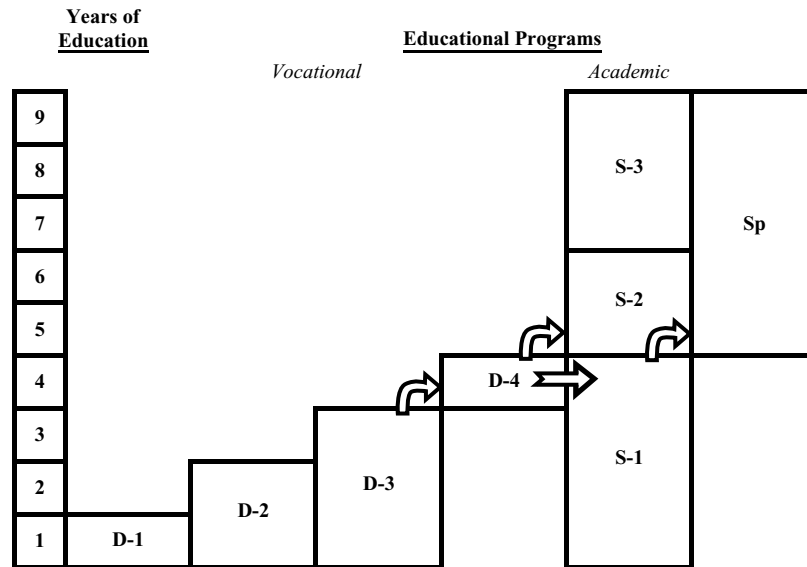


Figure 1. The Indonesian Tertiary Education Qualifications Framework.

credit system, with a semester duration of 18–20 weeks, depending on the program. The total number of credits for undergraduate studies (or S-1 level) is 144 credits semester units (SKS). For the master's program (or S-2 level), the total number of credits needed is 36–48 SKS, again depending on the program, while for the doctoral programs (or S-3 level) the number of credits needed is 36 SKS.

Indonesian Higher Education: A Vision for 2010

In a globalized world, a nation's competitiveness is defined by its country's economic relationship with world markets, while its products tend to come less from abundant natural resources and cheap labor than from technical innovations and the creative use of knowledge, or a combination of both (Porter, 2002). The ability to produce, select, adapt, commercialize, and use knowledge becomes critical for sustained economic growth and improved living standards. Solow (2001) and other scholars have demonstrated the striking difference in GDP between countries that can be accounted for by their investment in knowledge. Moreover, a nation's competitiveness can only be achieved when its citizens are well-educated and are able to lead meaningful lives. A national higher education system should obviously provide students with a good scientific knowledge. It should also contribute to the process of shaping a democratic, civilized, humane, inclusive society, maintaining a role as a moral force and as the bearer of the public conscience. In the end, higher education should educate students to lead meaningful lives.

From this perspective, the Indonesian Higher Education Vision 2010 emphasizes the following features (DGHE, 2003a):

1. quality education that reflects students' needs, develops students' intellectual capacity to become responsible citizens, and contributes to the nation's competitiveness;
2. access and equity, providing opportunities for all citizens to develop to their highest potential levels throughout life; and
3. autonomy for the tertiary education institutions, coupled with accountability and supported by a legal, financial, and management structure that encourages innovation, efficiency, and excellence. Autonomy also brings a shift in the regulatory environment, which now must encourage innovations at the level of individual institutions.

Current Issues in Indonesian Higher Education

The most pressing contemporary issues in higher education in Indonesia include the need to increase enrollment capacity, equity, quality, funding, efficiency, and curricular relevance.

Enrollment capacity: At present, the 98 state tertiary institutions can only enroll about 100,000 new undergraduate students and 3,000 graduate students each year. In contrast, the private universities can enroll about 250,000 new students. The total number of students enrolled in state tertiary institutions is about one million, while there are about 2.5 million in the private universities, bringing the total number of students in tertiary institutions to about 3.5 million, representing a participation rate of about 14.6% of the college age population in 2004 (DGHE, 2004).

Equity: The economic downturn at the end of the last millennium created a challenge for the nation's efforts to amplify the rate of participation while taking into account equity (gender, social, and regional) in enrollment. The number of students on scholarship of some kind is only around 11% of the total number of students (DGHE, 2004).

Quality: The quality of education is not uniform throughout the system. Usually, the state universities are better than the private ones. An external quality assurance system in the form of a National Accreditation Board for Higher Education is in place. A program review system is used to review about 11,000 study programs now registered. At present, about 80% of all tertiary study programs have been reviewed. The issue of quality is, of course, also related to funding.

Funding: Sources of funding for state tertiary institutions are government budget allocations (60%) and tuition fees (40%). Funding from other sources is very limited. The average amount of funding per year for state tertiary institutions is only about US\$1,000 per student, while the real need per year would be about US\$2,500 per student. Tuition fees for regular students in state tertiary institutions range from US\$50 to \$500 per year. Many state tertiary institutions have established special/extension programs with higher tuition fees in order to increase their income. Because of this shortfall, maintenance in many state tertiary institutions

suffers. Most private tertiary institutions do not receive government support, so their income is almost exclusively from tuition fees, which range from US\$500 to \$7,000 per year. With the new policies and shifting role of the DGHE, schemes of financial incentives have been introduced which are open to state and private universities and should steer institutions towards quality, efficiency and equity. These schemes are based on competitive funding among equal institutions or a tiered competition.

Internal and external efficiency: The internal efficiency—especially in the private universities—is still low, causing a shortage of manpower in certain disciplines. In terms of external efficiency, many graduates work in areas outside their area of education. Although some feel that this shows they have been well educated—i.e., they have acquired the ability to work outside their area of education—others feel this demonstrates a waste of resources, especially as there are so many engineers working outside their field. Of course, the state of development and economic situation of the country is also a factor in this matter.

Relevance of the curriculum to the needs of the society: Many university graduates cannot find employment. The curriculum is blamed for this situation as not being relevant to the needs of society. At present, only about 25% of students are enrolled in programs of engineering and science.

Governance: University governance structures at present do not have sufficient autonomy to ensure institutional integrity or to fulfill the responsibilities of policy and resource development. Public universities are treated as part of the government bureaucracy, and private universities as part of the foundations to which they belong. New laws and regulations must be enacted to clearly define the role of leadership in universities.

Quality Assurance in the Indonesian Higher Education System

The basis of quality assurance in the Indonesian higher education system is the basic law on National Education System (Law no. 20/2003) and other government regulations derived from that law. One of the derivatives is the “Higher Education Long-Term Strategy 2003–2010” (HELTS). The goals of the HELTS address the improvement of national competitiveness; the quality of graduates, research, and community/public service; and the internal organization of higher education institutions (i.e., the improvement of organizational health). Strategic goals of the HELTS also address the relevance, quality, and academic atmosphere of institutions; geographic and social equity; and the improvement of higher education management (including dimensions of leadership, efficiency, effectiveness, and sustainability). In order to achieve the goals of the HELTS, a new paradigm of higher education management was introduced for higher education institutions, consisting of increased autonomy, public accountability, and the establishment of internal quality assurance systems and an external quality assurance/accreditation system.

In the context of this new paradigm, accreditation of higher education institutions performs the function of external quality assurance as a component of public accountability. The results of accreditation are used for public certification of the quality of

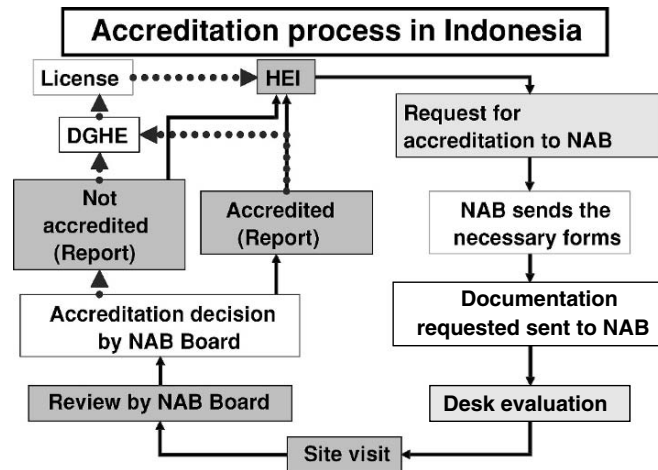


Figure 2. The Accreditation Process in Indonesia.

higher education institutions; to determine eligibility for public funding; and as input for meta-evaluation of the higher education system. Problems for quality assurance in higher education in Indonesia arise from the fact that it is still a new concept for the academic community, and from the attitude of society toward quality education in general. Many people still obtain tertiary education for the credentials rather than for obtaining knowledge and competence.

Accreditation and External Assessment

Figure 2 outlines the process of accreditation for higher education in Indonesia. The process is managed by the National Accreditation Board (NAB) for Higher Education. The board consists of nine members who are appointed by the Minister for National Education for a 4-year period and can be reappointed only once. The system used in Indonesia is program accreditation.

The tasks of the NAB include: organizing the accreditation process; formulating technical directives; establishing evaluation criteria and accreditation status; collecting data; performing evaluations/assessments; publicizing accreditation results; issuing accreditation certificates and recommendations for improvement; helping institutions perform self-evaluation; and reporting periodically to the Minister.

The management paradigm of the NAB involves obtaining accurate results through peer review, accountability, transparency, and cooperation. The methodology used for assessment is predominately quantitative, using structured instruments (Lenn, 2004) that are reviewed every two years. For the purpose of assessment, a variety of key areas, components, and standards are determined. The key areas for assessment are the input (environmental, instrumental, and raw input), process (general management and educational management), and output/outcomes (quality of education, research, public

Table 1. Results of Accreditation of S-1 Programs (as of June 2004).

| Type of institutions | Level of accreditation | | | | # of programs accredited | # of S-1 programs | % Accredited |
|----------------------------------|------------------------|----------------|----------------|-------------|--------------------------|-------------------|--------------|
| | A | B | C | D | | | |
| State universities | 350 18.5% | 917 48.4% | 549 29.0% | 79 4.2% | 1,895 27.6% | 1,915 26.2% | 98.9 |
| Private universities | 309 7.0% | 1797 41.0% | 2004 45.7% | 278 6.3% | 4,388 63.8% | 4,432 61.6% | 99.0 |
| Institutes for religious studies | 47 8.5% | 264 47.6% | 197 35.5% | 47 8.5% | 555 8.1% | 807 11.2% | 68.8 |
| Service institutes | 3 8.3% | 20 55.6% | 12 33.3% | 1 2.8% | 36 0.5% | 37 0.5% | 97.3 |
| Total | 599 9.2% | 2,806 43.3% | 2,607 41.2% | 401 7.0% | 6,476 | 6,895 | 95.6% |

Source: National Accreditation Board for Higher Education (NAB), 2004.

service, and competence of graduates) of the educational process. Assessment results are classified into four categories, because of the wide variety in the quality between programs, within similar programs, and even within institutions. These four categories are: (A) equal to international/regional standards; (B) equal to national standards; (C) equal to minimum standards set by the Directorate General of Higher Education; and (D) fail for accreditation. Recent results of the implementation of accreditation processes in Indonesia are provided in Tables 1 and 2.

Standards and indicators are developed in cooperation with peer groups and professional associations, and benchmarked with local, national, regional, international

Table 2. Results of Accreditation of S-2 Programs (as of June 2004).

| Type of institutions | Level of accreditation | | | | # of programs accredited | # of S-2 programs | % Accredited |
|----------------------------------|------------------------|-------------|-------------|------------|--------------------------|-------------------|--------------|
| | A | B | C | D | | | |
| State universities | 10 24.4% | 22 53.7% | 9 22.0% | 0 | 41 54.7% | 378 69% | 10.8% |
| Private universities | 2 5.9% | 12 35.3% | 15 44.1% | 5 14.7% | 34 45.3% | 136 25% | 25.0% |
| Institutes for religious studies | 0 | 0 | 0 | 0 | 0 | 37 7% | 0 |
| Service institutes | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 12 16% | 34 45.3% | 24 32% | 5 6.7% | 75 | 551 | 13.6% |

Source: National Accreditation Board for Higher Education (NAB), 2004.

standards. The standards are grouped into (1) standards reflecting components of leadership and institutional development, and (2) standards reflecting components of quality, efficiency, and effectiveness of a program. The standards reflecting components of leadership and institutional development are: integrity, vision, governance, human resources, facilities and infrastructure, funding, and sustainability. The standards reflecting components of quality, efficiency, and effectiveness of a program are: students, curriculum, methods of learning, quality assurance mechanisms, management, and academic atmosphere. Assessment of each of these standards incorporates nine measurement indicators: appropriateness, adequacy, relevance, efficiency, sustainability, selectivity, productivity, effectiveness, and academic atmosphere.

Self-Evaluation and Reviews

In addition to external assessment, higher education institutions are asked to develop internal quality assurance processes, in which self-evaluations are a central part. Self-evaluation reports are also necessary for the accreditation process. The purpose of a self-evaluation exercise is to address a number of important issues, such as: assessment (Where are we now?); improvement (Where can we get to?); accountability (What did we do with what we had?); problem identification (What went wrong?); problem solving (What can we do about what is wrong?); funding (How much money is needed and what are the sources for funding?); and professional accreditation/certification (What do our graduates know, and how competent are our graduates?).

The focus of a self-evaluation review can be structurally vertical, covering the institution as a whole, or on individual departments or programs, the library, an administration office, etc. It can also cover horizontal aspects that transcend the entire institution, such as research, teaching, student support services, community outreach, and disciplines.

Standards in Professional Education

The Dutch colonial government established academic professional education to fill the needs of the colonial administration. The first programs of professional education were established in medicine, followed by law and engineering (as described earlier in this chapter). Professional education in accountancy was established after independence. Standards in professional education are mainly determined by government regulations. “Recognized” universities grant professional degrees. Beginning in 2004, laws have been formulated to give professional associations a dominant role in setting standards in their respective fields and certification. However, licensing would still be in the hands of the related government ministries.

The Impact of Globalization on Higher Education

Although the economic conditions at present are not so good, Indonesia—with its population of 220 million—is still a good market for international education, whether for transnational programs or for recruiting students to study overseas. Many advertisements from institutions engaged in transnational education and in recruiting students

for studies overseas appear almost daily in the local newspapers. Many are from reputable institutions, but some come from institutions which are of doubtful reputation (French, 1999). There are no accurate figures, but it is estimated that about 20,000 Indonesians study abroad each year. The number of students taking part in some kind of transnational education within the country is estimated at about 5,000. Compared to the number of students in Indonesia, these numbers are relatively low. On the other hand, the number of foreign students in Indonesia is also relatively low. About half of the foreign students studying in Indonesia come from Malaysia, most likely because of the similarity in language. Students from developed countries usually come to Indonesia to do an elective—usually in Indonesian language or culture—or a research project.

Globalization has also had an impact on the national higher education system and higher education institutions, because globalization means that graduates from Indonesian universities must compete with graduates from overseas universities. At the national higher education system level, the forces of globalization have made the government loosen control on the higher education system, and more autonomy is now granted to higher education institutions. At the institutional level, globalization has forced universities to be more competitive in running their institutions and ensuring quality. Clearly, the public is increasingly demanding that universities deliver more efficient education of a better quality.

In another reflection of globalization, regional cooperation between universities in the region has been established through the ASEAN (Association of Southeast Asian Nations) University Network and within the framework of the SEAMEO (Southeast Asia Ministers of Education Organization) network. Both the AUN and SEAMEO networks have their headquarters in Bangkok, Thailand. With the support of the European Union, the ASEAN University Network (AUN) is promoting mobility within the region, and between the region and Europe, by establishing a regional Credit Transfer Scheme.

Conclusion

Despite all its shortcomings, the development of Indonesian higher education has made giant strides. With only three universities at the birth of Indonesia's independence in 1945, when there were only a few hundred graduates, there are now about 2,000 institutions of higher education and 300,000 graduates. Even so, the demand for higher education is high and funding is limited, forcing universities to be creative in developing programs to meet current and new demands. From the brief historical review of successes and challenges provided here, it is safe to predict that the success of these programs will ensure Indonesia's prominent role in the dynamic higher education landscape of Southeast Asia for many years to come.

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IRAN

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Higher learning in Iran extends over 25 centuries. The first schools of higher learning were established by King Darius of Persia in the 6th century B.C. (Iranian National Commission for UNESCO, 1977). The first formal university, the University of Gondishapoor (UG), was founded in the 3rd century A.D. (Hekmat, 1972). The UG became one of the most important centers of higher learning during the period. This status was maintained and extended some 300 years after the introduction of Islam into Persia in the 7th century A.D. (IRPSE, 1973).

As Islam spread throughout Iran, religious colleges—called madrasas—became the centers of higher learning. In madrasas, religious leaders provided instruction in topics such as theology, law and medicine. Madrasas were established in major cities around the country and considered the only centers of higher learning until the 19th century.

During the 19th century, attempts were made to introduce modern education in Iran. The first modern institution of higher education, Darolfunun College, was established in 1851. The primary objective of this college was to train technicians for the civil service and military. Darolfunun included seven fields of study: medicine, mathematics, philosophy, mining, military, literature and art (Gol-Golab, 2004). In the early 20th century, some institutions of higher education in fields such as teacher training, agriculture and law were established. Furthermore, the Ministry of Education, Endowment and Fine Arts was established in 1910. This ministry was composed of several offices for general and higher education, endowments, research, evaluation and accounting (IRPHE, 2000).

During the second quarter of the 20th century, the Iranian government began to send students abroad for higher learning, and attempted to establish modern universities. By 1934, six of the existing colleges were combined to form the University of Tehran (UT). In 2002, the UT, as the pioneer in modern higher education in Iran, included about 20 faculties and colleges (IRPHE, 2002).

Between 1947 and 1955, provincial universities were established in Tabriz, Shiraz, Mashad, Esfahan and Ahwaz. After 1960, due to increases in the number of applicants for higher education, privately funded institutions of higher education were established. Among such institutions is the National University of Iran, which was established in

1961. It was re-named Shaheed Beheshti University after the 1979 Islamic Revolution. By 1962, there were seven universities and four higher education institutions, enrolling about 24,000 students.

Before 1950, the University of Tehran enjoyed a considerable level of autonomy. The University council had the right to appoint the chancellor and the deans of the faculties. The UT was given academic, administrative and financial autonomy. The other institutions of higher education followed the bylaws of the University of Tehran, but by 1953—due to socio-political changes—university autonomy was reduced.

In general, the Ministry of Education (MOE) was responsible for higher education institutions. However, in 1967 responsibilities related to higher education were released from the MOE, and the Ministry of Science and Higher Education (MSHE) was established. The MSHE was delegated the following responsibilities: (1) goal setting for higher education and research; (2) policymaking for higher education; (3) monitoring and evaluation of higher education programs; (4) approving the establishment of new higher education institutions; and (5) expansion of science and technology in the country. As a move toward returning administrative and financial autonomy to universities, the MSHE delegated some of its responsibilities regarding decision making to the boards of trustees (IRPHE, 2000). This decision helped the expansion of higher education and the establishment of new institutions, such as the Sharif University of Technology (1966), the largest engineering school in Iran.

By 1967 there were eight universities, 29 higher education institutions, and five centers of higher education, altogether enrolling about 37,000 students. Following the establishment of the MSHE, student enrollment increased to about 68,000 in 1968. A decade later (1979), student enrollment had reached 180,000. One reason for this rapid rate of enrollment increase was the establishment of privately funded higher education institutions, which was in part a direct response to increasing social demand for higher education.

Between 1968 and 1978, innovative projects in higher education were initiated for improving access to—and the quality of—higher education. Among such projects were the Iran Azad (open) University (IAOU) and Bu-Ali Sina University (BASU). The IAOU was designed to be an open learning institution using multimedia and offering distance education. After 1979, the IAOU was merged into a complex of higher education institutions. The BASU was designed as an interdisciplinary university focusing on regional development. The programs of education, research and services of the BASU were planned to be problem-oriented, emphasizing community development. After 2 years of planning, Bu-Ali Sina University enrolled students in 1976. It was considered an effective initiative in integrated higher education, emphasizing problem-based learning related to regional development in environment, health and basic education in Hamadan province. However, the BASU was reorganized as a traditional university after 1979.

In 1979, after proclamation of the Islamic Republic, the Ministry of Science and Higher Education and the Ministry of Culture and Arts were merged into the Ministry of Culture and Higher Education (MCHE). Following this, all university boards of trustees were dissolved. As another move to re-organize higher education, private centers of higher education were turned into public institutions. In 1980, the High Council of the

Cultural Revolution (HCCR) was formed to play a key role in higher education, with an emphasis on centralizing all its affairs. Immediately thereafter, higher education institutions were closed for 3 years, resuming their activities in 1983 (IRPHE, 2000, p. 13).

After 1983, a crucial step in the expansion of higher education in Iran came from the establishment of a non-government university called Islamic Azad University (IAU, 2004). By mobilizing local resources and assistance, the IAU within a short period opened many urban centers throughout the country (Bazargan, 2000, IAU, 2004). In 2002, the IAU system included more than 156 campuses and enrolled more than 58% (904,866) of Iran's total enrollment in higher education. By 2003, the IAU enrollment had increased by about 10%.

In 1985, responsibilities for medical education were delegated to the Ministry of Health, Treatment and Medical Education (MHTME). In this respect, all responsibilities and duties of the Ministry of Culture and Higher Education related to medical education were transferred to the MHTME. Accordingly, faculties of medicine and related fields were detached from the "comprehensive" universities and re-organized under newly established universities of medical sciences. Since then, a university of medical sciences and health services has been established in every one of the 28 provinces. At present, there are more than 30 Universities of Medical Sciences and Health Services in Iran.

In addition to the Ministry of Health, Treatment and Medical Education—which includes affiliated higher education institutions—there are 21 ministries and other government organizations which supervise a variety of specialized institutions of higher education. Examples include the College of Economic Affairs, affiliated with the Ministry of Finance and Economic Affairs, and the College of International Relations, affiliated with the Ministry of Foreign Affairs and providing pre-service and in-service training for their staff (IRPHE, 2002).

After 2000, due to the multiple decision-making bodies in higher education and the spread of higher education institutions under different government organizations, the responsibilities of the Ministry of Culture and Higher Education were re-examined. In order to integrate and coordinate activities related to science and technology, the duties of the Ministry of Culture and Higher Education were streamlined, and it was renamed the Ministry of Science, Research and Technology (MSRT). Since then, university activities have been coordinated by two ministries: the MSRT and the MHTME.

Increasing Demands for Access

In 1996, the population of Iran was 60,055,000 and projected to reach about 74,483,000 by the year 2011 (Tae et al., 2003). The age group of 18–24 year olds fuels the predominant source of demand for higher education in Iran, and is thus of particular interest for this discussion. In 1976, this age group comprised roughly 27.9% (7,797,000) of the total population; it grew to around 10,571,000 in 2001 and is projected to reach about 12,588,000 by 2006 (Tae et al., 2003). More importantly, the average growth rate of this age group, which was 2.4% until 1996, is expected to reach about 11% by 2011. Therefore, the trend of social demand for higher education is going to increase

significantly within the next five years, although it is expected to slow down after a decade.

The development of institutions in the first four decades of higher education in Iran was very slow to meet the demand (Bazargan, 2000). The rapid acceleration of higher education commenced after 1985. Between 1979 and 1995, the enrollment rate for the 18–24 year-old age group increased three-fold. In other words, the gross enrollment rate, which was about 5% in 1979, doubled by 1990 and reached about 15% in 1995. Furthermore, the increase in the female enrollment rate has been remarkable during the last decade. The proportion of females in the total student population, which was 27.3% in 1990, reached about 44% in 1999 and grew to 53% in 2002. In other words, female enrollment in higher education is now higher than that of males. This is partly due to the superior performance of female applicants on higher education entrance examinations.

In some fields of study, such as medical sciences, the proportion of female graduates is as high as 60%. This is mainly due to the fact that a majority of students in some fields (such as nursing and midwifery) are female. In 1998, the proportion of female graduates in several fields of study was quite significant, including art (68%), humanities (41%), basic sciences (44%), and agriculture and veterinary medicine (26%) (Gheyassi, 2000). Among the different fields of study overall, engineering tends to graduate the lowest proportion of females.

In 1989, there were 752,000 applicants for admission to higher education in Iran, but only 18% of the applicants were admitted to higher education institutions as first-year students. This proportion was increased to 26% in 1997. The number of applicants for admission to higher education institutions had increased to more than 1.5 million by 2000. However, the proportion of applicants who were admitted as first-year students remained almost the same.

The increase in enrollment was mainly due to the expansion of two large universities: IAU and Payam Noor University (PNU). The PNU was established as a public university by merging several existing higher education institutions in 1997 (Rosokhi, 2001). In 2000, the PNU included more than 160 local study centers around the country and offered distance education programs of study at the bachelor's, master's and Ph.D. levels. In 2002, the PNU accounted for 14% of the total enrollment in higher education. In the same year, the IAU and PNU together accounted for 73% (1,119,675) of the total enrollment (1,538,112) in higher education institutions (IRPHE, 2003). Therefore, the two institutions are considered the largest universities of Iran.

Furthermore, a public institution called the Applied Science University (Elmi-Karbordi) was established in 1991 to offer vocational training and learning opportunities for employed persons in practical fields of study. Access to this university has been expanded to include not only the workers but also other applicants. Applied Science University recently became the first institution in Iran to have designed and implemented a modular program in higher education.

Two centralized assessment processes select applicants for enrollment in higher education. Admission to public tertiary institutions is carried out by Educational Testing Organization (ETO). The Admissions Office of Islamic Azad University (AOIAU) selects applicants for the IAU system. Toward achieving the goals of equity and providing

further educational opportunities for applicants from less advantageous backgrounds, special admissions policies have also been implemented through ETO and IAUAO, expanding opportunities for war veterans, applicants from disadvantaged areas of the country and less-advantaged social groups. In this regard, special quotas have been allocated to these groups in the national entrance examinations. However, there is considerable room for improving selection mechanisms that affect access opportunities to tertiary education throughout Iran.

With regard to access, although demand for higher education has doubled in the past decade, the supply has remained proportionally the same and equal to one-fourth of the applicants. It is planned that this ratio will be increased to one-third by 2009 (SOMP, 2003).

Expansion and Accountability

Total enrollment in the public and private higher education institutions of Iran was about 180,000 in 1979, and grew to 1,321,752 in 1997. The average annual growth of the total student population during this period was 9.7%. Public institutions saw a growth rate of 7%, while the growth rate for private institutions was 21% (Tavakol, 1999). In other words, the rate of increase in enrollment at the private institutions was three times higher than that of the public institutions.

In 2002, the distribution of students in the public institutions by major fields of study was as follows: humanities and arts (47%), engineering (23%), basic sciences (12%), medical sciences (11%), and agriculture and veterinary medicine (7%). A longitudinal analysis of the distribution of students by field of study indicates that the humanities and arts have expanded, with a higher proportion than other fields of study at the public institutions of higher education. Further, a look at student enrollment in the private institutions by major fields of study showed similar patterns: humanities and arts (53%), engineering (27%), basic sciences (9%), agriculture and veterinary medicine (6%), and medical sciences (5%). Therefore, the trend of enrollment by fields of study in both public and private institutions of higher education has favored the humanities and arts.

The average annual growth rate of the student population at the non-government (private) institutions during 1989–97 was 20.8%, which was twice the growth rate of enrollment at the government (public) institutions (Bazargan, 2000). In 2002, the total enrollment at the public and private institutions of higher education was 1,538,112 students. They were distributed among 98 universities, about 160 other higher education institutions and postsecondary centers (2-year colleges). An annual increase of about 10% is estimated for the next few years.

During the past two decades, policies of higher education expansion resulted in a wide geographical distribution of higher education in all provinces. As a result, there are now at least two universities in every province. In 2002, among the 28 provinces, the three highest ranking provinces (in terms of student population) were: Tehran (22%), Esfahan (11%) and Khorassan (8%). In other words, Tehran province accounted for more than one-fifth of the country's total enrollment in higher education.

With regard to accountability, there are two centralized mechanisms for academic program approval. Any proposal for initiating a new educational program or institution

of higher education should go through an administrative process and obtain approval of at least four councils in hierarchical order. These include: council of department; council of faculty; council of university; and the national Council for Higher Education Development (CHED). Furthermore, the Curriculum Planning Council should be informed about the program changes as well. However, the approval of proposals for establishing new institutions of higher education is solely the responsibility of the CHED. Such a structure has resulted in a highly centralized process of program approval which is not flexible enough to react quickly to the realities of the labor market (Bazargan, 2000). It is intended that during the Fourth Development Plan (2005–2009), the higher education structure will be further decentralized, giving more autonomy to universities and making them more accountable.

The MHTME and the MSRT have recently sought to establish mechanisms to assess the quality of universities. To this end, the MHTME implemented a pilot project for conducting self-evaluation in medical education departments in 1997 (Bazargan, 1999). The results indicated that an evaluation culture could be promoted in higher education through self-evaluation. Furthermore, this experience indicated that the transparency and accountability of higher education at the departmental level could be achieved through ownership of quality assurance by faculty members. After this experience, a self-evaluation process was introduced in non-medical higher education institutions as well. It is planned that an accreditation process, composed of a self-evaluation followed by an external quality review, will be implemented in the higher education system of Iran (Bazargan, 2002). So far, more than 300 departments in about 30 universities have attempted to carry out their self-evaluation reviews.

In order to strengthen quality assurance and accountability, a central council of self-evaluation has been established at the Ministry of Science, Research and Technology to approve necessary policies and give feedback to the process of external quality assessment. But from the viewpoint of organizational structure, there is much room for improvement. It is hoped that program and institutional reviews will be carried out by an authority independent of the government in the near future.

Economic and Financial Issues

Public institutions of higher education in Iran are financed mainly by the government. But private higher education institutions are financed through tuition fees, examination fees, donations, and endowments. The proportion of the total government budget earmarked for higher education was 2.78% in 1979, and reached about 5.14% in 2001. In other words, higher education's share of the government budget has nearly doubled during the past two decades. University research budgets have also increased dramatically over the past decades (Tavakol, 1999).

Differences Between Public and Private Institutions

In Iran, the public institutions receive all their annual support from the national budget. Students in these institutions pay only a nominal fee for enrollment. The majority of private (non-government) higher education institutions, in general, do not receive

any funds from the government. Students at these institutions pay for their enrollment and full tuition fees. Between 1989 and 1998, the average growth rate of financial resources (fixed price) for public higher education institutions was 14.8%, and for the private sector was 27.9%, with an average of 17.4% for the whole higher education system (Tae et al., 2003, p. 178).

Curriculum planning for both public and private institutions is centralized and similar for the two sub-systems (private and public). While the Ministry of Science, Research and Technology is in charge of non-medical higher education, the Ministry of Health, Treatment and Medical Education is in charge of medical and health education programs. Public institutions of higher education are expected to endure a long administrative process before establishing new educational programs. The process at private institutions is similar to the public institutions, although it takes less time to approve a new program.

Faculty members in both public and private institutions are classified by the traditional ranks of professor, associate professor, assistant professor, and instructor. The requirements for the rank of professor include a doctoral degree, publication of scientific works (such as research papers, articles and books), proficiency in at least one foreign language, and a minimum of 5 years of teaching and research experience as an associate professor. The prerequisites for the post of associate professor are usually a doctoral degree, publication of research articles, fluency in one foreign language, and at least 4 years of teaching or research experience as an assistant professor. An assistant professor is generally required to hold a doctoral degree and have a mastery of one foreign language. The requirements for the position of instructor are at least a master's degree, adequate knowledge of one foreign language and experience in conducting research. The process of recruiting faculty members for the government institutions is more rigid than the private (non-government) institutions. In the private institutions, many of faculty members are former graduates of the same institutions. The distribution of faculty members by academic rank in public and private institutions in 1999 is provided in Table 1. During the past 5 years, attempts have been made to improve the distribution of faculty members at the public and private institutions of higher education, and the proportion of instructors at the public higher education institutions has recently decreased to less than 50%.

In 1999, there were 37,744 full-time faculty members in Iran's institutions of higher education, of which public institutions accounted for 69% (Tae et al., 2003). In contrast, the student population at private institutions accounted for 59% of total enrollment

Table 1. Distribution of Faculty Members by Academic Ranks, 1999.

| Type of institution | Professor | Associate Professor | Assistant Professor | Instructor and others | Total |
|---------------------|-----------|---------------------|---------------------|-----------------------|-------|
| Public | 3.2% | 6.8% | 36.0% | 54.0% | 100% |
| Private | 3.3% | 2.8% | 15.2% | 78.7% | 100% |
| All | 2.7% | 4.5% | 25.5% | 67.3% | 100% |

Source: Tae et al., 2003.

in Iranian higher education, while faculty members at these institutions accounted for just 31% of all faculty—in other words, private higher education accounted for nearly two-thirds of all students but only one-third of all faculty members. This major difference in student/faculty ratio accounts for significant variations between the public and private sectors in the educational experiences available to students. In another important dimension separating the public and private sectors, the major public universities (such as the University of Tehran and about 14 other institutions with graduate programs) are placing increasing emphasis on research, while private institutions are comparatively teaching-oriented.

Public institutions are governed by boards of trustees. Major responsibilities of a typical board of trustees are related to administrative procedures, regulations for recruiting faculty members, and budget and financial matters. However, the governance of public institutions of higher education is centralized, falling under the supervision of the ministries (either MSRT or MHTME). There are also several regional boards of trustees for smaller universities and higher education institutions. These boards of trustees make decisions regarding educational and research matters of the institutions under their supervision.

The multi-campus Islamic Azad University is led by a few regional administrative boards across the country, under a somewhat more relaxed governing structure. However, there is a strong board of trustees at the top of the IAU system, which approves organizational structure and administrative procedures, sets regulations, makes decisions about faculty payments, and reviews and approves the chancellor's report.

Graduate Education

In 1979, the proportion of graduate students (master's degree and Ph.D.) within the total student population in public institutions of higher education was 1.3%, growing to about 6.5% in 1993 and 16% in 1997. Across the entire Iranian higher education system, the proportion of graduate students is roughly 10%.

Between 1979 and 1998, the average annual growth rate of master's degree students was 6.6% and for doctoral students was 3.6%—with growth rates of 7% and 6% in the public institutions, respectively (Tavakol, 1999). Considering the average annual growth rate of enrollment in the public institutions in the same period was 4.7%, the growth rate of graduate education in Iran in the past two decades has been higher than the average growth rate of higher education enrollment.

Graduate education is offered in both "comprehensive" (multidisciplinary) universities and specialized universities. In a comprehensive university, colleges or faculties provide undergraduate education in one or more branches of study or professional training (agriculture, basic sciences, engineering, fine arts, etc.). In addition to undergraduate programs, faculties offer graduate programs at the master's and Ph.D. level. There are about 15 such universities which are considered comprehensive. The specialized universities concentrate on a field of study such as medical sciences or engineering. There are 33 universities of medical sciences, of which 29 offer graduate programs at the master's and Ph.D. level, as well as specialized programs for those with first professional degrees (such as specialization in internal medicine).

The University of Tehran provides the majority of undergraduate and graduate education in Iran. In 2002, total student enrollment at the UT was 29,387, and graduate enrollment was 7,751 of which 22% (1,715) were enrolled in Ph.D. programs and 78% (6,036) were enrolled in master's or first degree professional programs. In comparison, Tarbiat Modares University (TMU), an institution exclusively for graduate higher education, enrolled 4,249 graduate students—1,167 students (27%) in Ph.D. programs and 3,082 students (83%) in master's degree programs. Thus, even though TMU is an institution which enrolls only graduate students, the University of Tehran enrolls more graduate students than any other institution of higher education in Iran.

Challenges Facing Higher Education

As enrollment in higher education institutions expanded during the past two decades, serious questions have been raised with regard to quality and relevance. It is expected that these institutions will be more responsive to the current and future requirements of the country. In this respect, qualifications of graduates vis-à-vis the development needs of the country and also the realities of labor market should be re-examined. For some fields of study, such as engineering, performance of graduates in the labor market is not satisfactory. Results of a survey conducted about the relationship between higher education and manufacturing demand in Iran indicate that graduates are not well equipped to handle the duties related to becoming entrepreneurs (Bazargan, 2000). There have also been indications of serious unemployment among university graduates, even in the fields of medicine and engineering. Another important recent development has been that, in order to develop entrepreneurial skills among graduates and promote self-employment, new courses and programs have been introduced, such as: achievement motivation, business management, and risk taking.

Furthermore, globalization and the move toward a knowledge-based society are posing new demands on higher education. In this respect, colleges and universities in Iran need to be more accountable. There is also a need for promoting a culture of quality assurance. In addition, an ever-increasing social demand for higher education and inappropriate mechanisms for the selection of freshmen have had an undesirable impact on general education. Although procedures have been developed to select capable candidates from among the applicants, so far these procedures have not met the expectations of academics nor the general public. Innovative approaches are required to meet the demand for higher education. In this regard, a major challenge for higher education stems from the policy decision to increase annual enrollment to 36% of applicants by 2010 (Taei et al., 2003, p. 137).

There have also been attempts by several universities to incorporate information and communication technology (ICT) into higher education through the design and implementation of virtual campus programs. However, due to the high costs and requirements for specialized human resources, such programs are in various stages of development. Overall, it is hoped that through the expansion of academic and applied science institutions of higher education, as well as through new distance education programs, more students will eventually have access to higher education.

Retention has also been a significant challenge for higher education in Iran. Pilot studies indicate that the problem of repeaters and dropouts in certain fields of study needs particularly serious attention. A thorough study and reforms are urgently needed to deal with this problem.

One of the most important challenges facing higher education in Iran today is faculty development and management. In 1999, the ratio of students to faculty members in public institutions was nearly 37 to 1, while in private institutions was 64 to 1 (Taei et al., 2003, p. 177). With student-faculty ratios like these, the need for faculty development has been very high. The number and proportion of faculty members with the rank of associate professor and higher have increased during the past few years. However, policies and programs should be designed and developed for improving the recruitment and productivity of faculty members.

The development of university management capacity—particularly in areas of planning, financial management and policy analysis—is also considered an important challenge in Iran. This would help to integrate policies in the private and public institutions of higher education. Finally, although there have been attempts to introduce quality assurance procedures in tertiary education in Iran (Bazargan, 1999, 2000, 2002), there is a need for the consolidation of self-evaluation systems for quality assurance and external quality assessment. In this respect, the creation of a National Board of Evaluation and Accreditation is of high priority.

In sum, the sophistication and vigor with which the government and institutional leaders meet these challenges will rule the fate of higher education in Iran for many years to come.

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ISRAEL

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Before exploring the higher education system of Israel, it is first necessary to understand the unique geographic and demographic context of this country. The area of Israel within its 1949 armistice borders is 20,700 square kilometers. In addition, Israel controls “administered territories” of about 7,500 square kilometers (occupied since the 1967 war) from Syria, Jordan, and Egypt, part of which are also administered by the Palestinian Authority following the Oslo accords of the 1990s. (These territories are not dealt with here.) The state is bounded on the north by Lebanon, on the northeast by Syria, on the east by the Hashemite Kingdom of Jordan, and on the southwest by the Gulf of Aqaba/Eilat and the Egyptian Sinai Desert (Israel Central Bureau of Statistics [CBS], Statistical Abstract of Israel no. 55, 246/2004b).

Israel’s total population in 2003 was 6,748,400, of whom 5,165,400 (76.5%) were Jews and 1,583,000 (23.5%) non-Jews. Of the non-Jewish population, 1,072,500 were Muslims, 142,400 Christians, 110,800 Druze, and 254,600 others, mainly immigrants and their families who are not registered as Jews in the Population Register (CBS, Israel Central Bureau of Statistics [CBS], Statistical Abstract of Israel no. 55, 246/2004b).

One of Israel’s most striking characteristics is the rapid increase in its population. The main source for growth in Israel’s population was immigration, accounting for 30% of the yearly increase in the total population and 46.2% in the Jewish population between 1948 and 1988 (CBS, 1989). In the early 2000s, Israel remains a migrant society. Of the 3.4 million Israeli-born Jews, only one-third (33.9%) were second generation Israelis. Of the total Jewish population, only 21.5% were second generation Israelis (CBS, Israel Central Bureau of Statistics [CBS], Statistical Abstract of Israel no. 55, 246/2004b).

Israel is also a pluralistic society. Nationally, there is a Jewish majority and a non-Jewish, predominantly Arab, minority. Linguistically, there are two official languages: Hebrew and Arabic. As a result of national, religious, and linguistic pluralism, separate educational systems emerged: Jewish, Arab, and Druze (Al-Haj, 1991; Mar’i, 1978).

The Jewish majority is diversified ethnically, religiously, culturally, and educationally. Ethnically, in the sense of country of origin, there are *Ashkenazim*—namely, Jews whose origin is in Eastern and Central Europe—and *Sephardim*, or “Orientals”—Jews from the Mediterranean Basin and other Arab and Muslim countries (Patai, 1970; Shama & Iris, 1976). Israeli Jews are also divided into “religious” and “nonreligious”

(Liebman & Don Yihye, 1984). Culturally, diversity arises from the different ethnic groups who brought from their countries of origin different customs, ceremonies, attitudes, values, and ways of life.

The population density of Israel at the end of 2003 was 305 persons per square kilometer. Three-quarters of the Jewish inhabitants and two-thirds of the non-Jewish population are concentrated in the coastal strip. The northern and particularly the southern district, comprising about two-thirds of Israel's land area, are sparsely populated. More than 88% of the population is defined as urban—that is, residents in localities with 2,000 or more inhabitants. However, the rural-urban division in Israel is of little significance in terms of economic status and educational provision (CBS, 2004a).

Socio-Historical Context

The socio-historical roots of higher education in Israel are connected with the Zionist idea of cultural and national revival (Ben-David, 1986). Thus, the Hebrew University—founded in 1918 and opened in Jerusalem in 1925—was meant to help generate the Jewish cultural revival by becoming an academic center for research in Judaic studies, humanities, and sciences. Its complementary institution, the Technion—the Israel Institute of Technology, founded in 1912 and opened in 1924 in Haifa—was devoted toward realization of the Zionist program of providing the pragmatic technological and technical needs of the *Yishuv*, the Jewish community in Palestine, by training engineers and technical personnel (Ben-David, 1986; Iram, 1983). Thus, the higher education enterprise in Israel was conceived from its beginnings as the responsibility of the Jewish people throughout the world and not only of those in Palestine (and later in Israel). Indeed, the supreme authority of these two institutions—their Boards of Governors—were composed of prominent Jewish individuals in the fields of science, arts, management, and economics, as well as members of societies and friends of Israel in various parts of the world. Today, Diaspora Jewry is represented on the governing bodies of all Israeli universities.

Higher education in Israel shares most of the goals of tertiary systems elsewhere: training manpower, furthering economic development, promoting scientific research, enriching the culture, and transmitting and advancing knowledge in general (Clark, 1983). In addition to these general goals, Israel's higher education institutions are expected to strengthen Jewish scholarship, transmit Jewish culture, and forge cultural links with the Jewish people in the Diaspora. Indeed, the socio-historical roots of higher education in Israel are connected with the Zionist idea of cultural and national revival (Ben-David, 1986; Iram, 1983).

The establishment of the Jewish state produced a growing demand for higher education. Indeed, four new universities were established between 1955 and 1964 (Bar-Ilan, Tel-Aviv, Haifa, and Ben Gurion Universities). The Weizmann Institute of Science was established in 1949 as a research institute, and in 1958 it opened a graduate school to award M.Sc. and Ph.D. degrees. The Open University was launched in 1976, was accredited in 1980, and was authorized to award the bachelor's degree in 1980 (Halperin, 1984). Rapid growth in the number of students became the most conspicuous

feature of the expansion of the higher education system, though not the most important feature.

Three of the five new universities founded since 1955—Tel Aviv, Haifa, and Ben Gurion-Beer Sheva Universities—owe their establishment to local initiative; one—Bar-Ilan University—to that of the Zionist religious organization; and one—the Open University—to governmental initiative and philanthropic support (from the Rothschild Foundation). However, despite the diversity in origins of the new universities established during the 1950s and 1960s, they tended to imitate the two veteran higher education institutions—the Hebrew University and the Haifa Technion—by stressing research as a measure of strength and success. Indeed, the longstanding Jewish tradition of the unity of research and teaching is responsible for the growth of research in Israeli universities, their single most important feature (Ben-David, 1986).

Martin Trow's (1984) assertion that "competition accounts for the 'drift' . . . of new institutions and sectors toward the academic forms and styles, the curriculum and standards of elite institutions" applies also to the Israeli case. The similarity of Israel's higher education institutions may also be explained by the direct supervision exercised by the Hebrew University and the Technion over the new universities in the initial years of their development, and the indirect supervision exercised by the Council of Higher Education (established in 1958 and led by senior faculty members of the two older institutions and the Weizmann Institute of Science). During the 1950s, two discernible groups exerted decisive influence on the development of higher education in Israel. One group consisted of prominent scientists and scholars who immigrated to Israel during the 1920s and particularly during the 1930s following the rise of Nazism. This group had received its academic training mainly in the authoritarian academic atmosphere of Central European universities. These scholars and scientists became the basis for academic development in the country. In the late 1940s, a second group of scientists and scholars emerged from among the outstanding graduates of the local institutions as well as from England and the United States. The political circumstances at that time (British rule) and the rigid academic norms of the Hebrew University and the Technion combined to limit their academic influence (Iram, 1987). But in the 1950s, this group played a decisive role in the establishment and consolidation of the Weizmann Institute. They brought about a reform in teaching and the adoption of the three-level degree structure at the Hebrew University and the Technion, and were instrumental in the establishment of Bar-Ilan and Tel-Aviv Universities in the 1950s, and Haifa and Ben Gurion Universities in the 1960s.

These developments enabled Israel's universities to conform—in curricula, degree structure, and offerings—to those of the United States and Britain. It also resulted in the increased democratization of research organization and in academic governance. As a result, Israel's higher education became an up-to-date scientific enterprise, and some of its institutions achieved international status. Indeed, the universities' affirmation of research as their supreme goal continues to guide the higher education system even in times of financial constraints. It is estimated that "over 80% of all Israeli scientific research, and almost all Israeli basic research and research training, is conducted within research universities" (The Israel Academy of Sciences and Humanities, 2003, p. 13).

Characteristics of the Higher Education System

“Higher education,” as defined by the Council for Higher Education Law, 5718 (1958), “includes teaching, science, and research” that are conducted in universities and other academic degree-granting institutions. The higher education system in Israel is divided into seven distinct groups (Council for Higher Education, 2004):

1. seven universities and the Open University;
2. arts academies (music and dance; arts and design);
3. comprehensive academic colleges, maintaining programs of study leading to the bachelor’s degree;
4. academic colleges of engineering;
5. academic programs in regional colleges under university auspices, which are in the process of becoming independent institutions;
6. academic colleges for the training of teachers; and
7. private, for-profit (“non-budgeted”) colleges.

The Planning and Budgeting Committee (PBC) of the Council for Higher Education (CHE) is responsible for the budgets of all the institutions in the first five groups, while teacher training colleges are accredited by the Council, but funded by the Ministry of Education, and the “non-budgeted” colleges are accredited by the Council, but not funded by it. Since 1990, the number of higher education institutions in Israel has more than doubled (see Table 1).

Only the universities are authorized to award degrees beyond the bachelor’s degree in a variety of fields of study and advanced professional training. The Open University and select “other institutions of higher education” are authorized to award the bachelor’s degree, and some of them are authorized to award M.A. degrees in specified fields of study or training. The teacher training colleges are authorized to award the “Bachelor’s of Education” (B.Ed.) degree to teachers for primary and junior high schools (K-9). Three years are generally required for the completion of the bachelor’s degree and

Table 1. Institutions of Higher Education, 1990–2004

| Type of institution | 1990 | 2003 | 2004 | 2005 |
|---|------|------|------|------|
| Universities | 7 | 7 | 7 | 7 |
| The Open University | 1 | 1 | 1 | 1 |
| Arts academies | 2 | 2 | 2 | 2 |
| Comprehensive academic colleges | 0 | 6 | 6 | 6 |
| Academic colleges of engineering | 2 | 8 | 8 | 8 |
| Non-budgeted academic colleges | 2 | 6 | 7 | 8 |
| Academic colleges for training teachers | 7 | 24 | 26 | 27 |
| Academic programs in regional colleges | 7 | 7 | 7 | 7 |
| Total | 28 | 60 | 64 | 66 |

Source: Council for Higher Education (Planning and Grants Committee), 2003, 2004, 2005.

Table 2. Students in Higher Education Institutions and Universities

| Educational Institutions | 1989–90 | 1999–00 | Annual % Change | | | Total % Growth |
|---------------------------|---------|---------|--------------------|---------|---------|-------------------|
| | | | 1989–2000 | 2001–02 | 2002–03 | 1999–2003 |
| Total | 84,464 | 199,438 | 8.5% | 217,906 | 228,695 | 4.7% |
| Universities | 67,201 | 112,987 | 5.3% | 117,146 | 120,552 | 2.2% |
| Thereof: first degree | 46,519 | 74,194 | 4.8% | 75,247 | 76,581 | 1.1% |
| Academic colleges | 3,668 | 33,709 | 24.8% | 43,492 | 48,320 | 12.8% |
| Thereof: first degree | 3,668 | 33,250 | 24.7% | 42,622 | 47,015 | 12.2% |
| Teacher training colleges | 4,618 | 20,004 | 15.8% | 20,546 | 21,100 | 1.8% |
| The open university | 13,007 | 32,738 | 9.7% | 36,722 | 38,723 | 5.8% |
| Thereof: first degree | 13,007 | 32,400 | 9.6% | 36,110 | 37,406 | 4.9% |

Source: Council for Higher Education, 2004.

2 years for the master's degree. The Ph.D. degree has minimal formal requirements, and is designed individually according to the candidate's research project.

The number of students at the seven university-level institutions reached 228,695 in 2003, an increase of more than 150% over the last 10 years (see Table 2). Some 60% of the students are studying humanities, social sciences and law, 23.3% natural sciences, agriculture, and medicine, and 16.7% engineering. Some 72% are studying for the first degree (bachelor's), 21% for the second degree (master's), 5% for the doctorate, and 2% for academic diplomas, mainly secondary school teaching diplomas. The 13 non-university institutions of higher education enrolled some 5,800 students. About 13,500 students were enrolled in academic courses at the Open University; this number is approximately equivalent to 2,300 students in full-time study programs at a regular university.

It is difficult to compare the rate of participation in Israel with the rate in Western countries because of variations between university degree programs in different countries. Also, the principal age group attending universities in Israel, ages 20–29, differs from that in other countries due to 3 years of required military service for men and 2 years for women. In Israel, about 20% of the 20–29 year-old cohort received university education, and about 30% of them higher education. This rate is higher than in most developed nations, similar to Japan, but lower than the rate in the United States and Canada.

Governance and Administration of Higher Education

National Administration

When the state of Israel was established in 1948, there were two small higher education institutions (the Hebrew University of Jerusalem and the Haifa Technion) and one research institute. They emphasized research and scholarship (in very few areas), technological training and applied research. They were private institutions supported mainly

by foreign donors and run like corporations, following the model of American private universities. Although they were expected to contribute to “the realization of Jewish culture and the Zionist program of building up the country physically” (Ben-David, 1986, p. 105), they safeguarded their autonomy from the Zionist organization that created and supported them, and later (during the 1950s) from the emerging governmental bureaucracy. The universities continued to have full institutional autonomy. Their academic staff enjoyed almost unrestricted academic freedom of teaching and research similar to the British elitist institutions. Academic staff also played a decisive role in administrative matters of the university.

Between 1955 and 1964, four new universities were founded, and the number of students rose from 3,022 in 1950–51 to 18,368 in 1964–65. The academic profession grew from 135 professors and lecturers in 1950–51 to 2,814 in 1968–69. New departments in the social sciences and humanities—as well as professional schools in law and medicine—were established both in the old and new universities. This expansion and the increased demand for public and governmental funds brought to light three interrelated issues: accreditation of new institutions; criteria and means for channeling public funds to the individual institutions; and the issue of governmental control over the system. Indeed, since World War II governments have often intervened in higher education systems in order to democratize access and governance, to make studies more relevant to the economy and careers, and to augment their influence over the magnitude, the cost, and the future direction of the higher education enterprise (Clark, 1983; Trow, 1984). This trend became apparent in Israel in 1958, when the government established the Council for Higher Education (CHE) as a statutory body, serving as “the State institution for matters of higher education in the State” (Stanner, 1963, pp. 244–49). The CHE is the sole authority able to recommend to the government the granting of a permit to open a new institution of higher education, as well as granting academic recognition, accreditation, and the right to confer academic degrees. In an apparent attempt to safeguard academic freedom, Section 4a of the Council for Higher Education Law, 5718 (1958) states that “at least two-thirds of its members must be persons of standing in the field of higher education”—namely, full professors.

The continuous quantitative expansion of the higher education system (see Tables 1 and 2) was accompanied by a massive increase in public expenditure, which rose steadily to 45.5% in 1959–60 and to almost 80% of the ordinary budget in 1974–75. Increased government involvement in financing higher education intensified the basic issue of how to reconcile the inherent conflict between academic freedom and accountability to the public.

The autonomous governing body of each university decided on its development policy without coordination with other universities, the Council for Higher Education, or the government. There was a need to find both a scheme and a mechanism to make universities more accountable to the public, and particularly to work out an equitable system for financing higher education.

In 1974, the Council for Higher Education took charge of planning and appointed the first Planning and Grants Committee (PGC), following the British model of the University Grants Committee (UGC). To safeguard against the intervention of the state,

at least four of PGC's six members, including the chairperson, must be full professors appointed *ad personam*. The other two members come from business and industry (PGC, 1985). However, this composition was changed at the last Council to include representation of colleges (CHE, 2003).

The terms of reference for the PGC, as set forth in Government Decision No. 666 of June 5, 1977, are as follows: the PGC functions as a central coordination agency of the Council for Higher Education in allocating governmental and public funds for higher education; it reviews budgetary proposals, both ordinary and developmental, of each institution, ensuring that they are balanced; the PGC is responsible for coordination between institutions; it reviews and evaluates proposals for opening new institutions (or new programs within existing institutions) having financial implications, and submits its recommendations to the Council; and the PGC reports to the Council at the end of each academic year. Although the PGC was meant to guarantee academic freedom and institutional autonomy of the universities, which may negotiate their budgets only with the PGC, in practice the freedom of the individual institution, both in academic and fiscal matters, was eroded considerably.

Indeed, during the 1980s the power of government increased, not directly, but through the Planning and Grants Committee. The PGC became a centralized power in matters of funding, planning, policy initiatives, and evaluation. Thus, the initiatives of the PGC caused it to become a force in the development and regulation of higher education and not just an organ for the channeling of governmental funds. During the second term of the PGC (1979–85), its power and status increased further, as reflected in the change of its name to the Planning and Budgeting Committee (PBC) to better reflect its direct involvement in the budgeting of the higher education system.

Institutional Administration

Higher education institutions in Israel are autonomous, and have academic freedom and self-governance. Section 15 of the Council for Higher Education Law, 5718 (1958) guarantees the autonomy of higher education, not only in its academic conduct but also in its administrative and financial affairs (Stanner, 1963). Although institutions are dependent financially on governmental support and are required to submit to PGC their budgets for approval, "each institution is free to conduct its academic and administrative affairs as it sees fit, within the confines of its approved budget" (CHE PGC, 1988a, p. 15).

The supreme authority of each university is vested in its board of governors and executive committee, a third of which are drawn from prominent Jewish individuals in science, arts, management, and business outside Israel; another third on the executive committees are academic staff. The board of governors appoints a president who is the head of the university. However, the president's main responsibility is for the institution's administrative and financial affairs. The president is assisted by a director general or vice president. The supreme authority in academic matters is the rector, who is a full professor elected for a 2- to 3-year term by the senate, which is composed of all full professors and representatives from other academic ranks, as well

as a representative of the student body. The rectors and presidents of all universities have formed a Committee of Heads of Universities, which functions as a consultation and coordination organ. Faculties, institutes, schools and departments elect their heads from their ranks. The power of the rector, the senate and its committees extends beyond academic affairs to administrative matters as well. The board of governors does not usually interfere in academic matters, thus self-governance in academic matters is almost unrestricted.

Because all positions of power are held by temporary academic officials elected by the academic staff from its own ranks, no professional higher education administration has developed in Israel. Constant rotation of academic office holders does not leave time or incentive for staff to become experts in academic administration, politics and planning. Excessive participatory democracies of faculty assemblies have also prevented the emergence of effective academic leadership. Faculty assemblies attend to both routine business (such as appointments) and long-term curricular and research policies, through a complicated system of committees. The support for participatory self-government—and opposition to professional administration—has been based on the principle that universities should be a loose coalition of self-governing departments (Ben-David, 1986). However, others argue that the lack of academic or administrative authority above the department and faculty levels brings to a deadlock any attempt to relocate resources between departments and units in response to changing financial circumstances, research interests, or shifts in employment prospects that require changes in training priorities.

Israeli universities are similar to each other in structure, programs, and aims; they are, or aspire to become, comprehensive research universities. However, two institutions emphasize service to the local community—Haifa University in the north, and Ben-Gurion University in the south—while Bar-Ilan University is committed to religious values and religious education.

Academic work is organized in basic units such as departments, which are based on scientific discipline or field of study and research; schools—usually professional—and institutes comprising both research and instruction; and programs which are interdisciplinary. Departments are grouped in faculties such as humanities, social sciences, natural sciences, engineering, law and medicine. Departments are independent in determining their course of study and admissions requirements, but are responsible to the dean of the faculty.

The Funding of Higher Education

The principal sources of income for the higher education system are: (a) allocations from the government, determined and paid by the PGC; (b) income from current donations; (c) revenue from endowment funds; (d) tuition fees; (e) research contracts and research grants from government and private sources, at home and abroad; and (f) sale of services (including teaching services). The Israeli higher education system depends financially on allocations from the government. In the 1980s, the government—through the PGC/PBC—provided 55–75% of the ordinary budgets of higher education institutions, except for teacher-training institutions and regional colleges, which were financed

directly by the Ministry of Education and Culture. In 2003, the PBC allocated US\$1.2 billion, which accounted for 45–65% of the higher education institutions' budgets (Grossman, 2004).

The PBC operates through four budgetary channels, including block grant allocation, matching allocations, and earmarked allocations. Through each of these channels, and by determining their relative share in the general budget, the PBC exerts influence over higher education in Israel. The PBC's increased budgetary control is particularly manifest in the changes of the largest item of the government's budget—namely, the block grant allocations to institutions of higher education. This item made up 85% of the total PBC allocations in 2004. It is subdivided into three components: teaching, research and quality of teaching and student services (Grossman, 2004). In this way, the PBC uses the budget to support activities in accordance with its own determined priorities.

The method of—and criteria for—apportioning the block grant allocation between the institutions also reflects the PBC's increased involvement in the evaluation of these institutions. As of 1981–82, budgetary deliberations are conducted in two parallel planes. One team, headed by the PBC's director-general, examines the budgetary proposals submitted by each institution, and the indices on which they are based, such as income, size, and proposed developments. The second team, headed by the chairperson of the PBC, examines data on the “productivity” of each institution: the number of students and graduates by degree level and field of study, the value of research grants, and the scope and quality of research in the institution.

The range of allocation (not a single amount) determined by the two teams is compared and presented to the PBC for discussion and approval. In this way the PBC determines annually the allocation to each institution, based on its work program, proposed development, and research output, as well as on its training of highly skilled professionals.

Universities have questioned the validity of this method. The lack of an established definition of an institution's “productivity” leaves to the PBC the authority to assess the quality of the universities' performance. This policy no doubt weakened the universities' integrity in Israel, a phenomenon which was observed in many national systems during the 1960s and 1970s (Clark, 1983; Perkins & Israel, 1972).

The mid-1970s, early 1980s and late 1990s were marked by severe cuts in governmental expenditure on social services, including education, due to slowdowns in economic growth and inflation (Kop, 1985). Harsh fiscal measures resulted in a major crisis in higher education, with long-term implications. While the number of students increased by some 30% between 1974 and 1983, academic staff decreased by 3% and administrative staffs were reduced by 11%. A definite trend of substantial disinvestment in higher education was reflected in the share of higher education in the national budget, excluding defense expenditures and debt payments, which fell by some 44%.

In times when governmental allocations were cut, time and again, while research funds—national and international—became scarce, particularly during the 1980s, “PGC's authority in the allocation of the higher education budget to the higher education system [was], essentially, unlimited” (Council for Higher Education, 1985, p. 96).

Regulations and Categories of Allocations

Of the 54 accredited and budgeted institutions of higher education in 2003, 24—with 188,000 students—are funded by the PBC; 24 academic teacher training colleges, with 20,700 students, are funded by the Ministry of Education; and six (private) academic colleges, with about 18,500 students, receive no public support. Institutions funded by the PBC must meet the following regulations:

1. New institutions, new units or new academic programs will be opened only after their requests are examined by the PBC from the planning, budgeting and financial perspectives and approved by the CHE. Non-budgeted institutions need the approval of the PBC only in regard to their financial solvency and the approval of the CHE in regard to academic standards.
2. The wages of academic faculty, technical and administrative staff should meet the regulations of the Wages Authority in the Ministry of Finance.
3. Annual budgets must be balanced and approved by the PBC prior to the commencement of the academic year.
4. A public committee appointed by the government every 5 years determines tuition fees.

The PBC's allocations, US\$1.2 billion in 2003, account for 65% of the budgets of the universities, 62% of the budgets of Art Academies and Academic Colleges of Engineering, 57% of the budgets of Academic Comprehensive Colleges, and 45% of the budgets of the regional colleges (Grossman, 2004).

Current allocations to institutions of higher education are divided into three main categories: block grant allocations, earmarked allocations, and matching allocations. In addition, institutions can also compete for allocations from the Israel Science Foundation, which is funded separately by the PBC.

Block grant allocation. This is the major source of PBC funds transferred to the institutions of higher education (85%). The block grant consists of three components—teaching, research and quality, each determined by a special model developed by the PGC. The budgeting model has two main objectives:

1. to provide an objective and fair tool for the allocation of public funds to the regular operating budgets of universities for teaching and research, while encouraging efficiency, quality and enhancement of teaching and research outputs; and
2. to enable the universities to plan and budget their teaching and research activities in a way that maintains the academic and administrative autonomy of each institution.

Budgeting for teaching is based on an absolute model, whereas for research it is based on a competitive model. The allocation formulas are based on outputs, the data for which are derived from objective, timely and reliable sources external to the institutions of higher education. Institutions of higher education may use the block grant according to their own internal priorities, on the condition that they maintain a balanced budget.

The *teaching component* of the block grant is calculated as the sum of the number of students in each field of study multiplied by the tariff (per field of study) and by an efficiency factor parameter (calculated by the proportion of graduates to students). Data on students and graduates come from the Central Bureau of Statistics (CBS).

The *research component* of the block grant is allocated only to the research universities, on a competitive basis according to the following four indicators, with their proportional weights:

1. income from competitive research funds (35%);
2. income from non-competitive research funds (20%);
3. scientific publications (15%); and
4. numbers of Ph.D. students (30%).

The *quality component* is currently small, but the PBC is in the process of developing more comprehensive indicators of teaching quality and the quality of student services, as well as mechanisms and tools for the quality control management of both teaching and student services.

Earmarked allocations. The earmarked allocations, as distinguished from the block grant, are used by the PBC to determine the order of priorities in the higher education system. Earmarked programs are generally run for a specified period of time. The earmarked allocations amount to about 10% of the total funds allocated by the PBC to the institutions.

Matching allocations. Matching allocations are based on a historical agreement with the Ministry of Finance. The present matching allocations are based on the level and type of endowment funds each institution had accumulated up to 1987. The matching allocations amount to about 4% of the total funds allocated by the PBC to the institutions.

Allocations to research funds and inter-university activities. The PBC also funds the Israel Science Foundation (ISF), which has developed in recent years to become the largest research fund in Israel. Its competitive allocations are based on scientific excellence and peer review. Between 1997 and 2003, the PBC's allocation to the ISF more than doubled, increasing from US\$20 million to US\$50 million (CHE, 2005; Grossman, 2004).

Faculty and Students: Teaching, Learning, and Research

Faculty

The academic profession in Israel has grown very rapidly since the establishment of the state in 1948, and particularly during the periods of expansion of the higher education system in the 1960s and 1970s, as well as since the 1990s. The continuous emphasis on research and on the training of researchers at Israeli universities from their inception made it possible to recruit qualified academic teaching staff from among the

graduates of the veteran institutions (the Hebrew University and the Technion). Also, cooperation between Israeli and United States researchers facilitated recruitment of foreign—especially American—academic staff who immigrated to Israel. Because of the ample supply of qualified academic staff from these two sources, there was no need to reduce standards of teaching and training in spite of the massive expansion of the higher education system (see Table 2). Nevertheless, the growth of the academic staff was slower than enrollments. Between 1956–57 and 1966–67, the aggregate number of students in higher education multiplied by 4.4 while the academic staff multiplied by 3.4. This increased student/faculty ratios. During the 1970s, it was estimated that the overall ratio was 9:1 (Bendor, 1977). In 1983, the average ratio was about 15:1 in the humanities and social sciences and about 8:1 in the natural sciences, medicine, and engineering. The overall average ratio was about 11.5:1 compared to the desired ratio of 10:1 accepted in England and Wales (PGC, 1984).

The academic staff in the universities consists of assistants “A” and “B,” instructors, senior instructors, lecturers, senior lecturers, associate professors, and full professors. Senior instructors and above are required to hold a Ph.D. or another doctoral degree, and only senior lecturers and upward are granted tenure. The academic staff in 1986 numbered the equivalent of some 7,818 full-time positions, with an additional 224 positions in seven non-university institutions of higher education, and a similar number in the seven academic teacher training institutions. In 2003, the number of the academic staff was 10,408 (CBS, 2004b).

Higher education institutions are autonomous in appointing, promoting, and granting tenure to their academic staff. However, the procedures and qualifications for appointments and promotions are similar in all universities. These are based almost exclusively on research qualifications, as demonstrated in publications and evaluated by a committee of professors, and by written evaluations solicited from outside the university—including, as a rule, from foreign referees. This institutionalized procedure throughout the entire system safeguards the academic standards and research tradition of all seven universities as research universities, with research facilities conferring higher degrees in as many fields as possible (Ben-David, 1986). The teaching load of university teachers is six to eight weekly class hours for about seven months of term time. This leaves them ample time for research and publishing. Moreover, from the rank of lecturer upward, academic staff are entitled every seventh year to a full year paid leave of absence. Sabbatical leaves are usually spent abroad in a university or research institute. This provides research opportunities in fields for which facilities and funds are not adequate at the home institution, and encourages Israeli researchers to cooperate with the international community of researchers, thus keeping updated in the most recent developments in various disciplines and fields.

Students

The socioeconomic and geopolitical reality of Israel is responsible for the collective profile of the student body in Israel’s higher education system and for some of the distinct characteristics of its students. The majority of students are 2 or 3 years older than

elsewhere because of compulsory military service (with no exemptions or deferment for academic studies). About half of them are married at the time of their studies. Although tuition fees are relatively low (about US\$2,500–3,000), they are a burden for most students and particularly for those who are married; therefore, most of them are working either full time or part time (CHE, 2004; Globerson, 1978; Silberberg, 1987).

Expectations of university students to fill professional and administrative jobs in the expanding economy and administration were met by universities quite successfully between the 1950s and 1970s, through both the expansion and transformation of their structure, content, and aims. The major changes included the introduction of the 3-year bachelor's degree in 1950 (Iram, 1983), followed by the establishment and growth of professional schools—such as education, social work, and business administration—and changes in disciplinary departments in science, humanities, and social science. These changes also met the aspirations of the students who, after their years of military service, were eager to acquire a marketable proficiency. Indeed, the growth in the number of students in the professional schools and departments, and in “practical” fields of study, is the most conspicuous feature of expanding opportunities for employment in the professions, as shown in the distribution of students (see Table 3).

Approximately 15–18% of the relevant age cohort commences higher education, and a further 20% of the age cohort enters other postsecondary programs of study. Of an entering class of undergraduate students, about two-thirds complete their studies and receive a degree. Four years is the mean length of time needed for completion of an undergraduate course of studies, although the official period of time required is generally 3 years. This is particularly noticeable in the humanities, but is also found in the social and natural sciences.

Table 3. Distribution of Students in Universities

| | Students in Universities ^a , By Degree | | | | | | | |
|---------------------|---|--------------------|-------------|-------------|-------------|---------------|-------------|-------------|
| | 1948– 49 | 1959– 60 | 1969– 70 | 1979– 80 | 1989– 90 | 1999– 2000 | 2002– 03 | 2003– 04 |
| Total | 1,635 | 10,202 | 35,374 | 54,480 | 67,770 | 113,010 | 120,870 | 124,805 |
| First degree | 1,549 ^b | 9,647 ^b | 28,053 | 40,250 | 46,960 | 74,210 | 76,695 | 78,715 |
| Thereof: first year | 405 | 2,925 | 9,854 | 13,510 | 14,720 | 22,010 | 24,620 | 24,800 |
| Second degree | (2) . | (2) . | 5,156 | 10,050 | 16,100 | 30,460 | 34,695 | 35,840 |
| Third degree | 86 | 555 | 1,346 | 2,930 | 3,910 | 6,650 | 7,980 | 8,720 |
| Diploma | .. | .. | 819 | 1,250 | 800 | 1,690 | 1,500 | 1,530 |

^aAs of 1969–70 students in special courses not leading to an academic degree are not included. As of 1976–77 data are based on institutions' files, which were prepared close to the time they were received.

^bStudents for second degree are included among first degree students.

Source: Israel Central Bureau of Statistics (CBS), 2004a. Report No. 55, Education 8–58.

A large proportion of undergraduate students study the humanities and the social sciences. However, since the beginning of the 1980s the percentage of students studying sciences and technology has risen (CBS, 2004b; PGC, 1988; Silberberg, 1987).

In 1990, there were 76,000 students in institutions of higher education and an additional 13,000 students in the Open University (where most students study part time). During the 1990s, the system expanded greatly. In 2003, enrollment in higher education institutions reached 189,840, with another 38,620 students in the Open University. The growth of student numbers at all degree levels between 1990 and 2003 was 150%, while the growth in the number of students studying for a bachelor's degree was 161%. Since 2000, students have enrolled in master's degree programs in institutions other than in the seven research universities. In 2003, there were about 2,500 master's students in those institutions, among them 1,210 at the Open University (Grossman, 2004).

Three factors affected the growth in the number of students: the growth in the relevant cohorts of 18-year-olds from 76,500 in 1987 to 105,700 in 1999; an increase in the number of secondary school graduates eligible for a matriculation (*bagrut*) certificate, from 37% of the relevant cohort in 1987 to 55.4% in 1999; and an increase in the rate of participation in higher education of those who obtain a matriculation certificate. In addition, four main factors affected the growth in the rate of participation in higher education: (1) more young men and women recognize the importance of higher education for social mobility and economic progress; (2) the growth, diversification and the geographic dispersion of institutions of higher education (see Table 1 above) provided greater access; (3) developments in various spheres of life, as well as demand, caused the institutions of higher education (new and old alike) to develop programs of study and to offer academic degrees in a wide variety of subjects, some of which were not previously offered in Israel; and (4) the success of Israeli industry, particularly in the fields of advanced technology, increased the proportion of students enrolling in programs in the natural sciences, computer sciences and technology—in fact, enrollment here has grown from 6.7% of the relevant population (aged 20–24) in 1990 to 12.7% in 2003 (CHE, 2004; Grossman, 2004).

However, amid the discussion of expanded student access and enrollment, it should be noted that there is a significant difference in the rate of participation in higher education according to socioeconomic and ethnic background. For example, in 1985 the rate among Israeli-born students whose fathers were born in Europe, the United States, or Israel was 3.8 times higher than those of African or Asian origin and five times higher than those of non-Jews. However, from 1976 to 1985, the rate of participation of students of African or Asian origin increased from 19% to 31% among undergraduate students, while their percentage in the 20 to 29 year-old cohort has changed only slightly, from 43% to 45% (PGC, 1988; Silberberg, 1987).

Further, between 1966 and 1985, the rate of participation of students originating from Asia and Africa has increased two and a half times, while the rate of Arab students quadrupled. The trend of closing the participation rate gap between different ethnically diverse student populations continues (CHE 2004; Silberberg, 1987). Meanwhile, there has been no significant gender difference in the rate of participation in higher education.

In 1986–87, 48.9% of the student population and 49.4% of the degree recipients were women (Statistical Abstracts of Israel, 1988, pp. 640, 644). There are, however, gender differences in fields of studies. About 70% of women study humanities, while only 13% are enrolled in engineering departments (CHE 2004; Silberberg, 1987, p. 29).

The opening of universities and other higher education institutions, especially regional colleges in the north and the south, is probably responsible for the increase in the number of students in peripheral areas, particularly for those sections of the population who were historically underrepresented. However, there are still differences in rates of participation between the populations in peripheral areas of the country—for example, 6.7% in the north, and 15.2% in the south, compared to 31.6% in Tel-Aviv (CHE, 2004).

Conclusion

The expansion of higher learning in Israel that began during the 1980s was among the greatest in the world. Access to higher education was not an important political issue, since both the universities and the government were in favor of providing higher education to all qualified applicants. Thus, since the beginning of the 1980s, the number of institutions more than tripled, and the number of students more than quadrupled. Before the 1980s, higher education in Israel was elitist, selective and monolithic (especially the research universities). However, it has evolved over the past 20 years toward universal access and a differential system, responding to changing demands of the economy and workplace and to different aspirations of the young (CHE, 2005; Grossman, 2004). The percentage of an age cohort attending higher education is comparatively high. As a result, the proportion of college-educated persons in Israel's labor force, whether defined by years of schooling or by occupational classification, is among the world's highest (CHE, 2004; Klinov, 1988). However, more effective steps have to be taken to increase the rate of participation in higher education for certain ethnic and minority groups. The underrepresentation of these groups is inconsistent with Israel's stated social philosophy.

The government provided the lion's share of funding during the expansion of the 1950s and 1960s, regardless of real economic demand, while the universities have demonstrated flexibility in adjusting their programs to accommodate the changing expectations of students and the economy by introducing undergraduate and professional bachelor's degrees. However, the basic commitment of the system to research as a hallmark of excellence continues to characterize both the old and new institutions, thus avoiding an entirely utilitarian approach to higher education. Worsening economic conditions, with drastic reductions in annual allocations to the universities—by 20% between 1982–83 and 1983–84—affected adversely the delicate balance of institutional autonomy and direct governmental control on the one hand, and between the statutory roles of the Council for Higher Education (CHE) and the authority of the Planning and Budgeting Committee (PBC) and the universities on the other. Thus, for example, nationally negotiated wage agreements and tuition rates were imposed on the universities by the Ministry of Finance without consulting individual universities

and without commensurate provisions for funding. Indeed, in his 1988 annual report, PBC's chairman noted that the central and vital question is whether the higher education system "is about to lose its independence" (CHE PBC, 1988a, p. 5).

Another development of far-reaching consequences was the change in the composition of funding for higher education: a sharp decline in the government's share, and a rise in both the share of tuition and private funding. The substitution of government funding by private finance resulted in shortages in general purpose expenditures on basic research infrastructure items such as libraries, laboratories, and computers. This trend has adversely affected the quality of instruction and research in the higher education system. To restore the equilibrium of the research infrastructure, additional public funds are required (The Israel Academy of Sciences and Humanities, 1986, 2003). This demand was echoed in the 1987 PBC chairman's annual report: "to repeat previous warnings . . . if higher education does not very soon advance in the national order of priorities, it will no longer be possible to repair the damage that higher education has suffered in recent years" (CHE PBC, 1988a, p. 5). To halt the risk of system-wide deterioration, both in academic standards and in its function of labor force training, the PBC has submitted to the government a plan for increasing the basic higher education budget by 25% in 4 years—an increase which was partially met during the early 1990s. But in the mid-1990s, another financial crisis occurred due to continuous budgeting cuts, and in 2004, the PBC submitted a Five-Year Plan to the Ministry of Finance for the years 2004–5 through 2008–9, to meet both the increasing demand and "to maintain Israeli science at the frontline of world science and technology, to cultivate cultural values . . . and to train vanguard professionals" (Grossman, 2004, p. 8).

On the other hand, demands for accountability proposed that expanding and even existing needs for higher education could be met only by a more efficient and vocationally oriented system. These demands were followed by growing pressure for higher productivity and more efficient or joint utilization of facilities and equipment and interuniversity cooperation in research, as well as demands for academic and administrative restructuring in higher education institutions. University faculties and administrators tend to see some of these demands as a disguise for more direct state control at the expense of institutional autonomy.

The university sector in particular continues to be alarmed over pressures from government intervention in policy issues such as admissions standards, tuition, budgetary cuts, the composition of the Council for Higher Education—namely, a decrease in the universities' representation—and the governance structure of individual institutions. The government's intervention in these issues is seen by the universities as an infringement on institutional academic autonomy, which is considered a prerequisite and essential for the high academic standards of the Israeli academy (Ba'Shaar, 2004; S. Neaman Institute, 2004).

It seems at this point that Israel's higher education system has reached a crossroads. To overcome the crisis, universities, the PBC, the CHE and the government (Ministry of Finance) will have to explore new ways to allow effective planning, financing and policymaking at the university and national levels, taking into account the legitimate

public and national interests, academic freedom and institutional autonomy. Overall, more ingenuity will be required by all parties to meet the challenges and exigencies that Israeli higher education is facing today.

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ITALY

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The Italian system of higher education, through its recent process of transformation, represents a paradigmatic example of the complex difficulties involved in the transition from elite to mass higher education (Trow, 1974). In truth, problems and difficulties faced by the Italian academic enterprise today are not peculiar, and have been grappled with in many other systems around the world. However, the speed of the transformation process in Italy has particularly sharpened the distinctions between an elite and a mass system of higher education.

Generally speaking, higher education in Italy is in the middle of a critical transition to a new era, and yet following a non-linear path whose direction changes according to the prevailing side of confronting forces. To explain this peculiarity one must return to the 1960s, when all systems of higher education in Europe were affected by a sudden and consistent increase in social demand. To cope with the new situation, a number of reforms were implemented to diversify the systems, either with the creation of parallel tracks or with the introduction of different stages. In Italy, the response to demand was the introduction of a completely open-door system, abolishing any kind of filter from the secondary to the tertiary level of education. The result was a flood of students coming from different school tracks (some of which were not originally intended to lead to the tertiary level) while the university remained unchanged. As a consequence, the number of university dropouts increased substantially, and the output of tertiary education institutions remained unrelated to changes in the labor market. In short, it is fair to say that the university kept its structure and its operational activity as usual (i.e., as a university for the elite) even if the number of people enrolled reached a level more closely aligned with that of mass higher education systems.

Only during the 1980s did the government (but not the academic world) try to introduce some modernizing adjustments, but this had a very moderate impact on the system. In the 1990s, a sudden decision to accelerate the process of modernization led to a comprehensive reform of the entire system of public education and introduced some dramatic changes in the structure and functions of the university. Importantly, all these changes came from outside the higher education system. The academic world first (in the 1980s) was able to resist, and then (in the 1990s) was driven to accept

the reforms without really being aware of what they meant. The process of structural reform, imposed by law, in some cases did not produce a change in the attitude of the professoriate and in its related interpretation of the professional role (particularly in some disciplinary fields like the humanities), while in other cases (including the hard and applied sciences) the reforms were accepted and implemented as intended. In addition, the changes of government during the implementation of these reforms created further problems, as new ruling parties opted to modify a process that was already underway without any verification of the initial results. The situation which resulted is still unstable and deserves extensive analysis.

Recent Development of the Italian System of Higher Education

Quantitative Aspects

Increases in the social demand for higher education began in the early 1960s and exploded in the following decade. The open-door policy adopted by the government in 1969 reinforced the expansion phenomenon (see Table 1), but produced a substantial increase in the rate of student dropouts as well.

The increase in the number of students has been strongly influenced by the increase (in percentage and in absolute terms) of women. In 2002, women represented 49% of 19-year-olds in the total population of Italy, and 55% of the first-year university

Table 1. Students Enrolled by Course of Study and Gender (Selected Years)

| Academic year | Traditional Courses ("Laurea") | | | Short Cycles ("Diploma") | | | New Courses—First Three Year Level* | | |
|------------------|-----------------------------------|---------|-----------|-----------------------------|--------|---------|--|---------|---------|
| | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| 1987–88 | 591,802 | 539,650 | 1,131,452 | 10,713 | 11,607 | 22,320 | – | – | – |
| 1988–89 | 622,317 | 577,618 | 1,199,935 | 11,516 | 12,314 | 23,830 | – | – | – |
| 1989–90 | 652,121 | 616,218 | 1,268,339 | 11,306 | 12,310 | 23,616 | – | – | – |
| 1990–91 | 676,885 | 660,612 | 1,337,497 | 10,777 | 11,513 | 22,290 | – | – | – |
| 1991–92 | 730,743 | 722,496 | 1,453,239 | 10,705 | 11,456 | 22,161 | – | – | – |
| 1992–93 | 771,623 | 754,905 | 1,526,528 | 21,898 | 23,797 | 45,695 | – | – | – |
| 1993–94 | 771,214 | 800,057 | 1,571,271 | 27,203 | 26,238 | 53,441 | – | – | – |
| 1994–95 | 766,250 | 836,691 | 1,602,941 | 30,055 | 28,822 | 58,877 | – | – | – |
| 1995–96 | 764,558 | 853,062 | 1,617,620 | 34,610 | 33,691 | 68,301 | – | – | – |
| 1996–97 | 781,645 | 912,829 | 1,694,474 | 40,260 | 38,677 | 78,937 | – | – | – |
| 1997–98 | 724,173 | 863,376 | 1,587,549 | 44,467 | 44,980 | 89,447 | – | – | – |
| 1998–99 | 708,213 | 864,839 | 1,573,052 | 52,187 | 51,463 | 103,650 | – | – | – |
| 1999–00 | 698,402 | 871,828 | 1,570,230 | 58,260 | 56,502 | 114,762 | – | – | – |
| 2000–01 | 673,238 | 864,278 | 1,537,516 | 60,605 | 63,494 | 124,099 | 15,884 | 9,708 | 25,592 |
| 2001–02 | 504,953 | 669,085 | 1,174,038 | 34,126 | 40,650 | 74,776 | 205,769 | 221,255 | 427,024 |

Note: In the academic year 2001–02 there were 26,191 students (10,306 males and 15,885 females) already enrolled in the new second level courses (*laurea specialistica*). This table reflects the notable shift in enrollment from the traditional courses to the new ones.

Source: MIUR, 2004.

students. They also tend to perform at the university slightly better than men—in 2002, 56% of graduates were female.

Meanwhile, changes in the population of academic and administrative staff have followed a different trend from that of the students. In fact, the number of academics increased at different speeds throughout the years according to changing rules of faculty recruitment: their numbers grew during the 1970s in response to the impact of the open-door admissions policy (which was introduced at the end of the previous decade), nearly doubling in a single decade. Between 1969 and 1985, the size of Italy's academic profession grew from 20,400 to 42,458. However, since the mid-1980s, the growth of faculty has slowed dramatically due to the bureaucratic implications of a new hiring procedure, reaching only 47,000 in 1994, and 54,000 in 2002 (MUIR, 2004). Further, within the last several years all recruitment of public employees has been completely stopped as a consequence of public debt. As a result, the overall student/faculty ratio has grown from 26:1 (in 1985) to 32:1 (in 2002).

Meanwhile, the number of administrative staff has remained rather stable through the years, and is now at roughly the same level as that of academics (54,000). The distribution of administrators among the universities is rather uneven, and the professional quality is often rather poor—in fact, these kinds of positions are often seen as a haven for “political” hiring (or patronage), and specific training for university administration has never been introduced (although desperately needed).

The number of universities has grown steadily through the years. Beginning in the 1970s, as the number of students increased due to the open-door admissions policy, new branches of universities were created (within the same region), and these branches were eventually transformed into independent new universities. There are currently 77 universities, 13 of them private. When the additional campuses of several universities are accounted for separately, there are over 90 university locations throughout the country.

The largest and most prominent private universities are the Catholic University, with three campuses in Milano, Roma and Piacenza; the “Bocconi” University in Milano; and the *Libera Università Internazionale di Scienze Sociali* (LUISS) in Rome. These last two are lay universities supported by the Italian Association of Industrial Entrepreneurs. All in all, the private universities enroll about 6.2% of all university students (109,351 out of 1,765,418 in the academic year 2002–2003); further, private and public institutions have similar rates of participation in fields like business administration, education science, health, law and social and behavioral science (see Table 2).

Private universities in Italy are legally recognized, which means that the state grants them a right to operate and to give diplomas with legal validity (e.g., equal to those given by the public universities). Recognition comes through a state law—the most recent one (#243), passed in 1991, specifies that the state will give financial support to the private universities, provided that they present each year a budget with the estimated expenditures for the coming year and the actual expenditures of the previous one, as well as statistical data about its structure and activities (enrollment, academic staff and administrative personnel, facilities and different resources, revenues and student fees, etc.). Each year, the national budget includes a total amount of financial resources to be subdivided among the private universities according to various dimensions of

Table 2. Student Enrollment (First Degree Level) by Field of Study and Gender, 2002–03

| Field of Study | All Universities | | | Private Universities | | |
|------------------------------------|------------------|---------|-------|----------------------|--------|-------|
| | Total | Female | | Total | Female | |
| | | N | % | | N | % |
| Agriculture, forestry and fishery | 26,813 | 9,157 | 34.2% | 610 | 188 | 30.8% |
| Architecture and building | 93,522 | 40,390 | 43.2% | 84 | 17 | 20.2% |
| Arts | 63,480 | 44,621 | 70.3% | 5,472 | 4,233 | 77.4% |
| Business and administration | 203,216 | 94,814 | 46.7% | 24,471 | 9,980 | 40.8% |
| Computing | 32,053 | 5,535 | 17.3% | 296 | 42 | 14.2% |
| Education science | 88,156 | 79,615 | 90.3% | 12,117 | 11,135 | 91.9% |
| Engineering and engineering trades | 196,017 | 32,209 | 16.4% | 444 | 112 | 25.2% |
| Environmental protection | 11,382 | 5,810 | 51.0% | 312 | 116 | 37.2% |
| Health | 161,609 | 103,453 | 64.0% | 5,802 | 3,654 | 63.0% |
| Humanities | 200,650 | 152,130 | 75.8% | 12,356 | 10,243 | 82.9% |
| Journalism and information | 64,544 | 40,797 | 63.2% | 11,368 | 7,880 | 69.3% |
| Law | 251,163 | 147,787 | 58.8% | 14,527 | 7,937 | 54.6% |
| Life sciences | 66,917 | 43,318 | 64.7% | 789 | 501 | 63.5% |
| Manufacturing and processing | 10,565 | 5,656 | 53.5% | 390 | 207 | 53.1% |
| Mathematics and statistics | 17,232 | 9,719 | 56.4% | 276 | 168 | 60.9% |
| Personal services | 26,705 | 12,778 | 47.8% | 3,181 | 1,581 | 49.7% |
| Physical sciences | 22,611 | 8,451 | 37.4% | 70 | 22 | 31.4% |
| Security services | 1,225 | 137 | 11.2% | n/a | n/a | n/a |
| Social and behavioral science | 195,555 | 121,360 | 62.1% | 14,716 | 9,004 | 61.2% |
| Social services | 15,422 | 13,820 | 89.6% | 1,595 | 1,439 | 90.2% |
| Teacher training | 526 | 297 | 56.5% | 7 | 5 | 71.4% |
| Transport services | 3,170 | 1,578 | 49.8% | 468 | 361 | 77.1% |
| Veterinary | 12,885 | 7,954 | 61.7% | n/a | n/a | n/a |
| Total | 1,765,418 | 981,386 | 55.6% | 109,351 | 68,825 | 62.9% |

Source: EUROSTAT-MIUR, 2004.

size, activity and performance. On average, state financial support covers roughly 15–20% of the budget in the private universities. Both public and private universities are evaluated by the “National Committee for the Evaluation of the University System,” with a special individualized analysis of private institutions every 2 years. This latter policy is a rather recent move (a ministerial decree enacted in 2003) related to the

progressive strengthening of the evaluation process throughout the entire system of higher education.

Qualitative Aspects: Reform of the System

In mid-1987, a new national government launched an era of reform projects by creating a new Ministry of University and Scientific Research. In essence, this involved the detachment of a section of the Ministry of Education, devoted to the university, and its subsequent transfer to the Ministry of Scientific Research. This move was hotly debated by political forces, particularly its impact on the autonomy of the university. Among supporters, the creation of this new Ministry of Universities and Scientific Research was hailed as a way to unify all programs of scientific research supported by public authorities, and to maximize the efficiency and productivity of the country in several fields where international competition was tougher and more challenging.

Meanwhile, the independence and right of self-governance for every university is expressly mandated in the Italian constitution, although until very recently it did not exist in practice. All details of university organization have been traditionally imposed uniformly by the central authority, not only by means of laws and regulations, but also via circulars and replies to requests through which the Ministry made known its own interpretations of the laws in force. However, in 1993 an amendment to the state general financial law partly changed this procedure by stating that the Ministry of University would now give annually a lump sum to each university according to certain parameters. It would be up to the university to decide how to use this money. This measure, which was never debated and has since almost escaped notice by the university community, represented the first real step toward university autonomy.

Also during the early 1990s, a law was passed creating “short-cycle” programs (*lauree brevi* or *diplomi universitari*) and placing them inside universities as a parallel path to existing programs leading to the traditional *laurea* degree. Admission to these programs was regulated by institutional enrollment capacity, and a variety of 2-year professional programs (in nursing, education, medical technicians, etc.) were transformed into *diplomi universitari*. However, this new university path has had somewhat acceptable success only in the medical fields and in engineering. Aside from the difficulty in matching these programs with specific needs in the labor market, short-cycles were also opposed—at a political level—on the grounds that they would become a second-rate kind of studies, penalizing those enrolling in them. Inside the university, professors expressed a similar position, fearing they would have to teach in second-class institutions (Moscati, 1986, 1991).

The 1996 general election brought into power a political coalition which granted high priority to education. This represented per se a new attitude in Italian modern political history that can perhaps be explained by the growing consensus throughout the EU about the importance of education and training systems. Also, the coalition contained a good number of intellectuals and university professors with direct experience of other systems of education and, in general, an awareness of the unavoidable process of interdependence among European states.

Not surprisingly, the new government therefore launched a comprehensive reform process involving all levels of the education system—from pre-elementary to the university. This reform (*legge quadro*) suggested that postsecondary training should be a task of both the regions and the institutions of secondary and tertiary education. It aimed at (1) establishing for the entire country the prerequisites for competence—at a European level—in related professional activities, and (2) identifying the values of the acquired credits necessary for possible admission to university courses.

This emphasis on reforming the postsecondary level of training can be considered perhaps the most crucial point of the entire modern system of education in Italy. To begin with, vocational training has traditionally been underappreciated in the Italian culture, and in fact it has always been viewed as a form of remedial training for students dropping out from other levels of the system. Secondly, adult education and permanent (recurrent) education in Italy have been largely disregarded; at the very least, they have never been considered as interesting endeavors for higher education institutions. Thirdly, the responsibility of vocational training (assigned to the regions in order to better coordinate supply with demand for professionalization at local levels) proved to be a failure, as regions have not been able in most cases to provide systems of vocational training at an acceptable level of quality.

As for the tertiary level, the first reform measure to be taken addressed the high level of dropouts and the high percentage of students obtaining their degrees after exceeding the expected length of time—the average in many fields then was seven and a half years instead of four. The main effort here was devoted to developing and implementing measures which could increase university “productivity” without introducing the kinds of competitive admissions policies that are strongly opposed by many cultural and political segments of society. The measures foreseen include a better linkage with secondary schools (the reform of which would have in itself supported this attempt). Components of this new policy included orientation in the last 2 years of secondary school; counseling and tutoring during all university courses; an improved student/teacher ratio; and a different way of teaching (more focused on students’ real understanding) in the first year of university courses.

Aside from these important reforms, a central component of the new ministerial policy can be loosely defined as improving institutional autonomy, which in essence meant the end of a historically centralized system where all the decisions had been in the hands of the ministry. For a long time, this structural dependence has been both a constraint and an alibi for any autonomous initiative of an individual university. The main consequences have been the domination of disciplinary power inside the academy, and the lack of any real cooperation between university and society. The winds of autonomy seemed to be finally blowing in the Italian university system. This implied a number of consequences, from offering services to the outside world (in order to raise additional financial support), to the introduction of different forms of internal performance evaluation (in order to improve efficiency) and the drive to establish a “brand name” for each university (in order to make individual institutions more attractive to prospective students, research customers, and the like).

The market-oriented tendency of these reforms—which can also be seen in several other European countries—has given rise to a number of opposition groups and

general resistance inside the university community at all levels. Nonetheless, the ministry seemed committed—at first, anyhow—to pursue the indicated direction. In fact, while a ministerial ad hoc group was preparing a project for the reform of university curricula, the minister himself—together with his colleagues from France, Great Britain and Germany—took the opportunity of the 800-year anniversary of the Sorbonne foundation in Paris (in 1998) to announce the basis for a policy of homogenization among higher education systems throughout Europe, which a year later became known as the “Bologna process” (Luzzatto, 2001).

An internal drive for the modernization of the Italian university system, combined with the new international policy for the creation of a European model of higher education system, has accelerated the political process of reform in Italy and made the Italian system a more orthodox example of the “three stairs” model (also known as “3/5/8,” referring to the standardized number of years involved to earn bachelor’s, master’s, and doctoral degrees). Other reasons for the acceleration of the reform process were linked to the government’s ability to take advantage of an unusually favorable political situation created by the positive feelings between the Minister of the University and Scientific Research (a former rector highly respected by academia) and a substantial portion of the academic world which was aware of the need to keep up with other systems of higher education. In particular, the Italian Conference of Rectors (CRUI) supported the modernizing policy of the minister. At the same time, the government—fearing the delay which a debate in the Parliament would have created—ensured that the reform of curricula was passed at the level of commissions (both in the Senate and House of Representatives). Thanks to all these circumstances, the entire reform process was approved in a very short period of time and without a real extensive debate.

Main Characteristics of the Reform

As mentioned, the new shape of the university experience was based on a three-stair structure: a first level of 3 years, leading to a degree called *laurea*; a second level of two years, leading to a degree called *laurea specialistica*; and a third level, leading to the *dottorato*. This basic change was represented by the subdivision of the traditional 4-year courses into two levels of three and 2 years each. At the same time, the first degree became a necessary step to the second one, and a qualification for the labor market.¹ Curricula may be partly differentiated—in order to orient them more towards further study or towards employability—by varying the mix of basic foundations of disciplines and of applied activities (laboratorial or extramural).

Credits—to be defined according to European Credit Transfer System (ECTS)—became an accumulation system, and not only a transfer system connected to the mobility of students: the credits associated with each course are now seen as the bricks for building a “modular” curriculum. Programs are now defined by their amount of credits, not by their length; the *laurea* is thus seen as a 180-credit program, and the *laurea specialistica*, a 300-credit program. Three (or five) years now merely indicate the time *usually* required to complete those programs for regular full-time students.

Normally, 180 out of the 300 credits needed for *laurea specialistica* are obtained through recognition of credits acquired in a *laurea* program. For the same *laurea*

specialistica, more than one *laurea* may have an entirely recognized curriculum; the 120 credits to be added will thus need to be different for students coming from different *lauree*, in order to complement the ones already acquired. Access to a *laurea specialistica* may also be allowed from a *laurea* curriculum that is only partly recognized, which would mean that more than 120 credits have to be added.

Both for *lauree* and for *lauree specialistica*, classes of study programs are determined at the national level. A class is the framework for the study programs offered by universities in the same disciplinary field. Inside each class, there are prescriptions concerning sets of subjects and corresponding credits, and some space is guaranteed for interdisciplinary connections and for extramural work. The legal value of a degree (e.g., in terms of access to regulated professions or civil service) is directly related to the class in which the degree belongs.

Each class is characterized by a description of its general cultural and professional objectives, and through prescriptions concerning no more than two-thirds of the credits required for the degree. The prescriptions assign a certain number of credits to sets of subjects, but not to individual subjects, leaving in any case at least 5% of the credits at the discretion of each student. The determination of the classes, and their characterization, may be revised every 3 years (Luzzatto, 2001).

Within any class, each university may develop one or more study programs. Thus, for each program the university (1) determines precise cultural and professional objectives, in the frame of the general ones indicated for the class; (2) defines the exact title of the degree awarded at the end of the program; (3) assigns a part of the credits by choosing one or several subjects within each set as defined by the national prescriptions; and (4) is completely free in assigning the remaining credits (at least one-third). No university program admissions restrictions are established on a general basis, except for the cases where rules are set by the EU. Instead, universities are allowed to establish some restriction for individual programs, due to limits in existing facilities (classrooms, laboratories, etc.). In 2000, the government defined 42 classes for *lauree* and 104 classes for *lauree specialistica*. Within the somewhat complex framework described above, universities had to reorganize considerably—almost all programs for the new *laurea* began in 2001, and the first programs for *laurea specialistica* were offered in 2002.

Implementation of the Reform

Problems of implementation are almost unavoidable in any reform, but in the case of the Italian higher education system quite a number have come from different origins. Some difficulties have objective reasons, since they originate from the complexity of the reform itself and from the way it has been introduced. Other challenges are derived from the social milieu affected by the reform (primarily from the academic world, but from the national government as well).

Objective Problems

The reform sought to substantially transform the teaching structure, keeping in mind the need to re-establish a coherent relation between supply and demand of higher

education. In other words, acknowledging that the student population had changed, the supply was restructured in order to match the needs of a new kind of customers. The declared main purpose was to drastically reduce the rate of dropout and the period spent in the university courses by the majority of students.

To reach these goals, curricula were split in two levels in order to encourage a consistent percentage of students to earn a first degree (*laurea*) and then leave the system after 3 years (instead of staying for seven or 8 years, as had become the norm). Only a minority of students were supposed to continue on to the second 2-year level—largely intended for future members of the elite—while the doctorate was left practically unchanged, remaining the domain of a small number of would-be researchers and academics. In addition, professional education programs of 1 or 2 years—called “master’s”—were “permitted” but not specifically established for graduates of either the first or second level.

In fact, the professionalization of the higher education system was and still is a crucial, unsolved problem of the reform. On the one hand, the reform included the introduction of a sort of binary system, with the creation of a professional track that should be administered at the regional level. But this track has never been endorsed at the university level—from either cultural or professional points of view—and thus it has never represented a real alternative to the university. On the other hand, the first level degree was supposed to prepare students for the labor market (and thus have a professionalizing function), while at the same time represent a first stage for the eventual pursuit of a second level degree. However, the responsibility for developing two different disciplinary paths in order to meet these two different purposes was left up to the universities, and has thus far turned out to be too difficult to be implemented.

The reform also had to face many other problems of a different nature. First of all, the government did not allocate an additional sum in the state budget to support the reform. This created a shortage of teachers and (in many cases) of spaces and structures, which has become increasingly evident with the complete activation of the second level of courses. The lack of financial resources prevented the introduction of significant incentives for those among the academic staff willing to give more time to teaching activities, and did not allow institutions to offer part-time engagements to school teachers. Also, a comprehensive orientation program for the students in their secondary school final years, which had been conceived together with the reform project, eventually did not take off for lack of financial resources. This last consequence created a serious mismatch between the cultural backgrounds of prospective university students and the requirements of the new courses (which could be measured in terms of debts of credits). The trouble is that (due to a number of organizational reasons) it is very difficult for universities to offer a large number of remedial courses before or during the first year of study for students who may have chosen their field of study without any serious examination of their background and inclinations.

Another consequence of the weakly supported start of the reform is represented by the delay of the evaluation policy, which has thus far developed with considerable difficulty. To be sure, a National Center for the Evaluation of University Performance (*Comitato Nazionale per la Valutazione del Sistema Universitario* or CNVSU) was created by the Ministry of the University in the late 1990s, and within each university

a special section for self-evaluation (*Nuclei di valutazione*) has been established. The *Comitato* (as it is commonly known) requires and collects data from all the universities through the institutional *Nuclei*, which are required to administer a questionnaire to their students in which they evaluate the didactical services of the university. In addition, the Italian Conference of Rectors (CRUI) has launched a program for the evaluation of some courses of study (on a voluntary basis) called “Campus One.” All these activities represent a first step which must be completed by a comprehensive evaluation of all university activities, tied to consequences in terms of rewards and punishment. This is particularly relevant for the complete development of institutional autonomy that is supposed to characterize the system. As is self-evident, without evaluation the autonomy of universities will not lead to a true quality system of higher education.

Changes in the government have also undermined the potential of the reform. First, the popular Minister of the University and Scientific Research was replaced, and afterwards the entire government changed following the election results of 2001. These changes certainly did not lead to consistency in how the main elements of the reform project were presented to the academic world.

Second, aside from a few minor initiatives at some universities, the rather complex structure of the reform was never publicly debated. The government was supposed to hold a number of conferences throughout the country, but they have been consistently postponed. Thus, the implications of the reform are still largely unclear to the large majority of the academic staff, and in many cases have been misunderstood. To date, a variety of different interpretations coexist in the university system.

Finally, another aspect of a system based on autonomy that has not yet been fully considered is the adaptation of the university governance to the new demands of individual universities and of the system as a whole. Determining how to lead a self-governing university—competing with others in a market-oriented environment—has been left up to the traditional leadership (rector, academic senate and administrative council), who have for decades functioned in a centralized system. The resulting balance of powers and interests—wherein the power distribution in a given individual university is based upon a balance among different disciplinary fields—has proven to be unproductive when the autonomy of the university stressed the relevance of the internal decision-making process and the need to make decisions in the interest of the institution.

Actors’ Attitudes Towards the Reform

The subject of governance also underscores the problems of reform implementation related to the social milieu involved—namely, the attitude of the government and the reaction of those in academia. To begin with, the government which launched the reform changed in 2001, and the new one—coming from a different political orientation—wanted to demonstrate its difference from the previous one in almost all the political and social domains. Thus, in the field of education it stopped the school reform and mandated a new approach, while at the university level it was unable to offer a new alternative and at first allowed the existing reform to continue. However, in several ways the government slowed the reform process, beginning with the reduction of financial resources to support it.

Meanwhile, since the beginning of the reform the ministerial bureaucracy has operated in ways that clearly opposed the idea of university autonomy (a logical response for any government agency trying to prevent a loss of power or control). For them, the principle of a degree's legal value turned out to be a very useful homogenizing tool, reducing the amount of freedom available to an individual university in building its curricula, and *de facto* compelling all faculty to check with the ministry to ensure the acceptability of new programs. A similar situation occurred within the scientific disciplines, where a representative organization—the University National Council (*Consiglio Nazionale Universitario* or CUN)—has traditionally held the power to determine the acceptability of curricula. These structures have continued to undermine the movement toward greater institutional autonomy, as well as (indirectly) the spirit of the reform.

A good example of this dynamic is seen in the creation of the contents of the new curricula. To ensure the autonomy of each university, basic guidelines for the building of curricula were not extremely compelling. As faculty members structured their curricula and organized courses, the traditional habit of leaving each professor free to teach his or her own course (within the discipline for which they had been hired by the university) meant the institution could not compel them to shift from one topic to another (even in the same disciplinary field) nor coordinate the content of his or her course with those of related ones. This obviously led to considerable problems in an institution's capacity to innovate in the structure and content of their curricula.

Thus, in some cases the need to reduce traditional 4- or 5-year programs into 3-year ones—as required by the reform—created a reproduction of existing curricula into smaller versions, protecting all the previous subjects: that is, the same number of courses would be taught, but with abridged content and within a smaller span of time. Very often, this approach resulted in a multiplication of superficial cultural and scientific suggestions submitted to increasingly confused students. On the other hand, the traditional culture of viewing university studies as the final period of organized learning in a person's lifespan has prevented a serious elaboration of lifelong learning activities, which in turn could have been conceived as a way to make a reduction of the first level curricula acceptable.

The response of university professors toward the reform has been far from uniform. Opposing positions have been taken toward the entire project or some of its aspects, with differences arising among (and between) disciplinary fields and members of the same faculty or department. An approximate generalization is that academic staff in the hard sciences (pure and applied) seem to be more in favor of the reform, perhaps owing to their tradition of being more connected with their European colleagues and thus more aware of the need to reduce the gap between the Italian and other European systems of higher education.

It is also fair to say that a large number of university professors—even inside the humanities and the social and political sciences—have accepted the idea of the reform. Support came first from the academic leadership; namely, rectors (through their National Conference, the CRUI), deans and heads of departments. From their roles of collective responsibility, these members of academia were more aware than others of the need for a modernization of Italy's higher education system, and thus began to work toward implementation of the reform.

The traditionally vertical structure of academic power helped to spread a positive attitude toward the reform. As a result, a good number of academic staff became involved in the rather difficult work of transforming the structure of study courses and curricula. Through this collective effort, the new configuration of courses (at least for the first level) was ready in a rather short period of time—in fact, earlier than expected.

On the other hand, groups of professors from the humanities and law developed a somewhat strong opposition toward the innovations implied by the reform. Beyond a general resistance toward innovation and change, the attitude of these members of academia is likely rooted in a traditional interpretation of the university's role in society (and that of the academic staff). Simply put, this attitude views the university as an institution for the formation of the elite, and—accordingly—the role of the university professors as dedicated to the accomplishment of this purpose. This view can be explained only by the traditional independence of the academic world and its relatively exclusive position in Italian society.

The disconnect between systemic change (the movement of the system from elite to mass higher education) and the traditional attitude of a significant portion of the academic staff helps to explain the overall resistance to the reform project. In particular, it highlighted the difference between the task of the first level of courses—the heightening of the country's social capital—and that of the second level, viewed as the training of the elite (Capano, 2002). Thus, for the “traditionalist” in academia, the introduction of the first level simply meant the cultural decline of the university.

Within the context of the governmental reforms, it should be noted that the Italian professoriate is also facing a general reshaping of their careers and the interpretation of their professional role. A revision of their legal status is also under way (after several years of debate). While it is currently difficult to predict what the eventual changes will be, proposed revisions are characterized by increased duties and less career stability, without any increase in benefits or rewards. Further, the reform has implied more administrative and organizational activities for faculty without any real financial return.

In evaluating the relative attractiveness of the academic profession today, several contradictory aspects must be taken into consideration. First of all, it is crucial to consider the relative decline of social prestige due to the expansion of higher education. Being a member of the academic staff is no longer seen as being an educator of the elite. Academics appear to be increasingly valued based on the usefulness of their expertise in realms outside the university. The importance of technical advancement further differentiates the way some faculty are viewed—for example, those in hard and applied sciences appear to be valued more than those in pure sciences.

Economically, the academic profession per se is not very attractive because the initial salary is rather modest and the first steps in a faculty career are neither easy nor rapid. The real appeal of the academic profession—economically speaking—comes from outside sources that some can secure and others cannot. In this respect, the economic environment plays a mixed role: on the one hand, a wealthy city may offer interesting alternatives for prospective researchers; on the other, it may offer opportunities for well-known full-time professors to use their competencies (and thus increase their

earning). In either case, such opportunities are clearly less available in peripheral and less-developed areas of the country.

The reform of the higher education system, and particularly the increased autonomy of individual universities, has created a number of financial problems which have had an impact on the recruitment of academic staff and on their careers. It is now progressively raising (a) the possible shortage of academics due to the rapid aging of the profession and insufficient recruitment, and (b) the growing “parochialism” of universities that cannot recruit increasingly costly external faculty members.

The autonomy of individual university budgets plays a crucial role in this process. In financial terms, autonomy of individual universities means that each institution must determine for themselves how best to meet all their different expense items by subdividing income (the lump sum received from the government, the amount received from students fees, and—to a limited extent—possible grants from private sources). However, expenses related to personnel cannot exceed 90% of the total institutional budget. Prior to 1993, the centralized system of university budgeting subdivided institutional income and expenses regardless of university choice, and the possibility of obtaining additional resources for academic staff was a matter of constant negotiation between each individual university and the Ministry of Education.

The Evolving Situation: Initial Impacts of the Reform

Some Positive Results

As described here, the reform of the curricula has encountered many difficulties in its implementation, basically due to the combination of two elements. On the one hand, it was introduced to the academic world from the outside—the political milieu, which argued for a modernization of the higher education system in order to keep up with the main trends developing in Europe. On the other hand, a number of different interests and the lack of a strong political will have also complicated efforts to implement the reform. The introduction of such a comprehensive change with virtually no preparation or experimentation has understandably created a considerable amount of resistance and operational difficulties (Frey & Ghignoni, 2002; Pontremoli & Luzzatto, 2002; De Maio, 2002).

Nevertheless, some positive results of the reform can already be observed. First, it turns out that the new system of university degrees has a strong appeal. The total number of students enrolled in the traditional 4- or 5-year university courses had been slowly declining in recent years, after reaching a peak in the academic year 1996–97 because of the (rather mild) impact of the short-cycle courses. The introduction of the new 3-year courses seems to have changed this trend. Further, the proportion of women enrolling in the university has been a majority in quite a number of fields (including arts, education science, health, humanities, life sciences, law, social services, social and behavioral sciences, and veterinary science). Further, the number of first-year students increased from 310,924 in 2000–01 (the last year before the reform) to 331,368 in 2001–02 (an increase of 6.6%) and to 346,894 in 2002–03 (an increase of 4.7%). Table 3 provides a recent snapshot of first-year students enrolled and the proportion of women among them.

Table 3. First-Year Student Enrollment by Field of Study and Gender, 2002–03

| Field of Study | All Universities | | | Private Universities | | |
|------------------------------------|------------------|---------|-------|----------------------|--------|-------|
| | Total | Female | | Total | Female | |
| | | N | % | | N | % |
| Agriculture, forestry and fishery | 6,694 | 2,271 | 33.9% | 161 | 58 | 36.0% |
| Architecture and building | 19,146 | 7,656 | 40.0% | 40 | 9 | 22.5% |
| Arts | 17,328 | 11,812 | 68.2% | 908 | 687 | 75.7% |
| Business and administration | 37,942 | 17,760 | 46.8% | 4,989 | 2,099 | 42.1% |
| Computing | 8,543 | 1,228 | 14.4% | 160 | 18 | 11.3% |
| Education science | 17,763 | 15,615 | 87.9% | 2,538 | 2,279 | 89.8% |
| Engineering and engineering trades | 31,280 | 4,757 | 15.2% | 114 | 38 | 33.3% |
| Environmental protection | 2,690 | 1,253 | 46.6% | 51 | 21 | 41.2% |
| Health | 31,832 | 21,057 | 66.2% | 1,538 | 943 | 61.3% |
| Humanities | 35,300 | 25,708 | 72.8% | 1,998 | 1,602 | 80.2% |
| Journalism and information | 17,741 | 10,886 | 61.4% | 3,068 | 1,992 | 64.9% |
| Law | 39,627 | 22,544 | 56.9% | 2,495 | 1,345 | 53.9% |
| Life sciences | 15,496 | 10,183 | 65.7% | 253 | 180 | 71.1% |
| Manufacturing and processing | 2,691 | 1,378 | 51.2% | 52 | 30 | 57.7% |
| Mathematics and statistics | 2,983 | 1,520 | 51.0% | 32 | 20 | 62.5% |
| Personal services | 8,918 | 4,337 | 48.6% | 889 | 456 | 51.3% |
| Physical sciences | 4,387 | 1,646 | 37.5% | 16 | 4 | 25.0% |
| Security services | 351 | 50 | 14.2% | n/a | n/a | n/a |
| Social and behavioral science | 40,270 | 22,997 | 57.1% | 3,095 | 1,839 | 59.4% |
| Social services | 4,857 | 4,309 | 88.7% | 452 | 396 | 87.6% |
| Teacher training | n/a | n/a | n/a | n/a | n/a | n/a |
| Transport services | 114 | 19 | 16.7% | n/a | n/a | n/a |
| Veterinary | 1,207 | 810 | 67.1% | n/a | n/a | n/a |
| Total | 347,160 | 189,796 | 54.7% | 22,849 | 14,016 | 61.3% |

Source: EUROSTAT-MIUR, 2004.

The impact of the reform can also be seen very clearly among the number of graduates, which increased from 174,197 in 2001 to 198,705 in 2002. In addition, a small improvement has been observed regarding one of the major problems of the Italian university—namely, the dropout phenomenon. Of the students first enrolled in 2001–02, 84% reached the second-year in 2002–03, whereas the matriculation rate had been 80% just 2 years earlier. This should lead to a further increase in the number of graduates. Further, after a declining trend, the percentage of secondary school graduates enrolling in a university is now increasing substantially (from 65% in 2000 to 77% in 2002).

In short, it is fair to say that the reform has shed light on a number of traditional weaknesses in the Italian higher education system. Without efficient systems of evaluation to rectify bad policies, the universities had a serious weakness in the mechanisms of governance. The large majority of them could not rely on the ability of governing

structures to deal with the basic problems of administration, especially in terms of coordinating the teaching and research activities among different faculties. Further, university administrators had no model to refer to in the process of adopting policies of fundraising from different sources (other than traditional ministerial ones) and offering various services in order to rebalance the budget.

Nevertheless, the reform did not collapse. On the contrary, it was successfully launched and developed the 3-year first level and the 2-year second level in all universities. The primary reason for this success is based on the positive answer that the top (the reform promoters) received from the bottom (namely, the academics). It seems fair to say that a significant part of the academic staff either felt the old system of higher education had to change or—as suggested earlier—accepted the reform because it was coming from the local academic authority (rector, dean, head of the department, and the like). In any case, a consistent portion of them have become involved in academic business on a regular basis, and this represents a very positive side effect of the reform which will turn out to be crucial for the modernization of the entire system.

The Impact on Academics

Even if the future of the academic profession does not at the moment seem very promising, it cannot be said that as a consequence there is a very significant brain drain phenomenon occurring. On the contrary, a recent study indicates that only 2,678 Italian researchers and 52 doctoral students are abroad—51% of them in Europe, and 35% of them in the U.S. (Moscati, 2003). The study also showed that emigre researchers are mostly working in universities (65.9%) and research centers (23.4%), are predominantly male (67.3%), in their 30s (58.8%) and mainly holding a doctoral title obtained abroad (61.5%).

Financial Problems

The problem of financial resources has always been a serious one in the Italian system of higher education, but recently has been getting worse due to the general financial crisis of the state. In relation to GDP, the expenditures for higher education in Italy (0.8%) have been declining in recent years, and are lower than the average of the European Union (1.2%). One specific aspect has been the relatively lower support given to tertiary education in comparison to primary and secondary education. The state provides the public universities with at least 80% of their budget. Sources are subdivided into different items, with the main one called “the basic fund” (*Fondo Finanziamento Ordinario*, or FFO). In 2001, the FFO exceeded 6.1 million Euros (out of a total budget of over 10 million), as indicated in Table 4.

In the following years, the amount of FFO remained practically at the same level: 6.165 million in 2002, and 6.215 million in 2003. Annual growth in public financing for the universities has declined through the years, and now increases less than 1% per year. In addition, comparatively little support comes from private sources. Both phenomena can be interpreted within the framework of the relatively marginal position given to higher education in the political and economic domain at the national

Table 4. Financial Sources for the Italian University System, 2001

| Sources | Million Euros |
|--|---------------|
| FFO for state universities—MIUR | 6,163 |
| Private universities—MIUR | 107 |
| State funds for system planning | 126 |
| Co-financing of research projects—MIUR | 126 |
| Incentives to academic staff | 74 |
| Fellowships for doctoral studies | 157 |
| Regional funds for students | 315 |
| State funds for students | 129 |
| State funds for university building programs | 514 |
| Students fees | 1,381 |
| Subsides for research (public and private) | 950 |
| Total | 10,032 |

Source: MIUR-CNVSU, 2003.

level. Unfortunately, these funding issues also create a substantial problem for the introduction of new courses within the framework of the Bologna process.

In the 1990s, an additional fund was established in connection with the evaluation of university performance. It was intended to reduce differences among universities through incentives, particularly rewarding positive teaching activities (the number of degrees awarded, number of years spent for a degree, and the like). This additional fund started at a very low level and increased through the years until reaching 7% of the total budget. However, this additional fund has unfortunately been stopped in recent years.

Concluding Remarks

As derived from the number of aspects discussed here, the present situation of the Italian higher education system seems rather unclear and its future highly unpredictable. Failure to recognize changing social and economic needs earlier, and to modify university missions accordingly, helps explain the rapid pace of reform once the political scenario became favorable. As a result, the Italian realization of the “Bologna process” has become the most rapid and comprehensive in Europe, even though it being applied to the most traditional system of higher education. Consequently, a number of severe problems—simmering below the surface for years—have blown open, highlighting the need for a dramatically changed perspective among the academic staff and administrative personnel (both at the ministerial level and at the individual university level).

Perhaps even more striking is that the external source of the initiative has highlighted the fact that only a minority of members—albeit a consistent group—felt the need for system modernization, thus explaining the pervasive resistance to the reform among many in the academy. Members of disciplinary fields who were in positions that allowed them to operate individually (without the support of the institution or the help of

colleagues) saw the reform as the beginning of the end of the university. In a way, they are correct, given that their view of the university is largely framed by the model suggested by Wilhelm von Humboldt. In particular, they resent the declining (or changing) role of the intellectuals inside academia. Unfortunately, the rapid pace of reform has prevented any real debate on that complicated matter.

The reform of the Italian higher education system represents an interesting case study of organizational change within a rapidly evolving social and political environment. Often, the need for change is not perceived by those within the organization, and those from outside the environment may not be able to wait for the development of an internal cultural transformation. However, the university is an enduring social institution, and has proven its ability to adapt to change over many centuries. It will thus be most interesting to watch the evolution of the Italian higher education system in the years ahead.

Note

1. There is an exception to this “serial” structure of short-cycle and long-cycle (a central point in Bologna Declaration). In a few cases (e.g., medicine, pharmacy), where prescriptions about degrees and curricula are given by the EU, there are study programs leading directly to *laurea specialistica*.

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JAPAN

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Higher education has played an important role in the social and economic development of modern-day Japan. This chapter will discuss a small handful of key themes that contribute to our understanding of the country's higher education system, including access and expansion, finance, privatization, internationalization and quality assurance. Of these, perhaps the most important is the element of expansion, otherwise known as the "massification" of Japanese higher education.

By the mid-1970s, Japan had realized mass higher education based on full participation in senior secondary education. In 2005, 76.2% of 18-year-olds were enrolled in higher and postsecondary institutions—universities (*daigaku*), junior colleges (*tanki-daigaku*), colleges of technology (*koto-senmon-gakko*) and specialized training colleges (*senshu-gakko*) (see Table 1). The massification of Japanese higher education has been realized through the expansion of the private sector, which relies on tuition fees as its main financial resource (Yonezawa & Baba, 1998). Based on the hierarchical structure of the higher education system, graduation from select universities has been regarded as a ladder for a successful life and a source of self-esteem by those working in modern industrial sectors (Dore, 1976; Yano, 1997; Takeuchi, 1997). The heavy financial contribution of Japanese households has made possible an "efficient" mass higher education system with limited public finance. However, Japan appears to be suffering as a result of having neglected certain factors along the way. Currently, Japanese higher education is facing challenges (under the pressure of global competition) that demand drastic restructuring.

Origins of the Japanese Higher Education System

The direct origin of the current Japanese higher education system is found in the establishment of a modern university and polytechnic (*senmon-gakko*) system after the Meiji Restoration in 1868. The schools for the *samurai* (warrior) and merchant classes, and later, Western language and science schools had provided various educational programs until the mid-19th century, most of which were closed or else integrated or transformed into the newly established Westernized institutions. Japan developed its

Table 1. Japanese Higher Education Institutions and Enrollments, 2004

| | Total | National | Local Public | Private |
|-------------------------------|-----------|----------|--------------|-----------|
| <i>Institutions</i> | | | | |
| Universities | 709 | 87 | 80 | 542 |
| Junior colleges | 508 | 12 | 45 | 451 |
| Colleges of technology | 63 | 55 | 5 | 3 |
| Specialized training colleges | 3,443 | 15 | 200 | 3,228 |
| <i>Students</i> | | | | |
| Universities | 2,809,323 | 624,394 | 122,864 | 2,062,065 |
| Junior colleges | 233,749 | 2,975 | 16,510 | 214,264 |
| Colleges of technology | 58,681 | 51,729 | 4,656 | 2,296 |
| Specialized training colleges | 791,540 | 1,124 | 28,663 | 761,753 |

Source: Ministry of Education, Culture, Sports, Science and Technology, 2004.

higher education system rather independently by combining various Western models, with the German model having the greatest impact in the process of establishing “imperial universities” as prototype Japanese universities (Altbach, 1989; Nakayama, 1989). The Japanese government employed many foreign (Western) academics and experts to help in designing the system and implementing this new form of higher education. Those foreigners, however, were replaced at a very early stage by Japanese experts trained in Europe and North America.

The private sector has played an important role since the beginning of modern higher education in Japan (Kaneko, 1997). The Japanese government began providing legal authorization to private universities in 1919 (Nakayama, 1989), and the number of universities and polytechnics continued to increase even during the Sino-Japanese War and World War II (Itoh, 1999). On the other hand, public money was invested almost exclusively in the public sector, especially in imperial universities, which were treated as a system apart from other institutions.

Access, Expansion and Accountability

The transformation of the education system (based on the American model) after World War II assured wider access to higher education. Most of the former polytechnics were upgraded or merged into the new university system with 4-year undergraduate, 2-year master’s and 3-year doctoral degree programs. Two-year junior colleges and colleges of technology (a combination of 3-year senior secondary education and 2-year higher education, mainly in engineering fields) were also established as short-cycle higher education leading to an associate degree; the former have in practice functioned primarily as places of female education (M. Amano, 1997), and the latter have remained an exceptional education track. At the same time, all of the universities—including former imperial ones and private ones—were given the same status as “universities” in principle, although there continued to be a great difference in prestige between institutions with different historical backgrounds.

The public institutions and the top private universities—which, by the 1950s, had become large comprehensive institutions—have been relatively protected from the pressure of expansion since the 1960s. In 1962, the government deregulated the procedure for establishing new faculties and departments (I. Amano, 1997; Kuroha, 2001). This enabled less prestigious demand-absorbing private institutions to meet the increasing need for the training of service and industrial workers, while the government concentrated its investment in the expansion of natural sciences and engineering programs at national universities (Kaneko, 1996, 1997).

The rapid expansion of the private sector, with limited and irregular financial support from the central and local governments, led to a deterioration in the quality and environment at many universities, which became one of the grievances of the student movement which began during the mid-1960s. In order to ensure the quality and accessibility of higher education (including private education) in 1970, the government began providing public funding for the operational expenditure of private institutions. At present, however, these public subsidies cover only around 10% of institutional expenses, the rest being mainly covered by tuition fees. At the same time, the government introduced higher education plans to control student enrollment in each public and private university and junior college (I. Amano, 1997). Through higher education plans and other legal arrangements, the government (until quite recently) virtually prohibited the establishment of new education programs in the big cities, which gave an incentive for the development of new campuses in suburban areas and small cities. At the same time, the non-university 2-year special training colleges were founded to absorb the continuously increasing demand for further vocational education. Presently, some special training colleges are providing advanced vocational training, attracting even university graduates who wish to obtain expertise or qualifications.

The limitation of student numbers and the hierarchical structure of the higher education system strengthened the social function of higher education institutions as a screening device. Entrance to elite universities (not graduation) gave the students a signal of high trainability in the labor market. The enterprises tried to recruit those elite students with potential high ability, sometimes more than a year before their graduation. With the lifetime employment combined with in-house training in large enterprises, those elite students were assured of a successful life (Yoshimoto, 2002).

This system had to be supported by wide participation in the entrance examination based on pure meritocracy. However, the entrance “examination hell” is no longer severe in the new environment of institutional over-supply, along with the rapid decrease in the number of young people in the population and the market deregulation policy of the government (I. Amano, 1997; Yonezawa, 2002). Less prestigious institutions have already started admitting 100% of prospective students, or are actually facing a shortage of applicants. In 2004, 41.0% of junior colleges and around 29.1% of private universities were faced with an enrollment shortfall against the student seats allocated by the government (The Promotion and Mutual Aid Corporation of Private Schools of Japan, 2004). The entrance examination system itself has also changed drastically. Most universities have introduced an American-style “admissions office” system, and have explored various other channels for recruiting a diversity of students, sometimes

without any testing (Mori, 2002). The general academic achievement of entrants to higher education is no longer automatically assumed, sometimes even in prestigious institutions, most of which have diversified their recruitment channels. The quality assurance of academic achievement among higher education graduates has become an urgent task for higher education reform (Yonezawa, 2002). The Ministry of Education has even tried to establish guidelines for study hours, GPA, etc. following the recommendation of its advisory committee, the University Council (University Council, 1998).

Economic and Financial Issues

The excess of demand in the higher education market (encouraged by Japan's higher education plans) and the continuous raising of tuition fees by public institutions since the 1970s led to a significant raising of tuition fees in the private sector. The stable expectation of enrollment under the plan and continuing increase in revenue from tuition fees certainly improved the finances of private institutions. The elite private sector in the big cities strengthened their market competitiveness through the 1980s, and the faculty in private institutions have received a higher average salary than those in public institutions since the beginning of that decade.

On the other hand, public institutions experienced financial shortfalls in the 1980s under the strict ceiling of the national budget. National universities started a "poverty campaign" at the end of the 1980s, appealing for help amid a worsening education and research environment caused by the continuous budgetary ceilings. Increased social recognition of the need for science and technology in the knowledge economy led to an expansion of research budgets in the university sector during the 1990s. Most of these research funds are distributed as project or targeted funding, while the share of basic funds for research has been decreasing (Asonuma, 2002). In 2004, the Ministry of Finance unveiled plans to reduce the basic operational budget for national universities by 2% every year.

Faced with the arrival of the second baby boom generation in higher education around 1990, the government allowed a temporary increase in student numbers in both public and private institutions. This brought about a temporary increase in revenue from tuition fees in the private sector. The current over-supply (which began near the end of the 1990s) is clearly having a negative effect on the financial condition of private institutions (Morozumi, 2003). Higher education institutions are trying to develop adult and professional education programs for mature students, although these emerging markets are not likely to contribute financially in the very near future.

The Changing Status of Public and Private Institutions

The heavy reliance on the private sector in Japanese mass higher education is calling the social role of public higher education into question. Traditionally, the role of national institutions had been regarded as fostering elite human resources necessary for national development, and conducting research requiring heavy national investment. However,

the improvement in the prestige and academic capacity of top private universities, and the fact that the majority of university students are not receiving public higher education, is creating serious doubts about the justification of the role of national and local public institutions (Yonezawa, 1998, 2001).

Around 2000, there was serious discussion about the “privatization” of public higher education, although it did not become a realistic policy agenda. Instead, a scheme downsizing government organizations through the introduction of an “independent administrative corporation” scheme, under a new public management framework, was applied to the national and most local public institutions (Murasawa, 2002).

In 2004, all the national universities were incorporated as “National University Corporations” (Study Team Concerning the Transformation of National Universities into Independent Administrative Corporations, 2002). The incorporation of national universities enabled more autonomous institutional management under the strong power of university presidents. On the other hand, the government also set up a new control system through performance assessment. All of the national universities are required to publish a mid-term plan and goals every 6 years, in consultation with the Minister of Education. Goal achievement is assessed by the Evaluation Committee for National University Corporation—a senior advisory committee set up inside the Ministry of Education—and the National Institution for Academic Degrees and University Evaluation (NIAD-UE), a third-party administrative organization tasked with university evaluation. Financial allocation is linked to the achievement of an institution’s goals (articulated in their planning documents). The new system is still highly unstable, and strongly influenced by an ongoing power game between universities, the government and other stakeholders.

The control of the private sector through quality assurance and financial aid was also strengthened based on the weakening market status of private institutions. Beginning in 2002, the government started direct project-based funding for private institutions, instead of going through the independent Financial Council for Private Higher Education (Yamagishi, 2001). The government also strengthened the role of guidance to the private sector through the amendment of the School Education Law in 2002.

In 2004, for-profit universities in certain districts were officially permitted to adopt a pilot program of administrative deregulation. In addition, the Ministry of Education has announced its basic policy for establishing an official recognition system for branch campuses of foreign universities which are not operated within the legal framework of Japanese higher education (Garrett & Maclean, 2004).

The Impact of Higher Education Reform on the Academic Profession

Traditionally, the status of academics has been strongly protected in both the national and private sectors. A high degree of academic autonomy, especially in personnel matters, was assured under the post-WWII regime, reflecting the negative impact of governmental intervention under the pre-war regime until 1945 (Ogawa, 2002). However, this certainly became an obstacle for the introduction of entrepreneurial management, especially into public institutions and elite private ones. The University of Air, a

national broadcasting university established during the 1980s, introduced a fixed-term contract system for all academics, including full professors. The government strongly recommended the introduction of term contract employment, and most national institutions followed this idea. The shrinking higher education market has led to the closing of institutions, schools and departments in the private sector. This situation made the employment of private university teachers unstable, and they started to demand unemployment insurance.

The incorporation of national universities is having a significant impact on the status of the academic profession. A significant number of national universities are planning to introduce performance assessment and a reward system for their academic staff. On the other hand, the national universities have gained more flexibility in regard to raising the salary of excellent academic staff and attracting high quality staff internationally, particularly from the industrial world.

Professional Postgraduate Education

The economic restructuring of the Japanese economy is certainly changing the traditional image of the normal Japanese career; namely, lifetime employment in the same company. Companies are said to be reducing the investment in the in-house training of their employees, and the potential demand from adult learners for professional graduate education is increasing. The government has showed vision in fostering professional graduate education alongside traditional academically oriented graduate education. In the fields of engineering, pharmacy and medical sciences, postgraduate education is no longer dominated by academic programs. The current target is the establishment of law schools and business schools to nurture professionals in these areas. Increasing job opportunities in the foreign companies in Japan are giving incentives for students to enroll in professional education programs, while there appears to be a long way to go before Japanese companies change their attitudes and reward those newly trained professionals in a manner comparable to Western systems.

Internationalization and Quality Assurance

Japanese higher education has developed relatively independent from the global higher education community, partly because of the language barrier, and partly because of its unique system of employment. However, the cross-border flow of students, academics and labor has definitely increased, especially since the mid-1980s. In 1983, the Nakasone cabinet and the Ministry of Education announced a plan to attract 100,000 students from abroad by 2000 (Horie, 2002). This target was achieved in 2003, mainly because of the rapid increase in Chinese overseas students, which has occurred not only in Japan but all over the world. The number of Japanese students studying in foreign countries has also increased quite rapidly within the last two decades, from 15,485 in 1985 to 76,464 in 2001 (Ministry of Education, Culture, Sports, Science and Technology, 2002). There is a big difference between the inflow and outflow of students. Around 90% of the foreign students are coming from Asian countries, especially from China and Korea. On the other hand, the majority of Japanese students abroad

are studying in the United States and other English speaking countries, although those studying in China are increasing rapidly.

Around 90% of the overseas students are self-supporting students, and most are working in parallel with their study to meet the relatively high living costs in Japan. Japanese employers sometimes regard these students as cheap labor, and the policy with regard to the student visa closely reflects the immigration policy change (Yonezawa, 2003a).

The proportion of international students tends to be higher in top research universities and some institutions at the bottom in the prestige hierarchy. In the latter case, the institutions cannot attract a sufficient number of Japanese students. Meanwhile, the top research universities are trying to strengthen their support system for international students, including the provision of courses offered in English (Horie, 2002).

The internationalization of academic staff is relatively slow, again because of the language barrier, which especially impacts communication among the administration and faculty. Some universities hold bilingual faculty meetings, and others invite foreign presidents. In most universities, however, the Japanese language is essential for daily academic life. On the other hand, there is little incentive for Japanese academics to leave Japanese universities, mainly because of the relatively good salary and research conditions. However, the increasingly severe competition—especially in the natural sciences and engineering—has led to a greater number of Japanese scholars working actively in institutions abroad.

Foreign branch campuses are in most cases unsuccessful (Altbach, 2002), because it is not easy to find a new market within the very mature Japanese market. Most of the universities which entered the Japanese market are not internationally well known, and most of the best students prefer to study in prestigious Japanese universities, or in the homeland campuses of foreign universities.

The high dropout rates which are common in less prestigious American universities are very difficult for Japanese families to accept. According to the Organization for Economic Development and Cooperation (OECD, 2003), the Japanese higher education system has an extraordinarily high retention rate, over 90%. From an international perspective, this high retention rate may cause serious doubts about the degree standards of less prestigious universities in Japan.

Even inside the government, there are strong arguments about the necessity to open up the Japanese higher education to international competition. At the same time, Japanese universities are trying to establish inroads into the foreign higher education market, not only to give Japanese students learning experiences in foreign countries, but also to attract greater numbers of international students.

The Japanese government is actively supporting the discussion about how to develop an international information network to support both exporters and importers of cross-border higher education (Kimura, Yonezawa, & Ohmori, 2004), while the real influence of cross-border education is still small in Japan.

Beginning in 2004, the Japanese government now requires all of the public and private universities, junior colleges and colleges of technology to submit to a governmentally authorized accreditation review every 7 years, and around 2010 all institutions will submit to the first cycle of the accreditation process.

Conclusion: Fostering Vision Through Higher Education?

In a rapidly changing global context, it is not easy to provide a clear vision of the future of Japanese higher education or of Japanese society itself. The Japanese economy is still heavily supported by the high-tech manufacturing sector, and this enables the Japanese education system to be relatively independent (in terms of both language and the employment system) from the global standard (Yonezawa, 2003a). However, the increasing share of the population in the service industry and the worldwide spread of Japanese manufacturing plants are certainly increasing the pressure to foster a more internationalized labor force.

The role of higher education in providing a clear vision of national development in the global society is also important. Government leaders and higher education institutions are tackling these tasks through drastic system reform, including intensive financial investment in world class research, international educational programs, and improving the quality of education (Yonezawa, 2003b). On the other hand, the change in society and industry's perception of Japanese universities is relatively slow. Japanese universities are still perceived as screening devices rather than value-adding education institutions, and the university-industry relationship is still "under construction" (Hatakenaka, 2004).

The development and quality improvement of higher education in neighboring Asian countries may broaden the alternative future image of Japanese higher education. Direct interaction with the international community is certainly increasing, and the overall future orientation of Japanese higher education is strongly influenced by global trends.

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KENYA

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The need to resuscitate the higher education sector in Kenya (as elsewhere in Africa), particularly at the university level, was recognized during the 1990s as an issue of critical priority. Institutions that had once been buoyant centers of academic excellence, were—beginning in the 1980s—reduced to a state of financial insolvency and academic penury. Behind this deterioration has been the economic crisis that has bedeviled the Kenyan economy. The crisis that is afflicting universities in Kenya is being complemented by an emerging awareness that the ability of the higher education system to make a significant contribution to the country's development needs has become increasingly impaired.

Background

Kenya, a former British colony, has a population of about 31 million people (51% females and 49% males). The high rate of Kenya's population growth has been a major constraint on the country's ability to promote human capital formation through education. During the 1980s, Kenya had an annual population growth rate of nearly 4% which has since then dropped to about 2.5%. Some of the basic factors that explain the key challenges facing the education sector today can be seen in the country's basic demographic profile. About 18% of the population is less than four years old, and the age group between five and 14 (which represents the primary school-going age) constitutes 28% of the population. Overall, nearly 67% of Kenya's total population lies within the age brackets of early childhood development, primary, secondary, middle level, college and university education. Catering for the educational needs of this population has compelled the government and other stakeholder groups to expand learning facilities at all levels of the education system.

The colonial government assumed some responsibility for African education during the early part of the 20th century, with the establishment of the Department of Education. It introduced segregation of education along racial lines, ostensibly to preserve respective cultures and prepare individuals for their "appropriate" roles in the society. However, the system contained gross inequalities based on social, racial and religious grounds. The African-focused education had been designed to provide vocational education in order to equip the Africans with the manual skills required on the European

settler plantations (Standa, 2000). This disadvantaged the Africans to the extent that when the colonial and expatriate personnel departed after Kenya's independence in 1963, very few Africans possessed relevant professional, managerial and technical skills to enable them to occupy vacant and emerging positions in both government and private sectors. This had a bearing on the rapid expansion of higher education in the country, as witnessed in the post-independence era.

Growth of Higher Education

The history of higher education in Kenya can be traced to Makerere University in Uganda, which was founded in 1922 during the era of British colonialism as a technical college for African students from the East African countries of Uganda, Kenya and Tanzania. Although the college offered post-school certificate courses in various fields—including teacher training, carpentry, building technology, motor mechanics, medical care, agriculture and veterinary services—it was only after the publication of the Asquith report in 1949 that the Makerere University Act was passed, thus giving the institution the legal status of a university (Poss, 1992; Mwiria, 1998). As a result, Makerere was re-established as the University of East Africa (and was authorized to offer degrees of the University of London), and admitted its first undergraduate students in 1950. Largely due to nationalist pressures emanating from newly independent Kenya and Tanzania, in 1970 the University of East Africa was broken up into three fully fledged national universities: Makerere University in Uganda, the University of Dar-es-Salaam in Tanzania, and the University of Nairobi in Kenya.

The private university sector in Kenya (like its public counterpart) has also recorded significant progress since 1970, when the United States International University (USIU)—the first private university in Kenya—was founded in the capital city of Nairobi. This is mainly due to the insatiable demand for higher education in the country. Despite the number of public universities (which has increased six-fold since 1970), the increasing population base of secondary school graduates seeking access to higher education continues to outstrip the capacity that these institutions can offer. Public universities admit roughly 10,000 students on government sponsorship, while about 5,000 students seek university places outside the country (officially through the Ministry of Education, Science and Technology) and mainly on self-sponsorship to the United States, India, Britain, Canada, Australia, Russia, South Africa, Germany and France (Ngome, 2003, p. 361). It has been estimated that US\$192 million is spent annually by Kenyans on university education abroad (Varsity Focus, 1999, p. 6). The provision of higher education in the country therefore continues to be one of the critical challenges facing the government. Unfortunately, the government's expansionary policies undertaken in the last three decades, which have aimed at democratizing access to university education, have only whetted public appetite for more education. As the public continues to expect greater access to higher education, the government's expansion programs in higher education have been halted because of austerity measures that have been introduced following the adoption of the World Bank's and International Monetary Fund's structural adjustment programs. The conditions set by these two Bretton Woods institutions liberalized the economy, devalued the Kenyan shilling and restricted public

spending. It was against this backdrop that the Kenyan government has encouraged the establishment of private universities. The private university sector has become a critical component in the country's higher education system. Out of an enrollment of approximately 80,000 university students in the country, over 10,000 (13%) are enrolled in private universities, while 70,000 (87%) attend public universities.

Most universities in Kenya (both public and private) are situated in and around Nairobi. Of the 27 universities in the country, including the four offshore campuses of foreign universities operating in Kenya, only 30% are established outside Nairobi in agriculturally-oriented areas of the country. Most universities have been established in Nairobi for two reasons. First, it is more expensive to establish and manage universities in rural areas. Urban areas (particularly Nairobi, the capital city) has well developed facilities such as roads, schools, hospitals and residential estates which do not have to be provided for the purpose of meeting the needs of universities. Second, higher education institutions have been located in Nairobi because the largest pool of part-time students (who work and attend evening and weekend classes) reside there.

Regulating and Accrediting Private Universities

The Commission for Higher Education (CHE), which is the buffer body between universities and the government, has the overall responsibility of licensing higher private education institutions. CHE categorizes private universities into four main groups: accredited private universities; registered private universities; private universities operating on a letter of interim authority; and offshore campuses. The term offshore campus refers to foreign universities that are running their programs either through mid-level colleges in the country or have established their own campuses. These institutions award certificates of their parent universities. Of the 21 private universities in Kenya, including four offshore campuses, only six are accredited, as indicated in Table 1.

Before accreditation is granted by CHE, a thorough inspection is conducted of the human, physical, technical and financial resources that are available to carry out the operations necessary to achieve an institution's stated goals and objectives. Some of the requirements demanded by CHE for accreditation include the establishment of institutional standards with respect to physical facilities, staffing levels and teaching loads, peer review, visits and inspections of the institutions, internal self-assessment and viability of financial resources on a long-term basis. These conditions are unrealistically too high, and if applied to the letter few universities—including the more established ones like the University of Nairobi—would hardly qualify for accreditation and the granting of a civil charter (Mwiria & Ngome, 1998). Further, some rules and regulations have become obsolete—for example, the requirement that a private university should possess at least 50 acres of land before it can be accredited. Such a regulation was relevant in the past, when universities were meant to be sprawling campuses with high student enrollments. However, with the onset of information technology, approaches to learning have changed, and not as much space is required. Moreover, most of the colleges registered with CHE are theological institutions with enrollments below 100 students. These requirements do not take into account the nature of each institution and put accreditation beyond the reach of many institutions. These stringent conditions

Table 1. Private Universities in Kenya

 Accredited Private Universities

University of Eastern Africa, Baraton (UEAB), founded in 1992
 Catholic University of Eastern Africa (CUEA), founded in 1992
 Daystar University, founded in 1994
 Scott Theological College, founded in 1997
 United States International University (USIU), founded in 1999
 African Nazarene University, founded in 2002

Registered Private Universities

East African School of Theology
 Kenya Highlands Bible College
 Nairobi International Bible College
 Nairobi Evangelical Graduate School of Theology
 St. Paul's Theological School
 Pan-African Christian College

Private Universities Operating on a Letter of Interim Authority

The Aga Khan University
 Strathmore College
 Kabarak University
 Kenya Methodist University
 Kiriri Women's University of Science and Technology

Offshore Campuses of Foreign Universities

Australian Universities Studies Institute (AUSI)
 The Kenya College of Accountancy Center for the University of
 South Africa (UNISA) in Kenya
 The Kenya College of Communications Technology (KCCT) Center for the Free State
 University in South Africa
 The School of Professional Studies Center for the University of London and Technikon of
 Africa

Source: Commission for Higher Education (2004).

are only applied to institutions that seek to establish full-fledged private universities in Kenya. The offshore campuses that offer programs of foreign universities are not subject to CHE's accreditation model of quality assurance because the Universities Act of 1985, under which it operates, has no legal provisions for offshore campuses.

CHE has also been accused of slowing the expansion of private universities through its process of curriculum review for new programs. It takes between one and three years for CHE to approve new programs in these institutions. Thus, private universities with a dynamic curriculum that seek to respond quickly to the changing socio-economic environment would be constrained by this long gestation period. This contrasts with the approach of the Western Association of Schools and Colleges (WASC), one of several accrediting commissions for senior colleges and universities in United States. WASC allows tertiary education institutions that enjoy its affiliation to launch new programs without consultation (WASC, 1988). Not only does this allow universities some autonomy, it also fosters the development of internal self-regulatory mechanisms.

An encouraging and fair regulatory framework is required to facilitate the growth of private universities in Kenya.

Governance and Management Structures

As universities in Kenya develop and establish programs that are tailored to the challenges posed by the country's socio-economic needs, the question of their instruments of governance and management acquire special significance. Public universities are governed by specific acts and laws of Kenya that provide for their establishment, control and mode of organization. Although governance and management structures in private universities vary from university to university and by type of institution (secular or religious), their institutional charters (for the chartered private universities), history and philosophy define their mission and outline rules that govern their relations with other organizations, and also help in framing some internal rules of operation.

The position of chancellor is the highest governance position in public universities. By Acts of Parliament (which established public universities in Kenya), the president of the Republic of Kenya is the chancellor of all public universities unless he/she decides to appoint other persons to those positions. Until June 2003, when President Mwai Kibaki appointed separate chancellors for each public university in the country, the previous heads of state (Jomo Kenyatta and Daniel Moi) had held this position since 1970, when the country established its first university. Since their appointment in 2003, the role of chancellors has been limited to presiding over annual graduation ceremonies during which they confer degrees, diplomas, certificates and other awards of public universities. The president of Kenya (who is still the chancellor of all public universities according to the country's legal framework) is responsible for the appointment of leadership teams in public universities, including chairpersons, vice chairpersons and honorary treasurers of university councils, and vice chancellors, deputy vice chancellors and principals of colleges.

University senates in public institutions constitute the second level of authority. As supreme bodies with regard to the day-to-day running of public universities, they are composed of vice chancellors as chairpersons, deputy vice chancellors, college principals, faculty/school deans, department heads and other senior university administrators such as registrars and deans of students. Students and faculty members elect their own representatives to the senates. Student representatives, who are elected by their constituents to university senates and councils, spend a very short time in these organizations. This short time span barely allows them to become familiar with the senates' or councils' operations. The time is so transitory that before they settle down to represent their constituents, their term is already finished. It is equally significant to mention that since most senate members (department heads) are appointed by vice chancellors, they tend to support their (vice chancellors') interests, whether they are supportive of the university or not. Consequently, senate deliberations ignore substantive issues and are usually manipulated. As a result, they limit participatory decision making, as the holders of these offices are answerable to chief executives who appoint them and not lecturers that work under their supervision.

In private universities, founders substitute the dominance of university councils by government nominees (which is a major cause of concern among academics in public universities). For example, USIU's Board of Trustees (the institution's highest governing body) has 25 members, 23 of whom are Americans and only two are Kenyans. In private higher education institutions that espouse Christian evangelical philosophies and missions, their governing bodies, faculty and administrative staff are recruited based upon the strength of their Christian beliefs. Another notable departure from public universities is the absence of government influence, except during the process of accreditation. Senior administrators in private universities are usually selected by founders without consulting academic staff and students.

Strategic Planning

The adoption of strategic planning in Kenyan universities is a recent phenomenon. Eight main issues have raised the need for strategic planning by Kenyan universities. First, with higher education having become an international business, foreign universities are aggressively marketing their programs in the country. The marketing is aimed at attracting Kenyan students to join universities abroad or enroll in programs that are provided locally through their offshore campuses based in Nairobi. The competition by foreign universities for Kenyan students has increased following the enactment of the University Amendments Bill 2000, which allows foreign institutions to set up campuses locally without having to go through the various inspections by the Commission for Higher Education. The Australian Universities Studies Institute (AUSI), affiliated with several universities in Australia and established in Nairobi in 2002, is one of the beneficiaries of this legislation. There are also several Kenyan mid-level tertiary institutions that are offering degree programs for the University of South Africa (UNISA), University of London and Technikon University of South Africa. Kenyan universities (public and private) therefore cannot continue to sit on their laurels in the face of emerging competitors. They need to build on their comparative advantage of having been on the scene earlier, and pursue new approaches to research and training ahead of emerging institutions.

A second issue of concern is the local competition between public and private university sectors, as well as among public and private universities themselves. This competition is likely to intensify with the expected establishment of more private universities; the expansion of self-sponsored academic programs and the increasing adoption of innovative modes of tuition delivery made possible by recent technological advances. This competition requires benchmarking—a process whereby a university compares itself with other institutions in terms of their tuition rates and fees, employee salaries and academic programs, among other elements.

Third, strategic planning is driven in part by the problem of reduced public spending on public universities. This raises the need for the generation of supplemental sources of income to augment government resources. Fourth, a growing unemployment rate, especially among university graduates, has put pressure on higher education institutions to demonstrate the relevance of their academic programs to the labor market.

How can Kenyan universities increase their student intake in demand-driven academic programs while optimizing their use of available resources? Fifth, the issue of quality assurance is taking center stage. It is a difficult task to develop programs which are internationally competitive, ensure mobility and employability, and guarantee a high quality of education—all while facing financial constraints.

Sixth, there is an urgent need to mount cost-cutting measures, particularly by eliminating management levels that do not add value to universities, and combining compatible functions in order to reduce layers of management and duplication of efforts. Seventh, there are many problems affecting the research enterprise in higher education institutions. The research in which members of staff engage is limited and driven by personal preferences, and it is not organized to contribute to the teaching or other operations of Kenyan universities. So disoriented are the faculty's research activities that most members of the academic fraternity have no idea of the areas of research their colleagues carry out. This state of affairs is largely attributable to limited financial resource allocations for the support of research programs. In charting a course of action, universities must seek ways of institutionalizing these activities within their core functions and operations, in the belief that the conduct of teaching that is not supported by research activities and intellectual interactions outside the lecture theaters is counter-intuitive.

Finally, the rapid spread of HIV/AIDS in Kenya (as in other sub-Saharan African countries) over the past decade is no longer a health problem but a major cause for the ongoing development crisis. Education is one of the many sectors in the country that are being devastated by the escalation of the pandemic. In the absence of appropriate mechanisms in the universities, the teaching force, non-academic staff and students will be decimated by this epidemic and their output will continue to decline. There is a need to have a better understanding and assessment of the impact of HIV/AIDS on universities in order to design strategies for catering to HIV/AIDS-affected students and staff, and to assist in preventing the spread of the disease.

These challenges require institutions of higher learning to be responsive to the environment in which they exist if they are to be effective and remain relevant. As higher education institutions are accused of being slow to implement change, we must recognize how this can lead to the demise of our universities in an environment characterized by constant change. Thus, strategic planning is a tool that has been embraced to help Kenyan universities plan for current and future challenges.

Access and Equity

Access in higher education is generally meant to describe opportunities available to students who qualify to pursue different academic programs. Equity is deeply interwoven in access, and is seen by some as a creature of access with a specific pointer to some form of balance in the distribution of these opportunities across gender and regional or ethnic lines. Within the realm of access and equity, observers typically discuss university intake requirements, undergraduate enrollments, postgraduate enrollments, and regional and gender imbalances.

University Intake Requirements

Candidates who obtain a minimum grade of C+ on the Kenya Certificate of Secondary Education (KCSE)—or its approved equivalent for university admission in the respective country of applicants from outside Kenya—are eligible for admission. Applicants who wish to attend private universities and privately self-sponsored programs in public universities apply directly to academic registrars in those respective institutions. The Joint Admissions Board (JAB), established during the 1980s, selects government sponsored students for admission into public universities and distributes them into various faculties and schools. JAB's membership is comprised of all six public university vice chancellors, their deputies, principals of constituent colleges, registrars and deans of faculties and schools. It was established on a goodwill basis by vice chancellors and is not recognized under any act. It is, however, recognized by the Commission for Higher Education and Higher Education Loans Board (HELB). HELB provides loans and bursaries to needy students selected to join public universities through JAB. Every year, JAB selects about 10,000 students (out of approximately 250,000 KCSE candidates) to join public universities. These figures show that there is a huge unfulfilled demand for higher education in Kenya.

Although most candidates apply through JAB for admission to public university programs in human medicine, pharmacy, law, engineering, computer science and commerce, because of the immense popularity of these programs, very few are selected. Many applicants are instead placed in arts, education and general science degree courses in which they have no interest. Due to the need for a balanced equation between public universities and degree programs for only 10,000 students, JAB admits students to public universities for courses they never chose. Consequently, most university students on government sponsorship are not even interested in the degree programs for which they are studying at the expense of the public.

Pre-university upgrading or bridging programs have been established in both public and private universities. These programs are intended for students who have completed secondary school education yet do not qualify for direct admission to higher education. The programs thus prepare participants for university education. To be admitted, a student must have scored a minimum of grade C– on the KCSE (or its equivalent). Candidates who complete a bridging program with a minimum cumulative GPA of 2.3 qualify for admission to university degree programs. Several students are thus gaining entrance into degree programs in the public and private institutions of higher learning in Kenya through this path.

Undergraduate Enrollments

The current undergraduate enrollment in both public and private universities (including the privately sponsored students in public universities) is approximately 80,000 (56,400 male and 23,600 female). The regular undergraduate students, whose university education is subsidized by the government, number approximately 40,000, while around 30,000 privately sponsored students also enroll in public universities, and the private universities enroll close to 10,000, as depicted in Figure 1.

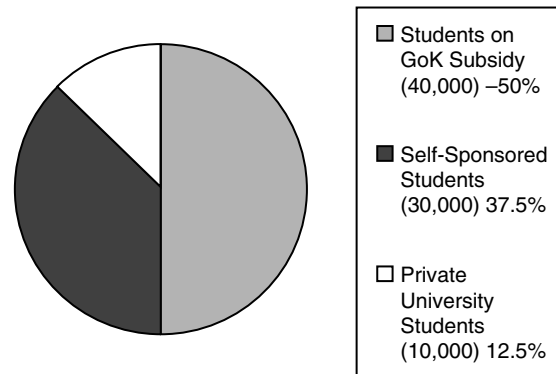


Figure 1. Undergraduate enrollments in public and private universities in Kenya, 2004.
Source: Commission for Higher Education (2004).

The tremendous growth in student enrollments began after the 1990s, when public universities introduced privately self-sponsored degree programs popularly known as parallel programs. Through the privately self-sponsored programs, candidates who scored a minimum grade of C+ on the Kenya Certificate of Secondary Education or its equivalent—but were not selected by the Joint Admissions Board because of limited capacities in the public universities—can obtain admission. The number of students enrolled in this program at the University of Nairobi has risen rapidly, from 756 students in the 1998–99 academic year to 15,115 during the 2003–2004 academic year, a growth rate of close to 2,000% over a span of six years. Student enrollment in the self-sponsored program at Moi University has increased from 277 in the 1998–99 academic year to 4,000 in the 2003–2004 academic year, an increase of 1,444% over six years. The privately self-sponsored students currently account for 43% of the total undergraduate student population in public universities.

Postgraduate Enrollments

Postgraduate students in public universities have grown as rapidly as the undergraduate category. At the University of Nairobi, postgraduate enrollment is currently standing at about 5,500, having shot up from 1,000 in 1990 (representing a 550% increase). This growth in postgraduate enrollment has been seen at other institutions as well, as reflected in Table 2. The private university sector has also expanded its training at the postgraduate level, although quantifiable data are not readily available.

Gender and Regional Disparities

Gender and regional inequalities have shaped—and continue to shape—the development of education in Kenya. Female students constitute about 30% of the total enrollments in public universities; they pursue less rewarding degree courses in arts and social sciences, and very few are able to continue their education at postgraduate levels. As

Table 2. Growth in Kenya's Postgraduate Enrollment

| Institution | Undergraduate | Postgraduates | | | Postgraduates/ Undergraduates Ratio |
|-----------------------|---------------|---------------|---------|-------|--|
| | | 1990 | 1994–95 | 2004 | |
| University of Nairobi | 27,000 | 1,000 | | 5,500 | 1:5 |
| Kenyatta University | 15,000 | 67 | | 1,200 | 1:12 |
| Moi University | 14,000 | 70 | | 350 | 1:40 |
| Egerton University | 10,000 | | 2 | 150 | 1:66 |
| Maseno University | 4,811 | | 1 | 198 | 1:24 |
| JKUAT | 6,000 | | 10 | 82 | 1:75 |

Source: Ngome (2003).

a result, women are under represented in university teaching, research and administration. Under participation of women in higher education is attributed to the observation that they attend poor quality secondary schools in disproportionately higher numbers, have restricted access to a broad range of curriculum (particularly in the sciences) and are also victims of cultural and religious beliefs that depict women as less competent than their male counterparts—attitudes that influence family investment decisions and place a higher premium on boys than girls. Although JAB has initiated some affirmative action initiatives, helping women to enter the university with lower minimum entry requirements than those of their male counterparts, this action has not yet had much impact.

Gender equity is more apparent in private universities, where 50% or more of the student population is female. At USIU, 52% of the students are female, while Daystar reports that 64% of its population is female. The reason often cited by parents is that they feel their female children are more secure in the private university environment. It may also be related to the fact that most private universities tend to offer programs in the humanities, which are programs female students are likely to select (Brown, 2001, p. 13).

In Kenya—as is the case in other African countries—members of those communities that made the earliest and more stable contacts with European settlers, missionaries and colonial authorities have tended to have more access to formal educational opportunities than their counterparts elsewhere in the country. Thus, it is no surprise that members of the Kikuyu, Luyia, Luo, Meru, Embu, Kisii and Kamba communities—which had the longest association with these entities and inhabit economically higher potential areas of the country (and by extension enjoy the most developed primary and secondary systems)—are over represented in both public and private universities.

Funding Patterns in Public and Private Universities

University Student Loan Scheme

When Kenya gained its independence in 1963, all fees for tertiary education were abolished. This policy was designed to motivate large numbers of students to pursue higher

education and to provide adequate middle- and high-level human resource requirements for the economy. In 1974, the government changed the financing of university education by introducing a student loan scheme as a cost-sharing strategy. The cost of a university education was increasing along with the annual increases in student enrollments. The student numbers had grown tremendously, from 600 in 1963 to 6,000 students in 1974, representing a 1,000% increase. The education budget had also grown, from below 29% of total government recurrent expenditures to 34% in 1974. This was occurring against a backdrop of financial difficulties due to the country's adverse macro-economic performance, rapid population growth and the burden of providing basic services like primary education and health. University education therefore faced severe competition from other sectors of the economy for limited government funds.

Through the 1974 student loan scheme, the government transferred some of the costs of university education—particularly catering and accommodation—to the beneficiaries, and hoped to develop a revolving fund to meet such costs in the future. To cushion the poor against the adverse effects of the new policy, loans and bursaries were introduced under the Higher Education Management Board in 1974, which was a section in the Ministry of Education until 1994, when it was dissolved. Due to poor recovery procedures that lacked a sound legal framework to pursue defaulters, the rates of default on these loans ranged from 75% to 80%. The concept of developing a revolving fund from which more students would benefit was therefore thwarted. As a result, the International Monetary Fund (IMF) and the World Bank advised the government of Kenya to establish an autonomous body with the legal framework to enable loan collection and reduce the number of defaulters, with the ultimate purpose of setting up a revolving account from which loan funds could be drawn for supporting needy Kenyans pursuing higher education. This led to the establishment of the Higher Education Loans Board (HELB) in 1995.

Since its inception, HELB has made significant strides in the area of loan recovery, from a 1995 recovery portfolio of US\$38,462 per month to the current level of US\$641,026 per month (weighed against adverse realities such as limited employment opportunities for university graduates). Consequently, on the current total loan amount of US\$14.1 million that HELB awards to university students per year, 45% of it is provided by recoveries from past loans, while 55% is provided by the exchequer. Disbursement to undergraduate students in public and private chartered universities is 98% of the total amount, whereas graduate (master's and doctoral) students receive a paltry 2%. Disbursement to undergraduate students is also skewed against needy students in private chartered universities, who are awarded only 2% (while their counterparts in public universities enjoy 97% of the total disbursement).

This performance notwithstanding, HELB faces a number of challenges. First, HELB charges an annual interest rate of 4% on its loans, against an inflation rate that has averaged at about 8% for the last decade. In other words, for every US\$100 that HELB gives to students, it recovers up to US\$50. Second, HELB is a widely misunderstood organization, about which students have vehemently complained. Criticism revolves around the amount of money students receive from HELB, which is deemed inadequate. HELB loans, which range from US\$513 to US\$667 per year, cannot cushion students against the country's high inflation rates. Third, means testing instruments used to

identify needy students are not accurate. According to some media reports, HELB has over the years been cheated into giving loans to undeserving students. Over 25% of student applicants have been found to be dishonest with HELB (Odaló, 2000).

The most serious challenge to any means-tested loan system lies in identifying needy applicants. Developing such systems is difficult even in industrialized countries, in which a majority of people annually file income information with the tax authorities. The task is particularly daunting in developing countries like Kenya, where large numbers of families (even the economically able ones) are likely to apply for loans and bursaries and operate in a semi-subsistence mode that makes verifying income and wealth data extremely difficult (Assie-Lumumba, 1994). Fourth, HELB experiences major difficulties in recovering loans from unemployed beneficiaries or those working in the informal sector. The Act of Parliament that established HELB empowers it to collect loans from people who are in formal employment, yet the total share of employment in the informal sector increased from 65% in 1997 to 72% in 2001, whereas the rate of growth in formal sector employment decreased from 2.1% in 1998 to a negative 1.1% in 2001. A fifth challenge is the negative attitude of most beneficiaries of HELB's loans. Even when some of the past beneficiaries are able to repay their loans, some of them regard loans from HELB as "free government money" that should not be repaid. For instance, the 3,262 graduates of the University of Nairobi's Faculty of Law (who attended between 1974 and 2003) are among the few Kenyans doing well economically. Yet, in spite of their economic ability, they owe over US\$3 billion to HELB as un-serviced loans and do not show a willingness to pay. HELB will be required to invoke its powers to prosecute loan defaulters and their employers in order to limit instances of defaulting.

Financing in the Public University Sector

Funding of public universities in Kenya (as in most other African countries) is provided by the government. Unlike the period following independence, when universities were the main beneficiaries of government support, recent trends indicate a steady decline in such support as a result of fiscal constraints. For example, budgetary allocations to public universities were cut by 6.6% between the 1995–96 and 1996–97 financial years (from US\$57.7 million to US\$54.5 million) and then by another 3% in the 1997–98 financial year (to US\$52.4 million) (Republic of Kenya, 1997, 1998a, 1998b, 1998c). The reductions in financial outlays to public universities at a time of rising student enrollments has meant that increased enrollment is not being matched with corresponding increases in the provision of physical facilities and equipment to care for their growth. Consequently, the use of existing facilities is over-stretched, while their maintenance has been poor, owing to limited recurrent expenditure funds.

Before 1995, the funding of public universities by the government was based on budgets submitted by each university that were derived from projections of actual needs. The scenario changed drastically in 1995, following the introduction of a unit cost system of financing public universities—defined as the amount of money a university spends on one student per degree program. The current unit cost of US\$1,538 consists of tuition (US\$897) and catering, accommodation and other incidental costs (US\$641).

The government provides US\$897 as a grant, while students pay US\$641. Students from economically able backgrounds are expected to pay for themselves while those from poor families apply for loans from HELB. Government funding per university is calculated by multiplying the total number of students in the university by US\$897. Unfortunately, the unit cost system has been found to be grossly inadequate as a system of funding public universities because of three reasons.

First, the unit cost formula currently in use was based on the 1991–92 audited accounts of universities, and as such does not take into consideration the current inflation rate. Second, the unit cost system does not take into account different costs of the various degree programs. It actually introduces a distortion or inequity in the funding of public universities by the government. Institutions which host expensive science and technology-based degree programs (like the Universities of Nairobi, Egerton, Jomo Kenyatta and Moi) are disadvantaged over those who offer predominantly arts-based programs, like Kenyatta and Maseno Universities. This should not, however, be misconstrued to indicate that Kenyatta and Maseno universities are adequately funded, as the cheapest degree program per student costs US\$2,333, while the most expensive is approximately US\$6,410.

Third, postgraduate students were excluded while computing the unit cost. As a result, there is no government funding for postgraduate students at present. This undermines the need to enhance postgraduate enrollment to at least 10% of the total undergraduate population and increase research output. The use of a defective unit cost as a basis for providing budgetary allocations to public universities has worsened the already existing problem where these institutions are unable to balance their operating budgets and have thus continued to accumulate debts.

The government under funding of public universities is aggravated by escalating debts and deficits, limited alternative sources of funds, rising payroll and operational expenditures, inefficient fees collection from students and limited returns from full-cost recovery units like catering and accommodation. Reductions in government financial outlays to these institutions has had several adverse effects. Physical facilities in public universities are dilapidated; equipment in critical teaching areas has become unserviceable, with great loss to the quality of teaching; library services are inadequate and disorganized; and all institutions struggle to attract and retain a high caliber academic staff. Meanwhile, revenues from the government of Kenya continue to shrink. On the basis of public policy statements by relevant authorities in the country, there have been strong indications that the government will no longer fully finance public universities. Rather, public universities have been advised to find ways and means of raising additional funds to support their activities. As a consequence of this, public higher education institutions have had to consider various ways of mobilizing resources that include adoption of austerity measures and enhancement of income-generating activities so as to minimize dependence on government funding.

Financing of Private Universities

The private university sector in Kenya is largely self-financing, relying on student tuition and fees for the bulk of its revenue. For example, during the late 1990s, tuition

and fees accounted for an average of 100% of the total university income at the United States International University, 74% at Daystar University, 72% at Catholic University of Eastern Africa and 40% at Baraton. Tuition and fees generate most of the income for private universities because it is charged on the basis of full-cost recovery, which puts the cost of private higher education in the country beyond the reach of most people because of the increasing spread of poverty. Tuition and fees in private universities are much more than what public universities charge for both regular and self-sponsored academic programs. The cost of a social science degree program in private universities ranges from US\$1,658 per year at the Catholic University of Eastern Africa to US\$2,652 at the United States International University, whereas in self-sponsored programs in public universities it ranges from US\$1,026 at Moi and Egerton Universities to US\$1,538 at the Universities of Nairobi and Kenyatta.

The cost of accommodation and catering is also much higher in private universities than in public universities, where (for example) government-supported students pay US\$265 per year at Egerton University and US\$334 at the University of Nairobi. Although the rates for self-sponsored students are slightly higher (ranging from US\$436 to US\$462), they are still much lower than for those at private universities, whose costs range from US\$1,153 at Catholic University to US\$2,130 at the United States International University. As is the case with tuition, catering and accommodation charges by private universities are on a full-cost recovery basis for all materials, utilities, maintenance and replacement costs expended at the residence halls and kitchens.

Other sources of funds for private universities in Kenya come in the form of auxiliary enterprises (commonly referred to as income generating activities in public universities), student loans, bursaries and scholarships, donations, grants, gifts, endowment and alumni. Baraton University may arguably be said to be the private institution in the country with the most developed auxiliary enterprises. Between 1994–95 and 1999–2000, Baraton raised about 36% of its annual income from auxiliary enterprises (Wesonga, Ngome, Ouma, & Wawire, 2003). In private universities, most development expenditures come from donations, while a good percentage of tuition and other fees go towards recurrent expenditures. This is true for most private universities in Kenya except the United States International University, whose recurrent and development expenditures are largely funded by tuition and fees. The typical donation approach follows a pattern where a project is identified and a proposal is sent to an overseas donor who provides either capital funding or expertise or both (Deloitte and Touche, 1994, p. 92).

Recurrent expenditure in private universities revolves around staff salaries and benefits, purchases of teaching and learning materials, and maintenance of facilities and research. Salaries and benefits constitute the greatest expenditure item, ranging from 36% at Baraton University to 50% at the Catholic University (according to 1994–1995 through 1999–2000 academic year statistics), followed by purchases of teaching and learning materials (ranging from about 3% to 12%). Maintenance of facilities is ranked third (ranging from 0.5% to 2.1%) while research receives the smallest budgetary allocation (ranging from 0.2% to 2%).

The recurrent expenditure patterns in the private sector contrast sharply with the gloomy picture in public universities, where staff salaries and benefits consume as much as 75% of budgetary allocations. This is one of the examples of the relatively efficient and cost-conscious style of administration characterizing most Kenyan private universities. Although research is an important aspect of university education, this is not reflected in the annual allocations. Public universities are also characterized by poor allocations to research activities. For private and public universities to keep up with their mandate of conducting relevant research in Kenya, universities will have to substantially increase money for research.

The financial situation in private universities is healthy. Most of them are solvent and are usually able to post an operating surplus. This encouraging financial condition is due to a number of factors. First, student fees and welfare services are calculated on cost recovery levels. Second, private universities are characterized by the efficient collection and management of fees. Third, the approach of reaching out to the alumni, philanthropists, the private sector and friends of the universities (a standard method of fundraising in leading universities throughout the world) is being followed by private universities in Kenya. Four, the incidence of misappropriation of university funds is low (compared to public universities).

New Modes of Delivery

In addition to utilizing the conventional campus classroom-based teaching approach, universities in Kenya are embracing new delivery mechanisms to expand access to university education in the country. These mechanisms include virtual learning, distance learning, school-based programs and accreditation of middle-level colleges.

Virtual Learning

The rapid and continuing growth and development of information and communication technologies (ICTs) is transforming the ways in which we live, work and learn. In higher education, the effective use of these new technologies offers new ways in which quality, effectiveness and (in particular) flexibility of higher education can be improved. This has made possible the creation of virtual universities, where quality professors, libraries and other utilities can be shared by people and organizations in physically unconnected places. Virtual universities have the advantage of requiring minimum capital investments and operating costs. The concept of virtual learning was popularized in Africa through the African Virtual University (AVU) project. The AVU project—which was started on a pilot basis in 1997 with the support of the World Bank and multilateral donors like the Canadian International Development Agency (CIDA), Department for International Development (DFID) and the U.S. Agency for International Development (USAID)—is a distance learning network with 25 centers distributed across the African continent, with headquarters in Nairobi. Two of these centers are in Kenya, located at Kenyatta and Egerton Universities. Online degree courses are transmitted from different institutions in the U.S. and Australia. These include U.S. institutions such as

Georgetown University, New Jersey Institute of Technology, and Indiana University, as well as Australia's Curtin University of Technology. The AVU sites at Kenyatta and Egerton Universities also offer certificate courses and organize seminars. Between 1997 and 2001, more than 10,000 Kenyans from different professional backgrounds benefited from these programs.

Distance Learning

Although the initial cost of setting up the infrastructure for distance-based learning are high, Nairobi and Kenyatta universities are investing in it because the final costs to learners and institutions are low. Management costs of having residential students and maintaining the physical plant and equipment are reduced. Through its College of Education and External Studies Department, the University of Nairobi offers distance-based academic programs via its regional extramural centers in Mombasa, Kisumu, Kakamega, Nyeri and Nakuru. Kenyatta University has also set up regional centers in seven provinces of the country (Nairobi, Western, Nyanza, Eastern, Northeastern, Coast and Central) to manage its distance education programs. Subject to the availability of funds, Kenyatta University has planned to establish a frequency modulation (FM) radio station to broadcast its programs to students in some of its centers.

School-Based Programs

The innovative development of scheduling courses in the evenings and weekends for privately self-sponsored programs, allowing working people to pursue a university education while continuing to manage their regular responsibilities, has not accommodated teachers at the primary, secondary and middle-level institutions who reside in rural areas. To cater to this category of learners, school-based programs have been initiated by all public universities (except JKUAT, which does not offer teacher-training programs) and one private university, Catholic University of Eastern Africa. Students in these school-based programs attend residential training in April, August and December, as well as during school holidays, and participate in three months of tutorial visits (practicum) by lecturers when schools are in session. Close to 10,000 teachers are currently enrolled in these programs at undergraduate and postgraduate levels.

Accreditation of Middle-Level Colleges

Public universities are extending the opportunity for high-level human resource training outside their walls by collaborating with middle-level tertiary training institutions located in various parts of the country which meet accreditation status. JKUAT has accredited 18 middle-level colleges in both urban and rural parts of the country, and has been the most visible employer of this strategy of enhancing access. Besides accreditation of middle-level colleges, universities that are located far away from towns—such as Egerton, Moi, Maseno and Kenyatta—have been compelled to establish town campus centers nearer to their target populations.

Improving the Status of Information Communication Technology

On a comparative basis, private universities have better information and communication technologies (ICT) facilities than the public universities. Of the private universities, United States International University is on the forefront, with the highest quality Internet connections, electronic database, fax, satellites, CD-ROM databases, mobile phones, and so forth. In 2002, USIU had a computer/student ratio of 1:19, with comparable ratios at Baraton (1:30), Catholic University of East Africa (1:25), and Daystar University (1:22); the average computer/student ratio for all private universities is 1:24 (Wesonga, Ngome, Ouma, & Wawire, 2003).

In contrast, the public universities face a severe shortage of computer facilities. While Internet facilities have reached all universities in Kenya, Kenyatta University and Egerton University have had better equipment owing to the AVU sites that they have hosted. The AVU has enabled these two universities to offer courses via satellite and maintain sophisticated Internet-based digital library of journals, academic studies and textbooks. The University of Nairobi completed a four-phase project in 2002 that was geared toward providing a high-speed backbone infrastructure linking all its campuses and improving Internet service to staff and students. The Kenya Education Network (KENET), launched in 2001, is expected to enhance ICT services at the universities. Daystar University has a communication studio and is preparing to host an FM radio station, much like Kenyatta University. While most of these developments date back to 1997, their early growth was hampered by poor infrastructure and scarcity in capital financial resources; development in this field has also depended on the proximity of an institution to major urban centers. Recent achievements are, however, commendable.

Staffing Challenges and Brain Drain

The effectiveness of a university essentially depends on the efficiency and quality of its academic and non-academic staff. In an economic environment characterized by declining resources and rising enrollments, all universities in Kenya face the challenge of how to do more with less, which involves the recruitment and retention of competent staff. The supply of academic staff to universities, especially at the Ph.D. level, has rapidly diminished over the years due to reduced opportunities for scholarships and the high cost of postgraduate training in view of the diminishing incomes of most families and the poor performance of the Kenyan economy. As a result of this, the number of lecturers who hold Ph.D. degrees has declined throughout the country. At the University of Nairobi—the oldest and biggest in the country, with over 100 academic programs at both undergraduate and postgraduate levels—only 40% of the teaching force hold Ph.D. degrees. Similarly, 33% of the faculty at Kenyatta, 32% of the faculty at Moi and 19% of the faculty at Egerton have doctoral degrees (Ngome, 2003a). Except for USIU, where 46% of its staff hold doctorates, the situation in most private universities is equally grim (see Table 3).

The low quality of academic staff in Kenyan universities is due to poor conditions and terms of service. Over the years, the purchasing power of lecturers in universities has been eroded considerably by inflation. As a result, the title of a university professor

Table 3. Faculty Qualifications in Public and Selected Private Universities in Kenya

| University | Masters | Ph.D. |
|------------|---------|-------|
| Nairobi | 60% | 40% |
| Kenyatta | 67% | 33% |
| Moi | 68% | 32% |
| Egerton | 69% | 19% |
| USIU | 54% | 48% |
| Dayster | 88% | 12% |
| Catholic | 90% | 10% |

Source: Ngome (2003).

has lost its financial meaning. The gradual decline in buying power of academic staff salaries over the last 27 years (from 1976–2003) is depicted in Table 4, in which the purchasing power of academic staff is shown to have decreased by over 74%.

As a result, thousands of Kenyan scholars, dissatisfied with the terms and conditions of service, have migrated to places like the United States, Canada, Australia, Europe and throughout Southern Africa (including Botswana, Lesotho, Namibia, Swaziland and South Africa). Rwanda is the latest attraction point owing to the generous pay package that international organizations are offering to scholars that are contributing to the rebuilding of that country. A peer comparison between academics in Kenyan public universities and their peers in Botswana reproduced as Table 5 indicates that, on average, salaries in Botswana are over five times those in public universities in Kenya. It is little wonder that Botswana is one of the preferred destination of Kenyan scholars.

This brain drain phenomenon is impacting negatively on local universities. For example, USIU has advertised for positions in industrial psychology, clinical

Table 4. Decline in the Buying Power of Academic Staff Salaries 1976–2003

| Year | Lecturer | | Senior Lecturer | | Associate Professor | | Professor | |
|------|----------|------|-----------------|------|---------------------|------|-----------|-------|
| | Kshs | US\$ | Kshs | US\$ | Kshs | US\$ | Kshs | US\$ |
| 1976 | 3,000 | 429 | 4,620 | 660 | 6,000 | 857 | 7,200 | 1,029 |
| 1986 | 6,040 | 288 | 8,085 | 385 | 10,520 | 501 | 12,570 | 599 |
| 1997 | 11,755 | 203 | 14,545 | 251 | 18,320 | 327 | 20,650 | 368 |
| 1998 | 17,185* | 286 | 21,440* | 357 | 26,855* | 448 | 31,060* | 518 |
| 1999 | 17,185* | 246 | 21,440* | 306 | 26,855* | 384 | 31,060* | 444 |
| 2000 | 17,185* | 226 | 21,440* | 282 | 26,855* | 353 | 31,060* | 409 |
| 2003 | 17,185* | 220 | 21,440* | 275 | 26,855* | 344 | 31,060* | 398 |

Note: *The figures were the minimum entry for the posts.

Source: Ngome (2003).

Table 5. Comparison of Annual Salaries Between Kenya's Public Universities and Those of University of Botswana (in US\$)

| Grade | Kenya | Botswana |
|---------------------|---------|----------|
| Tutorial Fellow | \$2,403 | \$8,439 |
| Lecturer | 2,046 | 12,744 |
| Senior Lecturer | 3,675 | 24,669 |
| Associate Professor | 4,604 | 30,255 |
| Professor | 5,325 | 34,014 |

Source: Ngome (2003).

psychology, information technology, finance and marketing at professional levels with limited success for several years. International recruitment is costly and quite often beyond the budgets of most higher education institutions. When international faculty are recruited, it is often for a two-year period or less. The timeframe is too short to transfer skills to a local faculty member. This means that once the resource leaves, the expertise (and often the program) goes with them (Brown, 2001, p. 5). Most departments in Kenyan universities have been so hard hit by brain drain that they are only a pale shadow of their former self.

However, the recent increase (as of July 2004) of academic staff salaries by the government—147% for lecturers, 130% for senior lecturers, 132% for associate professor and 117% for professors—is anticipated to promote competition and lead to the return of many Kenyan scholars from outside the country and the private sector. In fact, Kenyan public universities are now at par with even the most competitive private university (USIU) with regard to faculty remuneration. This may have repercussions for private universities, which have over relied on previously poorly remunerated public university faculty.

Quality

Since the 1970s, Kenya enjoyed the reputation of a country that offers some of the highest quality university education in Africa. This reputation has, however, come under attack in recent years by members of the public and by the mass media, particularly represented by commentaries and complaints in the local newspapers. These attacks stem from the challenges in the public university sector posed by an increase in the total number of students without a concomitant increase in resources or the development of the university's infrastructure. The labor market has expressed concern about the mediocre quality of Kenyan university students, particularly regarding their perceived inability to respond flexibly, creatively and competently to the responsibilities that are placed on their shoulders.

University staff are aware of this problem and of the challenges that graduates face, but many of them feel that they cannot adequately prepare their students for their future responsibilities because they are tied (by the students themselves) to a form of

Table 6. Effectiveness of Kenya Public Private and Foreign Universities in Fostering Attributes Most Commonly Reflected in Management Literature

| Attributes | Kenyan Public Universities | | | Kenyan Private Universities | | | Foreign Universities | | |
|--------------------|----------------------------|------|------|-----------------------------|------|------|----------------------|------|------|
| | VE* | MOE* | NVE* | VE* | MOE* | NVE* | VE* | MOE* | NVE* |
| General competence | 17% | 73% | 10% | 28% | 72% | 0% | 57% | | 4% |
| Initiative | 10% | 53% | 38% | 33% | 61% | 6% | 57% | 39% | 4% |
| Discipline | 7% | 48% | 45% | 33% | 56% | 11% | 35% | 39% | 4% |
| Creativity | 10% | 62% | 38% | 17% | 61% | 22% | 48% | 61% | 4% |
| Leadership | 14% | 52% | 34% | 11% | 78% | 11% | 48% | 48% | 0% |
| Adaptability | 66% | 7% | 27% | 17% | 72% | 11% | 43% | 52% | 9% |
| Responsibility | 7% | 41% | 52% | 17% | 67% | 16% | 35% | 48% | 4% |

Note: *VE = very effective; *MOE = moderately effective; *NVE = not very effective.

Source: Deloitte and Touche (1994).

teaching that does not go much beyond expository methods. Students perceive university learning (in both public and private universities) as consisting primarily of the reproduction of poorly assimilated lecture notes, while resources (textbooks, library materials, reproduction facilities, science supplies) are so limited that a teaching style that forces students to think (and penalizes those who do not) cannot in fairness be adopted. This condition is corroborated by CHE's 1994 study of private universities (Deloitte and Touche, 1994), which surveyed many aspects of private tertiary education in the country and also examined employers' attitudes towards Kenyan university graduates. Except for adaptability, graduates from foreign and private universities scored much higher than their public counterparts on measures of general competence, initiative, discipline, creativity, leadership and responsibility (see Table 6).

The quality crisis is further illustrated by university students' inadequate grasp of the English language. One lecturer from the Department of English and Linguistics at Kenyatta University argues that it would be better if students learned no English at all in primary and secondary schools. They are taught so poorly that much of the instructor's time in the university is spent on re-teaching them the foundations of the language (Ngome, 2003b). Since the English language is the medium of instruction in the Kenyan system of education, students' poor command of the language does not bode well for the quality of education. Many students in both public and private universities lack knowledge of basic grammar, such as the rules governing the use of capital letters, and are also incompetent in analyzing the grammatical structure of simple sentences (Indangasi, 1991).

Also identified as a contributing factor to deteriorating quality is the condition of libraries in public universities. Libraries in these institutions (as is the case with other facilities) have been overstretched beyond their limits, and are witnessing unprecedented congestion. Currently, the University of Nairobi library has a seating capacity

of 6,000, but is serving a student population of 22,000. Similar patterns hold true for other public universities in Kenya. The services available in public university libraries are generally poor. The bulk of available books and journals are outdated. Acquisitions have not increased to take account of increasing student numbers. Although new degree programs have been initiated in recent years, relevant library resources have not been purchased. It is actually very hard to find out what is in these libraries, as there is no holdings list for journals. Whole catalogues and shelves do not seem to match. The lack of adequate security has led to significant vandalism and theft of books. In essence, libraries are no longer at the heart of teaching and research. However, since lecturers often hold other jobs and have little time to do research or keep up-to-date, and since their methods of teaching do not encourage student reading or project work, there is little reason for library services to improve.

Private universities have comparatively better libraries. Their libraries are financed by a designated portion of the students' fees, as is the provision of textbooks. When teaching staff give their libraries a list of recommended readings, the books are immediately purchased because the money is available in the library account. Improvements in the amount of money spent on books and journals (as well as the construction of libraries) by private universities is largely due to pressure from CHE. The standards laid down by this body (with powers to recognize or not recognize a private university) ensure that private institutions of higher learning allocate funding to their libraries (Rosenberg, 1997).

The strain on the existing physical facilities and staff in institutions of higher learning, particularly public ones, due to the dramatic rise in student enrollment—far more than originally planned—has also had a debilitating impact on the quality of education. With the exception of JKUAT, which has benefited significantly from the Japanese government and World Bank donor support, the congestion in public universities is pathetic. Universities are cramming between four and five students into dormitory rooms designed to accommodate only two students. Financial pressure has led some students who are officially accommodated to sublet their dormitory spaces to non-resident students. The incidence of squatting in dormitories is on the increase. Hughes and Mwiria (1990, p. 228) found that lecturers in the Faculty of Education at Kenyatta University are compelled to repeat the same lectures to as many as three groups of students because of a lack of adequate lecture theatres, while in extreme cases some students listen to their lectures through windows.

Private universities have dealt more cautiously with the pressure to expand. They have been reluctant to expand at the cost of quality. While the expansion of opportunities in public universities is meeting excess demand for higher education, this should not be done at the expense of quality. Adequate planning for expansion should be done to ensure that students receive enough attention from their lecturers.

Students and lecturers have also intensified the quality crisis by condoning examinations leakages and by promoting lifestyles that are the antithesis of academic pursuits (such as prostitution, drug and alcohol consumption). Both public and private universities are rife with allegations that some male lecturers solicit sexual favors from female students in order to improve their grades, while others extort money from male students in return for leaked examination questions and marking schemes.

Quality Enhancement Strategies

The quality crisis is affecting the ability of Kenyan universities to fulfill their fundamental visions, missions and objectives. This crisis is more evident in the public university sector than in the private universities. These institutions have been forced to respond to the crisis in a number of ways, including the introduction of common units of study, adoption of better teaching and learning techniques, and strengthening of student assessment mechanisms and staff motivation.

Introduction of common units of study: All public universities (and most of the private universities) have introduced common units of study intended to produce multi skilled and responsible graduates. These courses include communication skills, development and gender studies, HIV/AIDS and drugs, introduction to computing and entrepreneurship skills.

Adoption of better teaching techniques and staff motivation: Several measures have been taken to improve the quality of teaching. First, allocation of courses for most of the programs (in both public and private universities) is done in such a way as to ensure that whoever teaches a unit to the regular students also teaches the same unit to the evening and weekend students. Second, large classes are being divided into manageable teaching groups, while at the same time pursuing efforts to revive the tutorial system in public universities, which had collapsed during the 1990s. Third, universities are discouraging the over-reliance on the “talk and chalk” methods of teaching in favor of transparencies and overhead projectors. Along this line, some institutions are considering offering short courses on pedagogical aspects (for lecturers who are not professional teachers) as a way of improving their delivery and effectiveness in teaching. Fourth, lecturers are being encouraged (particularly at Kenyatta University) to post their lecture notes and other supplementary material on the institution’s website. Fifth, a system of assessing and reviewing learning and teaching materials has been proposed at the University of Nairobi, particularly at its Faculty of Law, because there has been little evidence to show that contact hours are met across the board or that the content offered meets the requirements of a university curriculum. Sixth, assessment by students (which is a common feature in United States institutions of higher learning) has been introduced at one private and one public university (United States International University and Kenyatta University). At these institutions, students appraise their lecturers at the end of every unit or semester. It is anticipated that once this initiative is fully operational, other universities in the country will emulate it. It is also hoped that student/staff appraisal will not only help assess the productivity of staff but will also motivate performance and identify areas that need further pedagogical training.

Relevance

As pressure mounts for demand-driven academic programs, most universities in Kenya are responding to the challenges by offering courses that are tailored to the labor market. Various universities have developed (and are still developing) partnerships with private sector enterprises to help hone the skills of their students along required dimensions. Jomo Kenyatta University of Agriculture and Technology has initiated a

partnership with an international company to help design and review its information and technology programs. At Moi University, the Faculty of Medicine has adopted a system called Problem-Based Learning, where students take a practicum in rural areas to acquaint themselves with typical field situations in the areas where they will work upon graduation. The Department of Medical Microbiology of the University of Nairobi—in collaboration with the University of Manitoba (Canada) and Oxford University, and with support from the International Aids Vaccine Initiative (IAVI)—are carrying out research on HIV/AIDS and generating a wealth of information on the virology of HIV infections.

Kenyatta University's Center for Complementary Medicine and Biotechnology (CCMB) is conducting scientific research on herbal medicine jointly with herbal medicine practitioners as part and parcel of the ongoing national effort by the government of Kenya and the Kenya Medical Research Institute to integrate the use of herbal medicine into conventional medical practice. In this venture, Kenyatta University has been able to benefit from the wealth of experience possessed by herbalists who do not hold university degrees. Except for Scott Theological College, all the chartered universities and those granted letters of interim authority are performing commendably well in the provision of relevant skills. Essentially, relevance is their lifeline. Most of these institutions carry out a market survey before launching new academic programs. Industrial attachments for their students in the world of work form a key training component. These institutions also maintain strong links with business and industry, mainly through their alumni and other stakeholder groups who come to address staff and students regularly. Community-based attachments aimed at instilling a spirit of service are compulsory for degree students at the United States International and Strathmore Universities. These efforts notwithstanding, most academic programs in registered private universities (small biblical colleges) are not attractive to students because they are related to biblical studies and preaching. In public universities, out of the 178 degree programs offered, only 26 are popular to students, 63 are rated as average, and the remaining 89 are seen as unattractive (Daily Nation, 2004).

Conclusions: Impact of Change, Challenges and Lessons Learned

The ongoing reforms in higher education in Kenya have produced positive and negative consequences and also revealed important lessons about the complexities of this process. The most noticeable positive effect of the reforms is enhanced access to university education. The university student population has dramatically grown from about 3,000 in 1970 to approximately 80,000 in 2004. Despite this massive expansion of student enrollments in Kenya, regional, socio-economic and gender imbalances continue to characterize university education in the country. The demands of an expanded student population and the need to generate supplemental income have resulted in the decentralization of the monitoring and administration of the reform process. For example, the University of Nairobi established a new entity called the University of Nairobi Enterprises and Services Limited. Moi University established the Moi University Holding Company Limited, to oversee non-teaching income generating activities, and the Privately Sponsored Students Program Directorate, to manage the

self-sponsored academic programs. The other four public universities have similar structures. This decentralization notwithstanding, most of these management units do not have direct access to the funds they generate, since public higher learning institutions' financial transactions are processed through designated university signatories.

The internally generated funds are contributing greatly to the development of public universities. Old buildings have been renovated, plant maintenance improved, stalled projects completed and new buildings are under construction. Procurement of teaching and learning materials is also improving. Staff morale is rising, as individuals are compensated for services rendered through self-sponsored academic programs. Quality improvement measures, enhancement of relevance of demand-driven academic programs, improved efficiency in the use of resources, improved capacity for strategic planning and prioritization of needs—these are other positive consequences of the reform process in public universities. Nevertheless, there are some negative trends that have been engendered by the ongoing changes. First, the pay as you eat (PAYE) system, introduced in the 1990s as one of the cost-sharing measures in the public university sector, has been perceived as being expensive for students; consequently, the majority of students in public universities opt to cook for themselves in hostels, although they are aware of university rules and regulations that forbid cooking in residence halls. Mass cooking by students in hostels has increased the institutions' electricity bills. For example at Kenyatta University, the cost of electricity has shot up from about US\$76,923 to over US\$512,821 per financial year. Second, cooking in hostels poses a grave danger to the students' lives due to electricity overload. Public university hostels were never designed to accommodate mass cooking. To eliminate this problem, public universities will either have to provide hostels that have kitchens for students or the Higher Education Loans Board may have to pay catering and boarding fees directly to public universities for students who choose to reside on campus.

Third, the quality of education has declined. While increased access to university education and internal generation of funds by public universities is being realized, the quality of education is being sacrificed. Although universities require more financial resources and the country needs more doctors, scientists, lawyers and engineers (among other professionals), these people must be able to handle all the complexities of their respective professions by receiving sufficient education. Adequate planning for expansion has not been done to ensure that public university students receive enough attention from their lecturers.

The reform process has revealed critical challenges and lessons that relate to the internal dynamics of change (and the universities themselves) as well as the prevailing policies and practices of higher education in Kenya. First, the reform process has brought to the fore the fact that Kenya has developed a system of university education with 27 universities—six public, 17 private, and four offshore campuses—and structures of supporting institutions that include the Commission for Higher Education, the Joint Admissions Board and the Higher Education Loans Board. More than in any other country in Eastern and Central Africa, structures exist in Kenya that could provide for a rational and effective development of university education.

Second, the public and private universities are exhibiting interesting interactions in the ongoing transformation of higher education. They are influencing and

complementing each other in several ways. The public universities' scheduling of teaching for most of the self-sponsored academic programs during the evenings and weekends, making it possible for working people to pursue university education while managing their regular responsibilities, has been borrowed from the private university sector. Private universities, on the other hand, benefit from public universities by utilizing their academic staff on a part-time basis to bridge their staff shortfall. Competition for students is another dimension of this interaction. That public universities are now attracting fee paying students has created a cut-throat competition not only among public universities, but also with private universities in the country. With higher education having become an international business, foreign universities are intensifying this competition by attracting Kenyan students to their institutions abroad or branch campuses within Kenya.

Third, the development of alternative funding sources by public universities could in the long run bridge the financial shortfalls from the exchequer. Large amounts of debt have been accumulated over the last several years, largely because of gross underfunding and inefficient utilization of the available meager resources. Attempts to reduce this heavy indebtedness through debt servicing have proved futile, thus exacerbating the financial crisis year after year. This debt must be liquidated through a combination of strategies, involving the use of internally generated funds and adoption of realistic unit costs by the government as a basis of funding public universities. It may be instructive to borrow a page from Makerere University in Uganda, where the government has decided on the number of students that it will fully fund (based on the degree programs) while others are charged the full cost fee. This should, however, be accompanied by a firm financial discipline, with a view to seeking improvements in the value for money of all public university functions and activities.

Fourth, although private universities in Kenya are playing a significant role by supplementing the government's efforts in expanding access to higher education at no extra cost to the public, the government has not given them a level playing field to succeed and develop to their full potential, in terms of broadening their higher education spectrum. The Commission for Higher Education employs restrictive regulatory mechanism in accrediting them. The Higher Education Loans Board discriminates against students from private universities. It provides only about 2% of its loans to students in private universities while their counterparts in public universities receive 98%.

Fifth, like other universities in sub-Saharan Africa, public universities in Kenya are struggling to emerge from two decades of crisis, in which financial constraints have resulted in institutional deterioration, loss of vision and mission, brain drain, waning of programmatic relevance and declining quality. A productive re-orientation and transformation process is taking place under the guidance of strategic plans, with a view toward improving efficiency and effectiveness. Enhancement of efficiency has also included the usual double entry solution of reducing expenditures and generating more income. The main strategy for generating more income has been the introduction of demand-driven, self-sponsored academic programs for students who, although meeting the minimum academic qualifications for admission to public universities, could not gain admission due to the competitive selection process that is limited by the university's physical capacity.

Despite these and other challenges discussed in this chapter, one must not end with a sense that all is lost. To the contrary, the future looks moderately bright for higher education in Kenya. The success, or failure, of both public and private universities in the country will clearly depend on thoughtful analysis, strategic planning, fiscal discipline and innovation.

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KOREA

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Higher education in Korea can be traced to the 4th century. Higher education comparable to the Western universities and colleges was introduced into Korea at the end of the 19th century. The purpose of this chapter is to briefly introduce international scholars to the history, characteristics, recent challenges and responses, and future direction of Korean higher education.¹ The country faces a number of contemporary challenges, including a shrinking student population for higher education, difficulties in the provincial universities caused by the shrinking population, and developing a robust science and engineering education sector. Korea's government has established policies meant to respond to these challenges and to ensure a better future for Korean society, including a special budget to support higher education. The Korean case can be a good example for developing countries.

History of Korean Higher Education

The history of Korean higher education is closely intertwined with the ebb and flow of Korean culture and patterns of colonial domination by geographical neighbors. This chapter traces important developments in the recent history of Korean higher education.²

The first institution of higher education in Korea, Tae Hak (the Great School) of Korguryo dates back to 372 A.D., and is one of the oldest higher education institutions in the world. It was established by the government to educate public officials. There were also private higher educational institutions (Kyoung Dang) that were established somewhat later than Tae Hak. Private schools were established to meet the educational demands of provinces, demands that could not be met by Tae Hak in the capital.

The traditional higher education system, which had a private sector and an elite public university sector, continued to the end of the 19th century. This system worked as an important instrument for the governing classes to maintain their status. Throughout Korean history, those who wanted to be public officials had to pass examinations, and universities provided instruction for students who wanted to pass such examinations. As time passed, access to higher education was widened from a few royal classes to the entire governing class.

Institutions of higher education, comparable to the universities and four-year colleges of Western countries, have a history of a bit over 100 years in Korea. There were three different streams of influence leading to the establishment of Western-style higher education. The first stream was led by the Western missionaries, who established private higher education institutions such as Ewha Kak Dang (1886) and Sungsil Hak Dang (1897). The second stream was led by the Korean government, which established professional schools to teach Western knowledge such as medicine, telegraphy, industry, mining and agriculture, and languages. The third stream was led by the nationalistic pioneers to teach Western knowledge and to rescue the country from invasion by Japan or Western countries. The third stream continued until Korea was independent from Japanese rule in 1945.

After independence from the Japanese, the modern system of higher education was restructured and reorganized by the United States (1945–1948). At the time of Korean liberation from Japanese rule, there were 19 institutions of higher education in Korea with a total enrollment of 7,819 students and 1,490 faculty members. When the United States armed forces occupied Korea in September 1945, it took a series of significant steps to recognize and expand higher education, acting upon the recommendations of the Korean Committee on Education and the Council of Education. As a consequence, by the end of U.S. government control (1948), the number of higher education institutions had increased by 221% (to 42 institutions) and enrollment had increased by 307% (to 24,000 students).

In the earlier days of the First Republic (1948–1960), colleges and universities continued their growth in terms of student enrollments and the number of faculty. The total number of higher education institutions, however, remained constant, although there were changes in the status of individual institutions. Just before the outbreak of the Korean War, there were four universities, 29 colleges, two community colleges and seven miscellaneous colleges of higher education, with a total of 29,288 students enrolled and 2,049 faculty members.

The Korean War (1950–1953) completely paralyzed the entire system of higher education. Despite the initial setbacks, however, some higher education was carried on in refugee colleges and in the “Wartime Union College.” After the war, government policy was tightened, and began to swing in the direction of slowing the establishment of new higher education institutions. The Presidential Decree on the Establishment of College and University Standards, promulgated in 1955, was a significant landmark of this new direction in higher education policy.

Under the Military Government (1961–1963), higher education in Korea went through a series of radical reforms. Enforcement of “rearrangement plans of higher education” involved drastic changes in the status of the existing higher education institutions, causing a great deal of controversy. During this period, the government began to strongly control even private universities and colleges. The government considered higher education as a main source of educated manpower and it tried to merge the “Five-Year Economic Development Plan” with the higher education plan. The main purpose for maintaining control was improving the quality of higher education graduates based on the economic development plan of Korea’s emerging economy. Thus, the government enacted the Private College Law in 1963, which transferred many

powers of the board of trustees and the president of each institution to the Ministry of Education (MOE). It also enacted the “Rule for Student Enrollment” in 1965, which gave the MOE the right to determine the number of new students to be admitted to higher education. Nevertheless, many private universities admitted more students than the government allowed. At the same time, the government diversified the higher education system through the establishment of more community colleges and vocational higher professional schools.

In the 1970s, the government began to increase the number of new students enrolled in higher education to meet the demand caused by the development of Korea’s emerging economy. Thus, from 1973 to 1978, enrollment in higher education was increased by an average 11.8% per year. The major strategy that the government used to increase enrollment was manpower planning. Student quotas (the numbers of students allocated to each area of study) were determined on the basis of manpower demands for heavy industry. In 1973, ten pilot universities (nine private universities and one national university) inaugurated a series of reform projects or programs, such as the reduction of credit requirements for graduation (from 160 to 140). In 1974, the university specialization was introduced, which focused on chemical, electrical, and industrial engineering education. By the end of the decade, pilot institutions had increased to 39, involving most major universities in Korea.

Another important aspect of higher education reform during the 1970s was the revision of vocational higher education. In 1979, the government unified all higher education level vocational schools into vocational colleges (two- and three-year community colleges). Vocational education was divided into three parts: high schools would train craftsman; vocational colleges would train mid-level technicians; and four-year universities and colleges would educate engineers.

In 1979, President Park Junghi—who led the military coup in 1961—was assassinated, and a new military government was established in 1980. The Fifth Republic (1981–1987) reformed many parts of Korean society, hoping to solve social problems and to increase social control. The key policy measures included in the July 30 Education Reform were:

- the unprecedented expansion of enrollments, including a 30% increase in admittance of students by colleges and universities;
- teachers colleges and the National University were upgraded from two to four years, and some junior technical colleges were upgraded to open industrial universities; and
- entrance examinations administered by individual colleges and universities were abolished and replaced with a national exam.

In 1987, the government responded to public demands for democratization in education, and the Ministry of Education proclaimed a new “University Autonomy Plan.” The key goals of this plan were: (1) to ensure the autonomy and accountability of university management; (2) to provide for greater participation of faculty in governance; (3) to increase the quality of higher education through extending the rights of the faculty; (4) to increase the autonomy of each institution based on its particular situation; and (5) to protect and foster the autonomy and individuality of private universities and colleges.

During the 1990s, the demand for mid-level technicians increased, caused by the growth of Korea's economy. This demand pushed the government to change the vocational college system. The bachelor's examination program of self-study, recognized as a college education equivalent, was formally launched in 1990. There are now examinations at each stage toward obtaining a bachelor's degree. By providing an alternative path to a bachelor's degree, the self-study system attaches as much importance to social education and the lifelong process of learning as to formal school education. The process of obtaining a bachelor's degree through self-study requires passing four qualifying exams, which include exams in the liberal arts, the basic major, the advanced major, and a final comprehensive exam. From 1992 through 2002, 7,042 bachelor's degrees in 12 specialized fields were granted through this self-study system.

In February 1994, the President established a Commission on Education Reform (PCER), charged with determining the fundamental direction of education for the 21st century and reviewing both short- and long-term educational development plans and the progress of educational reform at the national level. On May 31, 1995, the PCER announced new "Reform Measures to Establish the New Educational System" intended to lead Korea into the age of globalization and the information age. The goals of the measures are to enact a system of "open education and lifelong learning" that emphasizes a learner-centered approach, as well as a diversified and autonomous education. The measures are: (1) broadening the diversity and specialization of higher education; (2) diversification of the criteria for private college foundation; (3) delegation of power to individual institutions to decide admission quotas and matters regarding higher education management; (4) provision of a special supporting system for research; (5) provision for raising the quality of research to world-class levels; and (6) improvement of the connection between university and college evaluation and financial support.

In March of 1998, President Kim Dae Jung succeeded President Kim Young Sam, thereby inheriting the economic collapse of the country. His government followed the basic existing structure for higher education reform designed by the PCER. As part of the effort to continue educational reform, on July 24, 1998, the government established the "Presidential Commission for the New Educational Community." Preserving the fundamental spirit of educational reform upheld by the former regime, the Presidential Commission focused on reviewing and assessing the progress of educational reform, publicizing and offering training for reform, and enlivening civic movements for the promotion of reform. In 1991, the Ministry of Education was transformed into the Ministry of Education and Human Resources Development (MOEHRD), which is headed by the Deputy Prime Minister. The Ministry has tried to innovate the role and function of the university as a new engine for growth. It puts its energy and funds toward elevating the research and development capacity of the university and strengthening partnerships among the industries, universities, and research institutes so that the universities can take the central role in the network of creating and disseminating knowledge.

In 2003, the Roh government announced that "balanced development of the nation" would be its supreme policy mission, and presented "promoting provincial universities" as an important task to buttress the mission. The Presidential Committee on Education

Innovation is currently in charge of formulating recommendations on innovation of the higher education system and human resource development.

Characteristics of the Higher Education System

The characteristics of the Korean higher education system can be summarized as follows (Park, 1995):

1. The private sector has roughly three-quarters of the total enrollment of students (73% in 2003).
2. There has been little financial support for this private sector.
3. All institutions are under the supervision of the Ministry of Education.
4. The ratio of higher education students to the general population is larger than that of any other developing country, but the conditions in higher education institutions are poor by comparison.
5. Students pay for their education. In private universities and colleges, they pay around 80% of their total educational expense, whereas in national institutions they pay around 50%.
6. Higher education has experienced a rapid expansion for the last 50 years.
7. Finally, at the present time, there are seven different types of higher education institutions in Korea: (a) colleges and universities offering four-year undergraduate programs, with some offering six-year medical and other programs as well; (b) four-year teachers' universities; (c) junior colleges—also known as vocational community colleges—offering lifelong vocational education for adults, including programs in fisheries/marine science, nursing, public health, engineering and technology; (d) the Korean National Open University, also known as Air and Correspondence; (e) polytechnics—also known as industrial universities—offering an alternative way of providing wider education opportunities for workers and adult learners to earn their bachelor's degree without leaving their jobs; (f) distance or "cyber" universities; and (g) miscellaneous schools, predominantly in highly specialized fields such as theology or arts, where no degree is offered but completion is considered equivalent to graduation from college and university.

As is the case with many developing countries, Korea has achieved a remarkable quantitative expansion of higher education during the last 50 years. Enrollment in higher education grew from 7,819 in 1945 to 3,558,111 in 2003, as reflected in Table 1.

Table 1. Expansion of Higher Education (1945–2003)

| | 1945 | 1960 | 1970 | 1980 | 1990 | 2000 | 2001 | 2002 | 2003 |
|-------------------------|-------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|
| Schools | 19 | 85 | 357 | 556 | 556 | 1,184 | 1,261 | 1,303 | 1,390 |
| Teachers and Assistants | 1,490 | 3,808 | 10,435 | 20,900 | 41,920 | 79,136 | 83,116 | 86,441 | 88,129 |
| Students | 7,819 | 101,041 | 201,436 | 601,494 | 1,490,809 | 3,363,549 | 3,500,560 | 3,577,447 | 3,558,111 |

Source: Ministry of Education and Human Resources Development and KEDI (2003), *Statistical Yearbook of Education*.

Because virtually three of every four students in Korea are enrolled at a private college or university, it is important to note that these institutions are highly dependent on tuition. In 2003, student tuition accounted for 77% of the budget at junior colleges, 62% at four-year universities, and 79% at industrial colleges in the private sector (see Table 2). To help alleviate some of the financial demands, the government enacted a law exempting private universities and colleges from taxation in the acquisition and sale of properties. Loans are also provided to help private schools with the expansion and renovation of facilities. And the government's support for research grants, student activities, scholarship and annuities is increasing.

Recent Challenges and Responses

The Shrinking Population for Higher Education

Recently, Korea's student population has been shrinking rapidly. While the size of the age group that reached university admission has diminished, the freshmen quota at the university has increased. The applicants for higher education in 2000 were 867,000, but by 2002 this had declined to 720,000. The ratio between students who apply for entrance examinations and the freshmen quota of universities was 100.7% in 2002—in other words, the seats in universities exceeded actual demand (see Table 3). Demographic trends and forecasts for Korea indicated this phenomenon will continue for some time.

Such a decrease in the number of students is likely to compound the risk factors of Korea's universities. Some institutions in the end may suffer from severe structural vulnerabilities. In 2002, the nationwide average of the unfilled freshmen quotas among four-year universities was 5.5%. The number of universities and colleges with unfilled freshmen quota was greater in provincial institutions than in the Seoul region. This phenomenon is expected to be even more pronounced in the future.

The shrinking population of higher education hits those universities that are highly dependent on student tuition particularly hard, and leads to bankruptcies of (or mergers between) institutions. In order to overcome the difficulty, universities try to find students from overseas, particularly from China and other East Asian countries.

Difficulty in the Provincial Universities

Directly connected with the shrinking population for higher education, provincial universities face considerable difficulties. These include: the difficulty of enrolling students, due to their flocking to the universities in the Seoul region, and the financial difficulty this creates; the difficulty of attracting talented students; the difficulty in employment faced by the graduates of provincial universities; and a weakness in the innovative capacity of provincial universities.

Causes of the crises are categorized into external and internal factors (Lee, 2004, p. 3). The external factors include a concentration of socioeconomic and cultural power in the Seoul region; high school graduates' preference for the Seoul region; and the launching of alternative systems of higher education. The internal factors of the provincial

Table 2. Source of the Budget for Private Institutions in 2003 (Unit: 1 million Won. 1\$ = 1200 Won)

| | Total Revenue | Management Income | | | | | | Capital and Debt | Unused Balance Carried Forward |
|--------------------|--------------------|-------------------|------------------|----------------------|-----------------|---------------|---------------|------------------|--------------------------------|
| | | Tuition | Donation, etc. | Assorted Educational | Non-Educational | | | | |
| Total | 13,847,085 100% | 9,066,445 65% | 2,520,734 18% | 271,127 2% | 409,713 3% | 885,234 6% | 693,832 5% | | |
| Jr. College | 3,053,901 100% | 2,363,741 77% | 140,626 5% | 48,184 2% | 92,254 3% | 136,812 4% | 272,284 9% | | |
| University | 10,308,097 100% | 6,375,550 62% | 2,287,608 22% | 216,166 2% | 307,236 3% | 739,926 7% | 381,611 4% | | |
| Industrial college | 386,458 100% | 306,298 79% | 33,071 9% | 4,868 1% | 7,892 2% | 4,903 1% | 29,426 8% | | |
| Graduate school | 92,693 100% | 17,717 19% | 57,931 62% | 1,831 2% | 2,268 2% | 2,456 3% | 10,490 11% | | |
| Others | 5,936 100% | 3,139 53% | 1,498 25% | 79 1% | 63 1% | 1,137 19% | 20 3% | | |

Source: Ministry of Education and Human Resources Development and KEDI (2003), *Statistical Yearbook of Education*.

Table 3. Ratio of High School Graduates and Those Who Applied for College Entrance Test Vis-a-vis University's Freshmen Quota (Unit: Persons, Percent)

| Year | Freshmen Quota | | | | High School Grads. (B) | Ratio (A/B) | Applied to National Entrance Exam ^b (C) | | Ratio (A/C) |
|------|----------------|-------------|--------------------|------------------|------------------------|-------------|--|-------------|-------------|
| | Total (A) | Jr. College | Univ. ^a | Korea Open Univ. | | | Exam ^b (C) | Ratio (A/C) | |
| 1970 | 54,550 | 11,360 | 43,190 | — | 145,062 | 37.6 | 120,580 | 45.2 | |
| 1975 | 94,325 | 26,685 | 55,640 | 12,000 | 263,369 | 35.8 | 223,159 | 42.3 | |
| 1980 | 223,835 | 84,455 | 121,380 | 18,000 | 467,388 | 47.9 | 501,505 | 44.6 | |
| 1985 | 305,450 | 97,090 | 174,360 | 34,000 | 642,354 | 47.6 | 725,861 | 42.1 | |
| 1990 | 388,510 | 130,520 | 208,990 | 49,000 | 761,922 | 51.0 | — | — | |
| 1995 | 565,750 | 215,470 | 282,780 | 67,500 | 649,653 | 87.1 | 757,488 | 74.7 | |
| 2000 | 712,775 | 294,175 | 352,220 | 66,400 | 764,712 | 93.2 | 868,366 | 82.1 | |
| 2001 | 713,270 | 292,035 | 354,835 | 66,400 | 736,171 | 96.9 | 850,305 | 83.9 | |
| 2002 | 723,283 | 293,174 | 363,709 | 66,400 | 670,713 | 107.8 | 718,441 | 100.7 | |

Source: Lee, Chong Jae (2004). The cluster strategy for balanced regional development and the policy tasks for provincial universities (p. 4).

^a“Univ.” includes universities of education, universities, industrial colleges, and technical colleges.

^b“Applied to National Entrance Exam” implies the numbers of the applicants for the “preparatory test for college entrance” and the “achievement test for college entrance” from 1970 through 1985, and “college scholastic ability test” starting from 1995.

^cIt is difficult to compute the number of the applicants for the “achievement test for college entrance” for 1990 due to a peculiar application procedure adopted for that year, by which the application term is divided into the early and the late terms and students first applied to college and then applied to the test.

universities include unreasonable increases of student quotas in these institutions; a low capacity for education and research; weak competitiveness of their graduates in the employment market; and a low capacity for self-innovation.

In order to strengthen the innovative capacity of provincial universities, the New University for Regional Innovation (NURI) project was launched in 2004. The aims of this project are ambitious. First, in terms of an overall strategic approach, financial support will be focused upon recovery of the regional identity, decentralization of governance, transfer of resources and authority to provinces, and promotion of provincial universities. Second, the regional development strategy will be implemented based on spontaneous effort of the provinces. Third, in order to create the basis for specialization of provincial universities, the areas of specialization suitable for local development will be selected for focused support, following the "principle of selection and focus." Finally, the selected areas will be connected to internal innovation of the universities to produce an effect of simultaneous restructuring (Lee, 2004, p. 17). For this project, the government plans to allocate around \$250 million each year for five years. If this project turns out to be successful, it plans to increase the budget.

Problems of Science and Engineering Education

Another of the challenges that Korea faces involves the need to attract bright students to science and technology majors. Students tend to avoid natural science and engineering majors and flock to a few popular majors. To meet the demands of an advanced techno-intensive higher industrial society, the government has increased scholarships and opportunities for overseas studies for students in those majors. An incentive scheme is expanding financial aid to support faculty participation in joint research, internship programs and seminars. This activates scholarly exchanges with other countries, helping them keep abreast of the rapidly advancing frontiers of technology. At the same time, more resources are being put into the expansion of research facilities of school-industry cooperation.

Future Directions of Korean Higher Education

Distance University Education

Distance university refers to the lifelong education offered in higher education institutions that confer degrees equivalent to those of either junior colleges or four-year universities when students complete a set of credit hours. There are a total 16 distance universities (also called "cyber universities") licensed by the government, 14 for bachelor's degree courses and two for associate undergraduate degree courses. The freshmen quota for them is 200,500. Student supervision by the distance universities varies from one to another; however, in general, it includes Web-based attendance, on-line participation in quizzes, evaluation of the student's written work, scores on chatting and discussion, and evaluation of the mid-term and final examinations. In 2003, these distance universities only filled 50% of their freshmen quota. This is related to the broader problem of "unfilled freshmen quota" in the traditional universities. However,

despite under-enrollment, it is likely that the establishment of distance universities will increase in the long run.

Upgrading the Infrastructure for Academic and Research Information

In 1999, the Korean government founded the Korea Education and Research Information Service (KERIS) as an institution devoted to moving education and academic research into the information age. KERIS investigates and collects data and produces information pertaining to academic research, and runs the information service system for academic research (<http://www.riss4u.net>), which provides the means for effective distribution of the information produced. This information system provides an integrated search service of the comprehensive index of books stored in domestic university libraries (388 universities had joined as of May 2003). Primary and secondary school libraries will soon be linked and curriculum will be available to encourage the usage of library resources. It also offers an inter-library loan service to support the sharing of data among university libraries, and promotes joint activities to utilize them (331 universities had joined this service as of May 2003). The system also includes a one-stop service for photocopying academic articles from domestic academic associations and university-affiliated research institutes and dissertations from domestic and foreign universities.

Employment Quota System for Female Professors in National and Public Universities

Following an expansion of the opportunity for university education, the proportion of female students in universities has risen. The proportion went up from 22.5% in 1980 to 36% in 2001. In 2002, 48.2% of university graduates were female. The proportion of females among doctoral graduates rose from 8.8% in 1980 to 22.9% in 2001. However, the proportion of female professors in the national and public universities remains at 9.1% as of 2002. Hence, a legal amendment was enacted in 2002 to produce a legal basis for the quota system for female professors in the national and public universities.

Graduate Schools and Brain Drain

Graduate education offers research-oriented facilities for those who need to prepare for academic and professional leadership. There are 142 general graduate schools, 106 professional graduate schools, 596 evening special graduate schools, and 25 independent graduate schools without undergraduate programs.

The minimum requirement for a master's degree is 24 credits, normally achieved in four semesters in the case of full-time students and five semesters for night students. Most doctoral programs require students to take an entrance exam offered by their own schools. The minimum requirement for a doctoral degree is normally 60 credits. Those who complete the required credits and pass two foreign language examinations

as well as a comprehensive examination for the doctoral degree are entitled to write dissertations.

One of the major problems that Korean graduate schools have is brain drain at the doctoral level. Excellent students prefer to earn their doctoral degree abroad in such countries as the U.S. or England. Most of them go abroad to study after they complete a master's degree. Except for some good universities, graduate schools have a hard time recruiting excellent doctoral students. In order to solve this problem, the government has launched an ambitious program, Brain Korea 21 (BK 21). It is being undertaken for the purpose of developing graduate school-centered university education at the international level, and includes an emphasis on the basic sciences and an increased number of scholarships in areas of strategic importance. Based on this program, graduate schools are beginning to recruit more excellent students. At the same time, efforts are also being made for doctoral graduates to forego military service in return for working five years in companies or labs acknowledged by the government.

Today, brain drain is not a serious social problem in Korea. In fact, reverse brain drain and brain drain are both occurring at the same time in Korea. Those who found jobs in foreign countries after finishing their studies are coming back to Korea. At the same time there are also people who want to emigrate for better jobs and their children's education. The future of brain drain will thus be dependent on the economic situation of Korea.

Increasing University Autonomy and Enhancing Accountability

The budget accounting system of the national universities, which is currently bifurcated into general accounting and accumulative accounting, will be integrated under a special accounting system to promote autonomous management. As an attempt to raise university accountability—for the purpose of ensuring a university member's right to know and enhancing transparency and trustworthiness in the financial management of private universities—budget making and balance statements of private universities are required to be public. An accounting inspection will be conducted by an external auditor at universities and industrial universities with a freshmen quota over 2,000.

Both professionalism and efficiency of the government-led evaluation of universities has improved, and administrative and financial support for universities is connected to the evaluation of the quality of both the education and research provided by the university in order to enhance the excellence of university education. Accreditation by academic associations or relevant committees—such as accreditation for engineering education or for medical education—is done within the government-led evaluation process.

Also, a university board of trustees, comprised of faculty and non-faculty members, will be established. Currently, presidents of national universities are elected by faculty members. Except in a few cases, most of them are elected from among the faculty members. Recently, administrative staffs have pressured faculty groups to allow their participation in the voting, and in some schools they now hold around 5–7% of the vote. Administrative staffs' participation has awoken the student body, which has begun to

pressure schools for their own participation in their president's election. It is expected that in the near future a president's election system will be replaced by a board of trustees' appointing system.

Reunification

One of the significant variables that will affect the future of Korean higher education is reunification with North Korea. There are continual discussions of this possibility, and should it occur, it is likely that there would be an increase in demand for higher education from residents of North Korea. However, this is not seriously considered or prepared for because nobody knows when it will happen. Korea may want to learn from the reunification experience of Germany.

Conclusion

In sum, this chapter has described the history, characteristics, recent challenges and response, and future direction of Korean higher education. The system expanded tremendously after World War II, much like that of many other developing countries, and there are currently several unique characteristics of Korean higher education to consider. First is the size of the private higher education sector, which enrolls nearly three-quarters of Korea's students. Second is the high financial dependence on tuition—around 70% of the budget at private universities and colleges, and around 50% of the budget at national/public universities and colleges, are driven by student tuition. Recently, the government increased its budget for higher education, in order to lower this widespread institutional dependence on tuition and to increase the quality of higher education. Third is the recently upgraded, Internet-based infrastructure which supports academic and research information. Korea is now one of those countries in which the information highway is highly accessible. A new information service system provides an integrated search service of the comprehensive index of the books and journals stored in domestic university libraries, and primary and secondary school libraries will soon be linked to the system. However, despite these unique and exciting advances in higher education, Koreans are still dependent on western universities—especially those in the United States—for awarding doctoral degrees. Current and future government efforts to increase the quality of master's and doctoral programs are expected to decrease this dependence.

Notes

1. The main sources used in this chapter include *Education in Korea* and other data from The Ministry of Education and Human Resource Development's home page (<http://www.moe.go.kr>); the Educational Statistics System (<http://std.kedi.re.kr>), published by Korean Educational Development Institute; and *Korean Higher Education*, edited by Weidman and Park (2000).
2. For a discussion on the early history of Korean higher education, please see J. Weidman & N. Park, (Eds.), *Korean higher education: Tradition and adaptation*. (New York, NY: Falmer Press, 2000).

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MEXICO

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With over 450 years of institutional history, higher education has been a constant factor in the cultural and social construction of Mexico. Throughout its existence, higher education has taken a central role in national life. In addition to meeting its substantive responsibilities with respect to teaching, research, and cultural dissemination, the most influential universities have been immersed in a variety of important political and social debates. This participation in public life, which certainly goes beyond the traditional scope and responsibilities of most academic institutions, has also implied a significant contribution of higher education to the complex construction of democracy.

At the beginning of the 21st century, Mexico had a population of some 100 million inhabitants and, according to demographic projections, it will stabilize at between 130 and 150 million toward the middle of the century. The transformation in demographic patterns has meant a narrowing of the base of the population pyramid that will give rise to a reduction in the demand for basic education in a few years. In the coming decade, however, the increase in the population group aged 15 to 24 suggests an imminent growth in the demand for higher education.

Mexico is facing important challenges in economic, political and social terms. The modernization processes of economic factors, entry into the international framework and access to more complex production modalities have had favorable effects for the country, but have also brought unexpected consequences and even new problems, including some that deepen the conditions of social inequality. The political dimension, in turn, is still in a transition phase. The political transformation achieved in 2000 has not been sufficient for the full consolidation of democracy, and it is foreseeable that in the coming years new challenges will appear in the field of national political life.

In social terms, Mexico is subject to dual circumstances—even though some sectors have reached acceptable levels regarding quality of life, the large majority of Mexicans suffer conditions of inequality, inequity and poverty that have not yet been resolved. This is the framework in which higher education operates, and although the solution to such complex conditions is not within the reach of the higher education institutions, it is nevertheless unavoidable that the academic initiatives of these institutions take them into account.

Higher Education Structure: History and Current Perspectives

Genesis and Historical Development

The first universities in the Americas appeared during the middle of the 16th century, and were steeped in the process of giving shape to colonial society. This is the case of the *Real Universidad de México*, founded by a Royal Decree on September 21, 1551—barely 30 years after the fall of México Tenochtitlan—which began giving lessons to criollos and Spaniards in 1553. Although the establishment of *Real Universidad* (which attained pontifical recognition at the end of the 17th century) offers the most solid historical milestone of higher education in Mexico, the *Colegio de Santa Cruz de Tlaltelolco* (1536) should also be considered among one of the highly significant institutions of the time, offering higher and elementary education to the indigenous population (Ramírez, Pavón, & Hidalgo, 2001).

The 19th century in Mexico represented a break with colonial life and the birth of a nation. Under the reverberations of the Enlightenment, and with the continued struggles between liberals and conservatives, the country began a long defining process that had different effects on higher education. Thus, while new universities (Mérida and Chiapas) were created, the colonial university—after a troubled existence—was finally closed in 1865. Through the 19th century and the beginning of the 20th, different bodies were also created in the country—including institutions devoted to teacher training, and literary and scientific institutes—that were the basis for the creation of new universities (such as Jalisco, Puebla, Oaxaca, and Chihuahua).

In 1910, the National University of Mexico was created, thus uniting the different professional schools. Under the influx of positivist thought, an institution arose in the same year as the revolutionary uprising that paradoxically would be the last creation of the dictatorial regime. The armed struggle represented a complex scenario for the new institution, and its first decades were ones of survival. It was not until the revolutionary institutionalization phase in 1929 that the National University obtained its autonomy and became the most influential institution in the cultural construction of the country. During the first half of the 20th century, other institutions appeared that would give shape to a higher education system: Michoacán (1917), Sinaloa (1918), Yucatán (1922), San Luis Potosí (1923), Guadalajara (1924), Nuevo León (1932), Puebla (1937), and Sonora (1942). It is also important to mention the creation in 1936 (during the Cárdenas administration) of the National Polytechnic Institute, which sought to give opportunities to broader social groups through higher education in technical specialties (Ibarrola, 1986).

Consolidation and Modernization

The 1940s and 1950s represented a modernization stage for higher education. During these years, it is possible to speak of the beginning of governmental policy for higher education, which became manifest in the strengthening of the National Autonomous University of Mexico (UNAM)—the large Mexico City campus, *Ciudad Universitaria*, was opened in 1952—and also in the impulse given to a broader scheme that would give rise to the appearance of new institutions throughout the country. New private

institutions appeared during this period, including the Technological and Higher Studies Institute of Monterrey (ITESM), the Autonomous Technological Institute of Mexico (ITAM), and Iberoamericana University (UIA), joining the few private institutions that existed at that time (for example, the Autonomous University of Guadalajara and the Free Law School).

As in other countries, the 1960s were particularly critical in Mexico. The student movement of 1968 expressed a university conflict, but in a deeper sense it also revealed the limits of a political and economic scheme that was inadequate in terms of democracy and equal opportunities. During the 1970s, as the government responded to the social demands of the preceding decade, higher education experienced the most important quantitative expansion and the most intense qualitative diversification seen in its history. During this period, the total number of students multiplied almost eightfold (from 76,000 in 1960 to 565,000 in 1977). A diversification process was also launched, giving rise to innovative modalities at the UNAM and such alternative institutions as the Metropolitan Autonomous University (UAM) (Casanova, 2001).

The 1980s and 1990s represented a modernization stage in higher education, as well as a phase of progressive articulation between higher education and factors of the economy and politics (Díaz Barriga, 1999). Under this panorama, higher education policies were included in a development model following the hegemonic currents of the world economy, with a clear commitment to diverse forms or agreements of a global and regional character (González-Casanova, 2001). Higher education policies also began to respond to the modernization and rationalization process in Mexico's public administration. In this sense, since its introduction in 1982, the so-called "national democratic planning system" has included higher education policies among its programs.

A synthetic balance of these years would have to recognize the introduction of criteria to foster changes in higher education institutions. These changes that, according to official lines, were founded on criteria of quality and efficiency, have achieved advances in the administrative and academic management processes of the institutions. However, they have also generated negative effects, including the predominance of administrative rationality over academic work. In the macro sphere of the system, it is impossible to omit the fact that the modernization policies had other effects, like the contention of university supply and a sharp reduction in public institutional financing. With respect to the growth of private higher education, its positive effects in opening up further options should be mentioned. Nevertheless, it is necessary to point out that, except for the private institutions of historical prestige—including ITESM, ITAM and UIA—most have been deficient in terms of academic quality.

Current Structure

Higher education in Mexico is regulated by a series of normative provisions, the most important of which are: the Political Constitution, the General Education Law, the Law for the Coordination of Higher Education, and the organic laws (in the case of institutions that have autonomy), internal statutes and regulations of different institutions in the system. Institutional coordination typically takes place at the federal level and, where appropriate, the state level.

The higher education system consists of over 1,600 public and private institutions, enrolling 2.2 million students and employing almost 200,000 professors. These institutions include universities, autonomous public universities, technological universities, polytechnic universities, technological institutes, research and postgraduate institutions, teacher training colleges, and higher education schools belonging to the army and the marines, among others. The educational programs include the following levels: higher technical university, associate professional, first degree, specialty, master's degree and doctorate. A significant amount of institutions also offer senior high school level education.

According to the criteria established in 2000 by the National Association of Universities and Higher Education Institutions (ANUIES), institutions are grouped in six subsystems that express the composition of a system in which—because of their quantitative scope and qualitative traits—public institutions predominate:

- 1) *Public university subsystem*, composed of 45 institutions that include federal and state universities (mainly autonomous). These institutions perform teaching, research and cultural dissemination, and enroll 52% of the national total of first degree students and 48% of graduate students. They carry out at least half of the national research.
- 2) *Technological education subsystem*, with 147 institutions enrolling 19% of first degree students and 8% of graduate students. This includes prestigious institutions such as the National Polytechnic Institute (IPN) and the Advanced Studies and Research Center (CINVESTAV). Most of these institutions (102) are coordinated by the federal government and the rest by state governments.
- 3) *Other public institutions subsystem*, including 67 institutions that depend on the federal government.
- 4) *Technological universities subsystem*, comprising 38 institutions in the year 2000; an innovative model that first appeared in 1991, with just over 1% of the nation's first degree enrollment.
- 5) *Private institutions subsystem*, composed of 976 institutions, divided into 306 universities, 256 institutes and 434 centers, schools and other institutions, enrolling 27.6% of all first degree students and 36.5% of graduate students (32.6% and 40% in 2002 respectively).
- 6) *Teacher training colleges subsystem*, covering some 357 institutions (220 public and 137 private) and accounting for 11.5% of the nation's first degree enrollment.

Coordination, Organization and Governance in the Public and Private Sectors

Coordination

During the last 10 years, the modalities for coordinating higher education in Mexico have undergone important transformations in their structure and processes. Regarding structure, the traditional external actors of a public character (the different orders of the public administration, the legislative powers, and the bodies that mediate public administration and the universities) have been joined by a host of internal actors (university

directors, academics and students)—although in an incipient way, mainly involving actors related to the student, professional and complementary financing markets, as well as public and private funds for specific projects (Rodríguez, 2003). With some necessary reservation, one can assert that the modalities of coordinating higher education in Mexico—framed in traditional terms within the sphere of the state, accompanied by the presence of academic and intellectual elites—have undergone a diversification process during the last few years. This process has granted a greater presence to external actors, such as those coming from the markets, as well as to new agents from civic organizations, social movements and the media, among other entities.

With respect to the specific bodies that intervene in the coordination of higher education, the Ministry of Education (SEP) plays a central role in coordinating the system, while the National Council for Science and Technology (CONACYT) and ANUIES (formally an agency with a civil character that has come to play a role of mediation between the federal government and the higher education institutions) also intervene. Another intermediate coordinating organization is the Federation of Mexican Private Higher Education Institutions (FIMPES), which articulates the policy concerns of higher education institutions of the private sector. In terms of coordination, the National Coordinating Office for the Planning of Higher Education (COEPES) integrates elements from the SEP, ANUIES and the institutions themselves in order to generate proposals on national plans and programs.

In terms of academic organization, the institutions follow two models: a traditional one, based on separate schools or faculties that are mainly committed to teaching and (to a lesser extent) research (which, when it exists, is developed in other institutional spaces); and the departmental model, which functions as the basic unit of organization for academic work and ideally integrates teaching and research. At present, both models coexist, but it can be sustained that the newly created public and private institutions and those that generate innovation processes have incorporated the departmental model as a form of organization.

Institutional Governance

The field of institutional governance maintains substantive differences depending on the sector (public or private). In public institutions, the collegiate bodies range from university councils and governance boards to technical councils and academic councils. The individual leaders include the rector, directors and department heads, among others. In terms of the distribution of competencies and attributions, it is possible to point out that the collegiate bodies have been favored over individual leaders. Thus, the decisions of individual leaders are limited by the academic rationality established by the collegiate organization. The collegiate bodies of the public institutions usually allow for student organizations that represent the public sector even in the bodies of the highest level and are integrated—although with a limited scope of influence—into the decision-making process.

However, a description of institutional government in the public sector cannot be restricted to its normative dimension. In Mexico, the exercise of institutional governance is highly complex and its praxis surpasses normative and formal limits. Thus, it is

possible to find that the individual figures impose their proposals in vertical ways and, on occasions, far removed from collegiate logic. In some cases, the individual figures appeal to collegiate rationality only in order to formalize previously established individual decisions.

In the case of private institutions, collegiate bodies also co-exist with individual leaders. In this case, the individual leaders enjoy full attributions and the collegiate bodies have more of a consultative than decisive role. In this sense, decision making follows a less arduous road. The nature of private organizations does not demand such exhaustive means of legitimization as seen among public institutions, and the individual leaders enjoy broad margins within which to act. In the sphere of the private institutions, the student sector has a less organized presence and its role in institutional life is usually limited to individual ways of expression.

It is important to point out that in practically all Latin America, educational institutions have been encouraged to reform their governance modalities and, in many cases, have introduced processes of change (Brunner, 1991; Casanova, 2002). Mexico has not remained at the margin of these tendencies, and it is possible to mention a transition in governance and management schemes (Ibarra, 2002; de Vries, 2002). This transition is not yet fully defined, and diverse tensions can be observed among managerial modalities that appeal to the strengthening of individual leadership, in comparison with academic management modalities that are set on maintaining a collegiate structure in decision making (Muñoz, 2002). In light of this, it is also important to recognize the lack of programs for the training of higher education directors and managers, and as a result the often minimal levels of professionalization among those who exercise leadership responsibilities in public and private institutions.

One important tension—both historical and contemporary—in the public sphere of higher education governance in Mexico involves institutional autonomy (Levy, 1987). Debate over the roles and responsibilities of the actors involved in higher education—principally the state and government—has been ongoing throughout the last several years, and it is possible to sustain that, with the modernization policies, the traditional margins of autonomy have been redefined, depositing greater responsibilities in bodies external to the higher education institutions (Manero, 1999).

Evaluation and Accreditation of Higher Education

Over the last several decades, governmental educational policies have been based on the criterion of quality as the principal point of reference (Brunner, 1997). In this respect, during the 1980s the specific documents on higher education policies institutionalized evaluation as a mechanism, *par excellence*, to promote quality. In the same way, an attempt was made in the mid-1990s to seek the consolidation of a series of accreditation mechanisms related to the promotion and assurance of quality in public and private higher education institutions (Kent, 2000).

A number of specific bodies have been created in relation to evaluation: the National Higher Education Evaluation Commission (CONAEVA), established in 1989; the Interinstitutional Committees for Higher Education Evaluation (CIEES), formed in 1991; and the National Center for Higher Education Evaluation (CENEVAL), created

in 1994. In turn, new entities have been created to promote accreditation, including the Council for Higher Education Accreditation (COPAES), launched in 2000, which—fostered by the ANUIES and the SEP—has the objective of recognizing organizations that accredit public and private academic programs. However, two decades after their introduction, evaluation results do not seem to be proportional to the efforts invested in this area, and there is no evidence to show the impact of evaluation on the effective improvement of quality. With respect to accreditation processes, formalized in 2000 with the creation of COPAES, it is important to note that they are going through an early phase in their implementation and that the number of experiences is of little significance.

Accountability

Proposals with respect to accountability are closely related to the subject of evaluation. Mainly throughout the last decade, the importance of higher education institutions providing reports on their performance has become manifest, not only in financial terms but also in relation to their substantive activities. The subject, however, is complex, and while the government suggests a multitude of modalities and strategies to promote accountability, institutions call for accountability centered on financial and operative themes.

Until now, accountability mechanisms have been centered on the federal government as inspector of institutional tasks. In this sense, extraordinary financial funds have been incorporated for institutional compliance with accountability programs. However, in recent years, the most influential universities—such as UNAM and UAM—have begun to demand that accountability be based on the informational transparency of the institutions themselves, and that it be submitted to instances other than those of the federal government, such as legislative bodies.

Student Enrollment: Access and Expansion

In the decade preceding the modernization of Mexico's higher education policies, there was an important period of expansion that transformed the profile of this educational level. Student enrollment increased almost fourfold, from 224,390 students in 1970 to 853,384 in 1980. This period of rapid growth was followed by a sharp decrease in the rate of expansion, so that by a decade later the system enrolled only 50% more students (roughly 1,245,532). However, by 2002, the student population had reached a total of 2,144,376, representing a significant resurgence in expansion during the 1990s. The main area of growth during this time period was seen among the technological and university first degree students, with 218,637 in 1970 and 1,771,969 in 2002. Also, the number of students in teacher training programs doubled between 1980 to 2000, although the 2002 enrollment in this field indicates a modest decline (see Table 1).

One of the most significant trends in enrollment during the last few decades has been the progressive increase in the private sector (Kent & Ramírez, 2002). Since the 1980s, private higher education has shown an impressive growth rate, explicitly promoted by modernization policies of the federal government, from 13.8% in 1979 to 32.6% in

Table 1. Student Enrollment in Higher Education

| Years | Student Enrollment | | | Student Population | Student Population | Total |
|-------|------------------------------|--------|------------------|--------------------|--------------------|-----------|
| | University and Technological | | Teacher Training | Graduate | | |
| | N | Public | Private | N | N | N |
| 1970 | 218,637 | 86.2% | 13.8% | – | 5,773 | 224,390 |
| 1980 | 731,291 | 86.5% | 13.5% | 96,590 | 25,503 | 853,384 |
| 1985 | 961,468 | 84.3% | 15.7% | 125,236 | 37,040 | 1,123,744 |
| 1990 | 1,078,191 | 82.6% | 17.4% | 123,376 | 43,965 | 1,245,532 |
| 1995 | 1,217,431 | 77.5% | 22.5% | 138,048 | 65,165 | 1,421,094 |
| 2000 | 1,585,408 | 70.6% | 29.4% | 215,506 | 118,099 | 1,962,763 |
| 2002 | 1,771,969 | 67.4% | 32.6% | 184,100 | 132,471 | 2,144,376 |

Source: ANUIES (2000), *La educación superior en el siglo XXI*; ANUIES (2002a), *Anuario Estadístico 2002*.

2002. It is important to stress, however, that private institutions have developed in a highly differentiated way, and although a small group has stood out in terms of academic quality and demands, these institutions as a group function under modest performance and academic efficiency criteria. The increasing presence of women has also fueled the expansion of higher education in Mexico. During in the mid-1980s, the proportion of women barely reached 33.8% of the total enrollment, but at the beginning of the 1990s it had risen to 42.8%, and to 48.2% by 2002.

Expansion of the system has also been the result of policies developed in response to increasing demand for access to higher education. Thus, the student participation rate has increased from 14.5% of the 20–24 year-old age group at the beginning of the 1990s to 17.7% in 1999. However, geographical diversity is an important issue here, with rates varying throughout the different states of the Republic—in 11 states, the student participation rates are less than 15%; 13 states have rates between 15% and 20%, four states have rates of between 20% and 25%; and four states have student participation rates over 25% (ANUIES, 1999, 2000). In response to this unequal geographical distribution, policies have been implemented over the last several decades to reverse the centralist tendencies in higher education. Thus, in 1970, 52.5% of the student population was located in the Federal District (D.F.), while by 2002 this figure had dropped to 20%. Nevertheless, decentralization has not yet reached the graduate level, as 65% of graduate students can be still found in just five states: the Federal District, Estado de México, Jalisco, Nuevo León and Puebla (ANUIES, 2000, 2002a).

With respect to distribution of enrollment by areas of knowledge, the most recent data indicate a predominance of social and administrative sciences (48.5%), and engineering and technology (33.8%). The remaining percentage is divided in the following way: health sciences (8.7%), education and humanities (4.6%), agricultural sciences (2.4%) and natural and exact sciences (2.0%) (ANUIES, 2002a).

Although important, expansion was not the only facet that characterized the transformation of higher education during the 1970s. Throughout this decade, a broad diversification process was also generated that reached practically all areas of higher

education, ranging from the reform of institutional structures to a new conception of higher education in the scenario of government policies. A variety of reform and innovation processes in the pedagogical, organizational and political fields took place in the institutions throughout these decades. Other important changes have included the incorporation of new higher education modalities such as open systems, the development of graduate studies and increasing support given to research.

Graduate Studies

General Aspects

The history of graduate studies goes back several decades and includes significant experiences in different higher education institutions such as UNAM, IPN, CINVESTAV, UAM, the National Anthropology and History Institute (INAH), Colegio de México (COLMEX), and the Center for Economic Research and Teaching (CIDE), among others (Arredondo, 1999). The first wave of growth occurred during the 1970s and 1980s, when graduate enrollment increased from 5,953 to 25,502 students. It bears mention that this increase had a large female component—while the number of men multiplied by 3.6, the number of women multiplied by 8.2 (see Table 2).

As with the other factors in higher education, graduate studies were significantly affected by the modernization policies introduced in the 1980s and 1990s. Growth in this sense was not fortuitous, as higher education policies indicated the need to increase supply at this educational level. Under such a scenario, another modernization trend came into play, reflected in the promotion of the growth of private higher education. Thus, between 1980 and 2000, private higher education institutions increased their proportion of all graduate enrollment from 23% to 40%, while the proportion of graduate students in public institutions dropped inversely (see Table 2).

By 2002, the majority of the graduate student population was enrolled at the master's degree level, with 93,011 students (70.2%), followed by 29,550 students (22.3%) at the specialty level and only 9,910 students (7.5%) at the doctoral level (ANUIES, 2002a). Among graduate students in the specialty level, the largest proportions were in health sciences (54.8%) and social and administrative sciences (31.8%) in 2002.

Table 2. Graduate School Population: Enrollment and Sector

| Year | Men | Women | Total Enrollment | Public Sector | Private Sector |
|------|--------|--------|------------------|---------------|----------------|
| 1970 | 5,167 | 786 | 5,953 | 83.3% | 16.7% |
| 1980 | 19,014 | 6,488 | 25,502 | 77.0% | 23.0% |
| 1985 | 26,473 | 10,567 | 37,040 | 79.7% | 20.3% |
| 1990 | 29,792 | 14,173 | 43,965 | 78.3% | 21.7% |
| 1995 | 39,755 | 25,860 | 65,615 | 72.2% | 27.8% |
| 2000 | 67,550 | 50,549 | 118,099 | 60.3% | 39.7% |
| 2002 | 74,435 | 58,036 | 132,471 | 59.9% | 40.1% |

Source: ANUIES (2002b), Anuario Estadístico 2002.

The majority of master's students could be found in social and administrative sciences (54.1%), with another 21.3% in education and humanities. At the doctoral level, the largest proportions of students were in natural and exact sciences (25.5%), in social and administrative sciences (24.3%) and in education and humanities (17.9%) (ANUIES, 2002b).

Graduate Education and Brain Drain

The problems at the graduate level of education are complex, and not all have received equal attention. Among the most critical matters is the accumulated lag and slow growth rate (barely 12.7% a year). In 2000, barely 1,000 students were enrolled in Ph.D. programs, essential for stimulating research, compared with 5,900 in Spain, and 45,000 in the United States (CONACYT, 2003a). The global brain drain phenomenon, which contributes to the growing polarization between rich and poor nations (and by extension, between strong higher education systems and others that are not) is thus a particularly important consideration in Mexico.

Studies of this problem are currently in an early phase, and few reflections have been made on the matter. Nevertheless, it is known that a large number of Mexican graduate students annually emigrate to the United States and European countries, where they find better academic and personal opportunities. In order to reverse this trend, the CONACYT developed a strategy in the 1990s to attract doctoral graduates in foreign institutions (Licea et al., 2003). This strategy included the creation of a Fund to Retain and Repatriate Mexican Researchers, which—according to official data—has produced some favorable results. Data collected by CONACYT (2003a) indicates around 799 researchers were repatriated between 1990 and 1994, 1,060 between 1995 and 1999, and 392 in the year 2000. However, in spite of these measures, the brain drain problem persists, in part due to continued limitations on higher education expenditures over the last decades, and the insufficient creation of academic positions.

The Academic Profession

General Aspects

As with other dimensions of higher education, the academic profession has gone through profound transformations in recent decades. For example, in the wake of enrollment growth during the 1970s, the number of professors nearly tripled, from 25,000 in 1970 to 73,000 in 1980. Nevertheless, this growth had unforeseen effects, including the formation of a small homogenous group of academic staff whose academic and professional traits are barely sufficient for effective teaching (Gil-Antón, 2002).

The expansion in the number of academic staff has been a constant trend since 1970, although with considerable contraction during the 1980s, and reached 219,804 academics in 2002. Of these, the highest percentage corresponds to first degree level, maintaining the figures of the 1990s (see Table 3).

The modernization process of the last 20 years also had important effects on academic work. Under the scenario of economic crisis and decline in financing of the 1980s, the

Table 3. Academic Staff in Higher Education

| Years | Technological and University First Degree | | Teacher Training | | Graduate | | Total | |
|-------|---|------|------------------|-----|----------|-----|---------|-----|
| | N | % | N | % | N | % | N | % |
| 1980 | 69,214 | 93.0 | 3,558 | 4.9 | 1,072 | 1.4 | 73,874 | 100 |
| 1985 | 95,779 | 85.0 | 7,849 | 7.0 | 9,046 | 8.0 | 112,674 | 100 |
| 1990 | 105,058 | 81.4 | 12,488 | 9.7 | 11,546 | 8.9 | 129,092 | 100 |
| 1995 | 132,222 | 84.8 | 12,730 | 8.2 | 10,934 | 7.0 | 155,886 | 100 |
| 1999 | 158,539 | 82.4 | 16,836 | 8.7 | 17,031 | 8.9 | 192,406 | 100 |
| 2002 | 182,594 | 83.0 | 17,676 | 8.1 | 19,534 | 8.9 | 219,804 | 100 |

Source: ANUIES (2000), *La educación superior en el Siglo XX*; ANUIES (2002a), *Anuario Estadístico 2002*.

modernizing policies of higher education introduced to the academic corps a series of expectations related to quality improvement. Thus, a variety of programs arose related to the strengthening of the academic profession that covered, among other factors, increases in the academic quality of the professors, in the number of full-time professors, and in faculty productivity. Reflecting an increased emphasis in this area, between 1997 and 2002 the number of faculty with master's degrees doubled (from 11,768 to 22,433), and those with doctorates increased 2.5 times (from 1,840 to 4,513). However, of Mexico's 128,424 academics in 2002, the overwhelming majority (90,321) were graduates of first degree level programs (SEP, 2003).

Modernization also implied a strong impetus for evaluation. Differences among individual academics (in terms of merit and quality) were recognized and rewarded in economic terms. The National Researchers System (SNI) has operated at a national level since the mid-1980s, and programs were introduced at the institutions that promoted differentiation in the faculty salary scale. Specific programs for the training of academics have also been developed, notably the Program for Excellence of Academic Personnel (SUPERA), created in 1994, and the Program for Professor Improvement (PROMEP), created in 1996 (SEP, 2003).

Research

While a comprehensive discussion on science and technology in Mexico would clearly exceed the limits of this chapter, its importance in the higher education framework demands at least a cursory review here. Scientific research is carried out principally in higher education institutions and in centers and institutes belonging to the federal government; in parastatal sector organizations, such as the Mexican Oil Institute (IMP) and the Mexican Social Security Institute (IMSS); and in other private institutions. Of the 25,392 persons engaged in research and development in Mexico, 12,477 are to be found in higher education institutions, 8,069 in government research organizations, 4,587 in productive organizations and 259 in private productive organizations (CONACYT, 2003b).

Over the last few decades, different scientific policy measures have been promoted, with significant effects on higher education. Important milestones include the creation of the SNI in 1984, the Sciences Consultative Council in 1991, and the Program for the Support of Science in 1992 (SEP, 2003). As mentioned above, research is basically performed in the public universities and, according to data from 1997, almost 95% of scientific articles were published by national researchers from public universities (OECD, 1997). One of the explicit objectives of the creation of the SNI was to retain the best academics—through academic and economic recognition—to counter the threat that they would emigrate to foreign institutions.

The SNI has managed to strongly consolidate itself and has grown slowly but constantly since its creation, from 2,276 researchers in 1984 to 9,199 in 2002. The concentration of faculty by primary area in 2002 was the following: physics, mathematics and earth sciences, 19.2%; biology and chemistry, 18.0%; humanities and behavioral sciences, 16.8%; social sciences, 11.9%; engineering and technology, 12.8%; medicine and health sciences, 10.0%; and agricultural sciences, 11.9% (Gobierno Federal, 2003).

Economic and Financial Dimensions

Throughout the last several decades, the one subject of discussion that permeates across the different fields of higher education is economics. This is not solely due to the elementary need of the institutions to have resources available for their operation, but also to the growing role of financing in the definition of higher education policies. In a higher education system with public sector predominance, as is the case of Mexico, the economic dimension is crucial. In fact, since the first decades of the 20th century, higher education experienced diverse funding problems associated (to differing extents) with the national economic crises. However, in historical terms at least two stages of increased financial support for higher education are worth mention: the first, coinciding with the postwar national modernization, included the creation of the University City Campus (the main campus of UNAM); the second, during the 1970s, gave rise to the expansion and diversification processes in higher education, with diverse effects throughout the system.

The criteria for the allocation of financing has changed over the years as well. Before the 1980s, budget allocations were founded on: (a) the size of the student population; (b) the capacity of the university managers to negotiate greater amounts; and (c) the political opportunity represented by public expenditure on higher education institutions (ANUIES, 2003). During the 1980s, allocation criteria were centered around the number of university workers, and beginning in the 1990s, different types of financing were promoted that addressed two dimensions: funds aimed at the operational level of the institutions (“regularizable”) and funds aimed at promoting reforms and innovations (“academic performance”). It is not risking too much to sustain that the criteria mentioned in items (b) and (c) (management capacity and political opportunity) have been present to date.

The impact of financing on higher education policies has been manifest throughout these years. In fact, there is evidence to think that the *leit motiv* of the modernization

of higher education in Mexico has been the problem of financing. In the 1980s, the conjunction of a series of factors—the national economic crisis, the adoption of neoliberal macroeconomic schemes and a growing confidence in solutions of a technocratic flavor—came to situate the problems to be found in higher education more in the perspective of financial matters than in the sphere of education itself.

Throughout the 1990s and the first years of the 21st century, the effects of economic variables on education have been visible. For example, expenditures per student increased from 18,068 pesos in 1990 to 28,916 in 1994. This was followed by a dramatic decline, from 25,599 per student in 1995 to 22,600 in 1997, and then by a 4-year period of relative stagnation. The situation recovered marginally by 2002, when expenditures per student reached 29,443 pesos. A similar pattern of ebb and flow is observed when assessing the relationship between federal expenditures on higher education and Gross Domestic Product (GDP). Here, too, a rising trend was seen between 1990 and 1994 (from 0.42% to 0.61% of GDP), followed by rapid decline between 1995 and 1997 (from 0.58% to 0.49%), and then a slow increase to an all-time high of 0.67% of GDP in 2002 (ANUIES, 2003).

Over the last few years, some programs of extraordinary funds have been created to encourage institutional achievement and innovation. Some of the most important are the Program for Academic Improvement (PROMEP), the Funds for the Modernization of Higher Education (FOMES), the Integral Program for Institutional Strengthening (PIFI), the Program for University Development, and the Funds for State Universities Investment. There are also different proposals that have been put forward to promote greater rationality in the public financing of higher education. The ANUIES and different university bodies have called for greater institutionality of financing criteria, greater sufficiency of the resources allocated, greater equity among institutions, greater transparency in the mechanisms to distribute resources and greater co-responsibility of institutions in their exercise of the resources, in accountability and in the search for their own revenue (ANUIES, 2003).

Challenges and Perspectives in Higher Education

In the first decade of the 21st century, higher education in Mexico is facing complex problems that can only be resolved through heavy investment in economic, political and social resources. As with other higher education systems, Mexico is facing a series of demands in terms of teaching, research and dissemination that call for greater response and adaptation capacity. Above all, five main challenges are shaping the higher education environment in Mexico:

- *The global challenge.* The forms of articulation in the 21st century are defined using the conjunction of local and global dimensions. The formation of regional blocks and contacts of all types among nations constitutes an undeniable reality (Altbach, 1999, 2004). In this scenario, Mexico faces the choice of integrating itself into this process or remaining on the margin.
- *The challenge of knowledge.* The rationality of our times is, in essence, that of knowledge. The criterion articulating all things social is one of knowledge, and the

institutions where knowledge is produced, transmitted and disseminated acquire greater protagonism (Barnett, 2000).

- *The challenge of the economy.* Economic conditions are a primary determinant for the maintenance and promotion of education. The subject of financing is crucial for higher education in Mexico.
- *The challenge of politics.* The construction of democracy is underway, but it is an arduous process. Solid institutions are required to give certainty to the efforts in educational matters and to permit the proposal of a long-term higher education policy.
- *The social challenge.* Mexico has great social asymmetry. While a small portion of society has acceptable standards of living, most of the population is living in adverse conditions. Social inequality is by far the main challenge to be overcome in Mexico.

For the higher education system, these challenges represent a series of decisions and policies that will define the viability of this educational sphere and its role in the construction of Mexico in the 21st century. From the perspective of Mexico's immediate and mid-term future, five critical dimensions can be identified that will shape higher education's responses to these challenges: quantitative growth; qualitative improvement; coordination and governance; academic mission; and private higher education.

The quantitative growth dimension. One of the dimensions in which haste and precision are demanded refers to access. After two decades of contraction in higher education supply, it is only fair to recognize that rates of student enrollment have started to recover. However, at the beginning of the 21st century, nearly 80% of young Mexicans aged 18 to 24 have been left outside the higher education framework. In this respect, it is essential to put forward a policy that establishes a structural commitment regarding the future in order to overcome historical social inequalities.

The qualitative improvement dimension. In recent decades, enormous emphasis has been placed on the subject of quality, and strategies have been centered around evaluation and accreditation. The results, however, are unequal and there are reservations about the effectiveness of measures taken in this respect. The future demands the incorporation of mechanisms that ensure the quality of higher education, while avoiding the formalist traits of the programs introduced up to now and giving greater consistence to their substantive aspects.

The dimension of coordination and governance. The concurrence of actors from the academic, political, social, productive and economic spheres, among others, requires efficacious, innovative mechanisms that will provide a space in which all can express themselves. Coordination also implies the distribution of attributions and competencies of higher education. The sphere of governance is also demanding forms of representation and decision making that place higher education on the road to progress.

The academic dimension. Even though higher education has to consider proposals coming from different segments of society, the markets and the state, the rationality guiding its development can be no other than academic. This would appear to be the greatest challenge for higher education in Mexico—to recognize and comply fully with the centrality of the academic mission in establishing and meeting future institutional commitments.

The private higher education dimension. In the recent transformation process in the higher education system, one of the most evident traits is the rise of the private sector. Private institutions in Mexico today enroll almost one-third of first degree students and nearly half of the graduate students. Institutional conditions, however, are extremely uneven, and a great deal of effort is needed to generate private higher education of quality. Although there are exceptions, the role of these higher education institutions has been restricted to quantitative attention to demand, and efforts must be undertaken to achieve qualitative improvement and articulation with the rest of the system. In this sense, it is essential to stress the need to consolidate the academic staff, to strengthen the supply of graduate studies, and to generate teaching and research programs.

In sum, the challenges facing higher education in Mexico are highly complex. However, evidence shows that the system has indeed been able to contribute to the construction of the nation. Under the essentially public regime that prevailed until very few years ago, higher education has moved from an elitist, homogeneous scheme to an increasingly broader, diversified modality in which the private sector has a growing presence. As a consequence, public and private institutions have a great responsibility to address the critical challenges mentioned earlier. The long-term development of higher education in Mexico is in their hands.

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THE NETHERLANDS

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Looking back over the last two decades, Dutch higher education has undergone several large-scale operations, such as the re-contouring of first-degree study programs in the early 1980s, several retrenchment operations accompanied by enormous budget cuts, a merger and amalgamation process within the nonuniversity sector, and a re-definition in the systems of formal power and authority in universities. In his recent observations of Dutch higher education, Guy Neave expressed amazement at the ability to absorb so much in what, from an institutional standpoint, is a short period indeed (Neave, 2000). This continues with the relatively smooth adoption of the bachelor's/master's degree system as envisaged by the Bologna Declaration in 1999, where countries committed themselves to introducing in Europe a two-cycle system of undergraduate and graduate education. Today, the Netherlands is one of the forerunners in Europe for implementing this in the entire higher education system.

Neave goes on to argue that there are two reasons that account for this adaptation. First, the strategic and deliberative "policy style" and, second, the apparent willingness of higher education to accommodate these reforms. A characteristic policy style is the involvement of as many stakeholders as possible in an attempt to arrive at policy consensus, a practice that has been typified as a "polder model" of decision making. This does not exclude superimposition at some point, but based on the recognition of mutual responsibilities, the relevant stakeholders are given degrees of freedom to shape the process. This became quite clear in the formulation of a new steering conception as articulated in the legendary 1985 governmental paper "Higher Education: Autonomy and Quality." The basic idea is that by increasing the autonomy of higher education institutions, conditions will be created to strengthen their adaptive capacity to respond to the rapidly changing demands of modern society. The paper stated, "We have to find mechanisms that stimulate the flexibility of the system; we have to increase the higher education system dynamics" (Ministry of Education, Culture and Science, 1985). The idea of steering at a distance was meant to move away from the traditional "étatist approach" toward more autonomy and *ex post* evaluation of the performance of higher education institutions.

These reforms have helped the Dutch system to gain efficiency over the years. Since 1992, the number of graduates has doubled and the number of dissertations has tripled,

while costs per student have declined by 40%. Meanwhile, Dutch scientists have become increasingly prominent in the research community, as reflected by international publication rankings and the two physicists from Utrecht University who won the Nobel Prize in 1999.

However, despite the optimism that such improvements yield, there is a general feeling of discontent. National committees follow one another to explore the issues and present a “grand design” for the innovation of higher education. There are two major concerns. First, public expenditure for universities has decreased steadily in relation to GDP growth, from 35% in 1991 to 25% in 2001. Public investments seem no longer adequate to satisfy the growing demand for higher education. Privatization and marketization—in terms of more private funding by students, more research funding from industry, and performance-based funding—are among the basic trends. The fundamental question stemming from this is how to maintain a publicly funded system that is generally accessible for all citizens.

Second, there is a concern that the Netherlands is losing its competitive edge in Europe, and that higher education is not adequately responding to the needs of the knowledge-based economy. In particular, enrollments in science and engineering subjects are considered too low compared to other countries and, increasingly, foreign students are necessary to fill the gap. Given the ambitions of most European governments to become the most dynamic and competitive economy in the world by the year 2010, both the previous and present Dutch governments have stipulated that the Netherlands should be at the forefront in Europe, and that higher education should play a crucial role in realizing these ambitions.

There is virtually no topic that is not affected by the issue of public funding and the growing Europeanization and internationalization of higher education. At the very least, these two issues permeate all the topics that will be discussed in this chapter, including the current re-structuring of the educational and research system; doctoral education; funding; academic staff; accountability; quality and accreditation; and the relationship between higher education and economy.

The Dutch System of Higher Education

History and Structure

A main feature of Dutch higher education is its binary structure, which separates universities from institutions for higher professional education—*Hoger Beroepsonderwijs* (HBOs). Universities and HBOs developed under very different historical conditions and are based on different rationales and purposes.

The history of universities dates back to the 16th century when the University of Leiden was founded, followed by the Universities of Amsterdam, Groningen, and Utrecht. Because of their age, prestige, and range of subjects they teach, they are the largest universities in the country. Other universities were established during the 20th century, including private universities—founded in reaction to state control of higher education and based on denominational identities—such as the Free University of Amsterdam and the Catholic Universities of Nijmegen, and Tilburg. Despite their

private status, however, they are funded by the state under similar conditions as the other Dutch universities. More recently, new universities were established—including the University of Twente (1964) and the University of Maastricht (1976)—as a result of an explicit government policy to further economic activity in the region. In the 1980s, the university sector witnessed two large-scale operations to increase the efficiency and effectiveness of the university sector as a whole, as well as a restructuring of university courses toward 4-year degree programs as a standard (with the exception of engineering, which is a 5-year program).

At present, there are thirteen Dutch universities, nine of which provide teaching and conduct research in a wide range of traditional academic disciplines. Three universities offer courses mainly in science and engineering, and another is primarily for the study of agricultural sciences. In addition to these universities, there are a few university level institutions, mainly in theology and business studies. The main objectives of a university education include training for the independent pursuit of scholarship and preparation for the professions. These goals are to be achieved through teaching and research. The Higher Education and Research Act of 1992 describes an explicit aim of universities as ensuring that knowledge is transmitted for the benefit of society.

The HBO sector dates from the late 1960s, when colleges for higher vocational training were upgraded. Formally, HBOs belonged to secondary education until, in 1986, they were legally acknowledged as a subsector of the higher education system. Because of the sector's fragmented character, the government initiated major reforms in the 1980s. These resulted in the merging of more than 400 smaller institutions into large institutions, currently providing a wide range of vocational courses with a standard period of study lasting 4 years. Today there are around 50 HBO institutions. Their main task is to provide theoretical and practical training with a clear vocational orientation. They also have the important task of transferring and developing knowledge for the benefit of the professions in both the industrial and service sectors. Their role is to support regional and local needs—although, increasingly, they tend to operate nationally and internationally, too. In the context of internationalization, HBOs have adopted the name “universities for professional education.”

The relationship between universities and HBOs has been the subject of continuous debate. Although there are overlaps between them and, in principle, courses are of the same duration, the government maintains a basic distinction between the two as a guarantee of institutional differentiation. “Equal but different” is the term which has gained the widest currency. The main difference is the status of research—for universities, this is a main task, but for HBOs it is only permitted where it is applied research or research in the context of professional development. Despite the binary policy, both sectors are incorporated in a single Higher Education Research Act of 1992, encompassing a range of regulations that apply identically to both sectors. There is, however, a tendency to seek more homogeneity in organizational and administrative matters on both sides of the binary line.

In addition to the two main sectors, the Open University (founded in 1984) provides both university and HBO degrees through distance learning. Also, a number of new private providers have entered the higher education market, mainly through distance

learning. These providers are not eligible for public funding, but require formal recognition by the Ministry of Education, Culture, and Science through accreditation.

Demand for Access

The Dutch system has in principle an open admission system in the sense that anybody who meets the standard qualifications in secondary education is eligible to enter higher education. The policy objective of “higher education for the many”—articulated during the 1970s—implies the aspiration to make and to keep the higher education system accessible to as many persons as possible.

Entrance qualifications differ for universities and HBOs. For universities, students must have a 6-year preuniversity diploma (VWO). Those who complete the first year of an HBO program are eligible as well. To qualify for HBOs, various routes are possible: the 5-year secondary education (HAVO) is the most common route, but also secondary vocational education and a VWO provides direct access. In order to facilitate the transition to higher education, the secondary education sector has undergone some changes in the last decade. The most notable is that secondary school curricula have been organized around four basic profiles that are optional for pupils: culture, economy, nature and health, and nature and technology. Since access to particular higher education programs requires specific profiles, these profiles have a sorting out function. There are other entrance possibilities, such as the *colloquium doctum* entrance examination and, for HBOs, qualifications acquired elsewhere (for example, through work experience).

For some subjects there exists a *numerus clausus* based on capacity issues or manpower planning, such as in medicine (university) and at health sector-related HBOs. For medicine, the selection of students involves a lottery system, weighted by the average marks of the school-leaving examination. However, when a number of pupils with outstanding marks were unsuccessful in this lottery, the resulting public debate compelled the government to give institutions more freedom in selecting their students. In addition to the central lottery system, institutions are allowed to select up to 20% of their total intake on the basis of other criteria (e.g., individual motivation, talent, or work experience).

In the Netherlands, the overall participation rate of young people in higher education is about 35%. Compared internationally, the proportion of those in the workforce with a higher education degree is slightly below the OECD mean of 26%. The total student population is 514,000, of which 65% are in HBOs (with over 334,000 students enrolled, 80% of them full-time) and 35% in universities (with 180,000 students enrolled, 91% of them full-time).

All students have to pay tuition fees, and the amount has increased steadily up to almost 1,445 euro in 2003–2004 for all institutions and programs. In the last few years, the question of differential tuition fees has been a major issue. As part of the access policy to increase the number of students in science and engineering subjects, attempts have been made to make these subjects more attractive by reducing their tuition fees. So far, the Ministry has been reluctant to use financial incentives to steer enrollment, with the exception of extending the student support system with an extra year for science and engineering students.

The student support system has undergone several changes. The current system is based on a basic grant for all full-time students, a means-tested supplementary grant for a limited number of students (about 30%), and a loans system to be taken up on a voluntary basis, with an interest rate which is lower than the standard rate. Since the early 1990s, the grant is no longer unlimited, and students must demonstrate continual progress in their studies—if they do not pass 25% of their annual study credits, their grants will be converted into an interest-bearing loan.

The present student support system is under review. The basic idea of this revision is that since higher education brings individual students considerable future rewards, students should pay more for the costs of their education. The governmental Central Planning Office (CPB, 2002) advocates a considerably higher loan component as well as a differentiation of tuition fees. However, debates continue on whether such a move would jeopardize the accessibility of higher education for those from lower socio-economic backgrounds.

New Developments: The Bachelor's/Master's System and Institutional Collaboration

The most important development in the last few years has been the adoption of the bachelor's/master's degree system. Following the Bologna Declaration (1999), the university degree distinguishes a bachelor's program lasting 3 years, followed by a specialized master's program of 1–2 years. A new phenomenon in universities is the introduction of two types of master's degrees: a research master's degree, focusing on careers in science; and the professional master's, oriented toward the various professions. For the HBOs, the existing 4-year programs remained virtually unchanged, leading to a bachelor's degree. HBOs also have a tradition of providing professional master's degree programs in various fields, sometimes offered jointly with a university or in cooperation with the professional field.

The Dutch government has been quite eager to adopt this new approach, since this is seen as an essential condition for a modern and internationally oriented higher education system. The aim is to create a flexible system which can meet the needs of students of all ages and an open system which enables Dutch students to study abroad, as well as enabling foreign students to enter the Dutch system (Boezeroy, 2003).

The bachelor's/master's degree system did not emerge all of a sudden. Prior to the Bologna Declaration of 1999, a bachelor's degree program was founded at University College Utrecht, which provides a broad program of study in one of the following areas: humanities, science, or social science. These are highly selective programs for an international group of students. Bachelor's degree holders are eligible to take a more specialized graduate program at any university. Meanwhile, other universities have followed this initiative and established such colleges as well.

There are two other developments worth mentioning here. First, there is a growing collaboration in the form of networks and joint ventures among various universities and between universities and HBOs. For example, the three technical universities have

agreed to form a federation aiming at strengthening education and research in the technical fields. A joint graduate school will be established and there will be significant collaboration and tuning between the educational programs at the three universities. The overall purpose is to increase the number of students in technical fields by making programs more attractive in both the bachelor's and master's courses, as well as encouraging more focused and prioritized research with the overall ambition of providing additional impetus to the Dutch knowledge economy.

Another illustration of the growing collaboration during the 1990s has been the mushrooming of partnerships between universities and HBOs. These partnerships are considered beneficial for both sides of the binary line. Collaboration is not limited to joint facilities (such as buildings and libraries) or services, but also includes better student counseling and advising, the development of credit transfer systems across the binary line, and the like. Mergers are not the objective, nor the integration of study programs.

The second development is a widening of participation of nontraditional groups, such as people rejoining the workforce, ethnic minorities, older students, and those who do not opt for a full-time degree course but instead take a course in the context of lifelong learning. Flexible pathways of learning have been created to respond to individual demands, and it is expected that these demands will increase explosively (Leijnse, 2000). Examples are more customized education, assessment procedures (for example, admission to a shortened program based on work experience), e-learning, and cooperative education that combines education and work. The latter form has expanded considerably in Dutch higher education, particularly in the HBOs, while cooperative education is less common in universities, although it is a recognized form.

Research System and Research Training

System and Funding

The research system consists of the universities and research institutes which are attached either to universities, to the Dutch Research Council (NWO), or to the Royal Netherlands Academy of Arts and Sciences (KNAW). The research council plays an important role as it distributes funds across the different disciplinary research areas. This so-called "second flow of funds" supports research programs or individual researchers and consists of 18% of the total research budget of universities. The "first flow of funds" consists of a basic allocation by the government directly to universities, and is the largest (53%). The "third flow" concerns contract research for external constituencies (industry, governmental agencies, and other societal organizations, as well as from the European Union).

This multilevel system of university research funding makes science policy a rather complicated endeavor. The current policy agenda seeks to bring about a more dynamic system by setting research priorities and increasing performance-based funding. One way of achieving these objectives is to divide the basic allocation from government to universities into separate allocations—some that vary according to the size of the university and others under the heading of "strategic considerations allocations."

Regarding the latter, the original plan of the Ministry was to base research allocations on the research quality of a university and an assessment of the societal relevance of their research. However, this plan was never realized because it would entail reallocations between universities, resulting in a major intrusion on the university's autonomy. In the current system, the basic as well as the strategic considerations allocations are not targeted to faculties or departments. Instead, the central management of universities is responsible for distributing these funds across its various faculties and research institutes.

Another way to increase science dynamics is to shift a substantial part of the research budget from the basic allocation to the budget of the research council. This has been an important consideration of subsequent governments. The council would then be able to redistribute the research budget to the most excellent locations in the university system. The performance-based component in research funding would also focus more on specific research areas and those research programs that from a socio-economic perspective are considered desirable. To date, however, universities have resisted this move, but there is increasing pressure on universities to show the outcomes of their research efforts in terms of socio-economic relevance and commercialization of research results.

Other developments regard the growing impact of contract research for external constituencies and the Europeanization of the research agenda. The establishment of "strategic alliances" between universities and industry in the field of research areas has expanded. The participation in large research programs—such as the European Framework Programs—has expanded as well. Several of these programs require that externally awarded research budgets are matched with an equal amount from the university's own budget. This matching requirement claims an increasingly larger part of the university's research budget. Apart from the debate on the perverse effects which contract funding for external constituencies may have, the matching requirement entails that university research is liable to be pushed aside. National advisory councils have taken up the issue as they see the matching requirement as undermining long term, fundamental and risk-bearing research.

The European policy toward a European research area, motivated by a concern about the declining investment in scientific research, stresses the need for more research cooperation and more abundant human resources. University research should become more entwined in larger international networks and larger research consortia in order to be able to effectively take part in framework programs. The Dutch research council is much in favor of establishing thematic research projects on an international basis, as this may yield synergy from which the Netherlands, as a small country, can benefit. In this context, the council advocates the establishment of a genuine European research council, which as a supranational entity would distribute research funds across national borders.

The Emergence of Research Schools

An important development in the last decade has been the emergence of research schools. These schools aim to structure university research and to provide more focused

research training. The argument is made that aspiring researchers need further education and training of a sort that can only be provided in an environment of high-quality research. Research schools are an important vehicle for concentrating research in centers of excellence that foster an international research climate with a high mobility of researchers. A strengthening of the research infrastructure and a proliferation of programmatic research frameworks would enhance both an environment for high-quality research and the capacity to compete for research funds.

The structure and role of the research schools are defined by law. The Royal Netherlands Academy of Arts and Sciences (KNAW) is responsible for their accreditation, and an independent committee has been charged with evaluating their performance over a 6-year cycle. At present, 107 research schools have been formally recognized. An important requirement is that the schools have a training program, which contributes to achieving coherence and synergy between research and education at the postgraduate level.

Contrary to research schools (or graduate schools) in other countries—like in the United Kingdom and Germany, where such schools are linked to a faculty, or in the United States, in which a graduate school can cover all the faculties of a university—research schools in the Netherlands are organized on an inter-university basis around particular scientific subject areas. They are affiliated with at least one university, and usually with a number of universities. Thus, research schools are conceived as core entities in a university system rather than as specialized distinctive institutes. They have budgetary responsibilities on the basis of the funds allocated by the participating universities to the research schools.

Doctoral Education

The present graduate education system dates back to 1986, when a formal system was introduced to regulate education and training for doctoral students. Up to that point, research training had been an integral part of the standard university education program amounting to European Research Council 6 or 7 years. Graduates who obtained a position at a university could carry out their own research leading to the award of a doctoral degree.

In shaping doctoral education, two issues in particular played an important role—namely, the structuring and the educational concept. The central question regarding the structuring is whether or not a doctoral program should consist of one continuous period of university research training or of two periods consisting of 1 or 2 years of research-studentship and a 3- to 4-year appointment as an assistant/researcher. In this latter structure, student and employee statuses are separated. With regard to the pedagogical issue, the question is whether or not there should be an educational component (in a strict sense), such as required courses and an explicit training plan during the assistant/researcher period. If there is no educational component, doctoral training could be characterized as a “learning-by-doing-model,” suggesting that through the undertaking of research activities, doctoral students can prepare themselves for the award of a doctoral degree.

Questions of structure and of pedagogical concept have been central to the debates on doctoral training to the present day. Subsequent ministers of education have taken particular positions, shifting from a “learning-by-doing-model” to a clear “educational” model, and *vice versa*. The present system bears this double-sided and equivocally felt character of doctoral training in the Netherlands. The so-called *Assistent-in-Opleiding* system (AiO) has the following major features:

- the employment of doctoral trainees (AiOs) on a temporary basis, usually full-time and (in principle) for a standard 4-year period, with remuneration according to a specific salary scale; and
- the drawing up of a legal contract between the university, the supervisor, and each individual research trainee, which specifies a training and supervision plan.

The employment status implies that AiOs hold a distinct academic position. Although they may receive research training and supervision, they are also supposed to contribute to the research output of their faculties. The hybrid character of the AiO position is expressed in the remuneration, which is based on a special salary-scale that includes a built-in deduction for the training and supervision received. Recipients are seen as neither full-time employees nor full-time students.

In general, the AiO system does not require a standard set of courses to be taken by all research trainees. An AiO must devote 75% of his or her total employment time to research. Increasingly the research schools play an important role in doctoral education. However, the research schools are selective, and not all AiOs participate in any of them. The university to which an AiO belongs is the only institution which is eligible to award his or her doctoral degree. The Royal Netherlands Academy of Arts and Sciences advocates a stronger organization of research training. This involves “a curriculum for the aspirant-researcher focused on the specific subject field, to include a structured program for courses and supervision, general and subject-related courses which are linked to a mastery of the subject, and continuous supervision of doctoral students” (Royal Netherlands Academy of Arts and Sciences, 2002).

It is obvious that the embedding of the AiOs in the research schools will lead to a shift from research *training* toward doctoral *education*, in that courses constitute a substantive component of the research training system. The Royal Netherlands Academy and the research council advocate an integral conception of university education, whereby the research-oriented master’s and doctoral education should be linked closely. In their view, courses during the master’s phase should prepare students for the doctoral program. Universities, however, do not consider the research schools as the guiding principle for the organization of university research, and consider alternative options as well.

One such option is to move away from the classical idea of doctoral education and to design the doctoral process to meet social demand for highly educated professionals. Doctoral education should reflect different career destinations, including the need to incorporate training components which make graduates employable in a variety of employment and professional settings. For example, collaborative arrangements between universities and industry have been established, aimed at incorporating research into industry as a component of postgraduate training. On a cooperative basis, students

alternate their research and their professional work in industry with more formal training at universities. Thus, doctoral training is becoming more diversified in terms of its content and location.

Funding

Since the early 1990s, the funding mechanism has included performance indicators in the budget allocation for teaching and research. Regarding teaching, performance is measured in terms of the number of degrees awarded. According to the current “performance-based funding model,” which has been operational since 2000, 50% of the core teaching funds are distributed on the basis of the number of degrees granted, 13% on the basis of new entrants, and the remaining 37% as a fixed amount for each university. The rationale for a fixed amount for each university is to guarantee a minimum level of teaching independent of the number of students. The amounts differ across universities and are mainly determined historically. The larger and relatively older universities receive a larger amount compared to the smaller ones. In order to account for differences in the costs of education, a distinction is made between two categories of students and diplomas—roughly humanities, law, and social sciences on the one hand, and natural sciences, engineering and medicine on the other (Jongbloed and Vossensteyn, 2001).

The funding for research was discussed earlier in this chapter. However, it can be added that the relation of performance to research funding concerns the premium for the number of diplomas and Ph.D. degrees awarded. Universities receive an amount proportional to their role in the research school. In addition, a limited number of research schools that are regarded as excellent receive extra funding for a limited period.

The bachelor’s/master’s structure has provoked a discussion about the extent to which the government is responsible for funding. Since the public investment is no longer adequate to satisfy the total demand for higher education, it was decided that bachelor’s degree programs in HBOs and universities, as well as university master’s degree programs, are eligible for public funding. In addition, a few HBO master’s degree programs are considered first degrees. Furthermore, there is a difference in funding between bachelor’s and master’s in the sense that universities will receive twice as much for a bachelor’s degree than for a master’s degree.

The most important criteria for funding are quality and macro-efficiency. In order to limit the ability of institutions to establish new study programs that would be eligible for public funding, a national agency was charged with the task of considering proposals for new programs. This independent, nongovernment committee [the Advisory Committee on the Provision of New Programs (ACO)] assesses new study programs on the basis of quality, transparency, and macro-efficiency. The term macro-efficiency refers to the question of whether a new study program would be desirable given the labor market needs and given the existing regional dispersion of educational provisions. Due to the liberal policy of the last government, however, this committee has experienced a gradual erosion of its capacity to assess new initiatives, resulting in an extensive proliferation of new study programs (ACO, 2003). In 2003, the ACO was discontinued and replaced by

a new arrangement. Quality and transparency will now be subject to assessments by the new accreditation organization (described below). The macro-efficiency of initiatives for new study programs will be assessed by the Ministry of Education, Culture, and Science. The criterion for this assessment will be whether a new program contributes to the development of the Dutch knowledge-based economy or labor market needs “in those domains where the government has a specific responsibility.” In other words, the Ministry has strengthened its role in approving educational programs that are eligible for public funding.

Challenges Facing the Academic Profession

The university sector employs nearly 42,000 people, of which about 22,000 are academic staff. Academic staff includes three main university positions as well as research assistants and postdocs. Approximately 9,300 members of the Dutch professoriate hold one of three main positions: professor (25%), university main lecturer (24%), and university lecturer (51%). These positions are mostly tenured and are charged with the standard academic tasks of teaching and research. The HBOs employ a workforce of roughly 24,000, approximately 13,500 of whom are academic staff. Here, the academic staff consists predominantly of the ranks of (senior) college teachers and instructors.

An important change during the 1990s has been a decentralization policy through which the central government devolved to higher education institutions the responsibility for determining employment conditions of staff. In 1999, this policy culminated in a practice in which terms and conditions of service are no longer determined by the government, but are settled bilaterally between employers and employees through their representative bodies. The underlying argument for this decentralization was that institutions would be better able to cope with external constraints and to introduce modern instruments for personnel management (De Weert, 2001).

During the process of decentralization, an important debate was whether the civil servant status of the staff should be abolished and replaced by employment contracts under private law. This would be a logical step, and the universities would arrive at a similar position as the three denominational universities as well as the HBOs who are regulated by private law. University managers advocate the privatization of universities, whereby staff are employed by universities as the legal employers. Although the juridical possibilities and consequences of such a transition would not change the nature of universities—universities should remain public institutions—it was decided that for the time being university staff would keep their civil servant status.

In the process of transferring powers and responsibilities from the government to universities and HBOs, a trend can be identified—movement away from uniformity in dealing with staffing issues, and toward the devising of personnel management systems that allow for individual, subject, or market differences and flexible reward systems. An important development is the current implementation of a new system of job profiles for academic staff. This system aims at making explicit the various roles, tasks, and responsibilities that must be carried out in order to achieve the stated objective. Individual development plans become possible, in which different staff roles are to be acknowledged, both vertically and horizontally within the same ranks. Individual staff members

can apply for specific roles on the basis of an assessment of their qualifications—for example, to be more involved in either teaching or research. Teaching activities are classified in four specified tasks, such as teaching, curricular development, counseling student projects, and evaluation. Research activities consist of coordination, acquisition of contract research, and participating in research working groups and committees.

The system of job profiles has been designed to function as a basis for advanced personnel management regarding assessment (on the basis of output and competencies), personnel development plans and distinctive career paths. It challenges the traditional view that research performance is the all-determining factor in the career path of an academic. Although in this system teaching and research are intertwined, it distinguishes separate career tracks for academics, giving equal value to excellence in teaching and in research. The challenges facing the academic profession are twofold: first, how to break out of the spiral of the dominance of research and to assess teaching qualifications equally; and secondly, how to guarantee that the diversification of job roles would not result in a fragmentation of academic work tasks, but rather would contribute to a new conception of what academic scholarship is all about.

Another new challenge to the profession is the introduction of the “lectorate” in the HBOs. The lectorate—not to be confused with the traditional rank of lecturer or reader in the Anglo-Saxon world—is considered a highly qualified individual with significant expertise in the subject field and in the professional domain. The leading idea here is that lectors are not appointed as isolated staff members but as leaders of the so-called “knowledge circles,” each consisting of a group of 10–15 staff members. A knowledge circle aims to enhance contacts and knowledge exchange with industry and consultancy—for example in the field of applied and developmental research. Through such a circle the lector plays a crucial role in strengthening the linkages between HBOs and industry and other organizations. Lectors are expected to acquire contracts from outside and to develop professional networks in particular fields. With special government funding, HBOs have appointed a considerable number of lectors, and the aim is that in a few years time about half of all teaching staff will belong to some knowledge circle. This initiative challenges the view of HBOs as a “teaching only” type of institution simply conveying the standard canon. By involving staff in broader knowledge networks, it is expected that this will enhance their professional development and keep their teaching up-to-date.

An important concern has been whether higher education still is an attractive working place, especially for the new generation of academics. There are recruitment problems for the research trainee system in several areas of science and technology, due to uncertain and limited career prospects as well as low financial rewards compared to positions elsewhere on the graduate labor market. Also, the relatively low numbers of women is a major concern, particularly among the tenured positions (currently, only 9% of professors are women). A special committee was formed to investigate these issues and to suggest directions for policy (Committee Van Vucht Tijssen, 2000). The committee recommended changes in the financial schemes of universities, special research programs for young researchers and women, and premium payments. Another proposal was to change the rigid formation system into a career principle and to shorten career

paths in universities. These proposals are in correspondence with current developments, such as the job-ranking system as described above. Regarding the position of young researchers, a governmental scheme has been established—the so-called “innovation impulse”—which provides young talented researchers with financial opportunities to develop their own research into a research program. At present, scientists in various phases of their career can compete for research funds. In a similar way, women scientists can apply for the *Aspasia* program to develop their research further.

The management of academic staff has undergone a major change, with a new university governance structure introduced in 1997. The purpose of this new structure is to invest deans and university executive boards with clearer managerial authority. The traditional collegiate structure—according to which deans were elected for a fixed period of time as *primus inter pares*—has been replaced by a management model with deans as professional managers. These managers have increased budgetary responsibilities and delegated authority for staffing issues. In this governance model, clear responsibilities have been assigned to deans who can delegate further responsibilities to course directors, who in turn are charged with the organization of the curriculum, and research directors, who are responsible for the organization of research. The new structure puts pressure on academe as a professional work community and constrains its traditional freedom regarding teaching and research, at least formally. However, research thus far indicates that in practice professors still hold a substantial amount of professional autonomy (De Boer, 2003). A contemporary challenge facing the academic profession is whether (and how) the guaranteed right to freely teach and conduct research can be reconciled with managerial authority to determine the duties of staff, to evaluate their performance, and to reward them.

Accountability, Quality Assurance, and Accreditation

The system of quality assessment originated from the government’s strategy to strengthen the autonomy of the higher education institutions, presented in the influential policy document “Higher Education: Autonomy and Quality” (Ministry of Education, Culture and Science, 1985). According to this new steering philosophy, autonomy, and quality are closely linked: higher education institutions were given more institutional autonomy in return for their willingness to show that they “deliver” quality. Essential in this view is that instead of *ex ante* control, *ex post* evaluation of quality should be developed. Over time, the government will determine whether the self-regulation of the higher education system yields outputs in an acceptable range (Huisman & Toonen, 2004).

In the development of a quality assurance system, some important themes on the purposes of such a system became apparent which hold true to date. Is the quality assurance system primarily for accountability (control) or should it lead toward the improvement of education and research? Is quality assurance predominantly an internal affair or a matter for some external agency? Should the level of evaluation be the distinct disciplines, the study programs, or the entire institutions? Should these evaluations focus separately on teaching, research, management, and other student support

services (like library, administration, and information technology) or would there be some interrelation between these?

In institutionalizing the system, it was agreed by all parties that the Dutch Association of Universities (VSNU) and the HBO council (as the two umbrella bodies of these institutions) would coordinate the procedures. The focus was on accountability, with a special emphasis on dropout ratios and time to degree. At the same time, the government introduced the Inspectorate for Higher Education, charged with the task of evaluating the procedures and outcomes of the quality control system and to advise the minister on the results of follow-up actions by universities.

An essential characteristic is that assessments take place at the program level—that is, the collection of courses leading to the equivalent of a master's degree. On a nationwide level, programs are assessed per discipline in a 6-year cycle. The procedure consists of the following four subsequent phases:

- (1) Departments undertake a self-evaluation of their programs on the basis of the guidelines set out by the umbrella organizations. The issues to be covered in the self-evaluation are specified and are intended to indicate the strengths and weaknesses of the program.
- (2) External evaluation by a visiting committee consisting of about seven members who are normally sought among peers as well as professional and societal organizations. More than in universities, it is quite standard in the HBOs to have representatives of employers' organizations on board. The committee bases its work on the self-evaluation reports and on their own observations during two-day site visits to each department, interviewing staff members and students. In addition, the committee considers examination papers, syllabi, and a cross-section of master's theses.
- (3) The reporting of the results in a national public report, which contains a comparative analysis of all the programs as well as a separate discussion of each individual program indicating their strengths and weaknesses. To accomplish the two goals of improvement and accountability, the report of the visiting committee must give an indication to the institutions of the quality of their program and how this is to be improved.
- (4) The Inspectorate of Higher Education evaluates the procedures and outcomes of the quality assurance process. Furthermore, the Inspectorate monitors the follow-up of the outcomes of the evaluation by institutions and reports directly to the Ministry.

So far, two complete cycles of the quality assurance process have been carried out. The whole procedure has proven quite satisfactory, although certainly issues have been raised about the administrative investment that is needed for such a procedure, the quality of the reports, and the follow-up. Since the second round began in 1993, the Inspectorate has visited universities to determine whether they are reacting adequately to the evaluation committee's remarks (as provided in a mid-term review 3 years after the initial committee report).

An important element of the Dutch system is that in the spirit of self-regulation, there is no direct link between the quality review reports and funding decisions. It is

generally assumed that such a link would harm the operation of the system. Academics and institutions will distrust the external review teams and they will produce self-evaluation studies in compliance with perceived criteria. However, if a study program turns out to be of low quality, and insufficient measure have been taken over a number of years, the government warns the faculty that unless thorough improvements are made soon, the program will be withdrawn from the official register. This would imply that its diploma would no longer be recognized and that it would no longer be eligible for public funding. So far this has occurred in only a few cases.

A question continuously being asked is whether the self-evaluation study (as carried out by the department) is just an information-gathering exercise, or whether it is a genuine, critical self-evaluation. In other words, is the self-evaluation meant simply to meet the requirements of the external visiting committee? Evidence suggests the answer is no: to most in the academy, self-evaluation is not considered to be just a kind of window-dressing to the external world. Rather, it is common that the self-evaluation reports describe the strengths as well as the weaknesses of the program. This is confirmed by the fact that several recommendations of the external visiting committee are in fact drawn from what the faculty itself had concluded in their self-evaluation report. So, in a way the external visiting committee “legitimizes” changes that were already considered desirable from within the faculty. Viewed in this way, the self-evaluation reports function as the cornerstone of the quality assurance system. An awareness of the strengths and weaknesses of the program constitutes a basic condition for quality assurance systems which have a built-in facility for learning and change, even if no external committee were involved. As some commentators put it, “Quality assurance systems need to be able to evolve, while maintaining the delicate balance between the functions of improvement and accountability, even if all other conditions (i.e., external aspects) remain equal” (Jeliazkova & Westerheijden, 2002, p. 434).

Accreditation

The restructuring of higher education systems across Europe toward the bachelor’s/master’s system implies a quality assurance mechanism that provides transparency and compatibility between national higher education systems. The European ministers who met in Prague (2001) recognized the vital role that quality assurance systems play in ensuring high quality standards and in facilitating the comparability of qualifications throughout Europe. On the European level, initiatives have been taken to arrive at a common set of descriptors or standards that would contribute both to harmonization and to progress in assessment methodology focusing on the output side of the educational process, namely in terms of the competencies of graduates.¹

From the beginning, the Dutch government was much in favor of international agreements on standards for bachelor’s and master’s degrees that would be monitored by national accreditation systems. After a committee’s recommendations and some experiments in the field, it was decided to add an independent component to the quality assurance system in the form of accreditation. This accreditation will be mandatory for programs that will be eligible for public funding and student financial support.

In 2004, the Dutch–Flemish Accreditation Organization (NVAO) was established to ensure and promote the quality of higher education in the Netherlands and the Flemish part of Belgium. The NVAO has developed a framework existing of six subjects on the basis of which assessment takes place: the objectives of the program; the design and implementation of the program; the program’s use of personnel; institutional facilities; internal quality assurance mechanisms; and program results. In order to be accredited, all aspects must be assessed as “satisfactory.” It should be stressed that the NVAO does not replace the existing quality assurance system as outlined before. Rather, the accreditation process should be connected as much as possible with the prevailing quality assurance system (Dittrich, Frederiks, & Luwel, 2004). The internal self-evaluation report as such is not part of the accreditation process, as it is argued that in this way there is a better guarantee that the faculty will give a fair self-analysis leading to an internal discussion among all faculty members, which in turn will enhance the chances for improvement. In other words, the improvement function of quality assurance will be maintained in the new emerging system.

The ranking of programs or institutions is not the purpose. The accreditation system is dichotomous. On the basis of an independent assessment process it is determined whether a program meets basic quality standards or not. The NVAO applies a rather broad framework that allows for differentiation of educational programs in terms of distinctive profiles or special quality features. This makes it more difficult to draw up rankings and this is not what the NVAO pursues.

Enduring Issues

In addition to these topics, there are several issues that have permeated higher education discussions in the past and will dominate the debate in the years to come. These include the need to agree upon the way in which higher education should serve the needs of the economy, and determine how to bring about a more differentiated system of higher education.

Higher Education and the Economy

The relationship between higher education graduates and the labor market is an ongoing issue. The employment situation of fresh graduates is monitored on an annual basis approximately one and a half years after graduation. The unemployment rate for university and HBO graduates remains relatively low compared to other members of the workforce who have lower educational qualifications. It is expected that the demand for higher education graduates will further increase on an annual basis, with an estimated need for 4.8% more graduates from HBOs and 4.7% from universities (Research Center for Education and Labor Market, 2003).

About 75% of recent HBO graduates work in jobs which require at least their level of education. However, for university graduates the corresponding figure is 65%, although this varies between fields of study. Graduates from economic, technical, and medical studies show a high assessment of the match between their qualifications and their work. Furthermore, over 80% of HBO graduates work in jobs that require either their own

or a closely related qualification. This is not surprising, since the HBO is specifically intended to provide vocational training. For university graduates the link between subject field and job is less specific, and graduates from several fields have rather broad employment outlets. Dutch employers overall attach considerable value to the difference between HBO and university graduates in terms of jobs and wages, especially in the earlier phases of a career. Although in some economic areas the difference is less pronounced, employers would not like to see the differences vanish.

Several research findings in the last decade have stressed the growing importance of multidisciplinary knowledge, generic and transferable skills, as well as personal and social skills. In order to enhance the employability of their graduates, universities and HBOs have broadened their curricula with general programs, especially in the earlier phases of the curriculum, with specialist courses in the later study phase.

A relatively new development is competency-based learning. Competencies are derived from work activities, tasks, professional roles, and practices. The future functioning of students in the workplace is taken as a touchstone. Other approaches emphasize the coupling of competencies with personal characteristics or disciplinary contexts, including analytical skills and the ability to integrate and synthesize.

The perceived gap between higher education and society is a continuous topic of debate. Several national agencies and committees in which members of industry have a prominent role have advocated strong linkages between higher education institutions with firms and branches of trade. In a similar vein, the Advisory Council on Science and Technology Policy (AWT, 2001) and the Social-Economic Council (SER, 2003) have advocated a strengthening of knowledge circulation by creating more systematic partnerships between higher education institutions and their external constituencies. Examples of concrete policies include: collaboration on research and educational projects; more working visits and exchange of personnel on either side; more flexible forms of learning (such as cooperative education); and competence-based learning. The most recent initiative to close the gap between higher education and industry *Innovation platform* and to create new partnerships is the launched in 2003 to develop a grand design for the knowledge-based economy. Under the chairmanship of the prime minister, leading figures from the scientific and business communities have been brought together with other constituencies to develop creative ideas for bringing about innovative roles for science in the knowledge-based economy. A larger involvement of industry in university research, a concentration of research in "strategic innovation networks" and the enhancement of knowledge valorization are among the issues discussed. Although this initiative has met considerable skepticism because of its ambitious objectives, it typifies the Dutch feature of bringing together people from various interest groups to arrive at consensus and to increase the commitment to the various measures proposed.

Toward a More Selective and Varied System

In general, the Dutch system can be characterized as very egalitarian, with the exception of the distinction between universities and HBOs (which serves mainly as a clear articulation of institutional differentiation). There is a standard duration for all courses

and virtually no differences in quality, while standards of entry and teaching are basically the same. There are also standard tuition fees and standard financial-aid schemes. Because such a system leads to sameness, in the past various attempts were made to move away from this egalitarian principle. It is worthwhile to mention the late Jankarel Gevers, former president of the University of Amsterdam, whose modern version of the “idea of the university” included a differentiation between types of institution—general or specialist, European or regional, more focused on education or research, classical, or technical—yet all labeled as “university” (Gevers, 1998).

Inspired by European developments, the current political climate supports efforts to create greater differences between institutions (in terms of quality), a clear articulation of different characteristics, and different institutional missions. The government’s “Higher Education and Research Plan 2004” states that governmental policy aims to achieve both excellence of, and maximum participation in, higher education, “if necessary with non-orthodox measures” (Ministry of Education, Culture and Science, 2004). As students become more internationally mobile, and as international competition consequently increases, Dutch higher education must make an effort to attract the best students and to keep them. Excellence would counter a possible brain drain of Dutch students going abroad and would bring about a brain gain from other countries. In order to achieve this diversity, entrance selection is a condition *sine qua non*. Furthermore, institutions should have more freedom to determine the tuition fees for their courses, enabling them to differentiate the fee for first-class courses as well as for “top-master’s” degree programs. A characteristic of these “top-master’s” is the quality of the program and the availability of the best academic staff that participate in research groups which have an internationally recognized presence in their field.

It is premature to speculate on how such a stratified system will evolve. In a sense, this policy fits in with some selective programs currently being developed in the context of the bachelor’s/master’s structure, such as the honors programs for excellent students at different universities, as well as the creation of “top-master’s.” Also, the accreditation agency can assign credits for a particular profile according to which distinctive features of a particular program are stressed. But if all universities aspire to the pinnacle of excellence and recognition, there will be considerable jostling at the top. Most Dutch universities are claiming the exalted status of research universities, and orient themselves to this single academic ideal. It is not yet clear how this relates to the objective of expanding access and providing opportunities for a wider group of people. Making top-master’s a priority may disregard the value of broad undergraduate education which provides educational opportunities for a wider group of people. It may well be that the Dutch sense for realism will assure that maximum participation requires increasingly diverse constituencies, functions and levels of educational preparedness.

Conclusion

Dutch higher education appears to have performed well in the last decade, but the challenges lie ahead. It is clear that individuals will need to take a greater share of financial responsibility for their learning. The question remains how to maintain a publicly funded system that remains generally accessible, not only for the traditional

cohorts, but for a larger group of people as well. Another challenge is to bring about a more varied and “dynamic” system of higher education, which allows for differences in education and research and which is better tuned to individual demands and capabilities. More performance-based funding, an increase in external demands for accountability and quality, greater selectivity of students, more differential tuition fees—these all constitute movement toward a “market-driven” higher education system. Such a move has clear advantages, but also bears several risks that as yet cannot fully be understood. The current government has launched various experiments in some areas to explore the possible effects. Finally, international developments are very pressing, and different changes have been adopted in both the education and research system in order to counter these challenges.

Throughout all these changes and daunting challenges, the task remains one of providing excellence in teaching, learning, research, and service. Given this historical review of the Dutch system of higher education, there can be no doubt that academic professionals and institutional leaders will continually rise to meet these challenges with increasing sophistication and success.

Note

1. The Bologna process envisions cooperation in quality assurance, accreditation, and certification and to develop a common framework of reference. An important network is the Joint Quality Initiative, consisting of representatives of various European countries, which aims to improve international cooperation in quality assessment, accreditation, and cross-national benchmarking. A major goal has been to develop shared descriptors of the required competencies of bachelor's and master's degrees. For more on this, please see the chapter by Hans de Wit in this volume.

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NIGERIA

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Higher education is defined here as all forms of postsecondary education that takes place in universities, polytechnics, colleges of education, and monotechnic education programs. Over 1.4 million students are enrolled in over 200 such institutions and programs in Nigeria. In 2003, there were 66 colleges of education, with an enrollment of 197,901 students; 55 polytechnics, with an estimated enrollment of 331,466 students; and 55 universities, with an estimated enrollment of 700,000 students. In addition, there were 90 monotechnics (i.e., technical colleges specializing in one area of study such as agriculture or health technology) and about 100 schools of nursing and midwifery and other professional training institutions, with an estimated enrollment of some 190,330 students. Given Nigeria's projected population of nearly 127 million in 2003, the total estimated enrollment in higher education of 1,419,700 represents a participation rate of 1,121 per 100,000 members of the population, which is above the average (in 1995 figures) for developing countries (824) and better than the sub-Saharan African average (328). However, as a gross enrollment ratio for 18- to 25-year-olds (whose population was estimated to be 18 million in 2003), enrollment in Nigerian higher education represents a mere 7.8%.

In terms of graduate education, less than 10% of all Nigerian students are engaged in postgraduate study, and most of these tend to be in the humanities and especially the social sciences, with very few graduate students enrolled in the sciences, engineering, or medicine (Jibril, 2003). Indeed, in some universities more than 50% of the graduate students are enrolled in business administration and related courses, responding to the needs of the labor market. Overall, while Nigeria's higher education sector is among the largest on the African continent, reforms are urgently needed—as this chapter will demonstrate—particularly in terms of curriculum, funding, governance, and access.

Historical Background

The first higher education institution established in Nigeria was Yaba College, which was opened in 1934 by the British colonial authorities to help with the production of middle level technicians (see Ogunlade, 1970). This was followed by the establishment of the University College, Ibadan as a degree-awarding College of the University of

London in 1948. The Ashby Commission—which the preindependence government established to advise on higher education for the new nation in 1959—recommended the upgrading of the University College to a full-fledged university in 1960, as well as the establishment of a university in the then capital city of Lagos and in each of the Northern and Eastern Regions. The Western Regional Government also proceeded to establish its own regional university at Ile-Ife. Thus, by 1962, there were five universities in Nigeria, which were joined in 1970 by the University of Benin. These six universities constitute what is known as the first generation of Nigerian universities. The second generation of universities consists of seven universities, which were established in 1975–1976 to ensure that each of the then 12 states of the federation had a federal university; two state universities were also taken over by the federal government in 1991 and 1992 to join the second generation club of universities. Although all the regional universities had by 1975 been taken over by the federal government, in 1979 states began to establish new universities of their own. The trend is still continuing, as there are now (in February 2005) 63 universities, of which 26 are federal (including one Defense Academy and one open university), 22 state, and 15 private.

The Ashby Commission Report (Federal Ministry of Education, 1960) also recommended the establishment of four advanced teachers' colleges and polytechnics, which have continued to grow both in number and in enrollment to the levels stated earlier. Of the 66 colleges of education existing in 2003, 21 were owned by the federal government and 40 by state governments, while 5 were privately owned. Similarly, of the 55 polytechnics existing in 2003, the federal government owned 17 and state governments 31, while 7 were privately owned. Most of the 90 specialized colleges are owned by the federal and state governments.

Access

One of the indicators of under-provision in the Nigerian higher education system is the admissions crisis that occurs every year when the season for admitting students to the higher education institutions arrives. Administrators and senior academics in the universities literally go underground in order to avoid meeting desperate parents and guardians of prospective candidates who come visiting to plead for the favor of having their wards admitted for their chosen course. Although the pressure in the polytechnics is also considerable, it is nowhere near the intensity of the pressure in the universities, especially the first generation federal universities and especially where professional courses such as medicine, law, accountancy, pharmacy, and business administration are involved. Although there are well-known criteria for qualifying for admission to these courses, candidates invariably fail to qualify and yet are desperate to be admitted for their course of choice. Sometimes undue pressure is brought to bear on the officers of the university through notes sent by highly placed public officers. Sometimes, too, there are stories of money changing hands, especially where junior academics or members of the administrative staff are in a position to influence the admissions process. A similar phenomenon has been reported in the literature regarding South Korea (NCIHE, 1997) and Eastern Europe and Central Asia (World Bank, 2002).

When admissions are judged against applications, only a small fraction of those who apply manage to get in. In 1997–1998 for instance, of the 419,807 who applied for admission to the universities through the University Matriculation Examination, conducted by the Joint Admissions and Matriculation Board (JAMB) (2000), only 73,432 (17%) were admitted. Similarly, in 1998–1999, only 29,721 (20.5%) were admitted to the polytechnics out of 144,626 candidates who applied for admission through JAMB. In the same year, out of 8,333 candidates who applied for admission to the colleges of education, only 2,824 (33.71%) were admitted.

However, the disparity between the number of applications and number of admission places offered only tells part of the story. The other part is that there is a critical shortage of good candidates. Indeed, many of those offers of admission are not taken up because, although the candidates may have scored highly enough on the matriculation examinations, they may not have the required five credits in the right combination of subjects, without which the universities and other institutions will simply not register them. Statistics of the percentages of candidates who eventually accept the offers made to them are not available, but in 1989–1990, the federal universities were given an admission quota by the National Universities Commission of 62,411, and although 352,544 candidates applied, only 50,928 were offered places, which left 11,483 places unfilled (18%).¹ Similarly, the colleges of education—which were able to admit 12,233 candidates out of the total number of 13,666 who applied (90%) in 1997–1998—could attract only 8,333 applicants in all, a decline of 39% over the previous year's number. The fact that only 34% of these were admitted (2,824) is also indicative of the dearth of good candidates.

The colleges of education and the polytechnics, which are left with the mediocre candidates after the best have gone to the universities, now resort to making up the shortfall in the number of unfilled places by admitting, in some cases, more candidates through the Remedial Course [called Pre-Nigeria Certificate in Education (NCE) and Pre-ND] route rather than through direct entry. According to Isyaku (2000), by 1996–1997, up to 54% of the students admitted to the colleges of education came through the Pre-NCE route. This has serious implications for quality, as the requirement for admission to the Pre-NCE course is simply three passes in the Senior Secondary School Certificate Examination (SSCE). Similarly, five passes are required for admission to the Pre-ND course in the polytechnics. It is doubtful if students admitted with such low entry qualifications (and who are then not subsequently subjected to an external examination after their foundation year course) can measure up to the quality standards that have been set for Nigeria's higher education system.

The Crisis of Access: Some Explanations

The crisis of access to higher education as described above can be explained in several ways. First of all, the secondary school system is itself in crisis and is so inefficient that it can simply not deliver the required quantity and quality of candidates for the higher education system to absorb. The universities require five credit passes in the SSCE, while the polytechnics require four credit passes and the colleges of education require three credit passes plus two ordinary passes in English and mathematics. These

Table 1. Candidates' Performance in the Senior Secondary School Certificate Examination, 1999

| Subject | Total No. of Candidates | Score: A1-C6 | | Score: P7-P8 | | Fail | |
|-------------|-------------------------|--------------|-------|--------------|-------|----------|-------|
| | | <i>N</i> | % | <i>N</i> | % | <i>N</i> | % |
| English | 757,233 | 73,531 | 9.71 | 171,098 | 22.59 | 491,593 | 64.91 |
| Mathematics | 756,680 | 138,098 | 18.25 | 212,514 | 28.08 | 381,029 | 50.35 |
| Biology | 745,102 | 207,232 | 27.81 | 204,214 | 27.4 | 312,758 | 41.97 |
| Chemistry | 223,307 | 69,411 | 31.08 | 51,665 | 23.13 | 94,347 | 42.24 |
| Physics | 210,271 | 64,283 | 30.57 | 61,772 | 29.37 | 77,709 | 36.95 |
| Economics | 717,509 | 155,418 | 21.66 | 245,000 | 34.14 | 297,332 | 41.43 |

Source: Adapted from Nigerian Economic Summit Group (2000).

credit passes have to be in the right combination of subjects relevant to the desired course of study. In addition, the candidates have to score well enough on the University Matriculation Examination or the Polytechnics and Colleges of Education Examination to qualify for admission. Table 1 provides a summary of the performance of candidates in the 1999 SSCE.

Given that a credit pass in the English language is a requirement for admission to all university courses, it is obvious that less than 10% of the candidates who completed secondary school in 1999 could be eligible for admission to universities. Also, given that a credit pass in mathematics is a requirement for admission to all science-based courses, it is obvious that less than 20% of this cohort could qualify. Overall, the impression conveyed by the data in Table 1 is that the Nigerian secondary school system is operating at an efficiency level below 30%.²

It is important to clarify this statement by explaining that there are a few secondary schools whose students are indeed responsible for most of the high scores in the SSCE and whose overall rating (in terms of the proportion of candidates obtaining five credit passes or more) may be up to 90%. These are the federal government colleges, some of the expensive private schools, some of the religious mission schools, and some of the schools established by (and dedicated to) some federal services, such as university staff schools, Army Command schools, Air Force schools, and Navy schools. However, these schools are a minority, as the majority of students study in (state) government secondary schools, community schools, or low-fee private schools. The latter category of schools is usually less well resourced in terms of availability and quality of teachers, laboratories, consumables, and other teaching and learning quality inputs. Unfortunately, the children of the poor usually end up studying in these schools. It is therefore suspected that to some extent the Nigerian middle class is already perpetuating itself by creating favorable conditions for its biological offspring to gain access to higher education while restricting, albeit unwittingly, new entrants into the middle class from the class of the masses.

Another explanation for the access crisis is, of course, the failure of the universities to expand their facilities and teaching staff to keep pace with the demand side

of higher education. Another explanation relates to the attitudes of candidates to the nonuniversity institutions—the polytechnics and the colleges of education. Because the employment reward system in Nigeria is university degree oriented, the university is the preferred choice of most candidates. This degree orientation has its roots in Nigeria's colonial history, when members of the British upper and middle classes who were university graduates served as colonial officers in the civil service. Naturally, all privileges were designed to be enjoyed exclusively by them. Technicians and nongraduate teachers were adjuncts in the service and therefore had lower status and restricted career prospects. When independence was achieved, Nigerian university graduates simply stepped into the vacated shoes of the former colonial officers and to this day some of the disparities and inequities still persist. The failed university candidate who goes to the polytechnic or college of education, therefore, still has his or her eyes on the university. Many drop out of the other institutions as soon as a university accepts them. In any case, they are further discouraged from viewing the other institutions as simply alternatives to the university, in part because of the uneven length of the courses in the nonuniversity institutions. For example, a candidate who obtains four credits in the SSCE and goes to a polytechnic spends two years to obtain the Ordinary National Diploma. He has to acquire practical experience for at least one year before he is eligible for admission to the Higher National Diploma (HND) course, which takes him another two years. So, he ends up spending five years to reach the equivalent status of a university graduate, who spends four years of postsecondary study to obtain a degree, admittedly with a higher entry qualification of five credit passes. To make matters worse, the HND holder is still reminded, from time to time, that he cannot rise to the top of his career because he does not have a university degree! In order to come to terms with this situation, HND holders now undergo a post-HND course in some of the polytechnics to qualify them to be rated like university graduates or more precisely, to prepare them for acceptance into master's degree programs in universities.

The failed university candidate who goes into a college of education is up against even more serious obstacles. To begin with, although the Nigeria Certificate in Education (NCE) course was designed during the 1960s—when the Teacher Grade II course (which provided the candidates for the NCE) was a 5-year post-primary one, with the introduction of the 6-year secondary school in 1982—the duration of the NCE course should have been revised to two years. Instead, the entry qualification was lowered to three credit passes. So, the failed university candidate who goes to the college of education spends three years studying for the NCE. Even if he gets admitted into a university immediately after the course, he has to spend, in most cases, another three years to obtain a degree. Invariably, he is required to serve his state government for at least two years before being sponsored to go for a degree course. Consequently, he may end up spending eight years to reach his ultimate goal of acquiring a degree just because he followed the NCE route. Many, in fact, never manage to get a degree because their score on the final NCE examination is unacceptably low for university admission. Many failed university candidates therefore prefer to wait for a year or two, re-taking the SSCE as private candidates, than to go into the long and uncertain route of the nonuniversity institutions.

Distance Education

Distance education in Nigeria can be said to be still in its infancy. There are now (in 2005) some 125,547 distance-learning students in Nigerian higher education. Of these, 93,547 are NCE students enrolled in the National Teachers' Institute's distance-learning program. The other 32,000 students are enrolled in various courses of the newly re-established National Open University of Nigeria. Clearly, this efficient and flexible learning mode has to be considerably expanded in order to reach the envisaged expansion targets of Nigerian higher education.

The Case for the Expansion of the Higher Education System

The structure of the Nigerian education system is skewed, with 24 million pupils at the primary school level, 6.5 million at the secondary level, and only 1.4 million at the tertiary level. Thus, in order to move from a gross enrollment ratio of 5% at the tertiary level, the number of pupils matriculating from the primary to the secondary school levels will have to be substantially increased, and the efficiency of the secondary school level will also have to improve substantially.

The target we should aim at is an enrollment in higher education of at least 20% of the age cohort by the year 2011. According to the National Population Commission (NPC) (1991), the 18- to -25-year-old cohort will be 22.1 million in the year 2010, so 20% of that will be 4.42 million. This amounts to a threefold increase in the size of the higher education enrollment over the next five years. Although this may look ambitious, with the benefit of hindsight, we now know that while the Ashby Commission thought that its enrollment projections were revolutionary, they turned out to be conservative and to have been outstripped by the actual size of the enrollment growth. This may well turn out to be the case here as well.

Given the present size of the secondary school subsector, for the next three or four years only between 900,000 and one million candidates will constitute the potential intake into higher education annually. We should therefore begin to prepare other potential higher education students from outside the secondary schools. There are thousands of secondary school dropouts who have not been able to secure the magical five credit passes in the SSCE or to pass the JAMB matriculation examination. State governments should mount intensive remedial programs for such people immediately. There should be provision for 10,000 such students in every one of the 36 states and the Federal Capital Territory, so that beginning in 2005, there will be at least 740,000 such students in the remedial programs nationwide every year. Some educationally disadvantaged states may not, of course, be able to mobilize up to 20,000 students a year, but then some of the educationally advanced states may be able to mobilize multiples of that number annually, so the numbers should even out overall. State governments should provide this service free to their citizens and should be responsible for the payment of the registration fees for the external examination to be taken by the candidates at the end of the course. It is hoped that at least 500,000 candidates will be successful in both the GCE examination and the JAMB matriculation examination annually, and thus provide additional candidates for the higher education institutions to admit.

The case for the expansion of the Nigerian higher education system is predicated upon the demands of the knowledge economy. At the present time, with only 5% of the relevant age cohort enrolled in higher education institutions, and with only 2.62% of the population having achieved a postsecondary education (NPC, 1991), Nigeria is ill equipped to participate in the knowledge economy. It was predicted as far back as 1977 that for it to survive and grow, every society must provide access to higher education for between 12% and 18% of its relevant age cohort to higher education and that providing access to less than 12% of the cohort to higher education would threaten the future of that society in a globalized and knowledge-based world economy (Perkins, 1977). It has also been suggested (Sadlak, 1988) that within this decade, 40% of all jobs in the developed economies will require at least 16 years of schooling, i.e., higher education. It is instructive that none of the OECD countries had a gross enrollment ratio below 30% by the close of the last century. Indeed, according to UNESCO (1998, p. 6), "In Europe, the gross enrollment ratio almost doubled, increasing from 24.1% in 1980 to 47.8% in 1995. North America, which already had a gross enrollment ratio of 55.7% in 1980, increased further to a ratio of 77.2% by 1990 and to 84.0% by 1995." Similarly, the Asian Tigers had gross enrollment ratios of between 11% (Malaysia) and 43.5% (South Korea) in 1995, according to the Dearing Report (NCIHE, 1997).

The World Bank (2002) has gathered extensive evidence to indicate the strong relationship that exists between investment in higher education, research, and development on the one hand, and economic growth on the other. However, it is emphasized that investment in tertiary education and in research and development on its own may not necessarily translate into higher economic growth. In order for such an investment to yield the required dividend, it must be made within the context of a national innovation system (described as an appropriate macroeconomic framework, innovative firms, adequate infrastructure, and other factors, such as access to the global knowledge base). The extent to which investment in manpower development impacts economic growth, as well as the returns on investment in education for individuals and the society, have been well researched in the economics literature, though there is hardly any unanimity on conclusions.³

It has been suggested by some observers that human capital is, in this knowledge economy, more important in contributing to the wealth of nations than produced assets or natural capital. According to Serageldin (2000), human/social capital now accounts for 59% of wealth creation in low-income countries (67% in high-income countries), compared to produced assets (21% low income and 16% high income) and natural resources (20% low income and 17% high income). This dramatic reversal of economic theory has been brought about largely by the role of information and communications technology (ICT) expertise in the knowledge economy. For example, with just 5 million workers representing 4% of the active workforce in the United States, ICT is responsible for one-third of the economic growth of the United States (Glanz, 2001). Meanwhile, the value of Indian information technology exports has been rising consistently in the last 10 years, from \$150 million in 1990 to \$4 billion in 2000, and is estimated to rise to \$85 billion by 2008 (Glanz, 2001). This is particularly instructive for Nigeria, where economic growth is driven largely by natural resources rather than by human/social capital, and where the value of oil exports has yet to exceed \$20 billion in any one year.

Thus, while the increasingly knowledge-based economies of countries like India and the United States are estimated (and expected) to rise, Nigeria's is expected to continue to decline owing to a downward trend in oil prices and the possible discovery and development of alternative sources of energy.

It is therefore a global trend that higher education systems are rapidly moving from elite systems, where only a small percentage of the population (usually less than 15%) has access to higher education, to mass systems, where the participation rates range from 15% to 40%.⁴ The *massification* of higher education systems is closely correlated to a country's strategic positioning for global competitiveness. However, in view of the linkages between the three levels of education, the expansion of the higher education system has to move in tandem with the expansion of the two lower levels, especially the secondary, from which the higher education system recruits its intake.

The Case Against Expansion

There are valid arguments against the expansion of the Nigerian higher education system. For one thing, it is legitimate to argue that if funding and quality are so poor given the present (relatively small) size of the system, how much worse would they both be in an expanded system? It is equally legitimate to question the rationale for expanding the system further to produce more graduates, when Nigeria's economy already seems incapable of providing employment to the relatively few products of the higher education system.

The arguments put forward earlier in favor of expansion are so compelling that unless Nigeria wishes to postpone its development for another generation, the country's leaders must proceed with a comprehensive reform effort immediately. However, funding arrangements will have to be overhauled to drastically reduce dependence on the public treasury in order to run the higher education system. Quality is, of course, closely related to funding. It can be argued that if the required human and material resources can be mobilized outside the public treasury, it is possible to maintain and even improve quality simultaneously with expansion.

The issue of graduate unemployment can be explained in terms of the political economy of Nigeria. The public sector—which in the first two decades following independence (1960–1980) employed some 80% of the graduates of higher education—is no longer expanding, and is, in fact, contracting. The government is also now withdrawing from large-scale commercial activities and is privatizing or has already privatized, major public utilities such as telecommunications and power. As a consequence, there are very few new openings in the public sector. The private sector, which in other countries is the major employer of skilled manpower, has yet to find its proper bearing in Nigeria. Most of the industries are foreign owned and rather small or are mere assembly plants with only marginal linkages to local producers. Owing to political instability, no substantial new investment has come into the country from outside in the last 15 years, except recently, when the telecommunications sector was deregulated and some foreign companies came to open shop. Also, many wealthy Nigerians who made their money as public officers are afraid to invest the money at home for fear of possible confiscation and/or prosecution. Instead, the funds are hidden in Europe and the United States. But

the absence of institutions that can absorb the new graduates of an expanded higher education system should not discourage us from expanding the system.

The example of the Asian Tigers has shown that once a nation empowers its people with the right technical and entrepreneurial skills, they can actually create jobs for themselves and drive the engine for the growth of the nation's economy. This, of course, means that the expanded system will be providing a new type of higher education, quite distinct from what has been on the menu up to this point in time. The question must also be asked: what is the alternative to educating a greater number of the higher education cohort? At present, the dropouts from this cohort provide most of the army of urban unemployed youth who are used by the disgruntled elite to carry out violent intercommunal riots. If the young people had better access to higher education, perhaps they would not be such an easy prey of the mischief-makers.

Funding

Since most of the higher education institutions are owned by state and federal governments, these proprietor governments tend to provide most of the funding for these institutions. In addition to failing to adequately meet the funding needs of these institutions, the governments—especially the federal government—restrict and regulate the institutions' ability to generate revenue from tuition fees and accommodation charges.

From a historical point of view, government funding of higher education in Nigeria has been declining in real terms, owing to the interaction of three key variables: rising enrollment levels, inflation, and the depreciation of the national currency, the Naira. As shown in Table 2, although per student spending grew nominally over the last two decades, enrollment growth and inflation have negated the funding increases—in fact, per student funding has actually declined since 1985 (see Babalola 1988, for instance).

Another yardstick by which we can assess the adequacy of government funding of its higher education institutions is to review the actual funding levels against the requests made by the coordinating agencies on behalf of the institutions—requests that are generally considered realistic appraisals of the minimum funding needs of

Table 2. Declines in Nigeria's Per Student Funding

| Sector | Enrollment Growth | Nominal Funding | Adjusted for Inflation |
|-------------------------------|-------------------|---------------------|------------------------|
| Federal universities | 371% (1985–2001) | Increased by 1,740% | Declined by 58% |
| Federal polytechnics | 622% (1985–2001) | Increased by 938% | Declined by 29% |
| Federal colleges of education | 354% (1990–2001) | Increased by 1,270% | Declined by 10% |

Source: Adapted from Federal Government of Nigeria (1992), the *Statistical Digest on Colleges of Education in Nigeria* (National Commission for Colleges of Education, 1999, 2000, 2002), the *Digest of Statistics on Polytechnics in Nigeria*, 1998/99, 1999/2000 (National Board for Technical Education, 2000, 2001a, 2001b and 2001c), the *Report of the Committee on the Future of Higher Education in Nigeria* (Federal Government of Nigeria, 1997), Omoregie and Hartnett 1995, Hartnett 2000, National Universities Commission 1992, 2000 and Okebukola (2002).

the institutions. For the period 1990–2001, the recurrent grants released to the federal universities represented, on the average, only 58% of the funding levels recommended by the National Universities Commission. For the polytechnics, the average funding level over the period 1985–2001 was a little better, at 71% of the levels recommended by the National Board for Technical Education.

As a consequence of the restrictions imposed by the federal government on the charging of fees in its institutions, some revenue sources are barely tapped by the universities; for example, student accommodation accounted for only 3.5% of all internal revenue generated by the federal universities in 2000. Similarly, rent on university property accounted for only 2.29% of all internal revenue, while income from consultancies was also poor, at only 5% of all internal revenue.

The Need for Funding Reform

Clearly, the Nigerian higher education system must be reformed to diversify its resource base if it is to deliver the quality output that the country needs to become a respected player in the knowledge economy of the 21st century. The government should deregulate the system and untie the hands of the universities and other tertiary institutions, allowing them to charge realistic fees for both tuition and staff and student accommodation. The government should also improve the public funding of higher education institutions in order to meet the minimum staffing and facilities levels recommended in the minimum academic standards/benchmarks. This funding reform should be implemented in three phases as follows:

- Phase I should involve the full deregulation of staff and student accommodation charges and the re-introduction of minimal tuition fees so that the government's contribution is reduced to 75%; this should take place during 2006–2007.
- Phase II should run from 2008 to 2010 and should involve the raising of fee levels beyond the token levels introduced in phase I; by the end of the phase, the government's contribution should be reduced to 60% while internal revenue should rise to 40%.
- Phase III should run from 2011 onward and should involve a more aggressive revenue drive to reduce the government's contribution (which should continue to rise, nevertheless) to 45%.

Private Participation in Nigerian Higher Education

Currently (as of February 2005), there are 63 universities in Nigeria, of which 15 are private; 55 polytechnics, of which seven are private; and 67 colleges of education, of which nine are private. In the university and colleges of education subsectors, these private institutions account for only 3% and 0.03%, respectively, of enrollment. However, the participation of the private sector has grown from nothing in 1999 to an enrollment of 21,459 presently in the university subsector. Moreover, eight of the 15 private universities have not yet taken off, having only recently secured their licenses. It is therefore expected that in the next five years or so, more will have been registered

and those currently struggling to get off the ground will have settled down to serious business.

According to a recent book published by the World Bank, there is a strong positive relationship between the growth of private universities and the charging of fees in public universities. In *Constructing Knowledge Societies* (World Bank, 2002), the authors provide a broad comparative analysis of private growth in the higher education sector.⁵ For example, they note that in Portugal, “private universities have expanded in less than a decade to represent 30% of tertiary institutions, and they enroll close to 40% of the student population” (p. 68). In Côte d’Ivoire, “private universities enroll 30% of the student population” (p. 69), while in Iran and Japan, private universities (which were introduced in 1983 and 1991, respectively) now enroll more than 30% and 35% of their respective student populations. The book then proceeds to suggest that in countries like Nigeria, expansion of private institutions of higher learning can be expected only when fees are re-introduced in the public universities.

The Nigerian public has been skeptical about the ability of private institutions to provide good quality higher education. However, given the track record of the private sector at the lower levels of the educational system, this skepticism would appear to be unfair. The regulatory agencies have been attuned to their responsibilities of closely monitoring and guiding these private institutions towards the attainment of acceptable standards. Happily, the indicators coming out of the initial quality assessments of the new private universities suggest that on the whole they are better positioned than public universities to deliver quality instruction. The results of the first accreditation exercise conducted for the private universities by the National Universities Commission show that none of their programs were denied accreditation (compared to the public universities, where 13% of their programs was denied accreditation a few years ago).

The private universities appear to have brought a breath of fresh air onto the Nigerian higher education scene. Because of their small sizes and the fact that tuition and other fees are charged, they have been free from student riots, staff strikes and student violence, which are all disruptive features of the public universities. Their presence on the scene is likely to make it easier for public universities to re-introduce tuition and other fees in order to be able to compete favorably with the private universities in the future.

The governance models and structures of private institutions appear to be different from those of public universities. Although, like their public counterparts, each private university has a vice chancellor and a governing council, that is where the similarity ends. All but one of the seven private universities that are presently operational are owned by individuals (sometimes hiding behind a religious organization) who keep breathing down the vice chancellor’s neck and practically making all the major management decisions, much in the same way as the proprietor of a private secondary school renders the headmaster a glorified clerical assistant. The one exception is a university that belongs to a network of 23 other universities around the world owned by the same religious organization. The real battles in higher education will be fought in the future when the proprietors attempt to interfere with academic grading or other aspects of the academic freedom of the faculty.

The Brain Drain and its Impact on Nigerian Higher Education

The loss of highly trained Nigerian professionals to the industrialized economies and other countries that pay higher wages and provide better working and living conditions poses a serious threat not only to Nigerian higher education but to the long-term development of the country as a whole. It has been reported, for instance, that there are up to 3.25 million Nigerians in the United States alone, of whom some 174,000 are information technology professionals, 202,000 medical and allied professionals, about 50,000 engineers, and 250,000 other professionals, including university lecturers.⁶ This trend is not unique to Nigeria, as Wolfensohn (2005) reports that only about 20% of sub-Saharan Africans educated abroad return home, the rest staying on in the country of study.

In the Nigerian university sector specifically, only about 36% of the required number of academic staff is actually on the ground, the rest having migrated to Southern Africa, the Middle East or the Western industrialized countries. A survey conducted by the National Universities Commission in 2001, as part of the background information for the negotiations with the Academic Staff Union of Universities, indicated that a full professor in Botswana earned about US\$27,000 annually, while in Namibia the post attracted an annual salary of between US\$21,000 and US\$35,000, and in South Africa the annual salary of a full professor around the year 2000 was in the range of US\$18,000–24,000. In Nigeria, despite recent increases in salary, the Nigerian full professor still earns only about US\$12,000 per year. This is no doubt an important push factor for the brain drain.

Challenges Facing the Academic Profession

The academic profession in Nigeria faces several challenges. As noted earlier, the most important challenge is that of attracting and receiving adequate remuneration, which can guarantee a decent standard of living for the academic and his family; this should compare favorably with what is obtainable elsewhere in Africa. Although salary levels have increased five times in the last seven years in nominal terms, owing to inflation and the continual loss of value of the Nigerian national currency (the Naira), in real terms the improvement is only about 25% of the 1998 levels. As a consequence of this poor level of remuneration, there is a continuous flood of skilled university teachers out of the country and also into the more lucrative sectors of the Nigerian economy. The internal brain drain to the oil industry and the banking sector by brilliant new graduates—who then earn up to three times what the university would have paid them as graduate assistants—is alarming to the academic profession, as it means that there is no new blood coming into the profession to replace the aging senior academics in the future.

Ultimately, this is but a manifestation of a bigger crisis, the crisis of system funding highlighted earlier in this chapter. Since for the foreseeable future, public universities (especially federal universities) will continue to dominate the system, funding must be reformed and deregulated so as to diversify the resource base of these universities and reduce their dependence on the unpredictable and unreliable public treasury.

One of the consequences of this funding crisis is that equipment and facilities in the universities, colleges, and polytechnics have become obsolete or nonfunctional, while classrooms and laboratories can no longer accommodate the ever-increasing numbers of students. The academic staffing ratios continue to deteriorate below optimum levels (a few years ago the staffing levels were only 36% of what was optimally required). The cumulative effect of all these inadequacies is that the quality of Nigerian higher education continues to decline while academic corruption continues to prosper. Incidents of financial extortion and sexual harassment are on the rise, although few have been brought to public view.

The crisis of governance also looms large on the Nigerian higher education horizon. Although the Nigerian federal government has been singing the melodious song of granting autonomy to its universities, for instance, it is obvious that people in the government are reluctant to let go of their traditional powers of appointment and control in the higher education institutions. Although a bill designed to grant some autonomy to the universities was signed into law by the President in 2003, for some inexplicable reason the previous law is still in operation, and the new one is effectively ignored. The academic staff union is also not comfortable with the kind of autonomy that will compel the universities to be financially independent of the government and to charge appropriate tuition and other fees.

Finally, the problem of student secret cults and the violence their members perpetrate on campuses in some parts of the country is a serious threat to the security of both staff and students on such campuses. Quite a few members of faculty have been killed by such violent students, while student-on-student violence is a daily occurrence in some universities.

Conclusion: The Inevitability of Reform

The Nigerian higher education system needs to be reformed if education is to serve as a tool of development, enabling Nigeria to play its appropriate role as a respected player in the globalized knowledge economy of the 21st century. A comprehensive reform package should have components dealing with the curriculum, funding, and governance, among other issues. The graduates to be turned out into the labor market by the reformed and expanded system will have to be equipped with multiple life skills rather than facts and figures, and will have to be imbued with an entrepreneurial spirit and be ready to create their own jobs rather than expect jobs to be available on demand. This means that institutions of higher learning, especially the traditional universities, will have to come face to face with reality and stop pretending that there is no connection between what they teach and the world of work (or if there is, that connection is none of their business, for they exist in an esoteric world that prides itself on its lack of relationship with reality).

Secondly, it is simply not possible for the system to be expanded, as suggested above, under the current funding and governance arrangements. Already, quality has been declining largely because the government has been unable to discharge its funding obligations fully, and yet has been unwilling to deregulate the system so that other stakeholders can discharge theirs. The federal government, while substantially increasing its

per student spending to meet at least 75% of the agreed academic costs of the students in the institutions it owns, should allow the institutions to consult their students, their parents and other stakeholders, and charge reasonable fees to make up for part of the 25% of the academic costs which the government cannot meet. Nonacademic costs should be fully recovered from students but, as a corollary, there should be many scholarships, bursaries, grants and possibly student loan schemes to ensure that students are assisted and encouraged to continue with their education, thus rescuing them from dropping out on grounds of poverty.

Governance arrangements will also have to be overhauled. True autonomy will have to be given to the institutions of higher learning. This will entail the government withdrawing from any active participation in decision making, especially as this relates to the appointment of the chief executives of the institutions. However, the appointment of members of the governing councils should be the joint responsibility of the institutions and the proprietor governments. The institutions should set up transparent processes of generating nominations from the campus and local communities of potential members of such councils who are willing to serve the institutions selflessly, and who will not look upon the institutions as sources of additional income for themselves. Such nominations, which should always be in excess of the number of available vacancies on the councils, should then be sent to the proprietor government for vetting and approval. The Ministry of Education or the relevant regulatory agency should also set up an effective monitoring unit to periodically evaluate the performance of councils and their key members.

Finally, a reform package can only be effective if the right macroeconomic environment exists. In other words, Nigeria must as a nation (and especially as a government) get its act together. The production of highly skilled and entrepreneurial graduates who cannot access microcredit to start off their own enterprises, or who cannot sell their goods and services because of unfair competition from cheap imports that are subsidized in their countries of origin, can only heighten the level of frustration of the country's young people and their anger with society, thus raising the level of violence and insecurity in the land beyond their already unacceptable limits.

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Notes

1. Admittedly, the universities might have deliberately admitted fewer than they were allowed to by the NUC because the NUC figures are based on approved growth levels, which are not matched by appropriate funding to ensure commensurate growth in staffing and facilities. In this situation, some universities opt for the sensible thing: downsizing.
2. Of course, the six subjects given here do not represent the whole range of subjects taken in the SSCE. But they are among the most critical. Admittedly, scores in subjects such as Islamic Religious

- Knowledge, Christian Religious Knowledge, Hausa, Igbo, and Yoruba are higher, sometimes in the region of 90% credit passes.
3. See, for instance, Psacharopoulos (1994), Bennell (1996, 1998), Asplund and Pereira (1999), Cohn and Addison (1998), and Temple (1999, Barro, 1997, Barro and Sala-I-Martin, 1995, Porter, 1990 and Stern et al., 2000). Also, see the chapter by David Bloom, Matthew Hartley and Henry Rosovsky in Volume 1 of this publication.
 4. For more on this, please see the chapter by Martin Trow in Volume 1 of this publication.
 5. For more on this topic, please see the chapter by Dan Levy in Volume 1 of this publication.
 6. See *The Daily Trust* (July 12, 2004, p. 22), where the President of Nigerian Information Technology Professionals in America, Professor Manny C. Aniebonam was quoted as giving these figures.

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POLAND

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Higher education in Poland has a long and rich history and tradition. The first university, Jagiellonian University in Krakow, was founded in 1364. The two other oldest universities, the University of Vilnius and University of Lvov, were founded in 1578 and 1661, respectively. Warsaw University, the first academic institution located in the capital of Poland (Warsaw), was created in 1816, and the first technical university—the Warsaw Polytechnic—was founded 10 years later in 1826. After World War I, when Poland regained its independence after more than a century of being portioned between Russia, Prussia, and the Austrian Empire, higher education played an important role in restoring Polish culture and science. The higher education system expanded to 32 institutions until the start of World War II. There were five state universities in Krakow, Vilnius, Lvov, Warsaw, and Poznań; three Polytechnics in Warsaw, Lvov, and Krakow; one private university, the Catholic University of Lublin, founded in 1918; and several other private and public higher education institutions in larger cities.

However, the higher education system was an elite system with low enrollment rates, reflecting the society's structure. In the prewar period (1938–1939), there were in total some 120,000 students; almost half of them studied in Warsaw, followed by Krakow, and Poznań (each with 15% of the country's enrollment). The great majority of students came from higher income families, usually from aristocracy and the wealthy class. The costs of study prevented less wealthy students from attending higher education and therefore contributed to (and strengthened) the existing social disparities. The system of state student support was underdeveloped and consisted mainly of student loans. Before World War II, higher education experienced broad academic and institutional freedom, which implied the individual scholar's ability to do research and teach without fear of punishment or loss of employment, and allowed each institution to determine and manage its own internal affairs without state intervention.

Higher education in Poland suffered a great loss during World War II in terms of academics killed and buildings ruined. The invaders closed down all higher education institutions, exterminated almost 40% of the professors, and destroyed most of the institutions' buildings, libraries, and laboratories. After the war, higher education developed from scratch (Poznanski & Kucha, 1992). The first state regulation concerning higher education after the war was the Decree on the Organization of Science and Higher

Education, which was passed by the government in 1947. This decree was relatively liberal in terms of academic and institutional freedom. Higher education institutions functioned within similar institutional arrangements and enjoyed almost the same degree of autonomy as before the war. In order to provide a qualified workforce to restore the country, new higher education institutions were established in Gdansk, Szczecin, Torun, Opole, and Wroclaw, among other cities. Some of them were founded as universities or polytechnics; however, the majority functioned as pedagogical higher education institutions or engineering higher education institutions which were less prestigious, had fewer faculties and at the beginning offered short vocational study programs. They grew quickly, and in a few years, they enrolled the majority of students and offered master's degree programs. In 1946, there were already 54 higher education institutions with some 86,000 students and 11,000 academics. Higher education institutions also offered part-time studies for working students.

The change in the political, social, and economic systems after the war reshaped the higher education structure. The Act of April 26, 1950 subordinated all institutions to the Ministry of Science and Higher Education, which implied a change to the patterns established before the war. The years from 1949 to the mid-1950s can be characterized as the "Stalinist period." The government limited the academic freedom significantly, imposed an ideological criterion for the selection of academics, and isolated the universities from contact with Western countries. In 1949, the government nationalized all private higher education institutions (excluding the Catholic University in Lublin). This transition in effect subordinated all institutional decisions to the needs and requirements of the socialist party. The act also imposed on higher education institutions the responsibility of promulgating socialism throughout Polish society, causing study programs to be modified to meet the needs of socialist ideology. The management system in higher education was based on a single authority—the Ministry, which was responsible in such areas as the goals and directions of higher education institutions; the internal organization of education and research; study programs; and appointment and financial regulations. The socialist party representatives who were present in the collegial organs of higher education institutions oversaw the day-to-day management. Top level positions in the higher education institutions were appointed by the Ministry, whose choices were based on the opinion of the central screening body for academic staff, which took into account not only the academic merits but also the political soundness of the candidate (Sadlak, 1991).

Another consequence derived from the Soviet model was the removal of several disciplines from the universities, including medicine, physical culture, agriculture, and theology, each of which was established in separate higher education institutions. Together with the nationalization of private higher education, tuition fees were abolished and the state took over the financing of higher education. Finally, on top of this policy were personnel repercussions. Academics, ranging from junior assistants to full professors (and especially in the social sciences) were removed from universities and other institutions and replaced by the graduates of the Institute for the Development of Academic Staff, supervised by the Polish United Worker's Party—the only legal political party, which until 1989 played the most important role in shaping and implementing policies in all sectors of the nation's economy.

Despite these negative changes, in terms of the decrease in institutional and academic autonomy, the higher education sector continued to grow. By 1970, there were 85 higher education institutions, with some 330,800 students and 31,000 academics. However, compared with the democratic countries, the growth of higher education in Poland was relatively slow. During the 1970s, higher education experienced significant quantitative growth in terms of student and faculty numbers. The increase was associated with both the economic boom in Poland (stimulated mainly by foreign credits) and the demographic explosion. The policymakers encouraged the expansion of student enrollment in order to respond to manpower needs and to promote the role of higher education as an agent of economic and social change. Student numbers increased from 330,800 in the academic year 1970–1971 to 453,700 in 1980–1981, while the number of faculty rose from 31,320 to nearly 54,700.

However, when the economy stumbled toward the end of the 1970s, the relations between policymakers and higher education became tense and uneasy. In the second half of the 1970s, the government's economic plan failed and state resources spent on higher education were substantially decreased. Insufficient state funds, combined with the strained political relations between the academic community and central governing bodies, brought a set of negative results. Student numbers decreased to some 356,400 in 1988–1989. The most significant fall in student enrollment was seen in engineering, economics, and management studies, where the decline exceeded 50%. During the 1980s, only one public higher education institution was established, compared to the launching of six during the 1970s. The number of graduates fell from 84,000 in 1980 to 49,800 in 1988 (see Table 1).

On the other hand, since the mid-1980s, the government increased the degree of autonomy for higher education institutions. During the second half of the 1980s, the prerogatives of universities and colleges were extended almost every time new legislation on higher education was passed. As a result of ongoing political changes, such as ideological and economic liberalization, the whole system of education underwent a considerable transformation. Pressure grew in many circles for reforms that would

Table 1. Higher Education in Poland, 1946–1991

| Year | HEIs | Full-Time Students | Part-Time Students | Total |
|-----------|------|--------------------|--------------------|---------|
| 1946–1947 | 54 | 86,500 | 0 | 86,500 |
| 1950–1951 | 83 | 117,500 | 7,600 | 125,100 |
| 1970–1971 | 85 | 209,800 | 121,000 | 330,800 |
| 1975–1976 | 89 | 283,200 | 184,900 | 468,100 |
| 1980–1981 | 91 | 299,100 | 154,600 | 453,700 |
| 1988–1989 | 92 | 272,500 | 83,900 | 356,400 |
| 1989–1990 | 97 | 290,900 | 87,500 | 378,400 |
| 1990–1991 | 112 | 302,600 | 91,700 | 394,300 |

HEIs = higher education institutions.

Source: National Statistic Offices (2003).

create more academic and financial autonomy in Polish higher education. Finally, when the socialist system collapsed in 1989, higher education enjoyed substantive autonomy compared to other sectors of the economy. Higher education institutions were empowered, for instance, to establish their own statutes, plan their programs of research and study, determine the structure of their internal organization, and determine the allocation of funds. Nevertheless, subordination to central governmental bodies was still a part of many crucial institutional activities.

In sum, during the postwar period from 1946 to 1998, the situation of higher education in Poland changed in correspondence to political trends. Political reforms encouraged the quantitative expansion of higher education and increased institutional autonomy, while political reversions (followed by economic crises) cut state subsidies for higher education and imposed more restrictive regulations. It is worth noting that compared to the prewar era of elite higher education, the student body composition during the socialist period was more diverse. Despite the relative failure of the Preferential Points System—which granted additional points for an applicant's social origin, such as working-class or peasant families, during higher education entrance examinations (Sadlak, 1991)—the tuition-free system increased participation in higher education students from lower social and economic backgrounds (Sorensen, 1997).

Reforms and Changes in Higher Education During the 1990s

In general, until 1989 the Polish higher education system was an elite system with very low enrollment rates. A sluggish economy, limited flexibility in the higher education system, resistance to change in the academic community, and poor remuneration and working conditions discouraged many bright graduates from pursuing an academic career. Many academics left the country in search of better job prospects abroad (Sorensen, 1997).

The critical transition period began in 1989. The economic crisis caused a decline in industrial production, an enormous inflation rate (approaching 400%), and soaring unemployment. Against this economic downturn, Poland (and other Central and East European countries) implemented a series of economic reforms, which included the privatization of a number of state-owned companies, elimination of barriers to entry for new private enterprises in almost all sectors of the economy, and the introduction of competitive mechanisms into the economy. The higher education policy was also changed to allow institutions to restructure and adjust to the new economic, social, and political situation. A higher education law passed by the parliament in 1990 provided the basis for far-reaching changes. Major innovative arrangements included the devolution of authority from the government to institutions, the introduction of tuition fees, and the elimination of barriers of entry for private higher education institutions. These changes led to a substantial expansion of the higher education system throughout the 1990s.

Given the low popularity of regulations among academics, the new act on higher education expanded and devolved authority from the government to the institution level. Under the provision of the new law, public higher education institutions had the right to create or transform individual organizational units, create or eliminate fields of study, set their own admissions procedures and the number of student places, fix

curricula and study plans, obtain funds outside the state budget, appoint new faculty members, and elect their rectors. This shift of responsibilities represented increased autonomy for higher education providers and reflected the main characteristics of new legislation concerning higher education in Poland at the beginning of the decade.

The most radical change was the permission to establish private higher education institutions. Before 1989, there was only one private higher education institution—the Catholic University of Lublin, established in 1918. Under the new regulations, anyone could establish a nonpublic higher education institution, after meeting the requirements set by the Ministry of Education addressing issues such as the number of professors, curricula, and infrastructure. Since 2001, the Minister must also ask for the approval of a State Accreditation Commission.

The next important change in the regulatory framework was the permission for public higher education institutions to charge tuition fees for part-time students. The “cost sharing” policy was a response to the growing student demand in a situation of limited public resources. At the same time, access to part-time studies was extended to all holders of a secondary school final examinations certificate, without restraining this only to working adults.

Prior to 1989, Polish higher education institutions had an elite status because they educated only a small proportion of society. This conformed with the state’s socialist policy, which aimed to maintain the structural majority of the labor class, and was supported by the salary structure, where on average less-qualified people earned more than higher education graduates.

The transition period in the early 1990s reversed this situation by introducing market forces into labor market. High-qualified skills became the condition for having an interesting and well-paid job. A strong correlation between higher education and future work and remuneration motivates secondary school graduates as well as older, less-qualified people to participate in higher education. Never before has higher education in Poland gained such high social and economic motivation (Lewartowska-Zychowicz, 2004). Increased demand for higher education was followed by significant growth in the supply of higher education during the 1990s. Before 1989, the majority of young people (about 74%) attended vocational secondary schools, where they did not (and still today do not) receive the *matura*—a secondary school final examinations certificate, which is a legal and obligatory requirement for access to higher education—therefore practically excluding them from participating in higher education. A decade after the reform of the education system, more than 80% of the secondary school graduates received the *matura*, and the majority of them are continuing their education.

In order to satisfy the demand for a high-qualified workforce, public higher education institutions offered new study forms and programs to provide the necessary skills for economic development. In particular, they established student-paid part-time studies in all kinds of fields, and in the form of weekend, evening, and individual study tracks. Higher education institutions introduced an open-door policy and allowed admission to part-time studies for all students holding the *matura*, without entrance examinations. The need for obtaining resources outside the state budget and the great demand for part-time studies produced an enormous growth of student numbers in these types of programs. Between 1991 and 2003, the number of part-time students rose from 92,500

Table 2. Full-Time and Part-Time Students in Higher Education, 1991–2003

| Year | Public Institutions | | Private Institutions | | Total |
|-----------|---------------------|--------------------|----------------------|--------------------|-----------|
| | Full-Time Students | Part-Time Students | Full-Time Students | Part-Time Students | |
| 1991–1992 | 322,000 | 92,500 | 4,600 | 9,100 | 428,200 |
| 1992–1993 | 350,600 | 125,200 | 8,900 | 11,000 | 495,700 |
| 1993–1994 | 378,900 | 170,600 | 15,800 | 18,700 | 584,000 |
| 1994–1995 | 401,800 | 230,800 | 21,200 | 28,400 | 682,200 |
| 1995–1996 | 421,300 | 278,800 | 28,500 | 60,900 | 789,500 |
| 1996–1997 | 448,700 | 330,500 | 39,900 | 103,000 | 922,100 |
| 1997–1998 | 479,300 | 380,700 | 55,500 | 170,900 | 1,086,400 |
| 1998–1999 | 511,300 | 426,200 | 75,800 | 255,200 | 1,268,500 |
| 1999–2000 | 543,100 | 464,300 | 92,300 | 326,100 | 1,425,800 |
| 2000–2001 | 586,600 | 520,200 | 101,000 | 370,400 | 1,578,200 |
| 2001–2002 | 643,900 | 559,600 | 115,100 | 392,700 | 1,711,300 |
| 2002–2003 | 706,900 | 564,800 | 117,300 | 411,500 | 1,800,500 |

Source: National Statistic Offices (2003).

to 564,800. Full-time student enrollment also increased from 320,000 to 706,900 (see Table 2).

Entrance requirements for full-time study programs at public institutions differ according to the type of institution and study field. In general, entrance examinations are preferred for the most popular programs such as medicine, law, architecture, psychology, and popular linguistic studies at the most prestigious universities. Other institutions usually accept the candidates with the highest secondary school marks (Kaiser & Wach, 2004). Given the limited student enrollment in the free tuition full-time study programs, on average only some 60% of applicants are accepted. The growth of student numbers at the beginning of the 1990s was the highest in economics, administration, and social sciences, while a significant decline was observed in agricultural, medical, and technical sciences (see Table 3). However, in the late 1990s, when the labor market became slowly saturated with the graduates of economics and business studies, enrollment patterns changed, with more students choosing computer science and the natural sciences, such as biology, chemistry, and environmental care. Enrollment in the pedagogic, humanities, economics, and social science fields also decreased, but economics and social sciences have remained the most popular among young people.

To increase the number of public higher education institutions—especially those located in small cities—and to expand the free tuition student places in full-time study programs, the government passed the Vocational Higher Education Schools Act in 1997. Under the new regulations, it is much easier to open a new public higher education institution. The standards for the bachelor's level programs are less demanding than for schools operating under the 1990 Higher Education Act—for example, only two professors are necessary for one study program. New public institutions established after 1997 are registered as vocational higher education schools and can offer only

Table 3. Students in Higher Education Institutions by Discipline (%), 1990–2003

| | 1990–1991 | 1993–1994 | 1997–1998 | 2000–2001 | 2002–2003 |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|
| Pedagogy | 14.1 | 14.4 | 13.8 | 11.7 | 11.4 |
| Humanities | 13.2 | 12.7 | 10.2 | 8.4 | 7.8 |
| Sciences | 5.5 | 5.2 | 4.3 | 7.9 | 9.4 |
| Social sciences | 4.3 | 9.7 | 11.8 | 13.9 | 12.9 |
| Engineering | 16.5 | 19.7 | 17.6 | 11.4 | 11.3 |
| Agriculture | 7.0 | 4.9 | 3.2 | 2.0 | 1.9 |
| Medicine/health | 10.1 | 6.1 | 3.1 | 2.4 | 2.7 |
| Economics and administration | 14.8 | 12.2 | 20.8 | 27.7 | 25.0 |
| Art | 2.4 | 1.6 | 1.2 | 1.0 | 1.0 |
| Law | 4.7 | 6.6 | 4.9 | 3.8 | 3.3 |
| Various disciplines | 7.4 | 6.9 | 9.1 | 9.8 | 13.3 |

Source: National Statistic Offices (2003).

bachelor's and engineering degree programs, and they cannot apply for master's level courses. In 2002–2003, these institutions enrolled 130,000 students and are situated mainly in smaller cities. New private institutions, established after 1997, are registered as well as new public institutions as vocational higher education schools and can offer only bachelor's degree programs. However, in contrast to public vocational higher education institutions, privates can offer master's degrees, although in order to do so they must first change their status and operate under the 1990 Higher Education Act. For this reason, the newest private higher education institutions have the status of vocational institutions.

A rapid expansion of the private higher education sector began in 1990, when the new state regulations allowed private institutions to enter the higher education market and introduced relatively low legal barriers to entry. In order to become an official higher education provider, a founder must meet certain state requirements. For the first three years, private institutions can offer only bachelor's degrees in a particular field of study. In order to offer courses at the bachelor's level, institutions must employ at least four professors (although such employment could be part-time), develop the curricula according to ministry requirements, and possess the appropriate equipment and buildings. After the initial 3-year period, institutions can apply to offer programs at the master's degree level. The standards for master's level programs are more demanding—a minimum of eight full-time professors as well as relevant curricula and infrastructure. The standards and requirements are the same for state and private institutions, except that public institutions cannot employ professors over the age of 70 (who do not count formally in staff formulas, while in privates they are counted as staff members).

For the first few years under the 1990 Higher Education Act, due to the limited number of professors available, private institutions offered mainly bachelor's programs. However, in the last few years they have attracted more and more professors in order to offer master's level programs and have the authority to confer the Ph.D. While in 1995

only eight private higher education institutions offered master's degrees, in 2002 more than 90 institutions are authorized to offer this type of degree, and four have Ph.D. tracks. The rest (about 150) offer programs at the bachelor's level.

In general, the number of private higher education providers rose from three in 1990 to 280 in 2004, while student enrollment rose from around 6,500 in 1990–1991 to over 528,800 in 2002–2003 (see Table 3). Private higher education institutions exist throughout Poland, although (in keeping with typical patterns cross-nationally) the most prestigious concentrate in and around large cities. Among 280 privates, 137 are located in large cities, with 57 in Warsaw alone. However, many private providers situated in small cities significantly increase higher education possibilities for students from lower socioeconomic backgrounds or from rural areas, thereby earning a measure of social acceptance. Private providers deprived of almost any state support develop mainly “low-cost” study programs (as is the case in most of the region and most of the world), and attract mostly part-time students. Approximately 77% of the private institutions' enrollments are part-time, usually combining study and work in order to pay for higher education. In addition, research conducted in 2000 indicated that most of the students in the private sector are from lower socioeconomic backgrounds and come from rural areas (Ministry of National Education and Sports, 2000). Private providers usually offer programs in business, management, humanities and social sciences, and computer science, as indicated in Table 4. All their students are charged tuition fees, on average between 400 and 700 euro per semester. Private institutions do not receive any direct state support for teaching and research, although the government exempts private higher education institutions (as well as public institutions) from property, sales, and income taxes.

Enrollment in Polish higher education more than quadrupled between 1990 and 2003. Full-time enrollment increased from 322,600 in 1991–1992 to over 824,200 in 2002–2003. Part-time enrollment grew even more dramatically from 101,600 in 1991–1992 to 976,300 in 2002–2003 (see Table 5). In 1989, only about 8% of the relevant age

Table 4. Students in Private Higher Education Institutions by Discipline* (%), 1991–2002

| | 1991–1992 | 1993–1994 | 1997–1998 | 2000–2001 | 2001–2002 |
|-----------------------------------|-----------|-----------|-----------|-----------|-----------|
| Pedagogic | – | 8.4 | 6.6 | 6.9 | 9.3 |
| Humanities and social sciences | – | 16.8 | 34.1 | 26.2 | 25.1 |
| Sciences | – | – | 2.5 | 2.4 | 2.5 |
| Engineering | – | 2.7 | 6.1 | 6.1 | 5.9 |
| Agriculture | – | – | 0.3 | 1.1 | 0.7 |
| Medicine/health | – | – | – | 0.2 | 1.1 |
| Economics | 100 | 70.3 | 50.2 | 43.1 | 44.9 |
| Art | – | 1.8 | 0.2 | 0.2 | 0.3 |

Source: Kaiser and Wach (2004).

*Excluding Catholic University of Lublin and other church funded institutions.

Table 5. Growth of Higher Education in Poland, 1991–2003

| Year | Private HEIs | Public HEIs | Students in Public HEIs | Students in Private HEIs* | Total Number of Students |
|-----------|--------------|-------------|-------------------------|---------------------------|--------------------------|
| 1991–1992 | 12 | 98 | 414,500 | 13,700 | 428,200 |
| 1992–1993 | 22 | 98 | 475,800 | 19,900 | 495,700 |
| 1993–1994 | 41 | 99 | 549,500 | 34,500 | 584,000 |
| 1994–1995 | 56 | 99 | 632,600 | 49,600 | 682,200 |
| 1995–1996 | 80 | 99 | 700,100 | 89,400 | 789,500 |
| 1996–1997 | 114 | 99 | 779,200 | 142,900 | 922,100 |
| 1997–1998 | 146 | 100 | 860,000 | 226,400 | 1,086,400 |
| 1998–1999 | 158 | 101 | 937,500 | 331,000 | 1,268,500 |
| 1999–2000 | 174 | 113 | 1,007,400 | 418,400 | 1,425,800 |
| 2000–2001 | 195 | 115 | 1,106,800 | 471,400 | 1,578,200 |
| 2001–2002 | 221 | 120 | 1,203,500 | 507,800 | 1,711,300 |
| 2002–2003 | 252 | 125 | 1,271,700 | 528,800 | 1,800,500 |

HEIs = higher education institutions.

Source: National Statistic Offices (2003).

* Including Catholic University of Lublin and other Church founded institutions.

cohort was enrolled in higher education, while in the academic year 2002–2003, this ratio had reached 35% and is still growing. The biggest academic center is Warsaw, with 293,800 students enrolled in 69 higher education institutions. In Warsaw, 57 private institutions enroll 142,100 students. The other important academic centers are Krakow, Katowice, Poznań, Wrocław, Lublin, Łódź, and Gdańsk. Together they educate more than 42% of all students.

The degree structure in Polish higher education consists of two track systems: a two-tier track and a uniform one (Kaiser & Wach, 2004). A two-tier track is formed with two levels: (1) the first level is a *licencjat* (bachelor's) degree, which lasts a minimum of six semesters, or in the engineering studies the first degree is *inynier* degree (engineer), which lasts seven semesters; and (2) the second level lasts four semesters and leads to the *magister* (master's) degree. The second track is called a uniform master's degree program, which lasts nine or 10 semesters and culminates in a master's diploma. There is no formal distinction as to whether the master's degree is obtained in a two-tier track or uniform one, nor whether the bachelor's degree is conferred by academic institutions or by vocational higher education institutions.

The two-tier track system began to develop at the beginning of the 1990s under the new Higher Education Act and is still unfamiliar within the society as well as among academics. Students attending higher education institutions that offer both bachelor's and master's level degrees still prefer the uniform master's track. However, the situation is changing. The two-tier track system gives students more choice and flexibility. In the academic year 2002–2003, some 43% students undertook studies in a two-tier track system.

Academic Staff

As noted earlier, during the 1980s, higher education in Poland suffered from emigration, whereas during the 1990s its main headache was the internal brain drain (Osterczuk, 1996). Academic work is not an attractive career for young higher education graduates, who prefer to work in other sectors of the economy where highly qualified work is better paid and offers more opportunities for future promotions. The higher education policy in Poland during the 1990s was focused mainly on the ways to increase the student places without much increase in the state spending on higher education. Therefore, during the 1990s, the debate about the attractiveness of the academic workplace—which includes such issues as reforming the structure of academic staff, new staff roles and career patterns, differentiation in remuneration, recruitment of younger graduates for an academic career, working conditions, and career perspectives—was absent among policymakers. However, in recent years, facing the problems of enormous growth in student/faculty ratios and a graying senior staff corps (which implies the need for considerable replacement of the senior staff population in the coming years), the employment conditions of academic staff and the attractiveness of the academic career for young generations are of a major concern.

In Poland, major developments affecting the academic workplace include the sharp growth in student numbers, accompanied by the decline in state support for public higher education, a centralized system of employment, and working conditions of academic staff.

The employment conditions of academic staff are determined by the government, in consultation with the sector and labor unions, and articulated in the various acts on higher education and on academic personnel. The acts regulate issues such as pay scales and working hours for each scientific position, as well as function allowances for administrative positions (such as rector, dean, or director); proper appointment qualification requirements and conditions for promotion; performance measurement; and tenure and retirement conditions. While public higher education institutions are bound by all rules established in the acts, privates are confined only to some of them. For example, private institutions have to comply only with the appointment qualification requirements and conditions of promotion. However, in reality they have adopted the majority of the content of employment agreements from public institutions, except for the salary structure and appointment of administrative positions. They sometimes—but not often—award tenure for habilitated doctors and full professors, who have obligatory tenure in public institutions.

Overall, higher education institutions, especially publics, have little possibility to determine and diversify the content of employment agreements. The current law gives public universities little flexibility in creating their own pay scales or incentive/reward systems. Universities thus have limited possibilities for attracting high-performing staff in strategically significant fields or recruiting young scientists in important areas of science. Further, professors have little financial motivation to raise their qualifications or improve their teaching.

The situation differs in the system of research funding. Jongbloed (2004), in his work on the characterization of the funding models in Central European countries,

finds the research system and the accompanying evaluation system in Poland to be relatively modern by international standards and classifies it as an output-driven system which bases its decisions on the performance of individual research units within higher education institutions. All research units are evaluated by the State Committee for Scientific Research (KBN), which is a major public agency for research funding in Poland. KBN categorizes the units according to the following criteria: number of publications, number of awarded degrees, and number of patents or research contracts with business partners. The best research units receive the greatest amount of statutory research funds. Secondly, research units can compete for the grants awarded by KBN for a particular research activity. On average, KBN provides twice as much funding for statutory research than for competitive grants. The evaluation criteria are principally accepted by the academics and seem to work well. The major concerns are related to funding levels, which have been declining in recent years. It is worth noting that the average research budget in public higher education institutions accounts only for 16% of the total budget, while the public expenditure on research has decreased from 0.74% of GDP in 1991 to 0.35% in 2003.

As noted earlier, a major issue that affects the academic workplace is the low level of remuneration of academic staff relative to the salaries in other employment sectors. Budget expenditure on higher education in Poland has declined from 1.11% of GDP in 1990 to 0.88% in 2002. The state expenditure per student showed even more dramatic decline over the most recent 10-year period. The negative financial situation in public institutions in particular has a damaging influence on the heart of the university—the academic profession—and the attractiveness of the academic workplace.

Full-time employment in all higher education institutions in 2002 accounted for 80,904 academics, including 20,553 full and associate professors, 44,939 assistant professors (who are required to have a Ph.D.), and 15,412 senior and junior lecturers (who have a master's degree). The number of high-ranked professors is significantly small in relation to student enrollments. While student numbers have increased 4.5 times since 1990, the number of full-time employed academics has increased from some 61,100 in 1990 to 80,904 in 2002. More worrisome is that the increase in the number of scientific staff is not only too slow, but also does not ensure the normal replacement or maintenance of the same number of academics in the coming years. It takes a considerable amount of time to earn a Ph.D. and then to obtain a habilitation (necessary to become a full professor). It usually takes 8 years to obtain a doctoral degree. Between 1998 and 2003, the majority of academics who defended their Ph.D. dissertation were between the ages of 31 and 35. A positive trend is observed in the number of Ph.D. students, which rose from some 2,800 students in 1990–1991 to more than 31,000 in 2002–2003, although only 20% of doctoral studies are completed with conferment of the degree. In 2002–2003, universities granted 5,450 doctoral degrees. Between 2000 and 2003, the average age at which an individual obtained a habilitation was 50.7 years, and they became full professors on average at age 57.

In 2002, the Central Commission for Academic Degrees (which confers scientific degrees) granted 923 habilitated doctoral degrees and 789 academic titles of professors. Projections indicate that in the coming years, the number of professors reaching the

retirement age will exceed the number of habilitated doctors that will be appointed to full professor. In addition, salary differences among the different staff categories are quite considerable. For example, the minimum salary of younger staff members with a Ph.D. is half of a full professor's salary, whereas the junior assistant's salary is three times as low. In public institutions, the average salary of a junior assistant is about 350 euro per month, which accounts for 60% of the average remuneration in the Polish economy. In private institutions, the salaries are higher but do not exceed the average for the whole economy. Professors' earnings are much higher—a typical full professor earns up to 1,000 euro in public institutions (and more than that in privates, although there are no precise data from the private sector).

The relatively low salaries in public institutions have prompted many academics to earn additional incomes outside academia (Enders & de Weert, 2004). In Poland, this situation occurs on a large scale, in particular among high-ranking academics who are employed often in two or sometimes more higher education institutions, especially in the field of economics. The staff requirements for establishing a new private or public institution or a new program has led to greater opportunities for professors to hold several different positions in multiple schools, a pattern that is followed by younger academics who are also trying to make a living (Osterczuk, 1996). In fact, the policymakers implementing new higher education policy in 1990, which allowed private institutions to enter the higher education market, were conscious of its effects and tolerated the various employment contracts of many academics.

The “permissiveness” to earn additional income has allowed Poland to increase overall student enrollment but has limited the number of academic staff and kept academics in relatively poorly paid higher education institutions (Enders & de Weert, 2004). Supporters of this approach argue that academics working at various posts have low marginal costs and high marginal revenues; because they are giving the same lectures in various institutions, they can spend relatively less time for preparation and receive a second salary. In addition, the mobility of academics in general allows them to be more familiar with the new academic environment, as well as new methods of teaching or managing the institution, which can benefit their home university. Moreover, the most common career pattern for academics in Poland is the stationary model, which means that the whole career (from junior assistant to full professor) takes place within one university, so the multiple employment posts can be treated as a surrogate for the more flexible and mobile academic careers essential for higher education in the United States and in many other developed countries (Ratajczak, 2004).

The argument against this approach is that the current system fosters initiative and benefits at a personal level, but may bring negative effects at the institutional level. The overworked academics have little time to bring up-to-date the content of their lectures, and spend less time on research. In general, there is considerable discussion in Poland about the freedom of academics to hold simultaneous positions. Some more prestigious public universities have already restricted this, allowing their professors to have a second position only with the rector's permission, and forbidding them to hold administrative posts in other private institutions. However, the majority of public universities still permit their employees to look for other source of income without permission from the university.

Most policymakers and academics perceive this as an unfortunate effect of low salaries, which lessens the overall quality of Polish higher education. Since 2001, this negative connection between insufficient earnings and quality of higher education has resulted in a relatively high increase of academic salaries (compared to previous years). In addition, in order to make academic careers more attractive for graduates, there is a discussion about simplifying the academic degree structure by dropping the habilitation and leaving only the Ph.D., aligning it with most Western countries. However, most academics argue that this change could reduce the quality of the staff (Kaiser & Wach, 2004).

Contemporary Trends and Policy Issues

Higher education in Poland has gone through a major transformation process since the early 1990s. After the “iron curtain” was removed in 1989, government and academic staff had insisted on a high degree of institutional autonomy, and new regulations devolved authority from the central to institutional level in most higher education activities. In addition, prior to 1989, Poland and other Central European countries were unique for their lack of private higher education. Since then, Poland has created the most developed system of private higher education in Europe, and within a few years the number of students in the private sector had jumped from 0% to 30% of the country’s student population.

The rapid massification of higher education and the emergence of 280 new private providers caused concerns about the accountability of Poland’s higher education system. Accountability generally means that the state requires the university to demonstrate that it has used public funds efficiently and effectively. Accountability can be provided by a large number of instruments, ranging from financial reports to quality accreditation procedures. Higher education is a typical “experience good” because of the asymmetry of information: it is hard to evaluate the quality of higher education institutions in advance of a student’s experience, but only during their study and afterwards. In order to protect the students, as the universities are not able (or not inclined) to gather and disseminate accurate information about themselves in a credible way, there is a role for government to set and enforce adequate regulation about the provision and dissemination of quality information.

In the beginning of the 1990s, the changes in the higher education system did not include sufficient accountability procedures, especially in terms of quality assurance. There were cases where private institutions (as well as public), after meeting the state requirements for registering, did not employ the minimum number of professors, shortened their curricula, or made it possible for some students to obtain a degree in a shorter period than the state required. For these reasons, questions related to quality control highlighted the need for new accreditation bodies in order to eliminate inappropriate performance among private and public higher education institutions. In 2001, the State Accreditation Commission was founded, whose main purpose is to evaluate the quality of study programs for both public and private providers. Since then, the Commission has evaluated a significant number of study programs at various institutions, and closed down those programs (both public and private) which did not meet the

requirements set by the Ministry. In addition, private higher education institutions were (and still are) criticized for having the majority of their students enrolled in part-time study programs, for limiting their offerings to so-called “low-cost” study programs such as business, political science, or pedagogy, and for maintaining low admissions requirements. However, in times of state financial stringency and increasing demand for higher education, providing greater access to higher education for low-income students would be hard to achieve without the private higher education sector. Further, private institutions deprived of any direct state support are not able to offer more expensive study programs in science and technology. On the other hand, the same claims are raised for public providers (in terms of their part-time study programs). Still, the demographic decline in Poland, which has already affected higher education, will increase competition and force private institutions to expand their study offerings and increase their quality. Already, according to various rankings of higher education institutions conducted by popular magazines (such as *Perspektywy*, *Wprost*, and *Newsweek*), some private institutions are seen as leading the country in terms of perceived quality.

Current debates among policymakers and higher education scholars also concern the expansion of state scholarships for all students in the private sector and for part-time students in public institutions. In the Polish higher education system, public student-based subsidies are channeled to students in the form of means-tested and merit-based scholarships as well as in the form of state-supported student loans. In 1998, the Act on Students Loans expanded the system of state aid by making students from both public and private higher education, attending either full-time or part-time studies, eligible for state subsidized loans. However, until 2001, students from private institutions were excluded from both state scholarship systems. In the academic year 2001–2002, students from the lowest category of family income per capita, enrolled in full-time study programs in private institutions, became eligible for state means-tested scholarships. Further, beginning with the academic year 2004–2005, all students attending public and private higher education institutions are entitled to receive state means-tested and merit-based scholarships.

Recently, legislation has been proposed to integrate the various acts regarding higher education, and an act is expected to be passed by the parliament in 2005. This act will probably cover issues such as: simplification of the academic degree structure, by dropping the habilitated doctoral degree; devolution of appointment authority to the institutional level, granting universities more freedom, and flexibility regarding staffing issues; and simplification of the rules concerning tuition fees at public universities. The act is also expected to deal with many other important issues, in essence updating Poland’s higher education regulations to accommodate the changing environment and expectations.

Conclusions

Over the last decade, higher education in Poland has experienced enormous growth, changing from elite to mass higher education and facing the problems which are often accompanied with the massification process, such as academics holding multiple teaching posts, a perceived decline in quality, and decreasing public financial support.

In joining the European Union, Poland became part of a large community, which brings both opportunities—for example, more possibilities for international cooperation and for attracting foreign students and research funds—and challenges, including increased competition from universities and colleges from other European Union countries. However, in order to take advantage of these opportunities, Polish higher education institutions will have to develop more attractive curricula, offer more courses in foreign languages, increase the attractiveness of an academic career, and be more active in obtaining research funds outside the state budget, particularly through increased cooperation with business institutions.

Another important issue is the coexistence of the private and public higher education sectors. If Polish private higher education is to play an increasingly significant role in the system, bringing healthy competition for public institutions, the government will have to do more to incorporate the private institutions into the system by implementing market forces to guide the allocation of resources, students, and programs (Zumeta, 1996).

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RUSSIA

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Russia is one of the most populous nations of the world, and one of the most educated. Nearly 55% of Russians have completed some form of tertiary education, a figure that approaches and even exceeds respective indicators of many developed nations (Poletaev, Agranovich, & Zharova, 2002). The success of Russian higher education is, to a large extent, a product of Soviet educational policy, but a number of achievements have been lost since then. Reforms that began in the mid-1980s, and continued after the demise of the Soviet Union, have constantly tested the national education system, which proved to be both one of the most vulnerable and one of the most inertial social institutions.

This chapter presents an overview of the Russian higher education system, providing some historical background and exploring current issues, challenges and perspectives regarding educational financing, recent and ongoing reform agendas, student and faculty bodies, graduate education, private education, and internationalization. The discussion offers a mostly internal view of higher education, focused on issues of the most serious concern to members of the Russian educational community, but considers some of them from a comparative perspective as well.

Brief History

The history of Russian higher education can be traced to the 17th century, although there is disagreement on which institution should be considered Russia's first. While the earliest institutions of higher learning—Kievo-Mogilyanskaya Kollegia in Kiev and the Slavic-Greek-Latin Academy in Moscow—were founded during the 1600s, these were largely religious institutions (Kinelev, 1995; Avrus, 2001). A prominent milestone in the development of Russian tertiary education was the establishment of a university as an integral part of the Academy of Sciences in St. Petersburg in 1724. The structure affiliating the Academy of Sciences with a university and gymnasium led to the integration of research and education and became a basic organizing principle of Russia's educational system. Aside from these developments, Moscow University—established in 1755—is considered by many to be the first traditional university in Russia.

Influenced by European models of the university and academic profession, Russian higher education developed largely according to the German experience, focusing on specialized schools for training professionals, rather than on “elite” university education (Petrova, 2000). Russian higher education was also distinguished by its public character: it was founded by state initiative and financed directly from the governmental budget. Thus, it should come as no surprise that the government has consistently attempted to control higher education, from curricula to the social origins of students.

For years, Russian higher education lagged behind Western institutions of higher learning in a number of respects, with the state failing to implement effective educational policies while repressing academic freedom and any reform initiatives. In response to this pervasive governmental pursuit of total control, in the 1860s a non-state higher education sector emerged, allowing women access to higher education. By 1917, Russia had more than 120 institutions of higher education, just over half of which were state institutions (Krukhmaleva, Smolentseva, & Ushakova, 2000).

The revolution of 1917 inaugurated a new era in the history of Russian education. During the Soviet period, state control and the centralization of tertiary education were amplified, bringing faculty repression, the abolishment of certain academic degrees, and the closing of non-state institutions. State policy regulated the number of higher education institutions, the number of students, the range of specialties, the amounts of remuneration and fellowships, the content of curricula and textbooks, graduate employments, and so on.

Simultaneously, the USSR could boast of a number of achievements in higher education. Realizing the importance of education in general, the Soviet government significantly expanded the network of public institutions. By the beginning of the reform period (in 1985), there were 502 Russian higher education institutions, enrolling 2,966,100 students (*Obrazovanie v Rossii*, 2003). Other significant achievements of Soviet higher education included broadening access and instituting a right to tuition-free higher education. The government, striving for equity among its citizens, provided access to higher education for traditionally underrepresented social groups—in particular, workers and members of rural populations. As a result, millions of people gained an opportunity to attend higher education institutions.

Soviet policy emphasized the development of the sciences (particularly physics, mathematics, and chemistry), with a special focus on those disciplines related to the military complex and space exploration, while the social sciences and humanities were under constant pressure to incorporate an ideological dimension to their courses. Science policy concentrated on promoting advanced research in the institutions of the Academy of Sciences. Thus, the growth of scientific research there outpaced developments at higher education institutions, whose capacity to engage in contemporary science degraded over time. Also, a differentiation among Russian higher education institutions regarding research activity was obvious—a small number of top universities were positioned to conduct advanced research and to assemble a qualified academic staff, while most institutions lacked the requisite intellectual environment and equipment. Regional differences were considerable as well: higher education and research institutions were concentrated in the European part of the USSR, and this inequality still persists.

The political reforms announced in 1985 and the downfall of the USSR in 1991 had an enormous impact on higher education. In this transition period, several important legal acts were passed, aimed at countering the negative trends inherent in Soviet education while striving to retain all its positive accomplishments. Changes were primarily directed toward the decentralization of the education system. Major responsibilities were devolved to educational institutions—a step that expanded their autonomy, broadened their rights and governance authority, and empowered them to make decisions on the form and content of education.

Truly, decentralization was the only solution that allowed higher education to survive in a situation of deep economic and political crisis. The diversification of funding sources for educational institutions—a move away from relying solely on state financing—became a necessary change given the permanent decline in state funding. The re-emergence of a non-state sector of higher education was also one of the most important developments in Russian higher education during this period. Other dramatic changes that have been introduced in recent years include an increased emphasis on the humanities in the curriculum, elimination of the bias in favor of engineering specialties, diversification of programs and courses, and an orientation of education toward the needs of the market, society, and individuals.

Legal Framework

The Russian government has designated education as a priority of state policy. The legal base of the policies framing the current operation of higher education includes the following documents: the Law on Education (1992, amended in 1996); the Law on Higher Education (1996); the National Doctrine on Education (2000); the Federal Program of Development of Education (2000); and the Federal Program “Development of Unified Educational Informational Area for 2001–2005.” One of the major principles of state educational policy is a principle of unity of the federal educational area. Educational laws have established accessible and free tertiary education on a competitive basis. The requirements for content and quality of education are established in state educational standards, which are based on global norms of education and scholarship. The standards involve federal and national-regional components; the former defines a compulsory minimum content of basic educational programs, a maximum load of students, and the educational outcomes necessary of graduates.

Lifelong learning is another important component of the Russian education system, as individuals may obtain more than one degree/qualification at all levels of education. One can also choose the form of education, including full-time, part-time, distance, and others. Variation in education is seen among institutions by property type—state, municipal, private, and others.

At present, Russian education is on a path of modernization, involving experiments with state unified examinations (EGE), 12-year secondary schools, profile high schools, multi-level higher professional education, the development of information technology in education, and other initiatives to improve the quality of educational practices and to integrate Russia into the global educational arena. The Strategy for the Modernization of Russian Education through 2010, adopted by the government in 2001, indicates

the direction of educational development. In addition to emphasizing issues of access and quality, it encompasses new legal, organizational, and economic mechanisms for cultivating and using non-state budgetary resources. Strengthening the links between education and science is also underscored in the documents. The role of the state is also emphasized, as the government serves as a guarantor of the quality of educational programs and services delivered by educational institutions regardless of their legal status.

Responsibility for state policy and governance of Russian education is held by the Ministry of Education and Science (organized by the incorporation of two respective ministries in 2004) and its federal agencies—the Federal Agency of Education and the Federal Control Service in Education and Science (also established in 2004).

Organizational Aspects

Legally, the Russian higher education system includes state standards of higher and postgraduate vocational education, licensed institutions of higher vocational and supplementary vocational education, institutions of scientific research, state authorities, and public/voluntary societies. In Russia, there are three levels of higher professional education, with qualifications of a bachelor's (*bakalavr*), specialist's and master's (*magistr*). This system combines the traditional Soviet 5-year program, leading to a specialist degree, with the Western two-tier model of bachelor's (4-year) and master's (2-year) degree programs. There is also a certificate of incomplete higher vocational education, requiring no less than two years of study at a higher education institution. Currently, the dominant model of study is a 5-year program—among 2002 graduates, 89.4% received specialist degrees, while 9.1% were awarded a bachelor's and another 1.1% received a master's (*Nauka v Rossii v tsifrakh*, 2004). It should be noted that the prevailing view of most students and employers is that education at the level of the specialist diploma or master's degree is necessary, since a bachelor's degree does not provide a sufficient educational background. Advanced levels of education lead to degrees of candidate of sciences (*kandidat nauk*) and doctor of sciences (*doctor nauk*), described later in this chapter.

The operation of tertiary education institutions in Russia requires state licensing, attestation, and accreditation. There are three types of institutions of higher learning—universities, academies, and institutes. During the Soviet period, the largest category of higher education institutions was made up of the institutes (polytechnic, engineering, pedagogical, medical, etc.). During the 1990s, the majority of them became universities (“subject universities”), mostly as a result of the change in title without a real transformation toward a more “classical” understanding of the university. Today, universities comprise about half of all higher educational institution in Russia.

The organizational structure of higher education institutions in Russia involves faculties (*fakul'tet*) by field of study and departments (*kafedra*) by subject within the field. Broad university governance is provided by an elected representative body—an Academic Council—consisting of the rector, vice rectors, and (upon appointment by the Academic Council) faculty deans. Other members of the Council are elected at a

general meeting. Each higher education institution is headed by a rector, elected by secret vote at a general meeting of the Academic Council for a period up to five years and approved by the relevant state authority.

The devastating economic crisis of the early 1990s marked the lowest point in the development of Russian higher education. However, since 1995 Russian higher education has shown some stabilization and development, framed by the stabilization of the economic and political situation in the country. By 2002, the Russian higher education system consisted of 1,039 institutions, of which more than one-third (384) was private. The number of students that year reached 5,947,500, most of which (88%) attended public institutions. Put another way, for every 10,000 members of Russia's population, 414 of them were enrolled in undergraduate and master's level programs. Meanwhile, an additional 140,700 students were enrolled in graduate and postgraduate education at both the candidate's and doctoral levels.

Notable changes have occurred throughout the higher education landscape. In the public sector, between 1990 and 2002 the proportion of students enrolled in science fields decreased by nearly half—from 8.4% to 4.6%—while the share of students in fields of industry and construction also decreased from 40% to 34%. In contrast, the most popular fields of study have been in the humanities and social sciences, where the number of students increased from 11% to 20%. Student enrollment growth in economics and management has been even more impressive (from 12% to 26%). However, these trends in student enrollment and graduation do not yet correspond to the structure of the labor market, and consequently many graduates have not been able to find jobs relevant to their degrees.

Financial Issues

The most serious problem facing Russian higher education today is inadequate government funding. Although the Law on Education mandates an allocation of no less than 10% of the national income to the development of education, this has never been fulfilled. The funding mandates of the National Doctrine of Education—6–8% of GDP—have also never come to pass. In fact, public financing has persisted at the level of 2–4% of GDP. In 2003, all state expenditures on education comprised 3.7% of GDP and are planned for 2004 in the amount of 4.3% of GDP. According to the World Bank classification, Russia belongs to the category of low middle-income countries, and its level of educational financing generally corresponds to the levels of other members of this category (Poletaev *et al.*, 2002).

At public institutions, funding consists of state and non-state (off-budget) resources, which contribute to the institutional budget approximately equally. At private institutions, the majority of funding is expected to come from non-state resources. For both public and private institutions, tuition has become most the important source of funding. According to a survey of selected regions, contributions by the student population comprised 31% of the total income of higher education institutions, or 69.5% of non-state funding (*Ekonomika obrazovania v zerkale statistiki*, 2004). Other non-state funding sources include organizations, foundations supporting science and education, revenues of educational services, and leasing of facilities.

It is important to mention that presently, the tradition of free education established in the Soviet Union has gradually been shrinking, while an increasing number of students pay for their higher education. Legally, the government is bound to provide funding as well as tuition-free education on a competitive basis for 170 students per 10,000 members of Russia's population; yet the demand for higher education has been continually growing, while funding has not increased quite as fast (currently, the government provides funding for 226 student per 10,000). The government also regulates the area of fee-paid education—public institutions are allowed to admit on a fee-paying basis no more than 50% of their students, mostly in the fields of economics, management, law, and public administration. Nevertheless, in 1995 roughly 8.6% of all students in the public sector were paying for their education, whereas in 2002 over 44% were enrolled on a fee-paying basis. Overall, as of 2002 almost 51% of all students enrolled in public and private higher education institutions paid tuition (*Obrazovanie v Rossii*, 2003).

Recognizing the need to design a more effective scheme of public support, the government is striving to reform the system of educational financing. As announced in the Strategy for the Modernization of Education, new organizational and economic mechanisms of higher education are to be devised, moving away from full state funding of higher professional education in favor of investing in it. This scheme is already being implemented in Russia through several experiments, including the introduction of governmental individual financial obligations (GIFO). These are state commitments tied to the results of state unified tests (EGE), thus serving as a performance-based means of funding higher education. This approach is also considered to provide a normative mechanism for achieving the principle of "money following a student." GIFOs, being a kind of voucher, have different categories (presently five). Those students who demonstrate higher scores on the tests receive GIFOs of higher categories (implying higher levels of funding). Reformers believe that this new system lays the foundation for the development of competitiveness in higher education, and will thus stimulate educational institutions to enhance performance.

Experiments with GIFOs have engendered lots of debates in society. Experiments with financing systems are increasingly escalating the debate over whether free higher education will be retained and kept accessible for the majority of the population. Also, the expected competitiveness of higher education institutions will likely be a means of redirecting funding towards the most prestigious institutions and fields, to the detriment of other institutions and fields. But possibly the most important argument regarding the relationship between GIFOs and test scores concerns the potential for exacerbating the risks to more vulnerable social groups—large segments of society who have less opportunity for advanced test preparation, and thus *a priori* unfairly restricting their right for free education.

Students and Access to Higher Education

Since 1993, the number of students in Russia has witnessed a stable growth, increasing more than twice over 10 years. As shown in Table 1, nearly six million students are enrolled in Russia's higher education system, the majority of whom study at public institutions, and more than half study full-time.

Table 1. A Brief Profile of Russian Higher Education

| | 1985 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Institutions (total) | 502 | 519 | 535 | 626 | 710 | 762 | 817 | 880 | 914 | 939 | 965 | 1008 | 1039 |
| Public | 502 | 519 | 535 | 548 | 553 | 569 | 573 | 578 | 580 | 590 | 607 | 621 | 655 |
| Private | – | – | – | 78 | 157 | 193 | 244 | 302 | 334 | 349 | 358 | 387 | 384 |
| Students (total), thousands | 2,966 | 2,762 | 2,638 | 2,612 | 2,644 | 2,790 | 2,964 | 3,248 | 3,597 | 4,073 | 4,741 | 5,426 | 5,947 |
| Public, % | 100 | 100 | 100 | 97.3 | 95.9 | 95.1 | 94.5 | 93.8 | 93.0 | 91.5 | 90.1 | 88.4 | 87.9 |
| Students, % | – | – | – | 2.7 | 4.1 | 4.9 | 5.5 | 6.2 | 7.0 | 8.5 | 9.9 | 11.6 | 12.1 |

Note: “–” means non-applicable, as the private sector did not exist.

Source: *Obrazovanie v Rossii*, 2003, 2003; *Nauka v Rossii v tsifrakh*, 2003, 2004; *Vysshee obrazovanie v Rossii*, 2001, 2002.

The quantitative expansion has been accompanied by changes in the socio-demographic structure of the nation's student bodies. Feminization is one of these trends: in 1993, women made up 51.6% of students, whereas in 2002 that figure had reached 57.5%. The research also reveals that over the last several years an increasing number of students have come from the more educated strata of society. The chances for admission to higher education institutions have diminished for children whose parents are engaged in science, culture, education, or health care, while they have increased for children of economists and businessmen. The proportion of students whose parents are employed in the private sector of economics is especially growing. The lowest chances to obtain higher education are found among children of parents working in agriculture (Vasenina & Sorokina, 2002).

There is regional differentiation as well: a decreasing number of students are studying outside their home region, not having a financial opportunity to study in other regions. For example, in 1999 three-quarters of the first-year students at Moscow State University were residents of Moscow or the greater Moscow region (Vasenina & Sorokina, 2002).

The national funding situation is also having a dramatic impact on student enrollment. At public institutions, the number of students receiving governmental fellowships has significantly decreased, as fellowships become more merit-based and need-based: in 1990, 88% of full-time students received financial assistance, while in 2002, this had declined to approximately 43%. Further, the minimal fellowship amount of 200 rubles (roughly US\$7) is more symbolic than of significant assistance. This is why a search for additional income has become an important part of a typical Russian student's life. Many full-time students (on average, about 50%) hold regular jobs, simultaneously combining levels of study and work that surely affect their quality of learning (*Ekonomika obrazovania v zerkale statistiki*, 2004). However, motivation for work is not solely based on financial concerns: students also acquire professional experience, which improves their chances of landing a job after graduation.

When speaking of the massification of higher education in Russia, it should be understood that overall the growth in the number of students, as mentioned above, was mainly a result of expanding fee-paid education, which imposes certain restrictions on the provision of broad access to higher education in Russia. Access to higher education is dependent on a number of factors, one of the most essential of which is family income: higher income not only opens doors to the fee-paid forms of higher education at public and private institutions, but also enables a family to invest more in the preparation for admission (in the form of private tutors, special courses of study, or even bribes). High differentiation of quality among secondary schools in Russia is also a factor of inequality. Territorial differentiation has also been observed; higher levels of educational quality are more commonly found in the major cities, while about 30% of students attend rural schools.

Recognizing a need to improve access to higher education, since 2001 the government has conducted an experiment with a unified state examination (EGE), which is aimed to serve both as a final examination at secondary schools and an entrance examination at the tertiary level. Authors of the experiment believe standardized subject tests will provide a unified system of control over education and enable the reform of higher

education admissions by enrolling students by merit (e.g., test scores). The exclusion of subjective factors (inevitable at written and oral entrance examinations) allows one to expect an improvement of access. The first unified tests were begun in 2001 in four regions (out of 89); in 2004, the experiment involved 65 regions, and a decision on the future of the EGE was expected by 2005. To receive a public assessment of the experiment, the Ministry will conduct a survey of students, parents, schoolteachers, and educational officials in the participating regions. It is difficult to forecast the results of the survey, as the experiment has generated lots of doubts regarding the EGE testing procedures, methodology, and content. Many agree that a unified system of educational assessment is useful for the nation's education system; but as an instrument of knowledge control, EGE does not seem able to achieve the main goal set by the Ministry—to improve access—and being connected with financial issues (in the form of the GIFO) might even affect access negatively. Generally, this stage of reform requires thorough analysis of the results of experiments before undertaking any implementation of the practices throughout the entire country.

New challenges facing Russian higher education are also related to a temporary demographic decline. According to demographic and sociological projections, stiff competition at universities is diminishing, and by 2009 entrance examinations would have no meaning: during several years, the number of school graduates would be less than the number of places available in public universities (e.g., 1.3 million school graduates and 1.7 million places in higher and secondary professional institutions). All this must be taken into account when formulating Russia's education policy.

The Academic Profession

The academic workplace and academic profession have changed considerably over the last decades as a result of several political and economic transformations in Russia. First of all, Russian academics were liberated from the ideological repression of the Soviet era that restricted their academic freedom to choose topics for research, their access to Russian and foreign scientific literature, and their opportunities to publish papers and collaborate with foreign colleagues. But the negative impact of this transformation has also been striking, particularly in terms of remuneration and prestige. Academics used to be a part of an elite and relatively prestigious social group, but in the post-Soviet reality they have found their social status to be quite low (Smolentseva, 2003).

What has not changed over the last several years is an academic hierarchy of positions: assistant (*assistent*); instructor (*prepodavatel'*); lecturer (*starshii prepodavatel'*); docent (*dotsent*), comparable to associate professor; and professor (full professor). There is no system of tenure or permanent contracts in Russia, and an academic is hired on a contract for a period of up to five years. A contract system was introduced in the 1990s, while during the Soviet era, competition and contracts did not exist—rather, an academic was appointed without stipulation of the term. However, in fact the new appointments system (being competitive only on paper) has not brought any significant change in the system.

Management positions of a faculty dean and a department chair are elective. In public higher education institutions, there is a 65-year age limit for such appointments,

which might be prolonged up to 70. The appointments system does not contain any restrictions regarding compulsory retirement at a certain age for regular academic positions.

In Russia, there is a two-tier system of advanced academic degrees, established in 1934 (which replaced the degree system of Imperial Russia, abolished in 1918). The first degree is the candidate of sciences (*kandidat nauk*), considered an equivalent to the doctoral degree (Ph.D.) being granted in other countries. Usually, this degree is awarded after three or four years of graduate study (*aspirantura*), the completion of independent research, writing a dissertation, and its successful public defense. The highest degree is doctor of sciences (doctor nauk), which requires several years of extensive independent research work. The degree is usually earned while the individual is either working in academia or enrolled in postgraduate studies (*doktorantura*). Both degrees are awarded by academic councils, consisting of about 15 members affiliated with different higher educational and research institutions, after a public defense of the dissertation.

Along with the academic degrees, another system of academic ranking is used at higher education institutions: the academic ranks (titles) (*uchenoe zvanie*) of docent and professor. Persons with the rank of professor as a rule hold a doctoral degree; persons with a rank of docent usually have the degree of candidate. All academic degrees and ranks are confirmed by the Supreme Certifying Commission (*Vysshaia Attestatsionnaia Komissiya*), under the Ministry of Education and Science. Since 1993, the number of academics has steadily increased, and by 2002 reached 291,800 (see Table 2). Approximately 11% of faculty at public higher education institutions have a doctor of sciences degree and 46% are candidates of sciences.

Academic staff has experienced a dramatic transformation over the last decades. A massive “brain drain,” involving an estimated 2.2 million people (nearly two-thirds of all researchers, by some accounts), drained Russia’s intellectual resource base during the 1980s and 1990s (Ushkalov & Malakha, 2000). Some researchers went abroad, while a significant number of others simply quit the academic profession and took jobs in other areas of Russia’s economy. Meanwhile, as remuneration in research institutes fell below that of higher education, experts migrated from the institutes to the universities. Through all these changes, the academic potential of Russia’s research and higher education institutions was diminished. However, some initiatives are currently underway to establish collaboration with members of the Russian academic diaspora, with invitations to conduct joint research projects and to return as visiting professors to Russian universities.

Unfortunately, low salaries have dented the prestige of the academic profession and forced many faculty members to look for additional sources of income; today, about 50% of Russia’s faculty have additional jobs. By law, the average salary of a faculty member must be twice as much as the average salary in industry. However, faculty actually earn less—for example, in 2002 an average faculty salary was around 4,000 rubles (about US\$140), which is almost 78% of the average salary in industry (*Ekonomika obrazovania v zerkale statistiki*, 2004). Further, a new stratification of academics by level of income has emerged. This process has not been thoroughly studied yet, but preliminary data show that a relatively small number of academics remain in a high income group that might be a result of their affiliation with more

Table 2. Academic Staff at Russian Institutions of Higher Education (in thousands)

| | 1985 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Public sector | 205.0 | 233.5 | 239.9 | 239.8 | 233.5 | 239.2 | 243.0 | 247.5 | 249.6 | 255.9 | 265.2 | 272.7 | 291.8 |
| Doctors of sciences | 9.8 | 14.2 | 15.7 | 17.6 | 18.6 | 20.1 | 21.4 | 22.8 | 24.3 | 25.8 | 28.0 | 29.7 | 32.3 |
| Candidates of sciences | 103.6 | 115.1 | 115.3 | 117.4 | 114.5 | 117.5 | 118.5 | 119.1 | 120.2 | 122.4 | 125.4 | 128.5 | 135.5 |
| Professors | * | 13.7 | 15.3 | 18.0 | 19.4 | 21.1 | 22.3 | 23.5 | 24.6 | 25.7 | 27.0 | 28.2 | 30.6 |
| Docents | * | 74.8 | 77.2 | 81.9 | 82.2 | 85.3 | 86.1 | 87.4 | 87.1 | 89.3 | 89.8 | 90.2 | 94.6 |
| Private sector | - | - | - | 4.9 | 9.7 | 13.0 | 17.8 | 23.6 | 32.8 | 42.1 | 42.2 | 46.9 | 47.8 |
| Doctors of sciences | - | - | - | 0.7 | 1.7 | 2.1 | 2.7 | 3.6 | 4.5 | 5.4 | 5.2 | 6.2 | 6.2 |
| Candidates of sciences | - | - | - | 2.2 | 4.6 | 6.3 | 8.1 | 10.5 | 14.8 | 19.0 | 19.7 | 20.9 | 21.3 |
| Professors | - | - | - | 0.6 | 1.6 | 2.0 | 2.8 | 3.7 | 4.7 | 4.7 | 5.2 | 5.9 | 5.8 |
| Docents | - | - | - | 1.6 | 3.7 | 4.9 | 6.8 | 8.3 | 11.9 | 13.3 | 15.2 | 16.3 | 15.9 |

Note: “-” means non-applicable, as the private sector did not exist. “**” means non-available.

Source: *Obrazovanie v Rossii, 2003, 2003; Nauka v Rossii v tsifrakh, 2003, 2004; Vysshee obrazovanie v Rossii, 2001, 2002.*

prestigious institutions, working in more prestigious fields, or filling top positions in administration.

There are a few other important trends regarding the academic profession. As seen in many other countries, part-time academics are increasingly playing an important role in the structure of an institution's faculty. At public institutions, the proportion of part-time faculty increased from 11% in 1991 to 22% in 2002. At private institutions, part-time faculty comprises the bulk of the academic staff—145% more than full-time academic personnel (as of 2002).

Major transformations have also been seen in the demographic structure of the faculty. Women are increasingly taking positions at public institutions: in 1995, they comprised 44.4%, and by 2002, 51% of the faculty was female. Crucial trends are also observed in the age structure of higher education faculty—the aging of academic staff and insufficient recruitment of younger academics is of particular concern. The average age of Russia's main, full-time academic staff is about 55 years (Belyakov, 2003). It is estimated that most academics with advanced degrees are older than 40 years of age; the average age of a faculty member with a doctoral degree is 62, and the average age of those with a candidate's degree is 54 years. Unfortunately, too few of Russia's promising youth appear interested in an academic career, and there are inadequate numbers of future academics in the graduate education pipeline. These facts amount to a serious challenge for the Russian education system.

Traditionally, low horizontal mobility of Russian academics from town to town (or from university to university) is also worth noting. The opportunity to recruit faculty from other institutions or cities, which existed before, has virtually disappeared as a result of the economic situation in education and in the country as a whole. The new trend of regional limitations on education, both in enrollments and in faculty recruitment, has undoubtedly resulted in the deterioration of educational quality and impacts the future health of universities throughout the country.

And finally, an absence of any real policy on the future of the academic profession in Russia (in spite of the fact that in 1998 academic staff policy was declared a priority for the Ministry of Education) evokes great concern throughout the educational community. But some efforts are now beginning to focus on attracting and retaining junior academic staff, recognizing this as a crucial factor in the long-term development of Russia's education and research institutions.

Graduate Education

With the understanding that a master's level education has only recently been introduced in Russia and currently involves only a minor share of graduate students, a discussion of graduate education can reasonably focus on programs leading to the degree of candidate of sciences (Ph.D.). The focus on education leading to a doctor of science degree seems equally unnecessary, since it is a very specific cohort (involving only about 4,500 people in the entire country). Since 1993, the number of Ph.D. students has increased by 171% on average, reaching 136,242 students in 2002 (see Table 3). This growth was most notable in the fields of economics and social sciences, while the number of Ph.D. students in other fields has not increased as quickly.

Table 3. Graduate and Postgraduate Education in Russia

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001* | 2002 [†] |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|-------------------|
| <i>Candidate's level</i> | | | | | | | | | | | | | |
| Students | 63,072 | 59,314 | 51,915 | 50,296 | 53,541 | 62,317 | 74,944 | 88,243 | 98,355 | 107,031 | 117,714 | 128,420 | 136,242 |
| Graduates | 16,355 | 16,322 | 14,857 | 13,432 | 12,292 | 11,369 | 11,931 | 14,135 | 17,972 | 21,982 | 24,828 | 25,696 | 28,101 |
| Graduates with defended dissertation, % | 21.3 | 19.0 | 21.1 | 23.8 | 22.1 | 22.9 | 22.9 | 24.1 | 25.1 | 26.1 | 30.2 | 24.0 | 26.4 |
| Confirmed degrees | 30,050 | 28,714 | 24,121 | 15,679 | 12,964 | 11,553 | 12,032 | 13,149 | 14,558 | 18,102 | 23,075 | 18,976 | 22,383 |
| <i>Doctoral level</i> | | | | | | | | | | | | | |
| Students | 1,774 | 1,834 | 1,644 | 1,687 | 1,850 | 2,190 | 2,554 | 3,182 | 3,684 | 3,993 | 4,213 | 4,462 | 4,546 |
| Graduates | 67 | 430 | 617 | 573 | 464 | 464 | 574 | 662 | 821 | 1,033 | 1,251 | 1,257 | 1,267 |
| Graduates with defended dissertation, % | 38.8 | 35.8 | 40.0 | 33.9 | 36.2 | 29.5 | 34.8 | 34.1 | 38.0 | 34.5 | 38.8 | 31.6 | 32.4 |
| Confirmed degrees | 5,067 | 6,326 | 5,491 | 4,111 | 3,185 | 2,760 | 3,022 | 3,278 | 3,716 | 4,045 | 4,592 | 3,662 | 4,328 |

Note: * In 2001, the decrease is due to restructuring of the system of academic councils awarding degrees.

[†] Preliminary data for 2002.

Source: *Obrazovanie v Rossii*, 2003, 2003; *Nauka v Rossii v tsifrakh*, 2003, 2004; *Vysshee obrazovanie v Rossii*, 2001, 2002.

Massification of graduate education is not linked to the development of Russian science, and on the contrary is proceeding despite the crisis in the science sector (perhaps explaining why most graduates do not choose the academic profession). Additionally, graduate education is increasingly leaving the walls of research institutes—where science and basic research were traditionally concentrated—and moving into higher education institutions. In the early 1990s, higher education institutions comprised about one-third of all Ph.D. granting organizations; in the late 1990s, this figure had increased to more than 40%. Higher education institutions today enroll the majority (85%) of all graduate students in Russia.

The socio-demographic characteristics of graduate students are changing. Some increase in the share of male students reflects their attempts to avoid compulsory military service by being a student. Meanwhile, in 1993 women comprised 47% of all graduate students; by 1997, this had dropped to 41.6%, but then increased slowly to a level of 44.6% in 2002. The average graduate student is also younger—in 1995, 56% of all graduate students were under 26 years old, and in 2002 this has increased to 73%—suggesting that more students are enrolling in graduate programs directly after completing higher education, instead of accumulating years of work or research experience as was the norm during the Soviet era.

The most important challenge to graduate education in Russia is financial, reflecting the overall conditions in Russian science and its funding. The absence of necessary financing hinders the development of research at universities and research institutes, and thus makes impossible appropriate research training. In addition, the lack of governmental financial support forces full-time students to combine study and work—nearly 70% of graduate students are full-time, but the average fellowship is about 2,000 rubles (roughly US\$70). The majority of students thus devote the bulk of their time not to research and writing their dissertation, but to their jobs, contributing to the ineffectiveness of doctoral studies.

Another indicator of challenges in doctoral education is the number of doctoral graduates who defend their dissertation on time, within their term of study. Usually, about a quarter defend their thesis on time, and this proportion reached its highest level (of 30.2%) in 2000. In fact, students might defend their thesis after graduation, but to date there are no statistics on that. Today, much has been said about the generally deteriorating conditions and changing motivation of doctoral students. However, interestingly enough, during the Soviet era the number of graduate students who defended their thesis on time was roughly the same or even less, with a maximum level (of 33.4% for higher education graduates) observed in 1975. This begs the question of whether the doctoral education system established in the USSR has ever been truly effective, and whether a 3-year program of study provides enough time for completing and defending a dissertation.

The issues of graduate education today are discussed quite often, encompassing many essential questions: Who are graduate students or degree recipients? What is their status and where will they be in need? Are they young scholars pursuing academic careers in higher education and research, or are they young people seeking a place among the more educated strata in the age of mass higher education, looking to establish careers not only in academe but also in business, government and other sectors? Despite these

and other important strategic questions, state policymaking and regulation have been restricted to mostly quantitative indicators and attempts to limit the number of degrees. For example, a recent reform (2001) sought to reduce the number of academic councils able to award graduate degrees (regardless of the quality of dissertations defended at their institution), and in March 2004, the State Supreme Certifying Commission recommended that the government reduce the number of doctoral students by 20% and close doctoral programs in institutions where the percent of dissertations successfully defended is low.

Another potential innovation suggested by the minister of education in 2004 is an extension in length of doctoral programs up to four years. This initiative might be partly a result of Russia's signing the Bologna Declaration and its interest in joining the European Higher Education Area with compatible degree qualifications. To Europeans, the Russian degree of candidate of sciences currently lacks an educational comparison, and presently only France recognizes this degree. However, the formal extension of the length of study would not really resolve any significant problem of Russian graduate education.

In conclusion, the system of graduate education in Russia is on the eve of change. The question is whether the system will be able to transform and meet the challenges of the changing role of education and science, or will outlive its usefulness along with the devaluing system of academic degrees confirmed by the state commission.

Private Higher Education

One of the most important developments in Russian higher education has been the emergence of a non-state, private sector of higher education, generated by a policy that broke the state monopoly in the field of education. The term "non-state education" appeared for the first time in the 1992 educational law; later, a section of the law on "new educational institutions" was adopted. The development of the non-state sector has been fast: over the first year of its existence (1993), private higher education institutions numbered 78, and had increased to 387 by 2002. However, relatively few students (12%) attend education institutions in the non-state sector.

From the very beginning, non-state higher education has been developed under strict state control. Similar to public institutions, the operation of private ones is regulated by the state and is controlled by the procedures of licensing, evaluation, and accreditation. Only a state-accredited institution is allowed to award degrees and certificates of legal recognition (any institution may award its own degrees and certificates, but only those with legal recognition will lead to opportunities for further education in public institutions, credentials for holding positions at public institutions, etc.).

There is also another dimension of the relationship between the state and private institutions of higher education: state-run organizations, in most cases, are founders of non-state institutions of higher learning. Over half (51%) of non-state institutions have a mixed body of founders (state, non-governmental, and private organizations), 25% are established by one or more legal entities, and 23% by individuals. Among the founders there are state-run authorities (ministries and committees), administrations of different levels, and public higher education institutions (Krukhmaleva *et al.*, 2000).

In particular, certain developmental advantages favor those non-state higher education institutions which were established by major, prestigious public universities and former educational institutions of the Communist party—for example, they are able to draw on the existing infrastructure (plants, facilities, equipment, etc.), academic staff and the reputation of their institutional founders.

Non-state institutions emerged as a reflection of changing socio-economic conditions in Russia. Private institutions try to meet the market demand in a workforce educated in the fields of economics, management, law, social sciences, and humanities, thus occupying a niche in those fields of higher education. Today, a private education institution is usually a small-scale organization training students in the humanities and social sciences, receiving its financing mainly from tuition fees and running as a for-profit organization. Additionally, these institutions expand an academic labor market by providing opportunities for supplementary income for academics employed in public settings.

Non-state institutions (unlike public) attract students with easier admissions, relatively low tuition fees, higher faculty-student ratios, broader programs of study, and opportunities to tailor their curricula or obtain more than one degree simultaneously. Dependence upon material and human resources has defined the unequal distribution of non-state institutions throughout the country—most of them, like public institutions, are located in the major cities of Central Russia.

The most serious challenge for non-state higher education is educational quality. Very few private tertiary institutions in Russia are characterized by high educational standards. That is why most students choosing between paid education at private and public institutions prefer the latter. The student body of most private-sector institutions is drawn from middle-income families whose children could not get into public institutions—in other words, not the most academically gifted students. Similar to public institutions, students of private universities combine work and study, so the majority of them are part-time students (66% as of 2002, in comparison to 43% at public institutions).

Private institutions rely mostly on part-time faculty—in 2002, there were roughly 19,500 full-time academic staff, compared to 28,300 part-time personnel. Private institutions are also an important element in the feminization trend in Russian higher education: the proportion of female faculty increased from 54.0% in 1999 to 58.5% in 2002. The percentage of academic staff with advanced degrees and academic ranks corresponds approximately to that at public institutions and reflects the efforts of private universities to attract more highly qualified staff in order to strengthen their position in the marketplace of educational services.

In addition to a competitive market for tuition-paying students, private education institutions face a variety of other challenges, including the maintenance of adequate facilities, equipment, and libraries; legal matters of operation; state regulations; taxation policies; and questions of property. The development of the non-state sector of higher education is also dependent on its acceptance by the population as consumers of paid educational services. Currently in Russia, an increasingly large group of people are ready to invest in the education of their children, according to their available finances. The question is what form of education they will choose to invest in—public or private.

For non-state institutions, that choice might be critical, since only a few of them are able to successfully compete with the public universities. Governmental policy does not leave behind non-state institutions: in an attempt to achieve a balance between state and non-state sectors, it plans to provide equal opportunities for both types of institutions in competition for state funding awards. So, in the near future, the non-state higher education sector will likely experience further significant changes.

Internationalization

Opening up the USSR in 1985 launched a growing international collaboration throughout higher education, bringing international (mostly U.S. and European) models in content of education and curricula, access to international literature, faculty and student exchanges, joint study and research programs, etc. Major assistance and exchange programs have been funded by the United States, the European Union, foundations and international organizations, and enabled a considerable transformation in Russian higher education.

Another dimension of internationalization in higher education has involved the student body and the delivery of international educational services. For years, the Soviet Union was one of the major providers of higher education for international students. By strengthening ties with countries of the Communist block (along with a number of developing nations), 126,500 foreign students (according to some estimates, up to 180,000) had come to study in roughly 700 institutions of the USSR by 1990 (Sheregi, Dmitriev, & Arefiev, 2002). In post-Soviet Russia, the centralized organization of intergovernmental agreements and a large system of international education were ruined. But in recent years, we have observed substantial growth in the number of international students in post-Soviet Russia. Over the last decade, their numbers have increased to more than 100,000 students, bringing to Russia an estimated US\$150 million annually. For most Russian higher education institutions, foreign students mean an important source of non-state financing, but not all institutions are competent enough to participate in this market. The most popular fields of education for international students in Russia have not changed significantly—engineering, medicine, economics, business administration, and humanities.

In terms of expanding international education, Russia's closest neighbors—CIS countries—comprise one of the key regions, and currently students from these countries make up about one-third of all foreigners studying in Russia. Approximately the same number of students come from Asian countries, mostly China. Smaller groups come from Near East and North African countries (approximately 12.8% of all foreign students), with an additional 7.5% from Europe, 5% from Africa, and 3% from Latin America (Sheregi *et al.*, 2002).

Internationalization also involves Russian students going abroad for higher education. Unfortunately, there are no precise statistics, but some estimates suggest that in the mid-1990s about 13,000 Russian students studied outside their country—most of them in the U.S., Germany, France, and U.K. (Ledeneva, 2002). Further, their numbers have been growing—6,238 Russian students were enrolled in U.S. colleges and universities in 2002 (International Institute of Education, 2004). Unfortunately, research has shown

that Russians studying abroad are oriented towards an international labor market and do not tend to return to Russia after graduation (Ledeneva, 2002).

In another aspect of internationalization, the government of Russia is planning to increase the export of educational services. Along with oil, higher education is expected to be a strategic export industry of the Russian economy, bringing in billions of dollars. The concept of a federal policy on educating foreign nationals in Russian education institutions was approved in October 2002 by the President of the Russian Federation and launched by the Ministry of Education. The concept implies that Russian institutions of higher learning have traditionally provided higher education for foreign students and still have a potential to be a “key player” in international education. Russian higher education is considered attractive by its relatively high quality, qualified faculty, and comparatively low tuition and cost of living. However, serious challenges must be addressed including the relative incompatibility of Russia’s educational structure; the need to meet international standards for equipment and other conditions of study; certain legal hurdles; and insufficient information support.

Another dimension of internationalization is academic mobility. The most important obstacle, which would clearly affect the prospective development of internationalization, is the issue of quality assurance and degree recognition. Signing the Lisbon Convention *de jure* opened possibilities for the recognition of Russian diplomas, but in fact, Russian degrees are generally not recognized in a number of developed and developing countries.

Nevertheless, joining the Bologna Declaration (in 2003) should foster the convertibility of Russian degrees and strengthen the position of Russia in the international education market. Entering the European Higher Education Area has been the most notable event over the last several years and has generated lots of discussion. This process implies a reorganization of the recently established bachelor’s/master’s system, putting into doubt the system of candidate’s and doctor’s qualifications, and requires establishing a credit system and devising comparable methodologies and criteria for educational quality assessment. These changes will entail a massive transformation of the entire Russian educational system, and should ensure the competitiveness of Russian higher education, enhancing quality and securing Russia’s status as an integral part of the international higher education landscape.

Conclusion

Russian higher education has been constantly changing over the last several decades. The reform agendas have involved many profound and essential issues of national education: the funding of higher education, admissions and access, educational quality, degree recognition, and international integration. Additional challenges faced by Russian higher education include the recruitment of junior faculty and retention of graduate students in academia; the need to strengthen links between higher education and basic research (a new conception of a research university is under review); creating new relationships between higher education and industry; and developing the effective use of information technologies in education. In sum, a variety of exciting transformations are now shaping the future of Russian higher education and warrant careful scrutiny for many years to come.

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SOUTH AFRICA

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The Republic of South Africa occupies the southernmost part of the African continent.¹ It has common borders with the republics of Namibia, Botswana, and Zimbabwe on the northern and western sides, and the Republic of Mozambique and the Kingdom of Swaziland in the northeast. South Africa is surrounded by the ocean on three sides—the west, south, and east—and has a long coastline of about 3,000 km.² The 2001 census accounted for a South African population of about 44.8 million people. Of these, 35 million classified themselves as African, 4.2 million as white, 1.1 million as Asian or Indian, and 3.9 million as colored.³ To cater to South Africa's diverse people, the Constitution provides for 11 official languages.

South Africa experienced different periods of colonialism dating back to the 1500s. In 1652, the Dutch East Indian Company (VOC) set up a station at Table Bay (Cape Town) to provision passing ships en route to India. From 1657, European settlers were allotted farms by the colonial authorities in the arable regions around Cape Town, where wine and wheat were the major products. By the early 1700s, the colonists had begun to spread into the hinterland, where they came into contact with some indigenous people. This ushered in a century of warfare, during which the colonists gained ascendancy over the black chiefdoms in the region. In 1795 and 1806, respectively, the British occupied the Cape as a strategic base, controlling the route to India, which led to the integration of the Cape Colony into the dynamic international trading empire of industrializing Britain.

Following the Anglo-Boer/South African War of 1899–1902, the Union of South Africa was established, bringing together the former Boer republics and the British colonies into an independent dominion. Black interests were subsumed by the goal of white nation building across the language divide, thus perpetuating some of the segregationist policies that were already in place. The principles of segregationist thinking were laid down in a 1905 report of the South African Native Affairs Commission and continued to evolve in response to economic, social, and economic pressures from the black people. In 1948, the National Party—with its ideology of apartheid (separation)—came to power following its victory in the all-white elections. Apartheid philosophy was based on a belief in white supremacy and division of people on the basis of race. As such, the South African population became formally segregated into four races,

namely, white, Indian, colored, and African.⁴ These divisions also determined the hierarchy of supremacy and benefits under apartheid, with whites at the top and Africans at the bottom of the social ladder. The racial division of the South African population was bolstered by the passing of a number of laws, including the Population Registration Act of 1950—whereby all South Africans became officially registered according to the government’s racial classification—and the Group Areas Act of 1950, which proclaimed residential and business areas for various racial groups. The Group Areas Act initiated the era of forced removals, where black communities were violently relocated because white landowners either did not want blacks living next to them or simply wanted their land. The Separate Amenities Act was also passed, which made it illegal for the different racial groups to share facilities and services, including education. Alongside the development of the legal and institutional settings for the operation of apartheid was the development and formulation of the philosophical base for the operation of this machinery. Education became a strategic sector for the implementation and promotion of apartheid philosophy, since most South African children would be exposed to it to some extent.

It is against this background that the history and evolution of higher education in South Africa need to be understood. The system of apartheid was legally ended in 1990, along with the unbanning of the liberation movement and the release of political prisoners who had fought against the system for over four decades. This was further consolidated with the election of a new democratic government in which the African National Congress, under the leadership of President Nelson Mandela, won the first all-race elections in April 1994.

This chapter analyzes the progress that has been made in the reform initiatives undertaken in higher education in South Africa, from one of the most unequal systems in the world to one that is gradually becoming competitive and staking its claim among the modern democracies of the world. The focus of this discussion is on the interplay of global forces and local realities in shaping the process and content of reform in the first decade of democracy in South Africa. It is argued that following the first term of government in power (1994–1999), which was characterized by the relative weakness of the state as a result of a vacuum in policy and legislation to spearhead transformation, the second term of office (1999–2004) saw a new South African ability to elaborate its policies and put in place policy and regulatory frameworks for a single coordinated system responsive to local realities and global challenges.

The Evolution of Higher Education in South Africa: A Brief Overview

The first institutions of higher education in South Africa emerged during the mid-19th century, with the establishment of two colleges, the South African College in Cape Town in 1829 and Victoria College in Stellenbosch in 1865, followed by the University of the Cape of Good Hope—the first South African university—in 1873. Rhodes University followed in 1904 and in 1918, the South African College and Victoria College changed their names to the Universities of Stellenbosch and Cape Town, respectively. The University of the Cape of Good Hope became known as the University of South Africa (UNISA). The establishment of these universities in the southern part of the country

near the coast could be linked to the settlement of white colonialists in the Cape dating back to the 15th century. The South African Native College was established by missionaries in 1916 and became known as the University of Fort Hare in 1951. The School of Mines, established in Johannesburg in 1895, became the University of the Witwatersrand in 1922.⁵

The UNISA was a federal university with a number of university colleges. Over the 30 years following 1930, many of these colleges became full-fledged universities (including the Universities of Pretoria, Potchefstroom, Natal, and the Free State). The Extension of University Education Act (passed in 1959) was designed to bar the entry of black students into historically white institutions (HWIs) and to establish racially segregated universities. The Universities of Durban-Westville, the Western Cape, Zululand, and the North came into existence shortly afterward. Other universities established during the period from the mid-1960s to the mid-1980s included the University of Port Elizabeth, Rand Afrikaans University, the Medical University of Southern Africa, and Vista University. By the early 1960s, South Africa's universities were catering to about 62,000 students, only 5,000 of whom were not white. This racial disparity began to decrease when, in the heyday of separate development in the 1970s and 1980s, universities were constructed in the so-called "independent homelands" of Transkei, Ciskei, Venda, and Bophuthatswana.

This was followed by the gradual "racial opening up" of many of the historically white universities (HWUs), so that by the late 1980s data revealed that in addition to the 150,000 white students studying at the country's universities, there were 120,000 black (African, colored, and Indian) students.⁶ Reflecting some progress in building nonracial higher education, today the majority of students in the public sector's 21 universities are black—in 2002 (according to preliminary enrollment figures), there were 149,723 (33%) white students and 311,415 (67%) nonwhite students [Council on Higher Education (CHE), 2004].

Higher education evolved into a binary system made up of well-established university and technikon sectors. The technikons (institutions for technical higher education) emerged from the advancement of technical education and institutions in South Africa, the origins of which can be traced back to the turn of the 20th century with the growth of the mining industry and the subsequent development of a support industry, which led to the need for more technically skilled staff. To address this need, the railway, the Chamber of Commerce, and certain schools initiated part-time classes for teaching technical skills to apprentices. As these classes became more organized, centers for technical training were set up, which finally gave rise to the establishment of technical institutes and colleges. In 1922, an act was passed which instructed technical colleges to offer a theoretical component of the apprenticeship training throughout the country (CTP, 1990–1991).

The debate about the definition of the term "higher education" was brought to a head with the acceptance of the Higher Education Act (HEA) of 1923, which declared some technical colleges higher education institutions (HEIs). These institutions were brought under the control of the Minister of Education and became semi-autonomous state institutions. In 1926, the college councils formed the Association of Technical Colleges to promote cooperation and coordination of the administration and to facilitate

control of academic and other matters. Close contact was also maintained between the (then) Department of Higher Education, which examined and certified candidates at the colleges. The four large colleges—Pretoria, Johannesburg, Durban and Cape Town—introduced a new tertiary education phase in 1957, with cooperative courses leading to the National Diploma for Technicians (CTP, 1995). In 1967, four technical colleges were transformed into Colleges of Advanced Technical Education (CATEs) with the passing of the Advanced Technical Education (ATE) Act of 1967. In 1970, the (then) Minister of Education—Minister van der Spuy—stated that CATEs should not be seen as inferior or subservient to universities, but as HEIs with a unique character and function complementary to that of the university (CTP, 1995).

In line with the apartheid policy of segregated education, the provision of technical education was also racially segregated. The development of ATE for other racial groups—colored, Indian, and African—gained momentum during the 1970s. The report of the Committee of Inquiry into the Training of Engineering Technicians (1978) proposed the need for an institutional name change and the acceptance of the fact that the CATEs also had a research function that had to be addressed. The new name, *technikon*, was accepted and officially changed in May 1979. In 1983, the new law—The *Technikon (National Education) Act of 1983*—was passed, giving autonomy to *technikons* and enabling them to take new initiatives and to structure their institutions more in line with the requirements of institutions of higher learning (Hansard, 1983). With the establishment of the Advisory Council for Universities and *Technikons* (AUT) in 1983, the official status of the *technikons* was further entrenched. This council was set up to advise the Minister of National Education on joint matters between *technikons* and universities. These institutions were seen in their own right as being parallel to universities.

A mechanism to give *technikons* greater autonomy was established in 1986, in the form of the Certification Council for *Technikon* Education—an accrediting body which gave *technikons* the right to offer their own examinations—and these institutions finally achieved the status of “degree-awarding” institutions in October 1993. An important milestone in the history of South Africa’s higher education system, the *Technikon Act of 1993* brought all *technikons* across racial dividing lines under one legislation. Thus, when the newly elected democratic government took office in 1994, it inherited a well-established higher education system made up of 21 universities and 15 *technikons*.

The Inheritance of the Apartheid Higher Education System

The change of government in South Africa from an apartheid system to a democratic social order in 1994 ushered in widespread changes throughout higher education. It became necessary to dismantle the architecture of the divided higher education system of the apartheid era and to create a single, coordinated system of higher education. The intention was, among other things, to rationalize the system and to remove the racial inequalities that existed among institutions. However, with the vested interests entrenched in HEIs, restructuring the system would not be easy. This restructuring should be understood in the light of the quest by the postapartheid government to rid its education system of the apartheid past.

Until the early 1990s, education had been a strategic vehicle for the implementation and promotion of the apartheid philosophy. The inequalities in education, and higher education in particular, were accelerated by the passing of the Bantu Education Act of 1953 and the Extension of University Education Act of 1959. The latter was largely based on an attempt to separate the youth of South Africa at the level of higher education on the basis of race, just as was already the case at the primary and secondary school levels. The consequence of that fragmentation was that when the new government came into power in 1994, it inherited a higher education system with the following features:

- The coordination of the higher education system was the responsibility of the Department of National Education, rather than being a line department in the sense of having other education departments or other individual HEIs reporting to it.
- Three Departments of Education (DOE) carried separate responsibilities for universities, technikons, and colleges catering to whites, coloreds, and Indians, respectively.
- The Department of Education and Training was responsible for some universities, some technikons, and some colleges for Africans.
- Six DOEs were responsible for some technikons and some colleges in the six self-governing territories (Bantustans) where Africans were confined.
- Four DOEs were responsible for universities, technikons, and colleges of education in the “independent” states of Transkei, Bophuthatswana, Venda, and Ciskei, serving the Xhosas, Batswana, and vhaVenda ethnic groups, respectively [National Commission on Higher Education (NCHE), 1996].

As the NCHE (1996) noted, these divisions resulted in a gross fragmentation of the higher education system. A consequence was that the effectiveness and efficiency of the system suffered badly through a lack of coordination, common goals, and systematic planning. There was no clear strategy for managing elements such as the size and shape of the system, social and economic needs, overall funds available, growth rates, and the elimination of unnecessary wasteful duplication.

With respect to the institutional landscape, the South African higher education system consisted of 36 public HEIs that were divided along ethnic and racial lines. These institutions included: four English medium universities originally reserved for white students; six Afrikaans medium universities originally reserved for white students; seven technikons reserved for white students; six universities and technikons located in the “Bantustans” and self-governing territories and reserved for African students; two urban universities and technikons reserved for colored and Indian students; two urban universities reserved for black students; and two distance education providers (one university and one technikon) (CHE, 2004, p. 40).

In 1976, the Medical University of Southern Africa (Medunsa) was established, aimed at providing medical training for black students. In 1982, Vista University opened, operating with a number of satellite campuses around black urban townships, but with its administrative offices based in Pretoria. Badat (2002a) identifies the significance of the establishment of Medunsa and Vista as the fact that they were urban-based

Table 1. 1993 Headcount Enrollment by Race

| | | |
|---------|---------|------|
| African | 191,000 | 40% |
| Colored | 28,000 | 7% |
| Indian | 30,000 | 5% |
| White | 223,000 | 47% |
| Total | 482,000 | 100% |

Source: Adapted from CHE (2004).

campuses and signaled acceptance by the state of a permanent urban African population in the “white” areas. They could also be seen as part of the state’s strategy to enforce a divide between urban African residents and rural and Bantustan African residents. All HEIs were also funded to mirror the apartheid divisions and the different government models imposed on the higher education system.

Student enrollment reflected these racial divisions. In early 1994, 47% of students were white, 40% African, 7% Indian, and 6% colored (Table 1). Participation rates in higher education by gender were similar to those of other countries, with 43% female and 57% male (CHE, 2004, p. 62). Of the African students, 49% were enrolled in historically black HEIs, 13% in historically white HEIs, and 36% in distance HEIs. Until 1983, enrollment of African students in the historically white HEIs required the consent of the Minister of Education, who had to be satisfied that the course(s) for which African students were applying was/were not offered in institutions designated for them (CHE, 2004, p. 62).

The relatively higher number of enrollments of African students was also a result of a recent phenomenon of the period 1990–1994. As clear signals of the impending changes emerged, all HEIs opened their doors to nondesignated groups. During this period, enrollments showed an overall growth of one-third (more than 130,000). These growth rates were a major contributing factor to the high-growth scenarios envisioned by the NCHE after 1994. This point is explored later in the chapter.

The student profiles of the system also exhibited the racial and gender inequalities of the broader society in terms of access and privilege. Overall, participation rates in the public higher education system remained unsatisfactory.⁶ In 1994, the gross participation rates were approximately 17%—higher than in many developing countries, but lower than that of fast-developing and developed countries. Participation rates were highly skewed by race, with approximately 9% for Africans, 13% for coloreds, 40% for Indians, and 70% for whites (Cloete & Bunting, 2000a,b).

In 1994, 69% of students were enrolled in universities and 31% in technikons. Program enrollments were skewed toward the humanities—which constituted 50% of the total—with 25% in science, engineering, and technology (SET), and 25% in business and management courses (Cloete *et al.*, 2002).

Inequalities in staff profiles were more pronounced than student profiles. Just like any other public sector that had to reflect the apartheid policy regarding labor practices and promotion of white supremacy and domination, the higher education system reflected the broader patterns of the apartheid division of labor. As a result, the academic staff and

senior administrative staff were overwhelmingly male and white, whereas lower level and service positions were filled predominantly by blacks and women. For example, of about 45,000 staff across the public higher education sector in 1994:

- 80% of professional staff were white, 12% African, 4% colored, and 4% Indian;
- 34% of professional staff were women, and their status was generally lower than that of male professional staff; and
- 52% of nonprofessional staff were African, 29% white, 13% colored, and 6% Indian (CHE, 2004, p. 2).

These are the realities, which the new government had to address, especially the dismantling of the architecture of the divided system of apartheid higher education. According to Jansen (2002), this past had to be resolved through the creation of a single, coordinated system of higher education that purposively dissolved the racial inequalities that existed among institutions. But there was another motivation, though less pronounced in public policy discourse, and that was the need to incorporate the South African higher education system into a fast-changing, technology-driven, and information-based global economy. Thus, it is within the twin logics of the transition that the restructuring and transformation of higher education in South Africa should be understood: the logic of resolving the apartheid legacy in higher education and the logic of incorporating the higher education system into the overall national objective to do well in a competitive, globalized economy.

The New Legislation and Policy Framework for the Transformation of the System (1994–1997)

An important feature of the democratization process in South Africa is how the government and the DOE relied on the use of policy and legislation to steer the system. While the process started slowly as a result of a vacuum in policy during the period 1994–1997, this proved worthwhile since South Africa has now succeeded in laying a solid foundation for the transformation of higher education based on sound policies. While the first five years saw the development of policy and legislative frameworks, the second period of government (1999–2004) saw an elaboration of policies which further enabled the government to get a grip on the levers of power in order to steer the system to not only be able to deal and respond to global challenges, but also to be locally responsive and relevant. This policy and legislative framework for the transformation of higher education in South Africa has been enunciated in the successive development of policy documents: the NCHE (1996) report, the White Paper on Higher Education (DOE, 1997a), the HEA of 1997, the National Plan on Higher Education (DOE, 2001a,b), and Transformation and Restructuring of Higher Education (DOE, 2002). The challenge the government faced was to overhaul the higher education system in order to make it conform to the national development goals underpinned by the values and principles of the emerging democracy (CHE, 2004, p. 2). This discussion will now briefly reflect on the contributions made by successive policy documents produced during this period.

The National Commission on Higher Education

The seriousness with which the new government viewed the transformation of higher education was reflected in the appointment of the National Commission on Higher Education in February 1995 to advise the government on how to transform the higher education system. This was the first Commission to be appointed under the Mandela administration, and it reported to government in August 1996. The work of the Commission laid the basis for the subsequent development of policy and played an important role in putting to rest the history of apartheid in higher education and producing a vision, principles, and values to inform higher education transformation and restructuring. It recommended the following key strategies for transforming the system:

1. A policy of increased participation was required to satisfy the needs of equity, redress, and development. Concomitantly, a single coordinated higher education system was proposed as a way in which the inequities, ineffectiveness, and inefficiency of the existing system could be eradicated.
2. A policy of greater responsiveness was needed to ensure that higher education engaged with the challenges of its social context. This would require changes in the content, focus, and delivery modes of academic programs and research adapted to the knowledge needs of the market and civil society.
3. Cooperative governance, the elements of which included the state in a supervisory role (as opposed to a role of control, or interference); intermediary bodies between the state and the HEIs characterized by internal constituency partnerships; and a set of linkages between HEIs and civil society (NCHE, 1996).

The White Paper on Higher Education

Following its formal response to the NCHE report, through the Green Paper and widespread consultation with the public, the government finally released its policy on higher education in the form of a White Paper in August 1997. The White Paper set out policy in support of the government's intention to transform higher education through the development of a program-based higher education system, planned and governed as a single coordinated system. This was intended to redress and overcome the fragmentation, inequality, and inefficiency that were the legacies of the past (DOE, 1997a).

The White Paper identified planning, funding, and quality assurance as the three steering instruments for the transformation of South African higher education into a qualitatively improved and more equitable and responsive system. In addition, the requirements of the National Qualifications Framework (NQF) were also stipulated for higher education. The expectations were that the new system and its key instruments would deal comprehensively with the country's historical legacies of exclusion and inequitable development, while also addressing its social and economic needs in an era of globalization and the internationalization of higher education (Singh & Naidoo, 2004). The White Paper further proposed the development of a national higher education plan that would include benchmarks for transformation and a system of 3-year rolling

institutional plans. These would facilitate the responsiveness of the system and ensure planned expansion linked to sustainability (DOE, 1997a).

The Higher Education Act

The HEA was passed in December 1997, and put in place formal regulatory mechanisms pertaining to the funding, governance, and quality assurance of the higher education system. These included provisions for the establishment of the higher education branch (with administrative responsibilities) and the CHE, with policy advisory and quality assurance functions. The quality assurance functions of the CHE were to be carried out by the Higher Education Quality Committee (HEQC), which is a permanent body of the CHE (DOE, 1997b).

Discord and Nonalignment in the Restructuring Process

Following the passing of the HEA, it was expected that these instruments for transformation of the higher education system would be put in place to steer the system. However, what became apparent was that in the postapartheid vacuum of policy (1994–1997), there were important developments in the system that suggested some elements of self-regulation that, if left unchecked, threatened the development of a single national coordinated but diverse system of education (DOE, 2001a). The period 1994–1997 was characterized by a high level of optimism among policymakers and institutions, which flowed from expectations that the pressure for access to the higher education system would continue in a postapartheid South Africa. It was assumed that student enrollments in higher education would increase rapidly throughout the rest of the decade. As Cloete *et al.* (2002) point out, the evidence available at the time supported the belief that student enrollment in South Africa was on a steep upward trajectory.

Two important developments took place that threatened to undermine the restructuring and transformation of the system. First, the predicted increase in the enrollment of students in the system did not materialize. Instead, there was a decline in enrollments throughout the system, with historically black universities (HBUs) suffering the most, as there was an exodus of students from these institutions to HWUs (HWIs) and technikons (both black and white) (Cloete *et al.*, 2002). This phenomenon became known as “students voting with their feet.” This mass migration of students was ascribed to dissatisfaction with the poor facilities and lower standards of programs in the HBUs, as compared to their white counterparts. On the other hand, the chances of getting financial support were much higher in HWIs as were the prospects of getting employment with qualifications from these institutions (Cloete *et al.*, 2002, p. 154–156).

Concomitantly, some HEIs seized market opportunities: some historically advantaged institutions undertook a range of entrepreneurial initiatives to position themselves advantageously. This entailed introducing distance education programs utilizing “telematic” delivery; partnerships with private providers to tap into expanding markets; and increasing market shares of contract research and consultancies. The net result of

Table 2. Headcount Enrollments in Public Universities and Technikons: NCHE Projections Compared with Actual Enrollments, 1995–2000

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|------------------|---------|---------|---------|---------|---------|---------|
| NCHE projections | 571,000 | 595,000 | 620,000 | 650,000 | 680,000 | 710,000 |
| Actual | 571,000 | 590,000 | 599,000 | 608,000 | 580,000 | 600,000 |

Source: Adapted from Cloete *et al.* (2002).

the unplanned change was a set of HEIs whose differentiation, while overtly linked to developments in the market, was also directly linked to the differences engendered by apartheid. This served to exacerbate institutional inequalities with respect to resource opportunities and educational outcomes and to create disparities in institutional governance capacities (CHE, 2004).

By 1997, student enrollment for the university plus technikon sectors had reached more than 600,000, an increase of nearly 206,000 (52%) over the total of 1990. The average annual increase in enrollments between 1990 and 1997 was 4%. The increase in enrollments also generated expectations in the higher education system that government funding would grow in future years, particularly because government funds had been allocated to institutions on the basis of formulae which were given primarily by student enrollments. However, the predicted growth figures of the NCHE did not materialize, as reflected in Table 2.

According to Cloete *et al.* (2002), the general decline in student enrollments was a result of a number of factors, including the productivity levels of the school system. Between 1995 and 2000, the school system did not produce the number of qualified school-leavers that had been expected at the time the NCHE was doing its work. The NCHE had expected one consequence of the rapid end of apartheid in the education sector to be the rapid growth in the numbers of school-leavers obtaining a university entrance pass. However, this did not occur. Table 3 shows that over a 6-year period (1995–2000), 320,000 fewer matriculants were produced by the schools than the NCHE had predicted.

The other factor that impacted the restructuring process was the growth of private education in South Africa during the same period. Following the adoption of the HEA, which gave due recognition to the place and role of private higher education in South Africa, the system began to experience the mushrooming of private providers, both

Table 3. Projected and Actual Totals of Matriculation Exemptions (University Entrance Pass), 1995–2000

| | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|------------------|--------|---------|---------|---------|---------|---------|
| NCHE projections | 95,000 | 108,000 | 118,000 | 130,000 | 144,000 | 158,000 |
| Actual | 80,000 | 80,000 | 70,000 | 70,000 | 63,000 | 60,000 |

Source: Cloete *et al.* (2002).

local and international. Before 1997, private higher education was seen by the public HEIs and the Department of National Education as peripheral, unimportant and of low quality (Mabizela, 2004). During the late 1990s, a commonly held view was that a burgeoning private higher education sector would be needed to deal with levels of access demand that the public sector would not be able to satisfy. The experiences of other developing countries were often cited in this regard: where the capacity of the public higher education sector is limited (the argument went), the development of a new higher education sector funded by private capital should be encouraged by government (Singh & Naidoo, 2004).

With the legal basis for the operation of private providers in place, the system experienced a heightened activity of private provision, which took a number of forms. Private South African companies launched new private HEIs and overseas institutions also attempted to establish satellite operations in South Africa. Partnerships between South African companies and a small group of public universities and technikons seemed to dominate the form in which private providers operated. While the number of private providers at the time was unknown, a survey of 60 private institutions conducted by the Education Policy Unit at the University of the Western Cape found that they enrolled just under 30,000 students (Subotzky, 2002). A study commissioned in order to determine the size of the sector estimated total student enrollment in private education at 500,000, something which proved to be an overestimate.

According to Singh and Naidoo (2004), prior to the establishment of the national DOE private provider registration requirement, there was also an enormous growth in the franchising of qualifications by foreign providers to locally established private institutions. Most of the private providers started through franchise agreements with such foreign providers. Between 1996 and 1999, the DOE received several complaints about the quality of provision from students who were studying at institutions that had franchise arrangements with foreign providers. It became apparent that the franchiser institution often carried out poor oversight of quality arrangements at the local private franchisee. Moreover, national quality assurance agencies from the franchiser's country of origin did not "quality assure" the franchiser's ability to manage the quality of their franchised operations. Also, many franchise arrangements were concluded with foreign institutions (the franchiser) that were perceived as being of poor quality within their home countries (Singh & Naidoo, 2004, p. 22).

As a result of these quality-related problems, the new regulations of the DOE outlawed franchising. This forced foreign providers to establish a physical presence as transnational private providers in South Africa and to take responsibility for the quality of the programs they offered in this country. By 2000, there were only four transnational providers registered with the DOE, whereas during 1996–1999 over 50 foreign providers operated in South Africa through franchise and other partnership arrangements. The termination of the franchising arrangements between the foreign and local private providers gave the impetus for the establishment of local private providers in their own right, as well as a heightened awareness of the need to strengthen the quality of their provision.

The developments in the field that were not in line with policy or that revealed the inadequacy of policy became a source of concern for policymakers. An intervention

strategy was required. With respect to public institutions, there was a concern that the “voting with feet” phenomenon was a threat to the viability of HBUs and, given the historical role they have played in the education of the black elite in South Africa, this would be against the goals of preserving national pride. On the other hand, the mushrooming of private providers, some of which offered poor quality programs, necessitated some form of intervention on the part of government.

Consolidation of a Policy and Regulatory Framework: Toward a Single Coordinated System, 1999–2004

With experience gained in government, and the policies and legislation in place, the DOE started consolidating the work done in the first five years by elaborating on policies in order to strengthen their implementation. Consolidation of policy entailed a multiple strategy for putting in place the governance and institutional structures that were legislated by the HEA: securing an amendment of the HEA to deal with policy gaps in both the Act and the White Paper; restructuring the system through mergers; and establishing the regulatory frameworks for a single coordinated system. There are three key documents that served to reconfigure the higher education landscape and put higher education in South Africa on a path toward a single system: the CHE’s *Towards a New Higher Education Landscape: Meeting the Equity, Quality and Social Development Imperatives of South Africa in the 21st Century*; *The National Plan for Higher Education*; and the National Working Group’s (NWG) report, *A New Landscape for Higher Education and Training*.

Restructuring the System Through Mergers

At the height of the crisis described above (i.e., a system that was self-regulating outside of the policy framework), the newly appointed Minister of Education, Professor Kader Asmal (1999–2004), sought policy advice from the CHE on how to reconfigure the higher education system. The CHE report, *Towards a New Higher Education Landscape: Meeting the Equity, Quality and Social Development Imperatives of South Africa in the 21st Century*, was released in 2000. The report highlighted a lack of meaningful coordination and cooperation within the system, and the fact that the sustainability of the higher education system—including the effective and efficient use of resources—required a reduction in the number of institutions through “combinations.” It argued that “the current landscape and institutional configuration of higher education . . . is inadequate to meet socio-economic needs and is no longer sustainable. South Africa does not have the human and financial resources to maintain the present institutional configuration” (CHE, 2000, p. 51).

The key recommendation of the report was a differentiated higher education system based on differential institutional mandates and types. Bedrock institutions would focus on quality undergraduate programs, with limited postgraduate education at the master’s level, and research related to curriculum, learning and teaching. A second set of HEIs would focus on quality undergraduate programs, comprehensive postgraduate education up to the doctoral level, and extensive research. A third set of HEIs would

provide quality undergraduate programs, extensive postgraduate education up to the master's level, selective postgraduate programs at the doctoral level, and select areas of research (CHE, 2001). The report came under severe criticism from the public, especially because there could not be a reconfiguration of the system, including its shape and size, without the *National Plan*, which was proposed in the White Paper on Higher Education.

In responding to the report, the *National Plan* confirmed that the number of public HEIs could and should be reduced. It proposed two main restructuring strategies. The first was program and infrastructural cooperation, including regional-level rationalization of the provision of costly programs and specialized postgraduate programs. The second strategy was the development of new institutional and organizational forms by means of a process of mergers (DOE, 2001a,b). Accordingly, the NWG was appointed in March 2001 to investigate and advise the Minister on "appropriate arrangements for consolidating the provision of higher education on a regional basis through establishing new institutional and organizational forms, including the feasibility of reducing the number of higher education institutions" (DOE, 2001b, Appendix).

The composition of the NWG reflected the experience, capacity, and sophistication that had been developed within the government. Unlike in the past, where the government relied on outside consultants and experts outside the government for policy development and advice, the NWG was composed of top senior government officials drawn from the Ministries of Finance, Education and the Presidency, and from business and labor. This team represented a phase where the government relied less on external agencies and more on knowledge of macroeconomic realities, availability of resources and the role higher education was to play in development (Schoole, 2005). The main proposal of the NWG was a reduction of HEIs from 36 to 21 institutions, providing a set of reasons based on a regional analysis of higher education provision in terms of quality, sustainability and equity. It was, however, made clear that the reduction in the number of institutions did not imply the reduction of delivery sites. All the facilities of merged institutions had to be utilized for the purposes of higher education provision.

Following a period of consultation and protracted public and private debate concerning the recommendations of the NWG, the Minister of Education made his final restructuring decisions public on December 9, 2002 (DOE, 2002). The new institutional landscape approved by the Minister consisted of 22 public HEIs (down from 36): 11 universities, five "universities of technology" (formerly known as technikons), and six "comprehensive institutions" (combining university- and technikon-type programs, and also resulting from a merger of a technikon and a university). Two national institutes of higher education were also approved (CHE, 2004). The mergers would take place in two phases: the first took effect in January 2004, and the second in January 2005.

Regulating the Public and the Private

With respect to competition between the public and private institutions, the plan argued that competition should be regulated within a national framework that promotes and

facilitates the sustainability of the higher education system. It further pointed out that the burgeoning private higher education sector requires more stringent regulation to ensure that it complements the public higher education sector and contributes to the overall human resource needs of the country (DOE, 2001a). Quality in higher education should be ensured by auditing the quality assurance mechanisms of HEIs and by accrediting programs of higher education.

In 1999, in the absence of a regulating body and with the challenges that the system was facing with the activities of private providers, the DOE passed a policy that made it a requirement for all private providers to register with the Department. It was hoped that this would give the Department a sense of the size of private provision. Concomitantly, it made the Director General in the DOE a registrar of private providers. This initiative was bolstered by the establishment of the HEQC in May 2001 as a permanent subcommittee of the CHE, whose mandate was to (a) promote quality assurance in higher education; (b) audit the quality assurance mechanisms of HEIs; and (c) accredit programs of higher education (HEQC, 2001a,b).

One of the achievements of the HEQC was the development of a new regulatory and quality assurance framework, which encourages greater planning within institutions, mission differentiation, increased outputs (graduate and research outputs), target setting and attainment, cost efficiency and effectiveness, and the planned use of earmarked funding for student equity and redress. The following are aspects of the framework:

- Private and transnational providers have to (a) operate as a trading company that is registered under the South African Companies Act, (b) sign a declaration of nondiscrimination in relation to students and staff, demonstrating a commitment to advancing the agenda of redress and equity, and (c) be financially viable, with regular monitoring and reporting.
- All qualifications standards have to be assessed by the South African Qualifications Authority (SAQA) and registered on the NQF. SAQA is responsible for evaluating and recognizing qualifications, whereas individual institutions have the right to recognize qualifications for entrance and further study purposes.
- The CHE/HEQC has to assure the quality of all institutions and programs.
- Franchising of programs is not permitted.
- Foreign providers need quality assurance clearance from their country of origin and the qualifications have to be recognized by the parent institution and the country's quality assurance system. Students should be able to transfer from South Africa to the parent institution without losing credits. On application for registration, foreign institutions have to submit proof of the equivalence of qualifications, recognition, and accreditation in their home country (Singh & Naidoo, 2004, p. 20).

The development of this regulatory framework was a milestone in the restructuring process of higher education in South Africa. What is important is the fact that all institutions (private and public) are now subject to the same regulations. This has been exemplified recently in two important reviews undertaken by the CHE. The first involves the registration of private providers and the second is the accreditation of programs.

The HEQC also built on the work of the DOE with regard to the registration of providers. In January 1999, the DOE initiated the process of registration by registering

private HEIs, including foreign/transnational providers. In 2000, 14 transnational institutions (11 universities and four colleges) from the United Kingdom, the United States, Australia, and the Netherlands applied for registration. The HEQC was not in operation at the time and SAQA conducted a paper-based evaluation of the proposed programs. In 2001, the DOE registered four foreign institutions: De Monfort University (U.K.), the Business School of the Netherlands, and Bond and Monash Universities (Australia). In 2000, the enrollments at these four transnational institutions totaled 3,165, accounting for 0.5% of the total number of students enrolled at both private and public higher education, and 10% of all private higher education students. However, for reasons that are not clear, enrollments in transnational institutions declined in 2001 to 1,242 (Singh & Naidoo, 2004).

The four transnational providers offer higher education mainly in the fields of commerce and management. Three of the four offer MBAs, while a new transnational institution (Henley School of Management from the United Kingdom) has also applied to offer an MBA. During interviews with HEQC peer review panels, the reasons offered by students for choosing foreign institutions were that they were “international” institutions of a good quality and reputation and provided students with the possibility of international mobility upon completion of their qualifications.

As far as international portability is concerned, the MBAs offered by Australian institutions in South Africa are recognized in Australia. Students can transfer to the parent institution without losing credits or recognition and can enter doctoral programs in management after finishing the MBA. However, MBAs offered by the U.K. institutions abroad are not “fully” recognized in the United Kingdom. Employers have requested that such institutions specify on the certificate that the student graduated in a foreign country and not at the host institution in the United Kingdom.

The Accreditation of Programs⁷

As far as quality is concerned, between 2002 and 2003, the HEQC conducted a national review of all MBA programs offered in South Africa. The first part of the review entailed an accreditation exercise. All MBA programs offered by both the private and public institutions were evaluated by panels of peers and experts against a set of minimum standards. Programs that met the minimum standards were accredited and those that did not were de-accredited and had to discontinue the program.

In 2003, 37 MBA programs from 13 public universities, five public technikons, four transnational providers, and five local private providers were assessed. Of the 18 programs assessed in public universities, seven (35%) were fully accredited, eight (48%) were given conditional accreditation, and three (17%) were withdrawn. None of the programs of public technikons, local private providers or foreign or transnational providers were accredited. The majority of these had their accreditation withdrawn, with a few being given conditional accreditation.

Transnational providers fared the worst among all the institutional provider types. Three of their four MBA programs did not satisfy the minimum requirements and had the recognition of their accreditation withdrawn. The reasons for withdrawal of

accreditation were the following:

- The lack of competent and adequate academic staff to deliver the program.
- Heavy reliance on part-time staff from industry. Many of the staff had industry experience, but very few of them had teaching or research experience.
- Dual certification by the local partner and the foreign institution in two cases. In one case, employers in the host country required the certificate to specify that the qualification was obtained in a foreign country. This suggested that employers did not see as equivalent the qualifications obtained in the foreign country as opposed to the ones obtained in the home country of the institution.
- Curricula that were not contextualized to reflect South African needs with regard to management training. The parent institution controlled teaching and learning material rights, with very little room for those academics delivering the programs in South Africa to change and adapt to local conditions (Singh & Naidoo, 2004).

As Singh and Naidoo (2004) point out, the review also demonstrated the importance and need for external validation of the quality of transnational programs, which could be carried out by local national quality assurance agencies or by those local agencies working in partnership with the agencies from the home countries of the transnational providers. International agencies could also be used, although with some caution. In the case of the MBA review, one transnational provider had accreditation for its South African program from such an international agency but was de-accredited by the HEQC. The reason for this was that the international agency focused mainly on the quality of provision in the country of origin of the transnational provider rather than on South Africa as a site of delivery.

Enrollment and Graduate Output Levels

The number and proportion of African students rose dramatically from 191,000 (40%) in 1993 to 404,000 (60%) in 2002. Correspondingly, the number and proportion of white students declined from 223,000 (47%) in 1993 to 182,000 (27%) in 2002 (CHE, 2004, p. 66). However, the number of women students also rose steadily between 1993 and 2002, until they formed the majority in 1999, and reached 54% of total higher education enrollments in 2002.

Enrollments in the humanities and social sciences rose from 269,000 to a peak of 320,000 in 1997, then declined to 277,000 in 1999, followed by a small rise in 2002 to 298,197. Enrollment in science, engineering, and technology (SET) and in business and commerce rose steadily throughout this period, almost doubling in each case. Table 4 shows the rise and decline in enrollment across these fields of study.

As Table 5 demonstrates, there has been a general increase in the number and proportion of university postgraduate enrollments from 1995 (19%) to 2002 (23%). The increases seem to have been evenly distributed across historically advantaged universities, HBUs and distance education programs offered by the UNISA.

South Africa's higher education system has also recently shown signs of internationalization, enrolling 46,687 international students in 2002 (38,492 in universities and 8,195 in technikons) (CHE, 2004).

Table 4. Headcount Enrollments by Field of Study, 1993 and 2002

| | Humanities and Social Sciences (%) | Business and Commerce (%) | Science and Technology (%) | Total (%) |
|------|---------------------------------------|------------------------------|-------------------------------|-----------|
| 1993 | 57 | 24 | 19 | 100 |
| 2002 | 44 | 30 | 26 | 100 |

Source: Adapted from CHE (2004).

Graduate output from South Africa's higher education system has grown steadily since 1995, rising above 100,000 for the first time in 2002. About three-quarters of these were from universities and one-quarter from technikons. During the same period, technikon graduates expanded gradually from 20% to 26% of the system's total and, correspondingly, that of the universities dropped from 80% to 74%. At universities, the number and proportion of SET graduates rose from 13,146 (20%) to 16,735 (22%), and those of the business, commerce, and management sciences graduates from 9,203 (14%) to 15,454 (20%) with a corresponding decline in the proportion (but not the number) of humanities and social sciences graduates (from 66% to 57%).

There have also been fluctuations in the number of degrees awarded across all levels since 1995, with a decline among undergraduate degrees from 44,029 in 1995 to 40,812 in 1998, and a decline among "lower" postgraduate degrees from 48,584 to 47,944. The causes of these declines warrant further research. Meanwhile, university master's degree graduates increased sharply between 1998 and 2002, from 3,952 to 6,667. The number of doctoral graduates produced by the system was just under 1,000 in 2002—up from 801 in 2001, but still very low in comparative terms, constituting only 1% of all undergraduate and graduate degrees awarded that year (CHE, 2004).

As an indicator of the fundamental relationship between higher education and employability, a Human Sciences Research Council (HSRC) study of graduates between

Table 5. Distribution of University Headcount Enrollments by Qualification Level and Institutional Type: 1995 and 2002

| Qualification Type | HAU | HBU | UNISA | Total |
|-----------------------|----------------|----------------|----------------|----------------|
| 1995 | | | | |
| Undergraduate | 100,857 (72%) | 98,640 (89%) | 99,161 (83%) | 298,657 (81%) |
| Postgraduate | 39,131 (28%) | 11,641 (11%) | 19,599 (17%) | 70,372 (19%) |
| Total | 139,988 (100%) | 110,281 (100%) | 118,760 (100%) | 369,029 (100%) |
| 2002 | | | | |
| Undergraduate | 156,049 (69%) | 76,529 (84%) | 124,201 (87%) | 359,779 (77%) |
| Postgraduate | 70,675 (31%) | 14,049 (16%) | 18,935 (13%) | 103,659 (23%) |
| Total | 226,724 (100%) | 14,049 (100%) | 18,939 (100%) | 460,439 (100%) |

HAU, historically advantaged universities; HBU, historically black universities; UNISA: University of South Africa (distance education programs).

Source: Adapted from CHE (2004).

1991 and 1995 found that 59% of respondents surveyed were employed immediately after obtaining a degree, and a further 25% within 1 year, although with wide variability between groups of respondents. The most successful in finding employment were graduates in the medical sciences (91%) and engineering (77%); least successful were graduates in the humanities and arts (34%), law (40%), and natural sciences (48%). While 67% of the graduate respondents from HWUs found employment immediately, only 28% of their counterparts from HBUs were as fortunate; 34% of colored graduates immediately found employment, as did 56% of Indian graduates (Cloete & Bunting, 2000a,b; Maharasoa & Hay, 2001).

Research

Higher education research in South Africa is part of the national system of research and development (R&D). The R&D system is a subset of the national science and technology (S&T) system, which is in turn a subset of the national system of innovation—that is, all institutions and individuals directly and indirectly engaged in formal innovative activities. Under apartheid, there was fragmentation of higher education institutional research agendas, leading to skewed patterns overall. The science councils operated obliviously of each other, government departments conducted research operations independent of science councils, and universities and private sector laboratories were isolated. This resulted in a disjuncture between the science system and the challenges of development, and the failure of the system to complete the cycle of innovation. Another example of the impact of the apartheid state on national and higher education research programs is that the social sciences became marginalized under the pressure of the academic boycott, and tended to be insular in research (Bawa & Mouton, 2001). Furthermore, the apartheid-related missions of HBUs largely precluded research development and that meant that research and teaching functions became separated.

The CHE (2004) report indicates that R&D undertaken by South African HEIs was in relatively equal share with government and industry. HEIs received 40% of state spending on R&D, which totaled around 0.8% of gross domestic product (GDP) between 1989 and 1994. Funding for research was directly allocated to universities through the Department of National Education on the basis of numbers of students and research publications, with different weightings for the natural and human sciences (technikons did not receive direct research funding). Research funding was also indirectly allocated via contracts from government departments and science councils. The business sector was the source of just under 10% of the R&D income of HEIs. South Africa was undertaking approximately 0.5% of the world's scientific research in 1994, with the majority favoring social sciences and humanities rather than natural sciences. Universities performed 98.7% (by expenditure) of the academic research, with the balance produced by technikons. While universities produced 70% of South African indexed research publications, nearly 80% of those were concentrated in five institutions—Cape Town, Natal, Pretoria, Stellenbosch, and Witwatersrand.

Since 1994, there has been a restructuring of funding sources aimed at innovation in research strategies and a redress of past funding and research practices. This includes the merging of the Foundation for Research and Development and the Center for

Science Development into the National Research Foundation (NRF). The NRF has a consolidated funding agency function for the human and natural sciences and has drawn together university/technikon-based research funding. It is also required to distribute funding within the focus that reflects the development, equity, and capacity-building priorities of the state and to this extent it is responsible for a fair amount of influence in terms of setting higher education research priorities.

The other source of government funding for higher education (and other) research is the Technology and Human Resources for Industry Program (THRIP), managed by the NRF for the Department of Trade and Industry (DTI). THRIP was introduced in 1991 and participates in matching grant schemes between research entities in public HEIs and the private sector—that is, contributions to approved projects are made by private sector partners, the DTI and the participating HEI. Of importance is the fact that THRIP provides incentives for the participation of graduate students historically excluded from S&T (black and women students). The DTI budget for THRIP increased from R3 million in 1994 to R96.5 million in 1999, with private sector expenditure increasing from R6 million to R105 million in the same period (CHE, 2004, p. 111).

A study conducted by the HSRC revealed several important developments and shifts since 1994. Total R&D expenditure for 2001 was 7.5 billion rand. In percentage terms, gross expenditure on R&D was relatively steady between 1993 and 2001 at around 0.75% of GDP. The challenge remains to reach the goal of 1% of GDP in 2005, as set by the National R&D Strategy. By comparison, Sweden spends 4.27% of its GDP on R&D; the United States, 2.82%; the European Union member states, on average, 1.93%; and Australia, 1.5%. South Africa closely follows China (1.09%) and Spain (0.96%), but with higher research intensity than most other developed countries (Department of Science and Technology, 2004).

South Africa distributed its 2001 expenditure of R&D by major research fields as follows: natural sciences (22%); engineering sciences (20%); applied sciences and technology (15%); computers and ICT (13%); social sciences and humanities (11%); medical and health sciences (10%); and agricultural sciences (9%). By type of research, 2001 gross expenditure on R&D was as follows: applied research (40%); experimental development (33%); strategic basic research (15%); and pure basic research (12%) (CHE, 2004).

As an indicator of the availability of research skills, the number of full-time equivalent (FTE) researchers per 1,000 employed in 2001 was 0.9—up from 0.71 in 1997. These figures indicate that the South African research community remained small compared to the FTE figures of other countries, like Australia's 7.2, Malaysia's 7.0, South Korea's 6.4, Spain's 5.0, Argentina's 2.0, and China's 1.0. Women researchers made up 35% of the total research community in South Africa, compared with Argentina (49%), Russia (44%), Spain (35%), South Korea (11%), and Japan (10.7%). Overall, the nation's R&D is produced by industry (54%), higher education (25%), and government and science councils (20%) (CHE, 2004).

In general, higher education faces the challenge of finding sustainable ways of reproducing its capacities and traditions in new generations of knowledge producers. As the CHE (2004) report shows, despite the success of targeted funding strategies in

promoting responsiveness, the goals of supporting the development of young, black and female researcher seems far from being achieved. It further highlighted the “frozen demographics” of an aging research population, the causes of which are multiple—including the high rate of change in the first 10 years of democracy, which has not provided stability critical for fostering research and has drawn resources away from research; the institutional cultures of the HEIs, which are not yet fully able to satisfy the aspirations of a diverse set of young scholars; postgraduate scholarships and fellowships, which are thin on the ground; and the fact that HEIs may offer unattractive remuneration and turbulent work environments in contrast to the private sector. The “brain drain” may also be a factor (Badat, 2002b). However, despite these weaknesses, South Africa’s national research and innovation system remains the best developed and resourced on the African continent.

Overview and Conclusion

In sum, the higher education system in South Africa has transformed considerably during the first 10 years of democracy, from one of the most unequal and uncoordinated in the world, to the one now operating as a single coordinated system. The South African government has relied on the development of national policies as a basis for transforming the system, but the pattern of development during this period also shows that change is not exclusively driven by the state and national policy. Indeed, it has also been propelled from within the higher education sector (e.g., stakeholders acting to pursue self-interests based on varying interpretations of policy) and by the economy and society (as market forces and shifting social demand for higher education came to bear). While the DOE used its legislative and policy tools to steer the system in the desired direction, the CHE argues against reliance on policy alone. Such an approach would run the risk of succumbing to rationalist assumptions about the efficacy of policy as the principal (and even the sole) driver of change. However, as the CHE rightly suggests, acknowledging the intricacy and uncertainty, change and policy outcomes neither render national policy redundant and ineffectual nor diminish the state’s responsibility for driving equitable and effective change toward stated policy goals (CHE, 2004). This analysis thus offers important implications for understanding the “system,” system change, policy and the policy process, and how these are approached in practice.

An important development in higher education policy during the first decade of democracy in South Africa is that it not only dealt with national policy issues, but also addressed the challenges posed by transnational providers, as exemplified in the registration of private providers and the accreditation of MBA program initiatives. Currently, South Africa is said to be one of the few if not the only country that has developed a comprehensive regulatory framework that is able to deal with the challenges of transnational and cross-border education. This should also be able to assist the country as it develops its policy on the General Agreement on Trade and Services (GATS). The significance of this also lies in the fact that the development of a GATS policy will be based on empirical evidence on the behavior of transnational providers in South Africa.

Notes

1. Stretching latitudinally from 22°S to 35°S and longitudinally from 17°E to 33°E, with a surface area of 1,219,090 km².
2. SA Year Book 2001/02.
3. Statistics South Africa, Digital Census 2001 Atlas. Available at <http://www.statssa.gov.za/census2001/digiAtlas/index.html>.
4. The term black will be used to refer to all the racial groups that were oppressed under apartheid, namely, Indian, colored, and African.
5. South African Universities Vice Chancellors Association (SAUVCA). Available at <http://www.sauvca.org.za/highered/uni/>.
6. Per international norm, this is calculated as the total number of enrolled students divided by the total population in the age range of 20–24 years.
7. This section draws heavily from the paper by Singh and Naidoo, who work for the CHE HEQC and were involved in the accreditation process.

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SPAIN

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Higher education in Spain consists almost exclusively of universities. Currently, there are 70 universities—50 public and 20 private. There are 1.6 million students enrolled, only 8% in private institutions. Formally, all universities have a similar structure and scope as a consequence of rigid state regulation. In principle, all may deliver programs of any level and are engaged in research activities, though in practice there are relevant differences among institutions.

The Spanish higher education system experienced rapid growth in the last three decades, and has transformed into a mass higher education system enrolling a high proportion of secondary school graduates. Very recently, the system has entered a period of enrollment stability due to the nation's overall population decrease. During this period of growth, a complete legal and structural revolution deeply transformed the entire higher education system. This chapter will focus especially on these last decades, the most important in the history of the Spanish universities.

A Brief History

Spanish universities are among the oldest in the world. The University of Salamanca in the Kingdom of Castile and Leon was founded in the earliest years of the 13th century, and the University of Lleida in Catalonia was established in 1300. Universities of that time bear little resemblance to current institutions. They were small institutions focused on fields such as law, philosophy, and theology. Kings and the Church played a relevant role in the functioning of the institutions, though some universities—like the University of Valencia, founded in 1500—was under the tutorage of the city, being the first “citizen university” in Spain.

In the 16th century, 10 of Spain's current universities were already established. In the same century, the first universities in the Spanish American colonies were founded in Santo Domingo, Bolivia, Mexico, and Peru. This situation did not change significantly for almost four centuries. Remarkably, only three of the currently 50 public universities in the country were founded between the 16th century and 1968. Although the Industrial Revolution did not result—as it did in many other countries—in the flourishing

of new institutions, the 19th century was nevertheless a critical era for Spanish universities. At the beginning of the 19th century, liberalism—stemming from the French Revolution—changed the structure of the state. Under the Napoleonic system of higher education adopted by Spain, the universities were organized as state agencies that were totally regulated by laws and norms issued by the state at the national level. Universities had no specific budgets, and expenditures were regulated by the state (down to the smallest detail). Until very recently, academic programs were identical in all institutions—they had the same curricula, and there were no differences even among course syllabi. This strictly regulated higher education system was also an elitist system whose main goal was to prepare the ruling group of the modern state, especially the civil servants. Consequently, Spanish universities had (and to some extent, still have) a strong professional orientation. The teaching process was focused on the transmission of skills essential to the development of professions, many of which were part of the state structure.

Nevertheless, it should be kept in mind that the new liberal state was the shield for all citizens against the aristocratic and ecclesiastic oligarchy in the Ancient Regime. This change brought (though not without fierce resistance and periods of reaction) the concept of the university as an institution of the state, and the state eventually replaced the church as the monopoly of authority (García-Garrido, 1992, p. 664). The state monopoly over higher education originated in Spain, as in other European countries, as a mechanism to protect universities against the social sectors which opposed academic freedom and independence of knowledge. However, in contrast to other countries—where private ownership of the universities was the guarantee of freedom and independence from external powers—in Spain the state became the guarantor of freedom for both teaching and the administration of universities.

Recent Developments

The situation described above began to change during the 1970s, when the system started to shift from elite to mass higher education. Legal changes helped trigger a complete renovation of the higher education system. After the restoration of democracy and the promulgation of the new Constitution in 1978, the transformation of the universities was one of the main political objectives of both academics and political parties. Thus, the first major change in the educational system was the reform of higher education. In 1983, the University Reform Act (*Ley de Reforma Universitaria*, hereafter referred to as LRU) was passed, resulting in a profound transformation in the Spanish higher education system. The LRU formed the basis for emancipating higher education from the control of the state, as occurred in other European countries during this decade (Neave & Van Vught, 1991). The main changes introduced by this act were (García-Garrido, 1992; Mora, 1997a):

- universities became autonomous entities with the capacity to establish their own programs and, to some extent, the curricula;
- professors were no longer part of a national body and began to “belong” to each university;

- responsibility for universities was transferred to regional governments;
- institutions began to receive public appropriations as a lump sum, and to have wide-ranging capabilities in allocating funds internally; and
- private universities could now be established (where before, only Catholic Church universities were allowed).

It is worth mentioning that currently 17 regional governments now have responsibility for their universities in financial and organizational matters. Nevertheless, the Napoleonic tradition of “national diplomas” and civil servant staff has remained, and the central government still has the capacity to establish general rules for curricula and staff salaries or duties (across all public universities), and bears the responsibility of accrediting the study programs.

Another remarkable consequence of the LRU was the strong democratization of the internal structure of universities. The power over crucial decisions was transferred to collegiate bodies, where non-academic staff and students were present in a considerable number (roughly, one-third of the members). The University Senate had considerable power, including the election of the rector (president). Boards with large numbers of members made the decisions on faculties and departments and elected deans and heads of departments. The Social Council (patterned after boards of trustees in American universities) was also established as an external body representing the wide interests of society in the university. However, the real influence of this body is quite small.

In the dawn of the new millennium, Spanish universities face a new operating environment, involving:

- a new legal framework, which was drawn up by the central government towards the end of 2001 (*Ley de Ordenación Universitaria*, hereafter referred to as LOU);
- the agreement among all European governments for transforming the structure of higher education in European countries (the Bologna Declaration); and
- the decreasing number of students as a consequence of the dramatic decline in the nation’s birth rate.

The LOU made only small changes to the legal structure of higher education. Among the most noteworthy features of the act were: (a) the incorporation of some lay persons in the running of a university (always a minority group); (b) election of the rector by direct vote (as opposed to an indirect vote by the senate); (c) an increase in the representation of tenured professors in the collegial bodies; (d) a requirement that academic staff must obtain national accreditation before being appointed by universities; and (e) the obligatory *post hoc* accreditation of study programs by the new National Agency for Quality Assessment and Accreditation.

In general, the act gives universities and autonomous regions more independence to organize themselves as they wish. This is a positive feature because it allows both universities and regions to change their own legal regulations and adapt them to the new political, social, and economic environment. This will allow the differentiation and improvement of those universities which fulfill two conditions: their heads must be interested in promoting change, and they must be located in an autonomous region whose leaders are also concerned about the competitiveness of their universities. While

it is still too soon to comment on initial results, it can already be seen that some regions are doing more than others on this front.

Curricular Structure

There are four basic types of university programs: short-cycle programs, which are more vocationally oriented and run 3 years; long-cycle programs, which last 5 or 6 years; second-cycle programs, which last 2 years (a first program is required); and doctoral programs, which add two more years of course work and require the preparation of a research-oriented thesis after a long-cycle degree. Doctoral programs are pursued primarily by students interested in an academic career. Generally speaking, people with greater economic resources or intellectual capabilities traditionally have preferred long-cycle university programs.

The Bologna Declaration, which is to be implemented in Spain within the next several years, established a cyclic structure that will change the current model in next years. Nevertheless, because the Spanish system was already partially cyclic, this reform will not result in as much of a dramatic structural change as in other European systems. The main change will be the split of the traditional long-cycle programs into two consecutive cycles.

More important than structural changes are the changes that have been developed in curricular content and in approaches to teaching and learning—in both cases with the intention of achieving real improvement. Traditionally, courses in Spain have been strongly based on theoretical knowledge, to the detriment of practical, methodological or other formative aspects. Adaptability to society's needs, to students' curricular demands and to the variability of labor market demands substantial reform in the curriculum.

A process of reform began during the late 1980s, when basic national criteria for new curricula were established. The aim of the curricular reform was to adapt the system to the new operating environment, introducing a new teaching and learning style which was to be more focused on practical lectures and tutorials, more flexible and more suited to social needs. Consequently, the new curricula have a modular structure, courses are mostly delivered in semesters, the proportion of optional courses has increased and practical content has been extended in every course.

Each university established *ad hoc* committees to develop these guidelines for each of their degree programs. However, conflict often arose within these committees between what was in the interest of academics (e.g., keeping and developing courses related to their field of expertise, personal interests, or merely their routines) and the necessity to adapt curricula to new requirements. In most cases, academics eventually imposed their own interests. In addition, when the new curricula started to be implemented, most academics did not fully realize that the old model of teaching and learning was obsolete, and they viewed the reform as a mere re-organization of old programs. The result of this process is that new curricula are better than the old ones, but are still far from meeting the new demands of the knowledge society.

After the relative failure to implement the new syllabi—as a result of the academic staff's refusal to take the aims of the reform to heart—adaptation to the new European

common space for higher education is considered to be an excellent opportunity to point the system in the right direction. This is probably the most important challenge that Spanish higher education must face in the next several years. A positive result in this endeavor will make a tremendous difference for the future.

Higher Education Demand

The real growth of Spain's higher education system began in the early 1960s. Throughout that decade, the number of students doubled; it doubled again within the next 12 years, and once again before 1995. During the mid-1990s, enrollment increases stopped abruptly, and in the last decade the number of students has stabilized at around 1.6 million. This stability is largely the consequence of the dramatic and continuous decrease in Spain's birth rate since 1975, which has only recently stabilized at a very low level. Thus, while the number of students enrolled has stabilized, the participation rate in the higher education system has increased considerably. It can be estimated that roughly 60% of the nation's secondary education graduates are now entering higher education.

In 1970, the proportion of women among all higher education students was just 26%, but by 1986 the proportion had reached 50% and continued increasing throughout the following years, now holding steady at around 54%. Women's access to higher education is particularly high in fields such as health sciences (especially in short-cycle programs), social sciences, and humanities.

By fields of study, social sciences (where economics and business are the most popular disciplines) and law currently account for half of Spain's university students. Traditionally, engineering has been in high demand, but the number of places offered has been scarce and the level of difficulty for students very high. Recently, the establishment of new programs—especially short-cycle programs—and the increasing participation of women have increased the share of engineering students to 25%.

Access to higher education is quite open. After finishing academic secondary education, students must pass an entrance exam if they wish to enter long-cycle university programs. The main goal of this entrance exam is to control standards of educational achievement in the secondary schools, public and private. This exam is organized by the universities at the regional level. After passing the entrance exam, students are allowed to apply for any university program, generally at a university in the same region. Students who pass the exam receive a total score (selectivity score) that is used to assign students to programs depending on their preferences and the availability of places.

To have a more accurate portrait of the Spanish university system, it is important to note that students spend considerably more time finishing their degree programs than formally required. Therefore, the yearly number of graduates is low when compared to the large number of people enrolled at the universities. This low percentage is explained by the high number of dropouts and students who fall behind in their studies.

It is surprising that the remarkable growth of higher education in Spain has never been accompanied by any explicit governmental statement recommending or supporting access to higher education. Moreover, it seems that most people in political and academic spheres have considered the growing number of students in universities as

something undesirable but inevitable. Nevertheless, central and regional governments have implemented *de facto* policies to satisfy the strong demand for higher education. The growth of higher education has clearly been a demand-driven process. The supply of places and the resources committed to universities have increased dramatically, though always with some lag behind increases in demand, and usually with a lack of planning. This growth in resources has been especially remarkable since 1984, when the autonomous regions started the process of taking over universities and the “political value” of universities thus increased.

Financial Resources

In 1985, the total funding for higher education was only 0.54% of GDP, and in 2000 reached 1.2% of GDP (OECD, 2003). However, while this represents an important increase in resources made available to the universities, there are special features that should be clarified to understand how this amount of money is distributed. First, there is a relative importance placed on resources set aside to fund new infrastructure. During the 1990s, greater efforts were made to invest in the higher education system in order to solve one of its key problems: the shortage of buildings and equipment. As an example, in 2000, Spain assigned 20.6% of total spending to capital investment (compared to the OECD average of just 11.6%).

Second, most of the current expenditures in Spanish higher education institutions pay for staff. As mentioned previously, this is one aspect of expenditure which universities have little control over, since salaries are set by the central government and, to a lesser extent, by regional governments. This is an important characteristic because it means that only a small percentage of current resources are set aside for expenses other than staff—in particular, funds to purchase goods and services which allow universities to develop quality policies.

Third, the role of private sector funding for higher education increased during the 1990s. In 1991, approximately 20% of university funding came from the private sector; by 1999, this had increased to 25.8%. From a comparative perspective, it is important to mention that during this period of growth in Spain, private funding in other EU countries decreased. Whereas in 1995 the average private sector funding in EU countries was 15.6% of total expenditures, in 1999 this figure had fallen to 13.8%. Finally, an important (and controversial) feature of higher education funding in Spain involves the lack of resources set aside to provide financial aid to students—in 1999, only 0.08% of the GDP was allocated for student grant expenditures.

The Academic Staff

The LRU brought significant changes for Spain’s academic staff (Mora, 2001). The main structural changes were as follows:

- departments, with several professors working together and sharing teaching and research activities, replaced the former system of individual chairs;

- professors became members of a university, and could only move to other institutions by open competition; and
- academic staff salaries were increased, making an academic career more attractive from an economic point of view.

The current structure of academic staff in Spain was also deeply shaped by the legal changes implemented during the 1980s. Their effects amounted to that of an earthquake shaking the traditional structure of Spanish universities. The hierarchical system, based on the individual power of the chair-holder, and the excessive influence of the national guild of chair-holders collapsed. The old academics claim that the profession has lost prestige and social recognition. This is probably true, but it is mostly due to the simple fact that the number of professors has grown enormously as a result of the move towards a mass higher education system.

Nevertheless, the LRU did not change the legal status of the academics. Academics in tenured positions (around 70% of the total) are still civil servants and members of national bodies. There is thus a deep contradiction between the status of academics and the autonomy of universities. Personnel matters are a perfect example of the conflicts that result from this dilemma. On one hand, the central government decides on general personnel policies (basic structure, workload, and salaries), while regional governments are responsible for financing universities and, indirectly, for the payroll in public universities. Yet academics are mostly civil servants, with salaries and working conditions defined by the central government. In addition, universities can establish their own personnel policies, such as the number of staff in each category or the actual workload of personnel. In fact, decisions are made in universities by the staff through their collegiate boards. Eventually, decisions on staff numbers (made by universities) and decisions on salaries (made by the central government) have direct implications on the costs that regional governments must meet. It is obvious that such a complex, four-level structure of decision making on university personnel issues is inevitably a permanent source of conflict and discord. Fortunately, though these conflicts are permanent, they are less virulent than one may expect of such a potentially conflictive structure. As expected, the recently enacted LOU has maintained the same civil servant structure, although it allows regional governments to create new positions for professors without civil servant status.

Quality Assurance and Accreditation

Generalized assessment of individuals and institutions began in the early 1990s. Teaching and research activities of academics are now evaluated on a regular basis, while promotion and some salary increases depend on the results of these assessments (Mora, 2001). Nevertheless, several years passed before this principle started to be implemented in study programs. In 1993, the “Experimental Program for Assessment of the Quality in the University System” was launched. This program evaluated teaching, research, and institutional management in several universities. As an experimental project, the primary purpose was to try various methods and make proposals for change based on the experiences gained (Mora, 1997b).

After these pilot projects, the Council of Universities established the National Program for Assessment of Quality in Universities in 1995 (Mora & Vidal, 1998) with the aim of introducing a systematic assessment of universities. This program fueled the spread of a culture of quality among the Spanish universities. After only a few years, Spanish universities have established new offices to support quality assurance programs, and thousands of people are participating in self-assessment activities and external visits around the country.

The LOU established that programs must undergo assessment, certification, and accreditation. The management of quality assurance may be carried out by the newly created National Agency for Quality Assessment and Accreditation (ANECA) or by regional agencies in their own territories. The LOU also obliges study programs to undergo a process of accreditation in order for their degrees to be considered as official qualifications. This represents an important innovation in regulating the Spanish higher education system. Previous requirements have always had to be met in order to obtain official approval, but no further checks were made afterwards. The accreditation of study programs is currently in an experimental design phase, and it will be at least several years before it is introduced.

A Last Challenge: University Governance

As mentioned earlier, a consequence of the LRU was the strong democratization of the internal structure of universities. At that moment, after leaving behind nearly a half-century of political dictatorship, those developments were considered a positive and necessary move for everybody. In terms of governance, the main responsibility for managing institutions lies among the academics. Although some institutions hire professional managers for some managerial positions, they are always in dependent positions, while most of the decision-making power lies in the hands of academics who are temporarily occupying a managerial post. Unfortunately, there is no evidence that academics have enough knowledge or training to be effective as university managers. On the contrary, in general they have no experience in the management of any type of big organization. The results are normally far from being a model of good practice.

The move from direct state intervention to institutional autonomy should be accompanied by other mechanisms, such as competitiveness (for students, staff, funds and reputation), diversification of resources, and increasing client power and social responsibility of institutions. These trends have not been sufficiently followed in Spanish universities for several reasons, including: (a) the lack of a tradition of serving the community—coming from a bureaucratic model, universities and staff (mostly civil servants) consider themselves more as belonging to a branch of the public administration than as part of an institution at the service of the community; and (b) the lack of governmental policies on higher education—regional governments, with few exceptions, have not been able to define policies for higher education, establish goals for public institutions, or require universities to achieve some objectives.

By the end of the 1990s, all academic analysts and political parties were aware of the need for changes in the legal structure of higher education, in the sense of introducing a more professional governance style. Nevertheless, the new LOU made only slight

changes in the legal structure of universities, as we mentioned before. Although these were not major changes, they were not at all well received by most university and student leaders, who considered these measures to be an attack on university autonomy and university democracy. However, the act altered such minor aspects of the system—and the reforms had such a lack of ambition—that it did not attract the support of those parties most interested in change. The act was eventually passed, but all the experts agree that it does not reach far enough. The overall impression is that it will make very little difference to the Spanish higher education system.

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TURKEY

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The world's higher education systems are in the process of a profound transformation. While to varying degrees the general pattern of trends and developments is the same for both developed and developing countries, this profound transformation has become more challenging for the higher education systems of the developing world. In particular, many new forms of inequalities seem to separate the richer nations of the North from the poorer nations of the South, where educational systems—including higher education—are paralyzed by the demands of local and national needs, such as increasing population rates (accompanied by pressures for greater access to basic and further education) and by the demands of a globally competitive environment.

“Any discussion of globalization cannot avoid the deep inequalities that are part of the world system of higher education. Globalization has added a new dimension to existing disparities in higher education” (Altbach, 2004, p. 6). The Turkish higher education system is no exception. With a population of 70 million, approximately half of it being under the age of 20, the entire education system is beset by a complex array of issues and constraints, the most fundamental one being the need to address a growing demand for educational opportunities of all kinds. Higher education is one of the most pressing educational issues. In 2004, 1.7 million students took the centrally administered University Entrance Examination, but only about 15–20% of them will be placed in a 4-year degree program (excluding the nonformal/distance higher education sector, which is largely seen as being of low quality and is not demanded much by many able students).

The purpose of this chapter is to provide an overview of the current status of Turkish higher education. The following section will briefly introduce the reader to a short history of the Turkish higher education system by emphasizing key turning points in its evolutionary pattern. Following the history section, key issues, constraints, dilemmas, and opportunities for the current Turkish higher education system will be addressed.

Turkish Higher Education System: A Brief History

According to Guruz, Suhubi, Sengor, Turker, and Yurtsever (1994, p. 151), when the Turkish Republic was founded in 1923, the Turkish higher education system and its

institutions (except the Istanbul Technical University) had not evolved naturally from their antecedent institutional conditions as a result of experiences and sometimes struggles for over hundreds of years. Many institutions were merely transplanted from the European system by the Revolution's reformist leaders.

The Period of Forming (1773–1946)

Observers of Turkish history do not see a deep tradition of higher education in the Ottoman Empire. The madrasa (Islamic boarding school) equivalent of the Western medieval university was first founded by Seljuk Turks in Baghdad in the 11th century. It later served the Turkish Empire (the Ottomans) in the form of learning and interpretation of knowledge in the fields of religion, canon law, rhetoric, philosophy, mathematics, astronomy, and medicine. Contrary to their counterparts in the Western world, the madrasas later became the primary sources of resistance to change and modernization (Council of Higher Education, 2004a, p. 1).

The first higher education establishment of the Western tradition was founded in 1773 as a military institution in engineering for the Navy (the Imperial Naval Engineering College) right after the defeat of the Ottoman Navy by the Russians. "Subsequently, in 1795, the Imperial Military Engineering College was opened. These two institutions represent the first diversion from the traditional education of the madrasas, and were later merged to form the roots of today's Istanbul Technical University" (Council of Higher Education, 2004a, p. 1). Considering the fact that prototypes of modern European higher education institutions were founded in the 11th and 12th centuries (University of Bologna in 1088 and University of Paris in 1160), the foundation years of these two establishments indicate that Ottomans lagged 700 years behind Europe in creating the prototype of a modern university (Guruz *et al.*, 1994, p. 151).

Numerous attempts were made to establish other institutions of higher education between 1827 and 1900. The Imperial Medical College was founded in 1827, followed by the establishment of the Imperial Military College in 1834. The Ottoman University (its original name being the Ottoman House of Sciences) was founded in 1900, containing programs in law, medicine, religion, literature, and biology. The decision to establish it was actually made in 1846; after 17 years of preparation, it was inaugurated in 1863, but was closed down twice because of resistance mainly from the teachers of madrasas, which by that time had become the bastions of reactionary activities and antimodernist movements (Council of Higher Education, 2004a, pp. 2–3). The institution was firmly reestablished in 1900 and, after the Revolution of 1923, was reorganized under the name of Istanbul University.

Under the French influence, several other state institutions—similar to the *grandes écoles* of France—were founded toward the end of the 19th century: the School of Public Administration (1877), the School of Law (1878), and the Higher School of Commerce (1882). These institutions formed the roots of some of today's universities, such as Istanbul Technical University, Marmara University, Mimar Sinan University, and Yildiz Technical University in Istanbul (Council of Higher Education, 2004a, p. 2). Reflecting a separate influential model, Robert College was founded by the American missionary Cyrus Hamlin in 1863 in Istanbul. It was first opened as a liberal arts college

under the ordinance of the State of New York. In 1912, engineering departments were added to the College's academic programs. On the original campus of Robert College, Bosphorus University was founded in 1971.

As Guruz *et al.* (1994) note, it is proper to mark the emergence of the modern Turkish higher education system with the Independence War that took place between 1919 and 1923, and particularly by the proclamation of the Turkish Republic on October 29, 1923. Until this date, all higher education establishments were located in Istanbul, and there was no single higher education institution in the rest of the country. After Atatürk (the war hero and the first president) designated Ankara as the Capital City of the Republic, the School of Law (now Faculty of Law under Ankara University), Gazi Institute of Education (now Faculty of Education under Gazi University), and School of Agriculture (now Faculty of Agriculture under Ankara University) were established in 1924, 1926, and 1930, respectively.

A Swiss professor, Albert Malche, was invited to Turkey to evaluate the status of Istanbul University in 1932. The reform efforts of the government, based on Professor Malche's report, marked an important turning point in the Turkish higher education system. Professor Malche raised the need for a body that would be responsible for the university, as well as pointing out that the university was distant and isolated from the society. Following the evaluation of this report, Law 2252 was legislated in the parliament in 1933 to reform the higher education system in a number of ways: organization and administration, teaching, research, academic programs, and operations. Some new terms such as "rector" (president), "dean," and "faculty" were used for the first time (Kisakurek, 1976, pp. 18–19). "The 1933 reform is indeed the beginning of the history of the modern university in Turkey" (Guruz *et al.*, 1994, p. 153).

Between 1933 and 1946, three new faculties were founded in Ankara, namely the faculty of Language, History, and Geography (1937), faculty of Science (1943), and faculty of Medicine (1945). Between 1923 and 1946 (that is, during the forming years), there was a clear and significant impact of the Continental European model of higher education systems, mainly French and German, on Turkish higher education.

The Period of Normalization (1946–1973)

The year 1946 is considered another turning point in the history of Turkish higher education. Law 4936 was enacted in 1946, granting universities autonomy in governance and giving them the authority to elect rectors and deans. After the 1950 elections, the Democratic Party came to power in the Turkish government. Contrary to the more welfare-oriented policies of the People's Republican Party, the Democratic Party followed a host of relatively more market-oriented economic policies. After World War II, Turkey had to make a choice between the path of establishing a strong alliance with the West or to deal with Stalin's threats alone from the North. Turkey preferred the Western, chiefly American alliance and was admitted to NATO in 1950. With the accession of the Democratic Party to power, Turkish higher education fell under a clear influence of the American higher education model, leaving the Continental model aside.

The new government opened four new universities after the American Land Grant model, with the belief that high-quality technical personnel needed by the Turkish

economy would be better educated within the framework of this model. These universities—Egean University (1955), Black Sea Technical University (1955), Middle East Technical University (1956), and Ataturk University (1957)—were designed to be campus universities. However, except for the Middle East Technical University, these later evolved much like other typical Turkish universities—being placed under the governance of the Ministry of Education and being supervised and sponsored in the foundation years by the academic personnel of Istanbul and Ankara Universities, which were traditional and conservative. Only the Middle East Technical University has successfully evolved consistent with the original idea, and it is now one of the several prestigious universities in the country (Council of Higher Education, 1996a,b, p. 3). Until 1976, it was governed by a board of trustees.

Following the fall from power of the Democrats in 1960, a new constitution was prepared in which university autonomy was effectively defined as the right of faculty members to elect rectors and deans (Council of Higher Education, 2004a, p. 5). In 1967, Hacettepe University in Ankara was founded as a hybrid model “between the Anglo-American model of the Middle East Technical University and the Continental European model of the other state universities” (Council of Higher Education, 2004a, p. 6).

In order to avoid uncoordinated and unplanned growth, Law 1750 was legislated in 1973, which established the Council of Higher Education to coordinate and plan the higher education system. The law did not say anything about funding and internal administrative structures of universities, which were largely old and archaic. In this sense, its primary concern was the regulation of the higher education system in terms of administration, coordination, control, and planning at the national level.

The Period of Unregulated Growth, Tumult, and Chaos (1973–1981)

Although the Law 1750 was initially put in effect to coordinate and regulate the higher education system, efforts were not successful for various reasons. The Council of Higher Education as a coordinating board was seen as a threat to academic freedom by faculty and was strongly resisted. On the other hand, “because the Council of Higher Education was chaired by the Minister of National Education and included lay members, it was soon found unconstitutional by the Supreme Constitutional Court, on the grounds that the presence of such members violated university autonomy” (Council of Higher Education, 2004a, p. 6).

Between 1973 and 1981, the system continued its unplanned growth. For example, 10 new universities were opened outside of three big metropolitan cities (Istanbul, Ankara, and Izmir). At this point in time, each university was administering its own admissions procedures. The increased number of universities in different provinces of the country as well as variations in admissions criteria and procedures became a serious problem for students. They had to travel from university to university, and from province to province to apply for admission and examinations. To solve this, a Student Selection and Placement Center was established in 1974.

Over the years, this uncontrolled growth created a serious problem for the higher education system, containing various kinds of institutions of higher learning with different

goals, durations, and status. Four major categories of institutions were observed in this period (Guruz *et al.*, 1994, p. 156):

1. 4-year undergraduate programs provided by faculties in universities;
2. 4-year undergraduate programs provided by Academies of Engineering and Architecture, Academies of Economics and Commerce, and Academies of Art (these were independent establishments which had no relation with universities);
3. 2-year higher vocational institutions and 4-year academies of sports, supervised by various ministries and by the Ministry of Education; and
4. 3-year teacher-training institutions run by the Ministry of Education.

This was apparently a confusing picture of the higher education system, suggesting the need to regulate and consolidate the system; this was how the 1981 reorganization came into effect.

The Period of Regulation and Consolidation (1981–1997)

Turgut Ozal came to power in 1983, following two years of military rule. He was quick and successful in implementing his right wing, new liberal policies—especially focusing on the economy, banking, telecommunications, transportation, and other sectors. Within less than a decade, the face of the country had dramatically changed (to the surprise of many foreign agencies and individuals). However, despite this national transformation (and in contrast to his counterparts in other nations), education and higher education had never been a priority in his reform agenda, with the exception of several loan agreements with the World Bank concerning tertiary education and the establishment of the Council of Higher Education to coordinate activities of higher education institutions in the country.

During the 1980–1981 academic year, only 5.9% of the relevant cohort age were enrolled in higher education—far behind many developing countries. For example, the higher education enrollment rate was 37.7% in South Korea, 27.0% in Greece, and 17.8% in Syria in the same year.

On the other hand, only 17 of every 100 university students were able to complete their university education, with large proportions of students dropping out throughout each academic year. It was thus widely recognized that universities were not being used to their full capacity. Further, there was a seriously unequal distribution of academic staff among the universities, and they were functioning without any clear visions for the future needs of the country, as well as being detached from each other (Council of Higher Education, 1991, p. 1). The need was clear and strong. Reform initiatives which had been blocked earlier by faculty under the guise of academic freedom and autonomy had a stronger chance of success this time because of the 1980 military takeover. In 1981, the Higher Education Law 2547 was put into effect.

The Higher Education Law 2547 was considered one of the most comprehensive higher education provisions since the 1933 reform. The Law 2547 related to many domains of higher education, such as revitalizing the Council of Higher Education as an intermediary body to regulate and coordinate the system; creating some new concepts such as graduate schools, a department-based academic organization, and academic

promotions based on research and international publication; allowing nonprofit foundations to establish higher education institutions as well as making some structural changes, such as the consolidation of 166 different higher education establishments under nine new universities; and making teacher-training institutions 4-year faculties under universities.

With the reform, a unified system of higher education was introduced and a coherent and interrelated pattern of institutional diversity created. All the academies, teacher training institutes and vocational schools were reorganized; while some of them were, where viable and convenient, amalgamated to form new universities, some were transformed into new faculties and affiliated to the universities in their own regions. Thus, with the establishment of nine more state universities in 1982 and one foundation university in 1984, the total number of universities rose from 19 to 28. In 1992, 24 new state universities were established in different regions of the country (Council of Higher Education, 1996b, p. 2).

By 1998, the total number of universities was 68, of which 11 were private (or more accurately called “foundation”) universities. Within a decade—from 1981 to 1991—the number of students enrolled in 4-year university programs increased fivefold, from 41,574 to 199,571. Participation rates increased from 5.9% to 9.6% of the relevant age group. The number of teaching staff increased by 65%, from 20,917 to 34,469, and the number of assistant, associate, and full professors increased by 126%, from 4,905 to 11,070. At the same time, the reform positively impacted the quality of higher education in terms of the number of students per teaching staff and the graduation rate. The number of students per teaching staff was 84 in 1978, 46 in 1981, and (despite a substantial increase in enrollment) dropped to 39 in 1991. Meanwhile, the graduation rate increased from 50% to 80% in science and engineering, and from 70% to 90% in health sciences.

The Period of Expansion of the Private Sector and a Political Siege of the Universities (1998–Present)

The expansion of the system has continued since 1998, this time in the private sector. Between 1998 and 2004, 16 new universities have been founded by nonprofit foundations in different parts of the country, 13 of which are in Istanbul alone. The Turkish higher education system currently comprises 53 state and 23 private universities. Two of the state universities are entirely English medium (the Middle East Technical University in Ankara and the Bosphorus University in Istanbul), and one is French medium (Galatasaray University in Istanbul). Virtually all (22 of 23) privately founded universities are English medium and one is German medium (Council of Higher Education, 2004c, p. 1).

Besides these numerical indicators of expansion, higher education has been in the spotlight of the public and politics since the elections of November 2002. With the accession to power of the Justice and Development Party (the majority in parliament), the Turkish higher education system, and (as its apex organ) the Council of Higher

Education, are under fire. The Islamic background of the party founders and extremist factions within the party declared an open hostility toward the bastions of modernism and secularism, the university, and the Council of Higher Education. The roots of this animosity date back about a decade, during which (through the strong leadership of the Council of Higher Education) university presidents and administrators became staunch supporters of the Republic's secularist ideals, refusing to allow the use of religious symbols such as headscarves within the university campuses and curbing the admission of secondary Imam and Preach School graduates into regular 4-year university programs other than the Faculties of Theology. The government has recently passed a law that allows the Imam and Preach School graduates into any university program as well as changing the structure of the Council of Higher Education in order, as many critics proclaim, to ease political intrusions into the decision-making processes and procedures. Turkish universities are all now on guard to defend their autonomy and to protect the secularist ideals of Kemal Ataturk, the founder of the modern Turkish Republic. As a result of a strong, organized reactionary campaign by NGOs, business and media—led by very prominent universities of the country—the government has recently been forced to move the issue to the backburner, “to be reconsidered again at an unknown date in the future,” as the Prime Minister declared.

System Review

Overall System Characteristics

Higher education is defined as all postsecondary programs with a duration of at least two years. The system consists of universities (53 state and 23 foundation) and nonuniversity institutions of higher education (police and military academies and colleges). Each university consists of faculties and 4-year schools, offering bachelor's level programs, the latter with a vocational emphasis, and 2-year vocational schools offering prebachelor's (associate's) level programs of a strictly vocational nature. Anadolu University in Eskisehir offers 2- and 4-year programs through distance education. (As will be discussed later, Turkish higher education comprises one of the largest distance/nonformal education systems in the world.) The diversity of postsecondary programs is striking: there are presently 2,835 bachelor's programs (of 468 different types), and 3,336 prebachelor's programs (of 267 different types) operating in Turkish universities (Council of Higher Education, 2004c, p. 1).

Access

Admission to higher education in Turkey is centralized and based on a nationwide single-stage examination administered by the Student Selection and Placement Center (OSYM) every year (Council of Higher Education, 2004c, p. 1). Although the Turkish higher education system has achieved an impressive expansion in enrollment, there is still an increasing demand for higher education. Within roughly two decades—from 1983 to 2002—the number of applicants for higher education increased from 361,158 to 1,823,099. This figure shows that the total number of university applicants has

increased almost five times. On the other hand, the number of students enrolled in higher education programs increased from 105,246 to 614,125 between 1983 and 2002 (328,730 students were placed in 4- and 2-year programs, and 285,395 were placed in the Faculty of Distance Education at Anadolu University). From these numbers, the admissions rate in the year 2002 was 33.8% for the entire higher education system, including the distance programs (Council of Higher Education, 2003, pp. 32–33). The ratio of total applicants to the ones admitted to formal, day programs is 18%, the remaining 15% being in the nonformal, distance education programs.

According to the population estimates prepared by the State Institute of Statistics and the Ministry of National Education, the 18–21 age cohort tended to decline between 1995 and 2000, but has shown an increase since then. According to the estimates, there will be 4,194,143 students at the secondary education level (who will be seeking higher education opportunities after graduation). The secondary education schooling rate was 32% in 1986, 37% in 1991, 57% in 1999, but will be estimated to be 80% in 2006. In 2006, there will be about two million secondary education graduates who will be seeking admission to university programs (Council of Higher Education, 2003, p. 30). This means that the expansion pressure for the Turkish higher education system will continue in the coming years.

Although the private/foundation higher education sector has shown a phenomenal growth in the last decade, the enrollment capacity created by these institutions was only about 7% in 2002 (with 23,281 students enrolled in private university programs) (Council of Higher Education, 2003, p. 34). In the near future, this sector is not expected to hold more than 10% of total higher education enrollments. Because of this, the pressure will still be felt to a great extent by state universities.

There are four possible ways to address the increasing demand for access to higher education: increasing the number of higher education institutions, including in the private sector; enlarging the capacity of current higher education institutions; increasing the capacity of nonformal and distance education; and increasing the number of 2-year programs, including 2-year postsecondary vocational and technical schools.

Concerning the creation of new universities, the number of institutions in Turkey increased from 28 to 76 (including the private sector) from 1984 to 2003. Establishing new universities has far from remedied the problem because, according to Dunder and Lewis (1996), “supply side policies” have inherent problems; in particular, they cause internal inefficiencies because most of the newly established universities in the country have higher costs of instruction as well as higher unit costs per student than the older universities.

Regarding the capacity increase in current higher education institutions, Guruz *et al.* (1994, p. 168) reported a decade ago that “the Turkish higher education system has already exceeded the optimal capacity at the four-year, undergraduate level.” As will be discussed later in this chapter, many university programs in the state higher education sector are seriously understaffed. That is, any further push for capacity increase in formal higher education will, no doubt, damage quality. On the other hand, diversifying higher education by increasing the share of private and nongovernmental institutions should be seriously considered. Today, the share of these institutions in the total higher education enrollment is about 7%. However, since these institutions currently aspire

to play an elite role, a sudden jump in their enrollment scheme is not expected in the foreseeable future. So, the burden for capacity increase will substantially remain on the public higher education system in the near future.

Expanding the capacity of nonformal/distance education can be another alternative for increasing enrollment in higher education. Nonformal education has grown phenomenally since the 1981 reform. For example, from 1983 to 1993 the number of students admitted to higher education programs increased from 105,246 to 324,402, and the proportion enrolling in nonformal education during this period jumped from 14.2% to 47.8%. However, while 285,395 students registered in nonformal education programs in 2002, the demand for nonformal/distance education programs has declined steadily over the last decade. Moreover, the proportion of nonformal education in postsecondary enrollment has always been very high in Turkey, by global comparison ranking second only behind Thailand (Council of Higher Education, 1996a, p. 21; Guruz *et al.*, 1994, p. 168). In this sense, the likely advantages of further increasing the enrollment in nonformal education are slim, particularly considering the fact that demand for nonformal education is in decline.

The last alternative to be explored for enlarging the capacity of Turkish higher education is to increase the number of 2-year postsecondary vocational and technical schools. The number of students attending 2-year vocational-technical postsecondary institutions was 126,347 in the 1995–1996 academic year. This sector's share of the country's total higher education enrollment is 15%, which is one of the lowest compared to other comparable national systems. For example, this ratio is 22% in South Korea and 63% in Singapore (Council of Higher Education, 1996a, pp. 20–21). Many observers of Turkish higher education generally agree that a substantial increase in the share of the 2-year vocational and technical postsecondary enrollment is the only viable solution to expand the capacity in formal higher education (Dundar & Lewis, 1996; Guruz *et al.*, 1994). Indeed, when the Council of Higher Education removed the exam barrier for students who wish to continue their education at a 2-year vocational school, the enrollment rate increased by 127% in 2002—approximately 145,330 students enrolled in these schools without experiencing any exam trauma. This trend should continue, considering the fact that there is still a great potential of growth for the share of this sector in the higher education system.

Governance

Organizationally, at the top of the Turkish higher education hierarchy resides the Council of Higher Education—a corporate public body of 22 members responsible for the planning, coordination, and supervision of higher education within the provisions set forth in Higher Education Law 2547 (Council of Higher Education, 2004b, p. 1). The Higher Education Council's General Assembly is the main policymaking body, led by an Executive Committee of nine members (elected by the Council and appointed by the President of the Republic). This committee ensures the execution of policies adopted, carrying out day-to-day functions, and the implementation of resolutions passed by the General Assembly. Moreover, in order to maintain close cooperation and collaboration with the universities, an Interuniversity Council and a Rectors' Committee contribute

to the coordination and planning of higher education policies. “The Interuniversity Council is an academic advisory body, comprising the rectors of all universities and one member elected by the senate of each university. The Minister of National Education represents higher education in the Parliament and can chair the meetings of the Council, but has no vote. Neither decisions of the Council nor those of the universities are subject to ratification by the Ministry” (Council of Higher Education, 2004b, p. 1).

Appointment to executive positions in the Turkish higher education system (such as rectors, deans, and chairpersons) involves a mix of the Continental European model of collegiality (based on elections) and the Anglo-American tradition of appointment. For a presidency, six names are identified through a general election within each university by the faculty members who are above the rank of assistant professor (assistant, associate, and full professors). The names are presented to the Council of Higher Education, who reduces the list to three and is free to re-rank the candidates independent from the votes they received from their university faculty. The Council presents this three-name list to the President of the country, and the President is free to appoint any of these three candidates independent from the ranking of the Council.

Deans are appointed by the Council of Higher Education. An election is held in each college (faculty), and the three names who received the highest votes from the faculty are presented to the Rector. The Rector is free to re-rank the candidates independent from the votes they received from the faculty. The appointment is finalized by the Council of Higher Education.

Department chairs are appointed by deans and approved by the president of the university. Although there is no such rule in the Law 2547, generally a voting process takes place in the department and the process is finalized by the dean and the rector, respectively.

The overall organizational and governance pattern of Turkish higher education has evolved since the 1960 Constitution, when a purely collegial approach was the accepted norm for universities and the appointment of rectors and deans was carried out through elections. Some call this organizational pattern “an academic oligarchy” (Clark, 1983). For decades, and especially between 1973 and 1980, Turkish universities did not respond effectively to changes in the society, becoming highly inert, introverted, and isolated. The 1981 reform accepted the principle of appointment of rectors and deans rather than elections. However, through an amendment to the Law 2547 in 1992, election was formally established as the initial stage of appointment.

As will be discussed later in this chapter, the financing pattern of higher education involves heavy state involvement in institutional and college level operations. This, in turn, explains another aspect of Turkish higher education—overt domination by state authority, or what Clark (1983) described as the “bureaucratic model.” In general, Turkish higher education can thus be described as a system which is framed by both state authority and academic oligarchy (Guruz *et al.*, 1994). However, drawing on Clark’s “coordination triangle” (through which a third dimension of activity is tied to the market or society, creating what he called an “entrepreneurial university”), a number of observers have proposed that the direction in which the Turkish higher education system has to move is the market or an entrepreneurial university model.

There are examples of this trend among other higher education systems; indeed, many national higher education systems which were traditionally dominated by both state authority and academic oligarchy (such as in France, Sweden, Austria, and Italy) have developed reforms in the areas of decentralization and institutional diversification, to make their university systems more aligned with market forces. There are several points that almost all similar reform initiatives uniformly accept. First, primarily through flexible funding patterns, universities are given more autonomy in institutional and financial operations. Second, while shifting a great deal of decision making to institutional levels, intermediary bodies are created to make the institutions more accountable to the society by various forms of coordination, supervision, planning, and control. Third, to weaken the classical public dominance in higher education (which has led to inefficiencies), institutional diversification is strongly sought either through privatization or permitting the private and nongovernmental institutions to enter into the higher education sector.

All three of these provisions are being seriously considered in Turkey today. First, there are legislative proposals to make Turkish higher education institutions more autonomous in spending the appropriated public funds as well as to have them diversify their income sources. Second, the Council of Higher Education will function as an intermediary body to develop performance and accountability measures and to oversee the system based on social priorities. This requires redefinition of the role of the Council of Higher Education, which is currently distracted by unnecessary bureaucratic matters. Third, institutional diversification has also been on the rise, making the total number of private/foundation universities 23 and enlarging their portion of enrollment rate from 1.7% in the early 1990s to 7% in 2003 (Council of Higher Education, 2003, p. 34).

Finance

In Turkey, the major source of income for public universities is state funds. Universities prepare their annual budget for the coming year, which is presented to the Council of Higher Education. These budget requests are consolidated by the Council and sent to the Ministry of Education. The Minister defends these budget requests in the Parliament as a component of all education appropriations.

Turkey is one of the few OECD countries that allocates less than 5% of GNP for education (others include Italy, Japan, Argentina, India, and Greece). The OECD average for educational spending is 5.9% of GNP. In Turkey, this figure stayed below 3% between 1981 and 1991, and has only increased since then to 3.83% in 2003. The share of higher education within the education budget hovered around the 25% level between 1981 and 2003 (25% for three consecutive years of 2001, 2002, and 2003). Higher education's share of GNP has increased steadily since 1989 (when it was 0.45%), reaching its highest level of 0.96% in 2003 (Council of Higher Education, 2003, pp. 120–122).

Besides these direct state funds, universities have two other sources of income—revenue from services provided by the university, such as patient care and contract research, and student contributions, which are collected in a separate fund to be used for highly subsidized student services. For a typical university, 59% of university income is

derived from the state budget, 35% from income generated by the institution, and only 4% is from student contributions. “Only 27% of the income from student contributions was spent for education, with the rest going to very highly subsidized meals, lodging, and medical services provided to the students, and to financing extracurricular activities. Thus, there are no real tuition fees in Turkey” (Council of Higher Education, 2004c, p. 11).

Financing of higher education in Turkey involves a terribly inefficient funding scheme based on negotiated, incremental line-item budgeting. It hardly provides opportunities for wise and efficient use of resources, and greatly reduces accountability. For example, in 1993, in a typical institution’s budget, 62% went to personnel salaries, 10% to other recurrent expenditures, 23% to investments, and 5% to transfers (Guruz *et al.*, 1994, p. 201). Researchers who have studied the financing pattern of Turkish higher education claim that the funding mechanism for public higher education (negotiated, incremental line-item budgeting) in Turkey needs to be changed to make the system more efficient and accountable. The findings of the Dunder and Lewis study (1996), based on an extensive analysis of the system, indicated that Turkish higher education is highly inefficient. They suggested that the Turkish higher education system must get away from a highly inefficient funding scheme of negotiated, incremental line-item budgeting. Instead, they propose that university budgets should be simplified by eliminating unnecessary details through a “lump sum” appropriation scheme. Through this, university administrators will become the owners of their own budgets, which would lead to much wiser resource use under some accountability measures supervised by an intermediary body, such as the Council of Higher Education (2004c, p.14) (Guruz, 2001, p. 220; Guruz *et al.*, 1996, p. 252).

Faculty

In the academic year 2001–2002, there were 70,012 teaching staff in the Turkish higher education system, including 9,396 professors, 5,367 associate professors, 11,190 assistant professors, and 25,864 research assistants. The average student/faculty ratio in formal education was 25:1 in 1980, 24:1 in 1994, and 31:1 in 2002. It is thus clear that the system has expanded in terms of enrollment rates but this expansion has not been accompanied by a corresponding expansion in the number of faculty members. This is an alarming case for the higher education system, given that Turkey lags behind countries like Thailand (where the ratio is 29:1). In comparison, the student/faculty ratio in other countries that year was 12:1 in Brazil, 18:1 in France, 15:1 in the United States, 10:1 in the United Kingdom, and 7:1 in Japan (Dunder & Lewis, 1996, p. 19; Guruz *et al.*, 1994, p. 183).

Furthermore, the situation is worse for some higher education programs, including many areas of teacher-training programs (where the student/faculty ratio in preschool education programs was 437:1; in classroom teaching, 363:1; and in physical education and sports, 135:1), as well as economics (83:1), management (67:1), computer engineering (52:1), and electrical and electronics engineering (43:1), according to the Council of Higher Education (2003, pp. 50–53).

Three strategies could be used to solve the problem of faculty shortage: joint graduate programs between advanced and newly established universities within the Turkish higher education system; providing scholarships for students to earn their degrees abroad; and changing the mission of some high-ranking universities into elite research institutions in order to supply more Ph.Ds.

As to joint graduate programs between advanced and newly established universities, the Council of Higher Education amended a regulation in 1983 to make the higher education system more flexible and to allow interuniversity degrees and programs. Under this regulation, research assistants—especially those working at newly established universities—are allowed to enroll in the graduate programs of more advanced universities. However, the policy has not been successful due to several reasons, including the lack of necessary material conditions—for example, there is no support mechanism designed for students' residences in host universities. Since all advanced universities are located in the largest metropolitan areas of Turkey, it is very costly for students to pay high rents. Further, there are no financial aid resources for students' thesis expenses. Plus, instruction in two of the advanced and most desirable universities (the Middle East and the Bosphorus Universities) is in English, and students thus need to reach a level of English proficiency, but there is no provision in the regulation on who would pay expenses for English preparation. Finally, there are no mandatory provisions in the regulation ensuring the availability of this to graduate students. As a result, in many newly established universities, research assistants are assigned courses to teach and administrators are reluctant to provide such joint graduate degree opportunities to their research assistants.

Concerning scholarships for degrees abroad, the Council of Higher Education initiated a policy in 1987 to provide master's and Ph.D. scholarships to research assistants, especially in the above-mentioned fields where the shortage is alarming. However, the approximate monthly cost of a student studying abroad is about \$1,800 (where the cost is about one-quarter of this in a good Turkish university), which equals to an annual cost of \$42 million (Council of Higher Education, 1996a, p. 39). This is, no doubt, a very high cost, and the Council of Higher Education is now considering how to better utilize domestic sources—for example, a number of high-ranking institutions are being provided certain institutional incentives such as a reduction in undergraduate student population, as well as extra funds for research and graduate education (Council of Higher Education, 2003, pp. 71–72).

Research and Knowledge Production

In Turkey, the net research funding allocated to higher education institutions in 2001 was about \$31.6 million (0.64% of the consolidated budget). However, R&D spending per person was \$39.2 for Turkey, compared with \$460.9 for European Union (EU) countries, \$962.8 for the United States, and \$106.6 for Greece (Council of Higher Education, 2003, pp. 115–116). Despite the relatively scarce resources allocated for research, the number of articles by Turkish academics has shown a steady increase since the 1980s. While Turkey ranked 41st in the Science Citation Index country listing

in 1980, it was ranked 22nd in the 2002 listing. From 1999 to 2002, the publication rate of Turkish academics increased much faster than that of academics in Israel, Belgium, Taiwan, or Poland (Council of Higher Education, 2003, p. 114).

These comparative data suggest that although its universities receive considerably lower levels of research appropriation from public resources, Turkey has a strong potential for research and for its international dissemination. A number of strategies have been proposed to further strengthen Turkish universities' research capacity, such as increasing the percentage of research allocation to at least 1% of the general budget; significantly increasing the number of R&D personnel in both universities and private firms; increasing the share of the private sector contribution to R&D activities to at least 50%; and finally, rather than spreading the R&D resources thinly, focusing on (and substantially funding) critical and high-potential areas (Council of Higher Education, 2003, p. 116).

Turkey's Candidacy for Full Membership to the EU and Its Potential Impact on Turkish Higher Education

From its establishment through the early 1990s, the EU did not have an explicit educational policy. However, especially since the mid-1990s, common economic policies of the EU have spilled over to other sectors such as education and higher education. The EU has four forms of involvement in higher education (de Witte, 1993): the right to provide higher education, in that individuals or organizations can establish higher education institutions and offer educational services throughout the EU; the right to work for higher education institutions—that is, any person who resides in an EU country and works as an educator (including researchers) has the right to live and work in another EU country without any restrictions; the rights of students, including nondiscrimination on the grounds of nationality, and free movement for seeking educational opportunities; and finally, the right to the recognition of diplomas by member states.

To facilitate these rights, the EU has established the National Academic Recognition Centers (NARIC), with liaison offices in each member and candidate country. A unit within the Council of Higher Education serves as a liaison office in Turkey. Turkish universities are also obligated by the Council of Higher Education to prepare Diploma Supplements for all university graduates that will allow students to use their earned credentials in other EU universities through the European Credits Transfer System (ECTS). Also, in order to facilitate the free movement of students among the institutions of higher education of member countries, the EU now has a program called ERASMUS that also comprises direct financial support for students. ERASMUS was established in 1987 to support a network of universities and direct financial support for students pursuing a period of study in another EU member country. According to Neave (1995), all these measures and policies to create a European space for higher education increasingly resemble a higher education system of the Anglo-American tradition.

The EU and its higher education policies are seen by many as providing a good opportunity to integrate the majority of Turkish universities into the world system of

higher education. Several state universities have made significant progress in this area, including the Middle East Technical University in Ankara, the Bosphorus University and Istanbul Technical University in Istanbul, and most of the recently founded private/foundation universities. Integration with the European higher education space, many believe, will eventually lead to major curricular and administrative reform in the Turkish higher education system.

Conclusion

Overall, the Turkish higher education system has shown impressive improvements in many respects, especially in the last two decades. In contrast to Europe's aging population, Turkey has one of the world's youngest populations, with significant need for educational opportunities of all kinds, and particularly higher education. It is estimated that the number of students who will seek admission to a higher education program in 2006 will be around 2 million, but only about 20% of these students will have a reasonable chance of enrollment (excluding the low-demand, low-prestige open university or distance learning programs). No matter what the prospects might be for some traditional solutions (such as increasing the share of 2-year vocational-technical institutions within the higher education system), the Turkish higher education system must clearly expand in order to respond to the demand for access from a growing youthful population.

However, many believe that the Turkish state universities are lacking strategic governance because the finance of higher education is strictly in the hands of the government organs, primarily the Ministry of Finance and the State Planning Institute, the latter controlling and appropriating the investment budgets. Many university rectors are complaining that the line-item budgeting process creates unnecessary intrusions into the autonomy of universities in terms of limiting the strategic uses of appropriated public monies by university administrations.

Although there is a tuition policy within Turkish higher education, the tuition and fees are so low that, for some, higher education is almost free in Turkey—revenues from student tuition cover less than 3% of total costs to the state of the higher education system (Dundar & Lewis, 1996). Since it is a politically sensitive issue, the reform of higher education has been on the agenda of almost all governments in the last 15 years, but this funding inequality has yet to be addressed.

As mentioned above, there is continuous pressure on Turkish higher education to grow because of high student demand, and there is also a critical shortage of faculty in many university programs. This critical faculty shortage can be solved by both utilizing degree programs abroad and expanding the capacity (and increasing the quality) of graduate programs in Turkey, especially in the advanced older universities.

Faced with these challenges, it seems that Turkey's candidacy for full membership in the EU provides the greatest opportunity for a major transformation of the Turkish higher education system. Turkish universities have recently been granted the right to fully utilize higher education opportunities and privileges provided for full EU members, such as ERASMUS and ECTS. The success of Turkey's response to this impetus for change will depend on several strategic decisions over the next several

years, decisions which demand careful analysis by both government and institutional leaders, as well as by the members of the academic profession.

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UNITED KINGDOM

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The origins of the UK university system lie in the Middle Ages. Oxford University came into being as an organized association of masters and students about the end of the 12th century or the start of the 13th. Based on the characteristics of the University of Paris, the scholars formed a guild of masters and, ultimately, an organized *universitas*. In about 1209, a group of scholars migrated to Cambridge and formed a corporation within the diocese of Ely. At Oxford, the office of Chancellor has been held in continuous succession since 1221 and at Cambridge from 1226. In both universities, licensed halls were developed to provide accommodation for students, and those grew into colleges, which came to be endowed by wealthy benefactors. Thus, in the 13th century University College, Oxford was endowed by William of Durham; Balliol, by John de Balliol and his wife; and Merton College, by Walter de Merton, who made over his estate at Maldon to a community of scholars that by 1270 had settled permanently at Oxford. The Bishop of Ely, Hugo de Balsham, founded Peterhouse at Cambridge in 1284. The two universities have remained collegiate in character, with the creation of additional colleges being the natural route to the growth of the institutions. In 2004, Cambridge announced its intention to build three new colleges in the next 15 years.

In Scotland, a group of Scottish masters—most of whom had graduated in Paris—began to teach at St. Andrews in 1410 and acquired recognition from their bishop two years later. A university was founded in Glasgow in 1451 and in Aberdeen in 1494. The three universities were organized into “nations” rather than colleges, and were each under the charge of a rector. While these first universities in Scotland were authorized or founded by bishops, the university in Edinburgh was created in 1583 by town councillors. These universities are now known in the Scottish higher education system as the Ancient Universities.

At the beginning of the 19th century, Oxford and Cambridge—like Trinity College in Dublin (Ireland was then under British rule)—restricted entry to members of the established church, the Church of England. (No such restriction applied in Scotland.) This led to various dissenting academies being established from time to time, but the first to survive was London University which, founded on the site of what is now University College, London on Gower Street, was financed by a joint stock share issue in 1825. Criticized as the “godless college” because it required no religious affiliation

for entry, a rival in Kings College, London was established in 1829 in the Strand. These two were to come together as separate colleges of the University of London in 1836, which was later to incorporate Imperial College, the London School of Economics, and a range of other colleges and specialist institutes. A further English university, the University of Durham, was founded by the chapter of Durham Cathedral in 1837.

These new institutions were forerunners of a significant movement later in the century to establish colleges in large industrial cities—like Manchester, Liverpool, Leeds, Sheffield, Bristol, Birmingham and Newcastle—which were to emerge in the first years of the 20th century as the new civic universities. These universities, all founded on the basis of civic enthusiasm and funding, were (like their predecessors) entirely independent of the state, had strongly vocational missions rooted in the economic character of the cities or regions in which they were located; none of them was established on a collegiate basis. Following in their wake were a further group of university colleges—Exeter, Hull, Leicester, Reading, Nottingham and Southampton—which offered University of London degrees and which, over the period up to and including the 1950s, acquired full chartered university status (with, of course, independent degree awarding powers).

These two groups of universities are often collectively described as the “red brick” universities after an influential book of that name published in the 1940s by Allison Peers (a professor of Spanish at Liverpool) under the pseudonym of Bruce Truscott (Truscott, 1943). Another important development that deserves mention is the evolution of the University of Wales. In 1852, a limited right to award degrees was granted to St. David’s, Lampeter, and several colleges were created over the next 30 years in Aberystwyth, Bangor, Cardiff and Swansea. Towards the end of the century, these all were combined to form a federated University of Wales. This followed the model of the National University of Ireland, originally based on colleges in Belfast, Cork and Galway, and founded in 1848 by the British Government to provide an alternative to the Protestant Trinity College and the proposed Catholic university, in Dublin.

It is important to note that none of the English, Scottish or Welsh universities and colleges was founded by the state or received regular funding from government sources up to World War I, although sums of money were allocated from time to time to support particular functions. In 1919, however, the contribution of the universities to the War effort, the recognition of the existence of national qualified manpower needs and the actual state of the institutions in the aftermath of the War persuaded the UK government to establish a University Grants Committee (UGC) with the purpose of deficiency funding those universities and colleges that had been identified to be on an approved grants list. The UGC functioned as a committee of H.M. Treasury, well out of the sphere of influence of the Board (later Ministry) of Education, and comprised a group of senior persons—mostly from an academic background, including some serving on the staff of universities—whose task was to review university plans and allocate resources to supplement their existing income, while not interfering with the universities’ legal autonomy. In practice, in specialist vocational areas like medicine, agriculture and veterinary science, and in technology, the UGC more or less steered the system because of the growing recognition for funding purposes of the national economic and public importance of the disciplines. But over the inter-War period,

the UGC contribution to university and college budgets was no more than one-third (on average), with the remaining two-thirds of the institutions' funding coming from student fees and from private funds (mostly interest on endowments). However, one by-product of UGC funding and the way it was administered was that there was no pressure to create private universities, and even Oxford and Cambridge—which had substantial private wealth—saw no grounds for breaking away from the UGC. The year 1919 also saw the creation of the UK Committee of Vice Chancellors and Principals (CVCP), with a permanent secretariat in London, which was to be the representative body for UK universities and the main channel for the expression of university views in discussions about policy with the UGC and with the government.

Not surprisingly, the universities did not prosper during World War II and were ill-equipped to face the challenge of admitting the numbers of ex-servicemen who sought university places in 1945–46 and whom the government was willing to fund to do so. Some institutions had suffered bomb damage, some London colleges had been moved out of the capital, and all had lost staff whom they had been unable to replace. The CVCP reached an agreement with the Ministers under which, in effect, it would accept more direction from the government in return for a major investment in staff and capital facilities. The proportion of state funding rose from a third to over 90%, and the terms of reference for the UGC were re-drawn to give it greater planning and steering powers. Nevertheless, in the first issue of the new *Universities Quarterly* (in 1948) its founder, Lord Simon, wrote that there was no such thing as “a higher education system” in the UK, just a heterogeneous set of institutions. This was to continue until the Robbins Commission on Higher Education—a body established to inquire into the future of higher education—published its report in 1963. One new institution—the University College of North Staffordshire (later Keele University)—was established in 1949, but by the mid-1950s concern was being expressed in the UGC that the existing universities, which were reluctant to expand, would not be able to cope with the expansion in the number of 18 year-olds caused by the “bulge” in the birthrate at the end of the War, and the increasing numbers of children staying on at secondary school after the age of 16. The UGC therefore initiated the founding of seven “new” universities—Sussex, East Anglia, Essex, Kent, Lancaster, Warwick and York (sometimes known as the Shakespearean, or “the plate glass” universities)—to take up the expansion overflow in the late 1960s. Two additional new universities (at Stirling in Scotland and Coleraine in Northern Ireland) were added subsequently. In 1955, the Ministry of Education took the first major step to establish higher education outside the universities when it created eight colleges of advanced technology (CATs), based on the advanced work carried out in local technical colleges, and established a National Council of Technological Awards (NCTA) to award a Diploma of Technology to students in the CATs (which was intended to be a degree equivalent qualification). These colleges were planned to be strictly vocational, as compared to the universities, and were expected to meet the growing demands for high level technically trained personnel.

The Robbins Report represented a watershed in UK higher education: not only did it have the status of a Royal Commission, whose main recommendations the government had little choice but to accept, but it also published a series of statistical appendices which provided the basis for the future maintenance of a high quality database on

UK higher education. During the inter-War years, enrollment in higher education had grown slowly from 61,000 to 69,000 students, but had expanded much more quickly during the post-war years to reach over 200,000 by the time of the Robbins Report, and the Committee forecast a rise to 700,000 by the late 1980s (a figure that in reality was far exceeded). In 1961, the age participation rate (APR) was 7%, but Robbins forecast a doubling by 1980. It recommended firmly that the government had to make financial provision for this expansion. It also recommended that the CATs should become universities (together with two colleges in Scotland which were to become Heriot Watt and Strathclyde Universities) and that sometime in the next decade provision should be made for a range of technical colleges to be upgraded to university status.

This set a pattern for the future—the natural route to university status was via upgrading institutions rather than, as had been the case during the 1960s, establishing entirely new universities. There were to be two exceptions to this: the Open University and the University of Buckingham (see below). One result of the Robbins Report, though not one of its recommendations, was that the UGC was transferred from the Treasury to the new Department of Education and Science (DES) with the aim, it was said, of providing a closer integration with educational policies generally.

Two years after Robbins, the new Labor Government announced a dramatic shift in policy. Robbins had assumed that, if not coterminous, the future of the university sector and of higher education was indissolubly linked. The Labor Government was not satisfied, however, that the freedom traditionally accorded to the universities—for example, to provide whatever degree programs they thought appropriate—should be permitted to circumscribe what the government saw as public interest in higher education issues, and in 1965 announced the foundation of 30 polytechnics in England and Wales (later balanced by the creation of four Scottish Central Institutions and a further polytechnic in Northern Ireland), which were to be vocational and which were to grow according to “natural need.” These institutions were to be developed out of existing regional colleges of technology and were to remain under local (municipal) authority control. This automatically created a second sector of higher education and led to the so-called “binary line” between the universities and local authority-led higher education. The NCTA was abolished and replaced by a Council of National Academic Awards (CNAA), which was to be the degree awarding authority for the polytechnics. The legislation creating the CNAA specified that the degrees (first degrees and higher degrees) were to be of similar standard to university degrees (universities had historically enjoyed the power to award their own degrees).

This left one further sector of higher education, the teacher training colleges, untouched. Robbins had recommended that the two-year teacher training colleges should extend their courses to three years and be put under the control of the universities. The three-year recommendation was accepted, and in practice it was the universities that validated the B.Ed. degree, but in a significant move in the second half of the 1970s the DES rationalized the colleges, closing some and encouraging the merger of most of the rest with the polytechnics, thus further reinforcing what became known as “the public sector” of higher education.

In a further important development, the Open University—conceived and planned by Harold Wilson’s Labor Government—accepted its first students in 1971 as a part-time

distance learning institution which was “open” in the sense that it did not demand academic entry qualifications and which was also expected to undertake research in the broad range of disciplines it taught. The Open University proved to be immensely popular and in 2003–04 enrolled over 200,000 students. As a model it has been widely copied internationally. A few years later, a privately financed initiative led to the establishment of the University of Buckingham. Founded out of dissatisfaction with the UGC system, the University gained recognition from Mrs. Thatcher’s government to award degrees on the basis of two years intensive study rather than the three years normal in England, Wales and Northern Ireland and four in Scotland. The UK’s only private university has, however, remained small at about 1,000 students, more than half of whom are from overseas.

The creation of the binary line—with the public sector on one side and the universities on the other—led to widespread debate over issues of policy. To the university sector, it seemed clear that the DES favored the polytechnics because, through the local authorities, they had a greater measure of control over them. In fact, the DES exercised little control, and the local authority “pool” funding arrangements encouraged polytechnics to broaden their mission to establish humanities and social science programs which overlapped with what was offered in the university sector, a development which came to be described as “academic drift” (Pratt & Burgess, 1974). The polytechnics, for their part, envied the more favorable student/faculty ratios in the universities—the result of the funding they received for research—and were critical of the comparatively favored status they enjoyed in respect to facilities and salary distribution, as well as, of course, their status with the public as universities.

The arrival of the government of Mrs. Thatcher in 1979 brought sharp reductions in funding for both sectors, and presaged far-reaching changes. In 1980, the subsidy for fees for overseas students was removed, and higher education institutions (HEIs) were required to charge full cost fees to all foreign students (although this has subsequently been reversed for students from European Union countries because of the provisions of the Treaty of Rome). In 1981, with government funding still running at about 90% of institutional budgets, an overall cut of 17% over four years was announced. The UGC decided to allocate the reductions differentially, on the basis of internal assessments of institutional quality and to ensure that the measure of per-student resources, which had declined in the 1970s, would be protected. This led to some universities receiving cuts of over 30%, and nearly all universities being required to reduce student numbers in some areas.

The UGC’s action became a political issue, and raised questions about its powers vis-à-vis those of the Secretary of State. Cuts were also imposed by the government on the public sector of higher education, but because the polytechnics and other public sector higher education institutions were financed almost entirely against student numbers under the “pool” funding arrangements, the reductions attracted less public attention. These budget reductions were followed by the introduction in the university sector of the Research Assessment Exercise (RAE) in 1986. This was a peer review mechanism employed by the UGC to assess institutional research performance and redistribute recurrent funding for research support toward the most research-active university academic departments. This signaled the beginning of a drive to concentrate

research funding in the most research-intensive universities. Initially introduced only for the university sector, this mechanism has become a fundamental element in the structure and management of UK higher education.

In 1988, the Education Reform Act replaced the UGC with a Universities Funding Council (UFC) and created a Polytechnics and Colleges Funding Council (PCFC) to cover the public sector institutions in England and Wales, which were simultaneously removed from the local authority control. (The Scottish public sector institutions remained under the control of the Scottish Office). The new Funding Councils were deliberately established as “funding” (not “planning”) bodies to emphasize the greater use of market forces to determine the future character of higher education. Funding was to be by formula against student numbers; policy was to be in the hands of the Secretary of State, rather than a government “quango.” The period between the mid-1970s and the mid-1980s had seen a slow increase in the age participation rate from 14% to 18%, but in 1988 a national change in mood accompanied by the Funding Councils’ encouragement for market-driven expansion led to a doubling of student numbers between 1988 and 1995 from 800,000 to 1.6 million, and to an increase in the age participation rate to 35%.

But in 1992, further structural change was imposed by the Further and Higher Education Act, which abolished the UFC and the PCFC and established—as part of a general political decision to devolve governmental responsibilities—separate funding councils for England, Wales and Scotland, with Northern Ireland higher education to be managed by the Northern Ireland Office. Even more radically, the English and Welsh polytechnics and the Scottish Central Institutions were refashioned as universities with degree awarding powers, and the CNAAs were abolished. In Northern Ireland, the polytechnic was merged with the “new” university at Coleraine. These events brought an end to the binary line and merged the two sectors, and in 1992, the former public sector of higher education was offered the opportunity to enter the RAE.

The results of the 1992 RAE confirmed a research ranking which placed the post-1992 universities below the pre-1992 universities, but also continued the process of differentiating between the research-intensive and less research-intensive pre-1992 universities. Further RAEs in 1996 and 2001 reinforced these divisions in spite of investments in more research-orientated staff—mainly recruited from the pre-1992 universities—on the part of the post-1992 institutions. The system became significantly extended in terms of research concentration, with eight universities receiving 33% of recurrent funding for research; 75% of research funding was distributed among the top 25 institutions.

These divisions in the UK system of higher education—both regional and in research intensity—were given added substance with the translation of the CVCP into Universities UK, with separate but closely linked Universities Scotland and Higher Education Wales, and by the emergence of three other bodies: the Russell Group, formed by a group of the most research intensive universities; the '96 Group, made up of smaller pre-1992 universities; and the Coalition of Modern Universities, made up of the former polytechnics. A further body, the Standing Committee of Principals (SCOP), signaled the emergence of a group of higher education colleges, some of which had acquired degree awarding powers and many of which saw themselves following the polytechnics to full university status. In the process of the transformation from an elite to a

mass higher education system, some important differentiation of functions had begun to emerge between institutions which required separate representation at the national level.

The 1992 Act also charged the Funding Councils with the responsibility for assuring the quality of teaching in the higher education system. This led to the establishment of a national Quality Assurance Agency (QAA), which set up a Teaching Quality Assessment (TQA) process to review all higher education programs, discipline by discipline (described later in this chapter).

In 1996, the government established the National Committee of Inquiry into Higher Education (1997) (the Dearing Committee) which reported its findings and recommendations in 1997. The background to the appointment of the Committee was the decline in funding per student in real terms of 45% over the previous 15 years, leading universities to press for the ability to charge “top up” fees over and above the funds made available by the government. The Dearing Committee produced a wide-ranging report, entitled *Higher Education in the Learning Society*, which emphasized disparities in levels of access to higher education and the importance of the provision of lifelong learning, while recommending a new structure of means-tested fees and student loans. As a result, fees at the level of about £1,000 per annum were introduced on a means-tested basis in 2001 across the entire landscape of higher education. However, it was quickly recognized that this was an inadequate response to the needs, particularly at the most competitive end of the UK higher education institutional market, where universities argued for much higher levels of funding if they were to be able to retain their internationally competitive position.

In 2003, a White Paper—*The Future of Higher Education*—recommended the abolition of up-front fees and the introduction of a Graduate Contribution Scheme (to be launched in 2006), under which HEIs could charge fees of up to £3,000 per annum, student loans would be provided, and graduates would repay the loans upon reaching an earnings threshold of between £10,000 and £15,000. This was an extremely controversial proposal, not only from the point of view of students but because of the possibility of variable fees being charged to reflect an institutional market position. Some institutions opposed fees altogether, while others demanded the ability to charge much higher fees than those proposed. The scheme was also controversial in Parliament, and at second reading was passed by only five votes, with the government agreeing to review it within three years of the introduction of the new system. The new system will only, however, apply in England and Northern Ireland, the Scottish Parliament having rejected the introduction of fees and the Welsh National Assembly having not yet decided to implement the measure.

Higher education in the UK has therefore entered a new phase, where not only has a new system been introduced in England and Northern Ireland, but Scotland and Wales are also diverging from a previously unified model. In Scotland, the Scottish Funding Council—which is being merged with its Further Education equivalent, reflecting the fact that 25% of Scottish higher education is provided in further education colleges—funds 14 universities and seven other HEIs. Scotland has an age participation rate of over 50%, as compared with England at about 40%. In Wales, the Welsh Funding Council—which is also closely linked to its Further Education counterpart—funds 13

HEIs, of which some are linked through the University of Wales. In England, HEFCE funds 131 HEIs, of which 77 are universities, 14 are general higher education colleges and 40 are specialist HEIs, while other forms of post-16 education are funded through a national Learning and Skills Council.

The UK can claim to have a very successful higher education system: it carries out 4.7% of the world's research and produces 7.6% of the world's scientific publications and over 9% of the citations of scientific papers. It is the second largest host country for international students (after the US), and its share of international students is rising among OECD countries (IMHE/OECD 2004). The overall age participation rate in the UK is currently 43%, while the proportion of graduates who do not complete their courses is lower than all but three OECD countries. In addition, studies have shown that this high output of graduates has been readily absorbed by the labor market. The major contemporary problems for the UK higher education system involve resolving its funding issues, achieving the government's stated APR target of 50%, and maintaining a group of "world class" universities, without causing detriment to the quality of the higher education system as a whole.

Legal Status

HEIs are independent bodies and are neither structurally part of the government nor regarded as part of the public sector. When they borrow, their borrowing does not count as part of the government's borrowing requirement. The autonomy of the pre-1992 universities—with some exceptions, where institutional constitutions are governed by an Act of Parliament—is individually guaranteed by the award of a charter and statutes by the Privy Council. The post-1992 universities and higher education colleges are designated in the 1992 Further and Higher Education Act as Higher Education Corporations (HECs). In both cases, academic freedom is guaranteed for academic staff by law.

The Department for Education and Skills (DfES) is the government department responsible for higher education. Neither the DfES nor, for example, its Scottish and Welsh equivalents, have a direct relationship with the HEIs, but set strategic objectives and funding priorities for intermediary bodies—the Funding Councils—which themselves devise the funding mechanisms for institutions. HEIs are responsible for their own admissions policies, the appointment of staff, the control of courses and their curricula, the examination of students and—in the case of universities and some higher education colleges—the awarding of degrees. On the other hand, they are accountable to their Funding Council, under the terms of a Financial Memorandum which they are required to sign, for the proper expenditure of government monies. Further, the head of the institution, together with the chief executive of the appropriate Funding Council, may be liable to be summoned before the Public Accounts Committee of the House of Commons in the case of financial mismanagement.

Another way in which institutional autonomy is somewhat constrained involves the power of an institution to award degrees. Following the 1992 Act, HEFCE and the other Funding Councils were given a statutory duty to ensure that the quality of teaching was assessed through a Quality Assurance Agency (QAA). Initially, the QAA launched both full institutional reviews and a Teaching Quality Assessment (TQA) for individual

disciplines conducted at an institutional level but on a sector-wide basis. The TQA exercise provoked widespread concern because of the academic time it consumed, and after the completion of the first run-through was replaced by a more selective “lighter touch” approach that relied on external reviews of institutions’ own quality control procedures. The principle said to underlie the new approach is “intervention in inverse proportion to success.” The approach continues to reflect the public interest in ensuring that HEIs provide higher education, awards and qualifications of both an acceptable quality and an appropriate academic standard; exercise their legal powers to award degrees in a proper manner; and provide public information to inform student choice.

Governance and Management

The two oldest universities, Oxford and Cambridge, have retained some of the forms of governance of their mediaeval origins—in particular, their governing bodies are made up primarily (in the case of Oxford) or exclusively (in the case of Cambridge) of representatives of the academic community. Both retain a meeting of all academic staff—Convocation at Oxford and the Regent House at Cambridge—as an integral part of their governance structure, and at Cambridge the Regent House remains legally the governing body of the university. Both universities have a chancellor, a largely honorary figure; a vice chancellor, who is a permanent full-time officer; and a registrar (registry at Cambridge), as well as a number of pro vice chancellors.

The predominant model for other pre-1992 universities is for there to be a council (court in Scotland), which is the governing body and is made up of a majority of external (lay) members, one of whom chairs it. In addition to the council, which is responsible for matters of management and finance, each institution convenes a senate which, according to the statutes of most of the universities, is the “supreme academic authority” and is made up of academic members and chaired by the vice chancellor, who is recognized as the “chief executive” of the university.

The post-1992 HEIs have a rather different structure, as their governing bodies are restricted to 25 members—of whom only two or three will be academics—and are entrusted both with the managerial and financial authority of the pre-1992 universities as well as with determining the “educational mission” of the institution (on the recommendation of the vice chancellor). The post-1992 HEI academic boards, while responsible for all academic matters, do not have the statutory powers of the pre-1992 senates. The vice chancellor (or principal) in the post-1992 HEIs is seen much more by the academic community as the “chief executive” than would necessarily be the case in the pre-1992 universities, and will normally have established a “directoriate” or “senior management team” of full-time permanent officers (pro vice chancellors, director of finance, director of human resources, etc.) to run the institution. The post of registrar (or secretary) that persists in the pre-1992 universities, serving as secretary to all the statutory bodies and responsible for much of the administration of the institution, has been reduced in scope in most post-1992 HEIs to being little more than the secretary to the governing body. All HEIs will have student membership on governing bodies and senates or academic boards. Students in the ancient universities in Scotland retain the right to elect a rector who may claim the right to chair the court of the university, although in practice such a right is rarely claimed. The growing interest in governance

issues has led to the creation of the Committee of University Chairmen (CUC), which produces a *Guide* on governance issues (intended for members of governing bodies) and offers development programs for new and existing members.

The 1980s and 1990s have seen a shift in the way HEIs—and even the pre-1992 universities—have been managed, under the pressures of size, financial stringency and the requirement for greater accountability. This has led to HEIs becoming less collegial and more managerially-led institutions. At the same time, there has been pressure (through the Dearing Report and through the Lambert Report of 2004 on links between HEIs and industry) for the pre-1992 universities to review their councils or courts and to reduce them in size to that of the post-1992 institutions, with the aim of strengthening their strategic capacity. More universities are appointing full-time deans, often from outside the institution, and devolving financial decision making to faculties or departments on New Public Management principles. A Leadership Foundation has been established with HEFCE funding to strengthen the leadership capacity in higher education, and the Institute of Education in London has set up an MBA program in Higher Education Management. Much greater attention is given than before to the appointment and training of heads of academic departments, who will be expected to prepare their departments for the RAE and for QAA visitations.

Financing

The sources of total income for English HEIs in 2001–02 are shown in Figure 1 below. This shows that on average about 60% of a HEIs income comes from state sources and 40% from non-state sources. However, the ability to generate non-state income

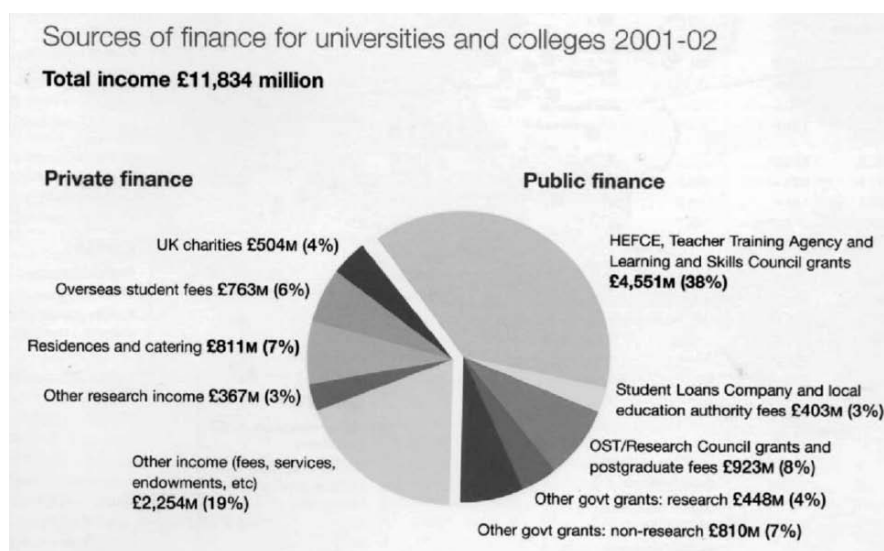


Figure 1. Sources of Finance for English Universities and Colleges, 2001–02 (*Funding amounts indicated are for England only*).

is unevenly spread across institutions. Twenty-five institutions (the most research-intensive) generate more than 50% of their income from non-state sources, while 35 generate less than 30%, and a further six less than 20%. If the funding for research grants and contracts from Office of Science and Technology (research council) sources were transferred across to non-state sources (because they are awarded competitively against individual applications), the extremes in the differentiation of funding would be much greater. This differentiation may be expected to increase after 2006, when the new student fee system is introduced.

Funding for Research

Public funding for research comes from two main sources, through the Funding Councils via the RAE and from the research councils (humanities, social sciences, science and engineering, medical, particle physics and the natural environment), in what is known as the “dual support system.” Funding Council allocations (known as quality-related funds) are intended to support research infrastructure, the salary costs of permanent academic staff, facilities, libraries and IT costs, as well as “blue skies” research, while the Research Councils provide funding for specific research programs. Table 1 provides an overview of the sources of research income for HEIs in 2001–02.

The effect of the RAE system has been to concentrate research support in fewer institutions. Although the RAE methodology has varied over the years, the essential features are that institutions may submit staff research performance over a stated period of years under prescribed disciplinary headings, to be reviewed by panels appointed by HEFCE (acting for all the Funding Councils). These panels rate the performance by discipline using the following scoring: 5*, 5, 4, 3a, 3b, 2 and 1. After the 2001 RAE, funding was weighted broadly at 3.3 for 5*, 2.7 for 5 and 1.0 for 4 (each Funding Council adopted slightly different approaches), using the staff numbers in each subject submission as a volume measure. Because the scoring was subject-based, it was distributed—on a fully transparent basis—to a wide number of institutions, but

Table 1. Sources of Research Income for UK HEIs 2001–02
(in £ Millions)

| Source | Amount (£) |
|--|------------|
| HE Funding Bodies | 888 |
| Research Councils | 668 |
| UK Charities | 504 |
| UK Central Government/Local Health and Hospital Authorities | 318 |
| Other Grants and Contracts | 287 |
| UK Industry | 209 |
| Total | 2,874 |

Source: HESA Finance Statistics Return (p. 23, Figure 3), 2001–02.

the failure not to weight 3a and 3b scores (which had received funding following the 1996 RAE) served to concentrate research funding to a greater extent than ever before. It is the intention of the current government to increase research funding substantially while continuing to concentrate it on successful departments.

Research Exploitation and Knowledge Transfer

Public policy suggests that one of the keys to future economic success is innovation achieved through research, and HEIs are seen as key drivers. In 2002, a White Paper—*Investing in Innovation: A Strategy for Science, Engineering and Technology*—published jointly by the DfES, the Department of Trade and Industry and H.M. Treasury, set out the case for increased research funding and the need to give greater attention to knowledge transfer, including contract research, consultancy, training and professional development, as well as the exploitation of basic research (or technology transfer). Mechanisms have therefore been established to encourage regional collaboration among institutions, aimed at economic development; funding has been awarded on a competitive basis to establish investment vehicles to support spin-off companies; and so-called “third stream” funding has been allocated by the Funding Councils to HEIs in order to stimulate links with industry and with regional development agencies. Many universities have established science or research parks, both to provide a base for companies linked to departmental research and to contribute to local economic regeneration. It has been claimed that the most famous of these, at Cambridge, together with the magnet effect on other technology-based industries, has added £8 billion to the nation’s GDP.

Access

The slow transition from an elite to mass higher education system in the UK has not benefited social classes equally. In the 1930s, the UGC calculated that one person in 60 was admitted to a university, but the ratio had moved to one in 31 by the early 1950s. The Robbins Committee showed, however, that children from manual labor backgrounds, with the same levels of measured ability and in the same educational environment as children from non-manual labor backgrounds, were less than half as likely to attend a university. The growth in the APR rose dramatically first in the early 1960s, leveled off for more than a decade, and then rose sharply again during the 1980s (Figure 2).

However, this increase did not significantly change the social class composition of the student body. It was expected by many that the polytechnics, which were primarily planned to meet local demands for access, would eventually broaden the social class distribution. However, recent research has shown that in 1977, half the public sector student population was still from social class I and II (which comprised only 25% of the overall population) and was not very different in socioeconomic composition from the student populations at the universities. In essence, “social drift” accompanied “academic drift” (Archer, Hutchings & Ross, 2003).

These issues were re-addressed in the Dearing Report, which published an analysis of participation rates by socio-economic group (Figure 3):

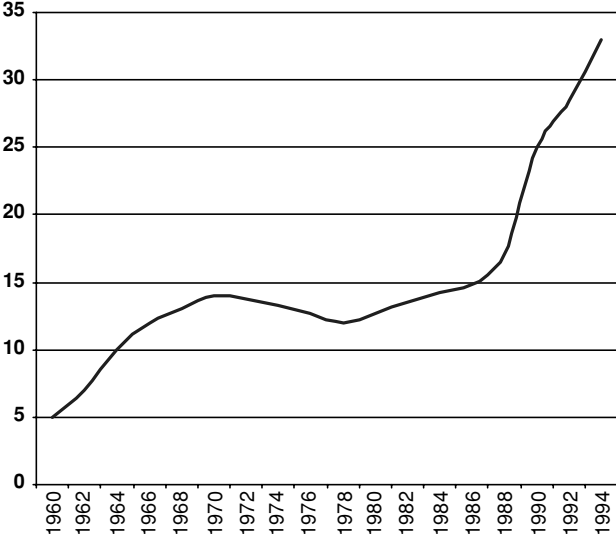


Figure 2. UK Higher Education Age Participation Index. Source. Dearing (chart 3.5), 1997.

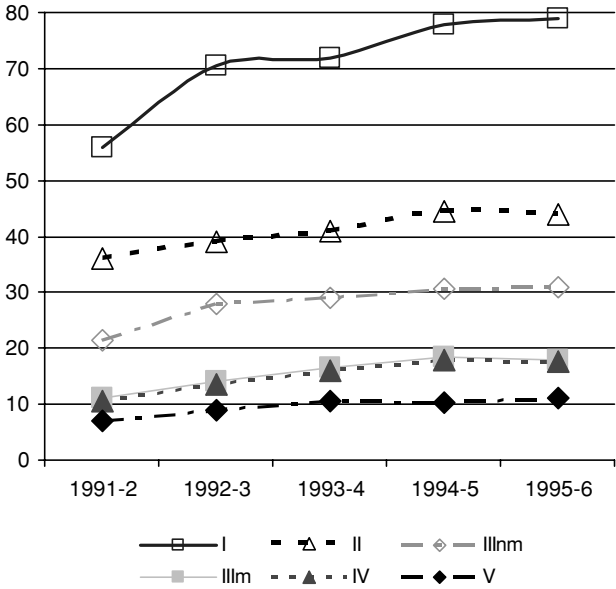


Figure 3. Changes in the Age Participation Index for each Socio-economic Class, 1991-95 England. Source. Dearing (chart 3.8), 1997.

These and other trends considered by Dearing clearly demonstrated that the beneficiaries of the growth in the APR since 1960 have been primarily the middle classes, and that the rate of growth for lower social classes, while steady, has been much slower. This issue became politically important with the publication of the 2003 White Paper, and the government is putting in place an Office of Fair Access and requiring that HEIs prepare strategic plans as to how they will address access issues, with the proviso that permission to charge up to £3,000 fees will be conditional on such plans being approved. Such plans are expected to provide statements as to bursary schemes that HEIs will create to support widening participation rates.

In some other respects, however, the changes in the APR can be shown to have increased equity. In 1938, it has been estimated that the age participation rate for women was about 0.5% compared to 3.5% for men. The APR between the sexes became equal in 1992 and by 2001 women had taken a 5% lead over men. While there remains a disproportionate number of men in certain subjects—like physics, chemistry, engineering, medicine and dentistry—women made up 10% of the overall student population in 1960 and 53% in 1999. During the period 1984 to 1993, mature student numbers (full-time and part-time) doubled and more than doubled again by the year 2000.

Prospects for the UK Higher Education System

Forecasts of student numbers suggest a further growth of around 120,000 (10%) by 2010. The introduction of two-year Foundation Degrees in England and Wales, mostly taught in further education colleges but validated by universities, may also have the effect of widening participation. Otherwise, the overall composition of the UK student body of the future may be expected to follow the pattern of the period from 1996 to 2001, wherein the part-time undergraduate enrollment grew faster than full-time (although full-time undergraduate students are still by far the majority of participants in the UK higher education system). In contrast, part-time students comprise the overwhelming bulk of graduate enrollment, and are poised to continue this trend for the foreseeable future. On the other hand, forecasts of the likely growth in the global higher education market suggest that the proportion of overseas students, currently running at 10%, could very well increase significantly.

This growth in student numbers, both UK and overseas, may have a dramatic impact on the growing differentiation among HEIs. The concentration of public research funding in a group of internationally competitive universities is accompanied by a complementary concentration of charitable and industrial funding for research. The reputational effect of research excellence, often (but not exclusively) coupled with historic buildings, means that entrance to such institutions is highly competitive at the first degree level, while many other HEIs are dependent on last-minute decision making by less well qualified applicants. United Kingdom/European Union student number targets must be agreed upon by each institution and its Funding Council, and any agreement to allow these institutions to expand numbers can disadvantage the others, especially in areas (like some science and technology subjects) where there are fewer applicants. The lack of research funding in many post-1992 universities and their

necessary concentration on local, socially disadvantaged students creates a significant differentiation between them and the research intensive universities.

It remains to be seen whether the 2003 White Paper recommendation for a category of “teaching only” universities will be realized, possibly from the upgrading of some of the higher education colleges. However, the disparities of funding between the two “ends” of the system seem likely to make generalizations about the system more difficult as the years go by. Similarly, the different policies employed in Scotland and Wales from those in England are likely to produce new kinds of differentiation within the United Kingdom. The higher education system thus seems to be on a path towards less homogeneity, a greater influence from the market, and a continued separation of function between higher education institutions.

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UNITED STATES

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U.S. higher education borrows its structure from both the British undergraduate college and German research university, but its character is profoundly influenced by three major philosophical beliefs that shape American public life.¹ Shaped by the Jeffersonian ideals of limited government and freedom of expression, states, religious communities, and individuals established and maintain a range of higher education institutions and continue to protect these institutions from the levels of government control seen in most other countries. The second set of influences is capitalism and belief in the rationality of markets. American colleges and universities vie for students, faculty, and funding under the assumption that diversity and high quality are best achieved through competition rather than centralized planning. The final major philosophical influence on American higher education is a widespread commitment to equal opportunity and social mobility. Higher education was an elite activity for much of its history, excluding individuals based on gender, religion, race/ethnicity, and social class. However, during the 20th century, economic and social changes transformed higher education into a primary gateway to the middle-class, and women and minorities made inroads against long-standing exclusion from mainstream higher education. Americans came to view broad access to higher education as a necessary component of the nation's ideal as a "land of opportunity." Higher education responded by broadening access. Indeed, the one uniquely American type of institution—the community college—was founded in the 20th century to ensure open access to higher education for individuals of all ages, preparation levels, and incomes.

Guided by these beliefs, U.S. higher education reflects essential elements of the American character: independence, suspicion of government, ambition, inclusiveness, and competitiveness. This chapter will describe the major characteristics of American higher education and important issues that challenge it, linking back as appropriate to these essential philosophical underpinnings.

The Distinctive Characteristics of U.S. Higher Education

Because American higher education is so diverse and complex, any description of "standard practice" inevitably misstates much about individual colleges and

universities. Indeed, important exceptions to most of the characteristics described in this chapter exist. Nonetheless, this section provides an overview of how most colleges and universities are governed and financed, their students and faculty, and the nature of the curriculum and student life.

Size and Composition of U.S. Higher Education

In addition to diversity, autonomy, competition, and accessibility, size is a distinguishing feature of U.S. higher education. The U.S. Department of Education counts 6,500 postsecondary institutions that participate in its student financial aid programs, including 4,200 colleges and universities that award degrees and 2,300 institutions that award vocational certificates. These 6,500 institutions enrolled approximately 16 million full- and part-time students, including 14 million undergraduates and 2 million graduate and professional students, in the fall of 2001. The 4,200 colleges and universities awarded more than 2.4 million degrees in academic year 2000–2001. In addition, an untold number of other institutions offer postsecondary instruction of some type but do not choose to participate in the federal student aid programs and therefore are not counted by the federal government (U.S. Department of Education, 2003).

Degree-granting institutions are typically divided into four major groups, and a considerable amount of diversity exists within each group.

Community colleges. America's 1,100 public 2-year institutions, or community colleges, enroll the largest share of undergraduates (6 million students in 2001). These institutions award associate degrees (which are typically completed in two years) in academic and vocational fields, prepare students for transfer to 4-year institutions, and serve their communities by providing a wide array of educational services. These services range from specialized training for large employers, to English language instruction for recent immigrants, to recreational courses. Almost four million students attended community colleges part-time in 2001. The U.S. government does not track enrollment figures for noncredit adult education or recreational courses, but the American Association of Community Colleges estimates that an additional five million students enroll in these types of courses at community colleges every year.

Public colleges and universities. There are only 630 four-year public colleges and universities in the United States (meaning they award bachelor's degrees, which are typically completed in four years, although many of these award graduate degrees as well). But these institutions—which include regional comprehensive universities that concentrate on undergraduate teaching and graduate preparation in professional fields such as teaching and business, as well as research universities that offer a comprehensive set of undergraduate, graduate, and professional degree programs—enrolled 6.2 million students in 2001. This figure includes five million undergraduates and slightly more than 1 million graduate students.²

Private colleges and universities. Private not-for-profit institutions are extremely diverse, including research universities, 4-year liberal arts colleges that focus on

Table 1. U.S. Postsecondary Institutions and Enrollments: Fall 2001

| | Public | Private Not-For-Profit | Private For-Profit | Total |
|------------------|------------|------------------------|--------------------|------------|
| Institutions | 2,099 | 1,941 | 2,418 | 6,458 |
| 4 year | 629 | 1,567 | 324 | 2,520 |
| 2 year | 1,165 | 269 | 779 | 2,213 |
| Less than 2 year | 305 | 105 | 1,315 | 1,725 |
| Enrollment | 12,370,079 | 3,198,354 | 765,701 | 16,334,134 |
| 4 year | 6,236,486 | 3,120,472 | 321,468 | 9,678,426 |
| 2 year | 6,047,445 | 63,207 | 241,617 | 6,352,269 |
| Less than 2 year | 86,148 | 14,675 | 202,616 | 303,439 |

Source: U.S. Department of Education, National Center for Education Statistics.

undergraduate teaching, a small number of 2-year institutions, faith-based institutions that maintain strong links with religious denominations, women's colleges, historically black colleges and universities, and specialized institutions that focus on a single field such as nursing or performing arts. Private not-for-profit institutions enrolled 3.2 million students in 2001, including 2.3 million undergraduates and more than 700,000 graduate students.

For-profit institutions. For-profit institutions primarily offer vocational programs that result in certificates rather than degrees.³ Of the more than 2,400 for-profit institutions counted by the U.S. Department of Education, 500 offer 2-year associate degrees and 320 offer bachelor's and/or graduate degrees. In total, for-profit institutions enrolled more than 750,000 students in 2001, all but 50,000 of whom were at the undergraduate level.

Table 1 provides an overview of enrollment in each of these four sectors. This large number and wide range of institutions offer both access and choice—two hallmarks of American higher education that respond to the previously described value placed on opportunity and faith in the market.

Governance

Another of the philosophical underpinnings of U.S. higher education is the Jeffersonian notion of limited and, whenever possible, locally controlled government. Based on this model, the U.S. Constitution reserves for the states all government functions not specifically described as federal. Among those functions is education. As a result, each of the 50 states is responsible for governing public colleges and universities (which enroll 75% of the nation's students), rather than the federal government. The degree of control by the states varies tremendously. Some institutions, such as the University of California and the University of Michigan, enjoy constitutional autonomy as separate branches of state government. At the other extreme, locally elected boards of trustees govern some community colleges. In some states, a governing board appointed by the

governor and/or legislature oversees all institutions, setting funding levels, establishing accountability measures, setting policies, and approving new academic programs. In others, the state board plays only an advisory function and has little direct authority over institutions. In many others, a state agency is poised between the institutions and state government, implementing statewide policy but also attempting to insulate institutions from ill-advised or overly intrusive state policies.

Some public universities are part of statewide multi-campus systems in which an additional layer of oversight exists between the campus and state government. System administrators may oversee campus budgets, set policies such as admissions standards, coordinate degree programs, and facilitate credit transfer and articulation between the state's public colleges and universities. They additionally, and importantly, advocate to the legislature on behalf of public colleges and universities. In some states, more than one multi-campus system exists, such as California's distinct systems of community colleges, comprehensive state colleges and universities, and research universities.

Because of the constitutional restriction on the federal role in education, the United States has never had an education ministry, such as those found in most other countries. With the important exception of the Morrill Land Grant Act of 1862, which donated federal territory to the states for the establishment of public universities, the federal government played almost no role in higher education until the middle of the 20th century, when World War II necessitated the establishment of federal funding for scientific research at colleges and universities to build U.S. military capacity. In 1944, President Franklin Roosevelt signed the GI Bill of Rights, which granted returning veterans funding to attend college as a way to integrate servicemen back into the U.S. workforce. As the Civil Rights movement took hold in the 1960s, the federal role in supporting students expanded to include grant and loan programs for low- and moderate-income students. Since that time, federal support has expanded so that it is now the primary financier of both scientific research and student financial aid.

While the federal government generally does not provide direct operational support to colleges and universities, this special-purpose funding is an extremely important revenue source and, in turn, has increased the ability of the federal government to influence colleges and universities in areas outside research and financial aid. For example, in order for institutions to participate in the financial aid programs, they must comply with a wide range of federal reporting requirements on topics ranging from teacher preparation to gender equity in intercollegiate athletics. However, despite the growing influence of the federal government, its role is still limited and has not yet intruded into core academic decisions, which are generally left to the institutions and, in the case of some public institutions, the states.

Two sets of voluntary organizations act as bulwarks against excessive government control of higher education: accrediting organizations that monitor quality assurance, and membership associations that represent institutions to the federal and state governments. Accrediting organizations are composed of volunteers who work at colleges and universities and agree to assist other institutions by providing evaluation through peer review. There are three types of accrediting organizations: regional organizations, that review the quality of entire institutions and focus almost exclusively on public and

private not-for-profit degree-granting institutions; national organizations, that monitor the quality of for-profit and non-degree-granting institutions; and specialized accrediting organizations, that evaluate academic programs within a specific field such as medicine, law or teacher education.

American accreditation differs from the type of quality assurance conducted by governments in most other countries. Federal and state governments can and do impose their own accountability requirements on institutions, but they generally have left the assessment of academic quality to institutions themselves through the self-study and peer review processes of accreditation. The federal government, in particular, relies on recognized regional and national accreditation organizations to determine whether institutions are of sufficient academic quality and managerial soundness to merit inclusion in the federal student financial aid programs. When the U.S. Department of Education officially recognizes an accrediting organization, it certifies that the organization adequately monitors quality in areas mandated by the federal government, such as fiscal soundness and managerial competence, fair admissions, and recruiting practices, and evidence of student success.

Accrediting organizations establish minimum standards that institutions must meet in a range of areas such as the curricula, faculty qualifications, student learning outcomes, co-curricular students services, and financial health. Accrediting organizations do not, however, mandate how institutions go about meeting those standards. Further, because accreditation measures institutions against a set of standards, it generally does not provide a gauge of how well an institution is performing relative to other institutions. Accreditation is accomplished through institutional self-study and a peer review process to determine whether the institution has met the organization's standards. Accreditors typically review institutions on a 3- to 5-year basis (Eaton, 2000).

Membership associations, which can have either institutions or individuals (such as business officers) as members, represent the interests of colleges and universities to the federal government and, in some cases, state governments. Many colleges and universities also employ their own staff to advocate for them, but in most cases, those staff work only on issues of concern to the individual institution, such as state appropriations or federal research contracts for the institution. Membership associations champion those public policies that are in the collective best interest of either all or some major segment of higher education. In Washington, DC, colleges and universities are represented by hundreds of organizations, which also provide networking and professional development opportunities for their members.

Finance

Colleges and universities are financed in ways consistent with both the Jeffersonian ideal of limited government and the belief that market competition tends to improve quality and efficiency. While government plays a very important role in financing, American colleges and universities are supported further by diverse revenue sources that reflect the market choices of students and parents as well as other consumers of the goods and services that institutions provide. The major sources of revenue include tuition and fee payments from students and families (including the government-backed

financial aid that students use to pay tuition); appropriations, grants, and contracts from federal, state, and local governments; private gifts; endowment and other investment earnings; and sales from auxiliary enterprises and services.

Some of these sources are more important to some types of institutions than to others. For example, local governments account for 18% of revenue at community colleges but 1% of revenue at private not-for-profit institutions. Similarly, private gifts contribute 14% of revenue to private not-for-profit institutions, but only 1% of revenue to community colleges (U.S. Department of Education, 2003). While the revenue sources of American institutions are diverse, two sources are of particular importance to most institutions: state appropriations, particularly for public institutions, and tuition and fees. These two sources (along with local appropriations at community colleges and federal research grants and contracts at research universities) provide the bulk of funds for general operating expenses. One of the perennial questions in American higher education finance is how much of the cost of education should be borne by government, and how much by students and families.

Traditionally, state appropriations have made up the bulk of institutional revenue at public institutions, but they are diminishing both as a share of state expenditures and as a percentage of institutional revenue. In response, state governments and public institutions have raised tuition, shifting the responsibility from taxpayers to students. In most states, higher education is the third largest item in the budget, after health care and elementary/secondary education. Because health care costs are escalating rapidly and voters demand that spending on elementary/secondary schools be protected, higher education falls logically into legislators' sights when they're forced to make budget cuts. Not only does higher education represent a significant portion of state budgets, but (unlike other programs such as prisons) it has a natural alternative source of revenue—tuition payments from parents and students. Typically, in good economic times, states will raise appropriations to colleges and universities and demand that, in return, institutions keep tuition increases low. When the economy is in trouble and state tax revenue falls, states cut spending on higher education and expect institutions to make up the difference through tuition increases.

Private donations from individuals and corporations provide another source of revenue for American colleges and universities that is typically not found outside the United States. Total voluntary support for higher education, encouraged by the U.S. tax structure, surpassed \$23 billion in fiscal year 2003, of which \$11 billion was donated by individuals (Council for the Aid to Education, 2004). To this end, many colleges and universities construct sophisticated approaches to fundraising, and college and university presidents dedicate much of their time to raising private gifts.

A significant and growing set of expenditures at many private not-for-profit institutions is institutional financial aid, sometimes called "tuition discounting." Private colleges have a long tradition of providing financial assistance to low-income students. In addition, most of these institutions (and, increasingly, many public institutions as well) have turned to institutional financial aid to attract students who may be able to pay the full price but who are unwilling to attend without a discount. For some institutions, tuition discounting is a way to compete with other institutions for the "best and brightest." For others, it is a necessary practice that fills enrollment places that

otherwise would remain vacant. In either case, these discounts contribute to increases in the posted or “sticker price.”

All institutions face real increases in the cost of providing education. Technology and equipment costs are rising, as are the prices of journals and books, health care for employees, and building maintenance. Institutions are working to update and expand facilities and services to meet student demand for state-of-the-art technology, small class sizes, and world-class academic and recreational facilities.

In the face of these increased costs and reduced revenue from states and other sources, universities and colleges have three options. They can cut back, improve efficiencies, and/or generate new revenue. For the most part, institutions are engaged in some combination of all three. They cut back by reducing staff travel and equipment purchases, postponing salary increases, leaving vacant faculty, and administrative positions, reducing administrative and support staff, and postponing building and renovation. Rarely do institutions cut academic programs.

Institutions also strive to become more efficient. Much of this effort focuses on administrative and student service functions, such as lowering electrical usage, streamlining purchasing and procurement processes, and altering financial systems. Some institutions are pursuing efficiencies in academic areas, such as using technology to reach more students, increasing class size, and hiring adjunct instructors. However, most efficiencies are being sought outside the classroom. Finally, American colleges and universities are pursuing many efforts to diversify and expand their revenue streams, such as developing online education and niche-oriented degree, and non-degree academic programs, expanding research capacities, engaging in licensing and sponsorship agreements, and pursuing auxiliary enterprises, such as managing real estate and running conference centers. Because a primary source of additional revenue is student tuition and fees, over the past 20 years they have risen at twice the rate of inflation, outstripping increases in both family income and financial aid resources.

The implications of increasing prices for students and families are a matter of constant policy debate. Despite tuition increases, demand for higher education continues to increase. Further, a wide array of government and private financial aid programs provide assistance to students, based on both financial need and academic merit. Financial aid to students totaled more than \$105 billion in 2002–2003, including \$71 billion in federal grants, loans, and tax credits; \$6 billion in state grants; and \$20 billion in grants provided by colleges and universities, as well as private organizations (College Board, 2003). Despite these resources, access and success in higher education continue to be stratified according to income, with students at the upper end of the income spectrum far more likely to attend college and earn a degree than those from disadvantaged backgrounds. Of course, many factors play into college access and success, not the least of which is students’ level of prior academic preparation. Because the quality of U.S. elementary and secondary schools varies widely depending on the wealth of communities, tuition prices alone cannot be blamed for disparities in educational opportunity. However, even if low-income students are able to overcome the academic and financial barriers to enrolling in college, their ability to succeed once enrolled can be impeded because they must work and attend part-time in order to pay their tuition, suggesting that financial matters play a crucial role.

Students

Despite increases in the price of attending college, the American student population continues to grow rapidly both in size and diversity. As noted previously, there are more than 16 million individuals seeking degrees at U.S. postsecondary institutions, and an estimated 5 million additional students enrolled in noncredit courses. American college students are diverse in age, race/ethnicity, gender, socioeconomic status, and academic interests. The majority of undergraduate students are women, and one-third are racial or ethnic minorities. More than 40% are age 25 or older (U.S. Department of Education, 2002b). About 20% come from families with incomes at or below the federal poverty level (King, 2004). Three out of four American college students are considered *nontraditional*—that is, they possess one or more of the following characteristics: they are age 25 or older, have delayed entry into higher education after completing high school, did not earn a traditional high school diploma, are married, attend part-time, work full-time, or have children (U.S. Department of Education, 2002a). Approximately 80% of students work during the academic year. Half attend part-time (U.S. Department of Education, 2002b).

In part because most nontraditional students juggle college attendance with work and family responsibilities, it is becoming increasingly unusual for students to enroll at one institution and remain there for their entire undergraduate career. Nearly 60% of bachelor's degree recipients attend more than one institution. In about half of these cases, the student formally transfers from one institution to another. The most common form of transfer is from a community college to a 4-year institution. In the remaining half of these cases, students may maintain their primary enrollment at one institution but also take classes at other institutions, sometimes attending two different institutions simultaneously. Students also may move among multiple institutions, often suspending enrollment (or "stopping out") for some period before enrolling at a new institution.

This student mobility is possible because the American system of higher education uses a common "currency" to measure academic progress—the credit. Students earn credits toward their degrees by completing courses. These credits can then typically be transferred to another institution if the receiving institution agrees that the academic rigor and material in the courses is roughly equivalent to its own similar courses. Many institutions develop transfer or articulation agreements to help facilitate student mobility, determining in advance which courses are of equivalent value. Institutions struggle to balance the goal of expanding access by allowing students to take classes where and when they want with the need to maintain the academic integrity of their degree programs and capture much-needed tuition revenue.

Although American college students enjoy a level of mobility unknown to most of their peers around the world, they still must compete for admission to the more selective colleges and universities. American higher education includes institutions with a wide range of admissions selectivity, from open-access 2- and 4-year institutions that admit all students, to highly selective research universities and liberal arts colleges that admit only a small fraction of those who apply. Many students apply to more than one college or university and enroll in one from among those that offer them admission. Admissions decisions at selective institutions are based on a fixed set of academic

criteria, including high school coursework, grade point average and class rank, and admissions test score, as well as a more flexible set of nonacademic characteristics, such as demonstrated leadership ability, creativity, and community service. Because the United States has no national secondary school curriculum or high school exit examination, colleges rely on two privately developed admissions examinations—the SAT and ACT. These tests, while important, are only one criterion among many that institutions consider. Indeed, the admissions decisions at highly selective institutions are so complex and consider so many factors that wealthy families often hire private admissions counselors to help them anticipate which factors a given institution is likely to weigh most heavily and to help their child craft an application that best meets those criteria.

Consistent with American faith in the market, institutions compete heavily to attract the most talented students. While this competition spurs improvements in quality and keeps institutions focused on meeting student needs, it also can have negative effects, sometimes prompting institutions to make academic and financial choices that may improve student recruitment but that are inconsistent with the institution's mission, the best interests of the public, or the long-term financial health of the enterprise.

The Curriculum and Degrees

Five types of degrees exist in the United States. Two-year colleges (community colleges) and a small number of 4-year institutions grant associate degrees, typically awarded after the completion of 60 credits. Associate degrees may represent a terminal degree in a vocational field or may prepare students to complete a bachelor's degree at a 4-year institution. The bachelor's degree is by far the most common type of degree awarded, preparing students for most jobs that require a college degree and for further graduate study. Three degrees exist at the graduate level:

- (1) The master's degree is the most common type of graduate degree. About 75% of graduate students are enrolled in master's degree programs, divided roughly evenly among students in education, business administration, and all other fields (U.S. Department of Education, 2002c). A master's degree may have either a professional or theoretical focus and usually requires a comprehensive examination and/or thesis or other original piece of work. The master's degree either prepares graduates for future advanced study at the doctoral level or is itself a terminal degree.
- (2) Professional degrees provide access to advanced professions in fields such as law and medicine.
- (3) The doctoral degree is the highest academic award and recognizes the graduate's ability to conduct independent research. The most common degree of this type is the doctor of philosophy (Ph.D.), but it also includes the doctor of education (Ed.D.).

No national laws govern the titles of degrees, although each state typically regulates the level of degree that institutions located within its borders can award. Each institution

has the autonomy to determine its own program requirements, typically following broad degree guidelines set by the states or by specialized accrediting agencies.

The undergraduate curriculum typically consists of two components—general education and the major field of study (the major). The purpose of general education is to provide students with broad knowledge and prepare them to be engaged and informed citizens. General education is delivered predominantly through either a core curriculum, in which all undergraduate students take the same courses, or an elective or distributive format, in which students choose courses from a pre-specified list representing a range of topics (such as science, art and aesthetic appreciation, mathematics, humanities, etc.). General education requirements typically constitute between one-quarter to one-half of a student's courses, depending upon the institution and the student's major. The other courses include those related to the major. Students choose their major (depending on their institution's policy) either upon enrolling or after completing their first or second year of studies. Students may change their majors if their interests change and still use most of their credits earned toward the completion of their degree.

Although most institutions continue to rely on a traditional nine-month (two semesters) academic calendar, many colleges and universities are innovating with their academic calendars, and additionally offer short month-long courses, overlapping semesters, and courses in a condensed weekend format, as they try to create programs that meet student needs and schedules.

Faculty and Their Appointments

More than 1 million academic staff (faculty) work at American colleges and universities. Faculty appointments may be full-time or part-time and may be tenured/tenure-track or nontenured track. Tenure is an academic employment arrangement, granted after a probationary period, that ensures holders a series of rights, including academic freedom and participation in institutional governance. It often implies continuous employment, barring dismissals for cause or financial exigency. However, not all academic positions carry tenure. See Table 2 for a list of faculty titles in the tenure and nontenure tracks.

Faculty responsibilities typically fall into three basic categories: teaching, research, and service to the campus and/or community. However, faculty jobs are by no means

Table 2. Faculty Rank and Titles by Tenure/Nontenure Track

| | Tenured/Tenure Track | Nontenure Track |
|-----------|----------------------|-----------------------|
| Full-time | Professor | Lecturer |
| | Associate Professor | Instructor |
| | Assistant Professor | Professor of Practice |
| | Research Professor | Research Professor |
| Part-time | Professor Emeritus | Adjunct Professor |
| | | Lecturer |
| | | Instructor |

uniform, and the time and attention that faculty devote to these three roles depend upon the mission of the institution at which they work, their academic discipline, and their rank and career stage. For example, faculty at community colleges more often tend to teach and be engaged in service activities, while many senior faculty at research universities spend more time engaged in research than in the other two areas.

Approximately 38% of all full-time faculty are women, but women hold only 21% of full professorships. At the assistant professor rank, 46% of full-time faculty are women. However, women's larger presence at the junior ranks does not guarantee future proportionality at senior ranks. The number of full-time faculty from racial/ethnic minority groups almost doubled over the last 20 years, yet only 14% of all full-time faculty are racial/ethnic minorities. The largest minority group is Asian American/Pacific Islander, comprising 6% of the total full-time faculty population, with African Americans at 5%, Hispanics at 3%, and Native Americans at less than half of 1% (Harvey, 2003).

In 1999, according to an American Council on Education study (Anderson, 2002), approximately half of all faculty were employed part-time and/or in nontenure-track positions. These faculty include those who are qualified for and seek full-time, tenure-track appointments yet do not obtain them, as well as individuals who do not have doctorates and/or teach in addition to other professional responsibilities. Debate and discussion continues to focus on the increasing use of part-time and nontenure-track faculty. Much of this growth accommodates increasing student enrollments. Another important reason for hiring part-time and nontenure-track faculty is to reduce personnel costs and increase institutional flexibility in course offerings, as these faculty can be hired and fired as interest in their academic fields ebbs and flows. However, critics charge that reliance on part-time and nontenure-track faculty has hidden institutional and educational costs while also lowering quality, as these individuals do little student advising and research and do not participate in non-instructional activities such as faculty governance.

University Administration and Governance

Although the internal organization and structure of U.S. institutions vary based upon size and mission, some common elements exist. Lay boards of trustees who tend not to be academics govern most college and universities. These boards are the legal agents for the institution and are responsible for ensuring and monitoring its financial health, setting strategy to fulfill its mission, and evaluating both institutional and presidential performance. The size, structure, and appointment of boards vary. For example, some boards of private nonprofit institutions can exceed 50 members. Public institution boards tend to be much smaller, consisting of seven or eight members. For most public institutions, the state government typically appoints board members, often after nomination by the governor and approval by the legislature. However, in some states and at many community colleges, board members are chosen through general elections. For private institutions, boards select their own members (called self-perpetuating boards). The length of board members' terms varies from 4 years to as long as 12 years. In some cases, board members can be reappointed to additional terms.

Boards hire and delegate much of the administrative responsibility for running the institution to the president (sometimes called a chancellor). The president is responsible for providing overall leadership to the institution, managing its finances and budget, developing and executing the institution's strategic plan, and establishing systems of accountability and performance. However, much of the president's work lies outside the institution. The president advocates for the institution's needs and seeks support from legislative and other external audiences, meets with alumni and prospective students, develops relationships with corporations and community groups, and provides the public persona of the institution. The president serves either at the pleasure of the board or on a fixed-term contract, eligible for renewal.

Beyond the president, other senior administrators provide the leadership for the institution's various divisions. The typical structure includes academic affairs, responsible for academic programs and research; student affairs, overseeing student services and student life; business and administration, accountable for the financial operations, auxiliary services, and campus facilities; and development, focusing on fundraising and alumni relations. Within each division, a variety of deans, directors, and department chairs complete the administrative structure. Figure 1 provides an overview of a typical college or university administrative structure (American Council on Education, 2001).

Although presidents have primary responsibility for the institution, most rely upon a system of shared governance between faculty and administrators for key institutional decisions. The primary organizational structure for shared governance is the faculty senate. The senate is responsible for recommending academic decisions and policies, such as those affecting new curricula and courses, degree requirements, and academic hiring and workloads. Its members typically include full-time faculty, although students, administrators, staff, and part-time faculty sometimes participate as well. At some institutions, the senate has the ability to make final decisions; at others, the senate makes recommendations for administrative or board action. In smaller institutions, all faculty typically participate in the senate. In larger institutions, senators are elected, frequently representing particular departments or colleges.

Student Life and Athletics

The U.S. collegiate experience is strongly shaped by a residential tradition, although today more than half of undergraduate students are older and/or enrolled part-time, and less than 20% of all undergraduates live on campus. Building upon the foundations of the British residential college, U.S. institutions have developed an expansive infrastructure to meet the needs of students. Most 4-year colleges and universities provide housing for students during the academic year. These residence halls, in addition to providing food service and sleeping rooms, provide programming to students on a variety of topics, both academic and social, such as HIV/AIDS awareness, alcohol abuse, and study skills. Colleges and universities additionally provide a range of student support services, including personal counseling, career placement and advising, recreation and physical fitness, child care, transportation, banking, health care, and tutoring.

Beyond these services, colleges and universities host various student organizations and clubs, including academically focused groups—such as the National Society of

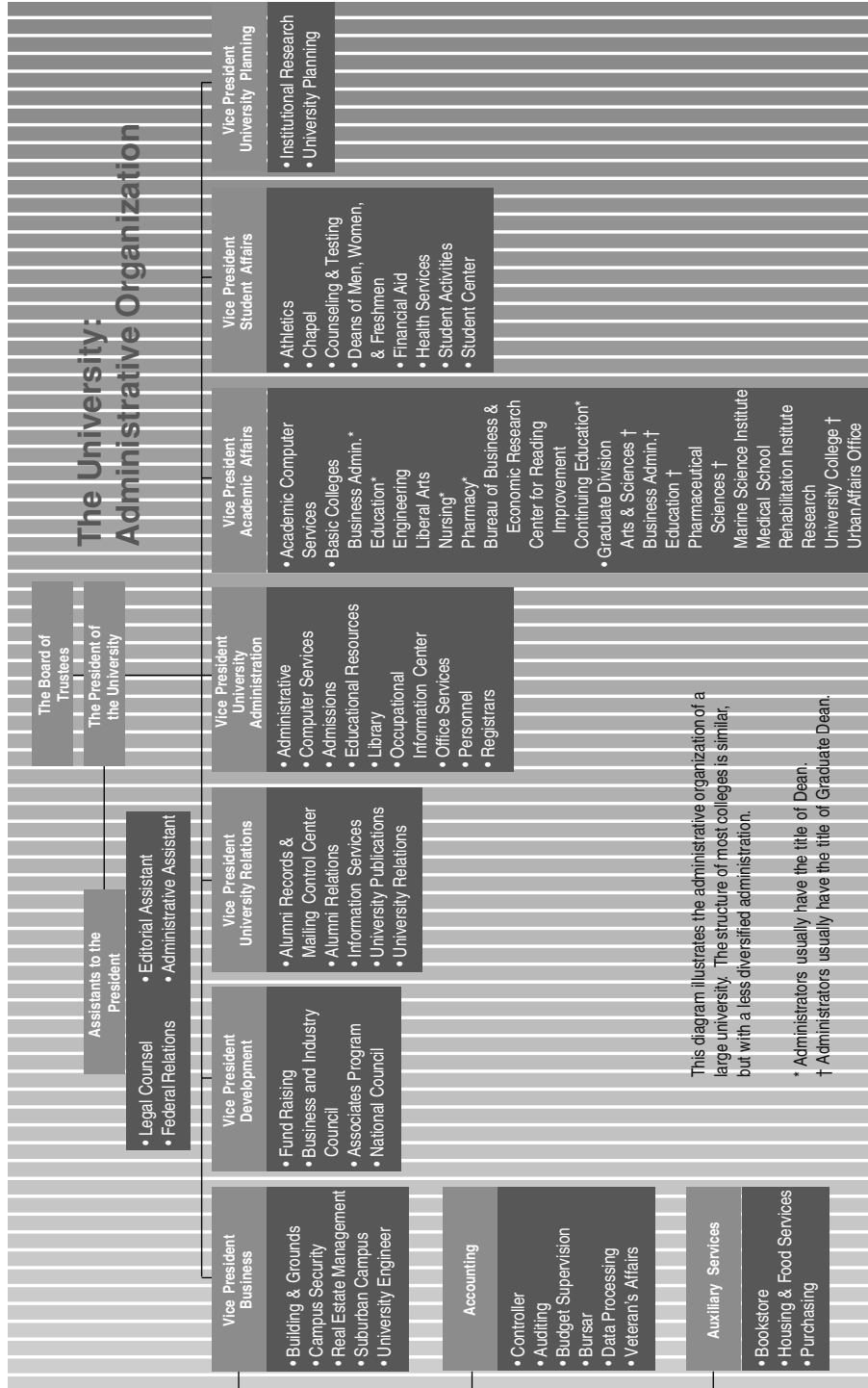


Figure 1. A Typical College or University Administrative Structure.

Black Engineers or the Public Relations Student Society of America—as well as athletic (such as rugby and water polo clubs), cultural and religious (such as the Muslim Student Society or Association of Asian Students), and social organizations. A familiar type of student social organization is the Greek-lettered fraternity or sorority. Another important student organization is student government, which is the formal, recognized student advocacy body on campus. However, for the most part, its influence is limited and its agenda constrained, particularly when compared with similar student governments or student unions in Latin America and Europe.

Finally, any discussion of student life at American colleges and universities must include athletics, which plays a major role on many—but not all—campuses. The influence of athletics on campuses tends to be disproportional to the small number of student athletes. At institutions with “big-time” sports programs, the athletics budget can reach millions of dollars, dwarfing those of academic departments, and coaches of men’s basketball and football teams are frequently the university’s highest paid employees. At these institutions, athletic teams are divided into revenue sports (football, men’s and increasingly women’s basketball, and in some cases, ice hockey) and non-revenue sports (for example, track and field, swimming, wrestling, golf, tennis, field hockey, and soccer).⁴ The majority of student-athletes participate in the non-revenue sports. The revenue sports tend to be highly commercialized, garnering national television coverage and athletic apparel endorsement deals. Athletics on U.S. campuses is a double-edged sword. In some situations, it can provide a unifying catalyst for the institution and its community and teach its participants valuable lessons. In other situations, it has been described as an unstoppable “arms race” exemplifying a winner-take-all attitude, spurring scandal, academic dishonesty, excessive commercialization, abuse of student-athletes, and distraction from the institution’s academic priorities.

Current Challenges Confronting U.S. Higher Education

The introduction to this chapter described the fundamental belief systems that shape the character of American higher education and distinguish it from higher education in other countries. This section expands on that discussion, describing how the inherent tensions among these central beliefs have created serious challenges for U.S. higher education. The section concludes with a short overview of additional issues on the national higher education agenda.

The Marketplace (Not Government) As Key External Driver

Many believe that the marketplace has overtaken government as the dominant external force shaping (and reshaping) American higher education, even for public colleges and universities. As noted earlier, government support is not keeping pace with educational expenditures. Thus in many ways, the market is having more bearing on higher education than government. To create more flexibility, many public colleges and universities are asking for less government regulation and oversight. In some instances, they are even asking for less state money in return for more autonomy. Their argument is that the

current structures and accountability requirements impede their capacity to be effective and efficient. The ability to set tuition, seek block-grant funding, and secure freedom from state policies and regulations in areas such as purchasing and building represent just some of the additional autonomy that public institutions are seeking. Many are pressing for new legislation to provide this freedom through a range of innovations, including public corporations, charter colleges, state enterprise status and performance contracts.

The result is that activities and research in certain fields and disciplines (such as engineering, applied natural science, and agricultural science) become higher institutional priorities because they have stronger market value than do other programs (such as humanities). Institutions create new programs, alter academic calendars, and pursue different financial aid policies to capture more and better students—particularly those who can afford to pay high tuition prices. For instance, executive master’s of business administration (MBA) programs are increasingly popular. Institutions seek contracts and partnership agreements, and enhance research programs with practical applications that have large financial payouts. They are changing their institutional structures—for example, by adding new units that focus on generating external grants and bringing new technology to market, by building conference centers, and by creating for-profit subsidiaries. The implications of the growing privatization are that academic research is increasingly focused on marketable knowledge, entrepreneurial priorities are taking precedent, services are being outsourced, and students are carrying an increasing burden to pay higher tuition and fees for their education.

Administrators see little option except to respond to the marketplace, for if their institution doesn’t react effectively, it will not have the necessary resources to offer high-quality and diverse academic programs. Institutions unable to compete may face trying circumstances as public support continues to fall, students become better-informed consumers, and advances in technology and new entrants into higher education widen the number and reach of competitors. In turn, the ability to compete—for students, resources, faculty and prestige—becomes a driving strategic force. At its extreme, competition can overtake more traditional academic values such as unfettered inquiry, access and choice for a diverse student population, and critical social commentary. The downside of pursuing market goals without appropriately balancing them against the public good is that institutions will no longer be able to uphold their part of the social compact to produce a well-educated citizenry and face the threat of losing their privileged place in American society as they resemble more closely other market-driven organizations.

Higher Education As an Engine of Mobility

Since World War II, U.S. higher education has been engaged in a process of “massification,” that is, expanding to serve students from all walks of life. Motivating this effort is a widespread belief in the power of education to create social and economic mobility and in the morality and social value of making higher education accessible to everyone. Longitudinal data bear out public perceptions: young people from low-income backgrounds who complete a bachelor’s degree have income and employment

characteristics after graduation equivalent to their peers from more affluent backgrounds (Choy, 2002). Education truly can be “the great equalizer.”

Despite widespread public faith in the value of higher education, the process of massification has not been without its detractors, and progress has been slow and uneven. Higher education did not admit significant numbers of racial and ethnic minorities until after the Civil Rights movement of the 1960s forced change. Further, despite significant expenditures on financial aid, minority and low-income individuals are still less likely to attend college than whites or students from middle- and upper-income families—although these gaps have narrowed somewhat. Despite progress in narrowing the access discrepancies, large gaps remain between completion rates. Low-income students come to college less prepared, are concentrated at community colleges and other large public institutions that do not have the resources to offer students much individual assistance and attention, and must balance student demands with work and family responsibilities.

Finding ways to increase the enrollment rates of low-income students and encourage their success once enrolled are two of the most important problems facing American higher education. One of the challenges to meeting these goals is that they can conflict with the other central tenets of American higher education: market competition and resistance to government control. For example, institutional competition for the most academically talented students is likely to foster increased use of tuition discounting for students without financial need, which could divert resources away from need-based financial aid for low-income students. Similarly, institutions may seek to distinguish themselves in the academic marketplace by becoming more selective in admissions decisions, thereby reducing the number of low-income students admitted. A primary role of government in the United States is to mediate the potentially negative effects of competition by insisting that institutions adhere to their missions, providing need-based financial assistance to students, and holding institutions accountable for their performance. Institutional resistance to government control provides a useful check on the ambitions of government, pushing policymakers to focus on ends rather than means and leave core academic decisions largely in the hands of institutions. Nonetheless, a constant preoccupation of American higher education is this tension between the competitive, ambitious nature of institutions and the interests of government in promoting important public goals, primary among them broad access and widespread success for all students.

Current Issues

This section explores some of the other challenges currently facing American higher education. This list is not inclusive, but rather reflects some of the key issues creating sleepless nights for academic leaders.

The blurring of institutional types. American higher education is known for its institutional diversity. However, the characteristics that make many types of institutions distinct are fading. For instance, in some states, community colleges are seeking to offer 4-year degrees to meet growing demand for higher education. Public colleges

and universities are in many ways becoming private, as the percentage of state funds in their budgets is dropping—in some cases, to less than 20%. They are soliciting gifts and working to build endowments in ways similar to their private counterparts, and are seeking more procedural autonomy from state oversight. At the same time, for-profit institutions are vying for public funds previously reserved only for nonprofit institutions.

Documenting student learning. American colleges and universities are facing increased external scrutiny of the effectiveness of undergraduate education. As budgets become tighter and tuition continues to rise, taxpayers and policymakers—as well as students and their families—are asking the extent to which their investment is producing real educational results. Simply put, they want to know what and how much students are learning. Outside pressure is mounting on institutions to document student learning, in much the same way that the elementary and secondary education sectors document learning through assessments linked to standards of what students should know and be able to do. Of course, the challenge of demonstrating student learning is much more difficult in higher education because of the diversity of the curricula. Nonetheless, higher education leaders are being challenged to find some way to show that real learning takes place at their institutions.⁵

Internationalizing the undergraduate experience. Many U.S. colleges and universities are making a concerted effort to make their institutions and curricula more international and to provide experiences for students that broaden and deepen their understanding of other cultures. At the same time, U.S. institutions continue their efforts to train and educate foreign students, both by bringing them to campus but also through distance education and satellite programs abroad (although we do not know the extent of U.S. involvement in such cross-border education). However, recent U.S. immigration policy changes coupled with an increased desire by foreign universities to recruit abroad means that the U.S. share of the international student market is shrinking. Institutions from England, Australia, Canada and New Zealand, for instance, are establishing a presence abroad and benefiting favorably from their government's policies. The effect is slowed growth in the number of international students enrolling in American colleges and universities.

Increasing productivity and efficiency. Because of increasing pressure to reduce costs, keep tuition increases small, and serve more students, institutions are seeking ways to improve their productivity and efficiency. They are creating administrative efficiencies, such as by streamlining business processes. They are innovating with technology-based teaching to reach more students both on campus and in the broader community through distance education. Many institutions are also beginning to view collaboration as an important strategy. Partnerships include (among other things) joint research, collaborative purchasing arrangements, shared financial services, and inter-institutional academic programs. These alliances allow partners to extend capabilities; develop research, courses, and services more quickly; generate greater economies of scale; share costly investments; gain access to knowledge and skills; and reduce expenses.

Conclusion

In many ways, the American system of higher education is unique in the world. In its size, diversity of institutions and students, freedom from government controls, and reliance on market forces, it is without peer. However, higher education systems around the globe are struggling with many of the same issues as the United States and are exploring similar strategies, such as imposing tuition to create greater access while instituting student aid programs, creating a credit system to facilitate student mobility, and standardizing degree programs. Other nations wrestling with these challenges may benefit by understanding the philosophical beliefs that shape U.S. higher education—distrust of government, faith in markets, and reliance on education as a gateway to social mobility—and the ways in which the United States continually struggles to balance market forces, government intervention and access to high-quality education.

Notes

1. In the United States, several important terms differ in meaning from most of the rest of the world. The term *college* refers to an institution that typically awards only undergraduate degrees. The term *faculty* can refer to either an individual professor or to all instructors (e.g., “The Harvard faculty approved a new degree program”).
2. The number of graduate and undergraduate students does not add to the total number of students because some students may take courses outside a formal degree program and, in other cases, the degree level of students was not reported.
3. For more information on for-profit higher education, please see the chapter by Kevin Kinser and Dan Levy in volume 1 of this *Handbook*.
4. Much debate exists as to whether or not these sports ultimately generate actual revenue, given their expenditures.
5. For more on this topic, please see the chapter by Elaine El-Khawas in volume 1 of this *Handbook*.

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INDEX

- AAHE (American Association of Higher Education), 355, 367, 369, 372
- AAU (Association of African Universities), 91, 415, 498, 577, 579, 1065
- Abelard, Peter, 162, 201, 202
- Aberdeen, 168, 1019
- ABET (Accreditation Board for Engineering and Technology) (U.S.), 61
- academic
- capitalism, 144, 146, 157, 242, 321, 328, 511, 515, 641, 645
 - council, 404, 455, 752, 885, 954, 955, 960, 963, 965, 975, 1066
 - credits, 55, 551
 - discipline, 4, 28, 247, 315, 326, 348–350, 370, 592, 608, 617, 901, 1045
 - drift, 10, 1023, 1030
 - freedom, 6, 7, 11, 12, 15, 21, 41, 83, 130, 159, 161, 163, 170, 177, 189, 199, 201, 258, 409, 414, 416, 420, 432, 433, 452, 455, 550, 565, 566, 604, 668, 730, 798, 799, 809, 929, 936, 952, 959, 996, 1006, 1008, 1007, 1026, 1044
 - and autonomy, 565, 1007
 - and teaching, 6, 11, 12, 15
 - in a global context, 836
- leadership, 12, 18, 65, 78, 124, 125, 143, 145, 147, 148, 150, 151, 153–155, 226, 237, 238, 240, 241, 249, 251, 252, 257, 259, 270, 273, 284, 294, 349, 363, 403, 412, 430, 439, 457, 511, 520, 531, 596, 615, 663, 668, 670, 672–674, 679, 683, 684, 688, 695, 696, 733, 775, 778, 800, 821, 843, 858, 876, 886, 972, 1009, 1028, 1043, 1046, 1065 *see also* administration; management
- major, 48
- migration, 129, 700
- profession, 3, 5–19, 76–79, 200, 281, 284–286, 347, 349, 350, 358, 361, 370, 372, 393, 396, 397, 403, 439, 446, 453, 455, 456, 535, 539, 541, 550, 563, 579, 580, 584, 606, 650, 685, 711–713, 717, 718, 721, 739, 757, 758, 764, 772, 778, 798, 803, 813, 822, 825, 833, 834, 890, 891, 909–911, 917, 930, 945, 952, 959, 960, 962, 964, 1018, 1057–1059, 1065
- see also* faculty
- and academic freedom, 11, 12
 - and governance, 141–157
 - and research, 284–286
 - and technology, 377–390
 - and tenure, 12–13
 - and traditions, 7, 10, 16
 - centers and peripheries of, 16, 17
 - changing roles and expectations of, 6–9
 - history of, 159–205
 - international dimensions of, 16, 17
 - working conditions of, 12–16
- senate, 397, 620, 820, 1059
- standards, 111, 124, 216, 218, 244, 248, 252, 257, 258, 265, 446, 452, 456, 528, 669, 750, 754, 802, 804, 808, 928, 1027
- traditions, 17, 122, 542, 557
- Academie des Sciences* (France), 173, 178
- Academy of Finland, 526
- Academy of Sciences (Russia), 178, 951–952
- access, 1–4, 8, 9, 17, 26, 46, 50, 52, 83, 98, 101, 112, 115, 116, 124, 125, 129, 130, 132, 134–137, 142, 152, 178, 179, 196–198, 225, 243, 244, 246–248, 251–267, 269–271, 274–278, 281–284, 288, 290, 294, 306, 309, 321, 323, 341, 377–387, 389, 415–417, 445, 447, 449–453, 457, 467, 476, 485, 487, 488, 494, 496, 497, 500, 504, 510, 511, 517, 521, 523, 526, 528, 529, 531, 539, 540, 543–546, 548, 552, 558, 561, 563, 566, 574, 575, 594, 596–598, 604, 615–618, 621, 623, 629, 630, 634, 636–638, 643, 647, 648, 655, 663, 671, 677, 679, 684, 693, 695–698, 701–704, 706, 707, 716, 718, 720, 721, 724, 725, 729, 730, 732–734, 774, 782–785, 789, 798, 806, 807, 818, 829, 830, 840, 845, 848, 853, 854, 861–864, 867, 881, 887, 888, 894, 902, 916, 919–922, 925–927, 932, 939, 948, 952, 954, 956, 958, 959, 967, 968,

1070 *Index*

- access (*cont.*)
 976, 979, 981, 997, 1003, 1009, 1010, 1017,
 1025, 1030, 1032, 1035, 1037, 1041–1043,
 1049–1052 *See also* admission;
 enrollment
 and admissions, 258
 and demand, 132–539
 attitudes toward, 381
 from elite to mass, 243
 from mass to universal, 243
 institutional policies, 223
 national policies, 223
 open, 55, 124, 136, 255, 258, 261, 263, 269, 276,
 540, 636, 732, 1035, 1042
 policies for expanding, 924–926
 urban versus rural, 381
- accountability, 11, 12, 18, 23, 24, 26–33, 57, 61, 88,
 91, 92, 102–104, 112, 145, 153, 214, 219,
 260, 263, 277, 287, 288, 290, 310, 315, 316,
 319, 430–433, 435, 452, 455, 506, 507, 533,
 535, 539, 543, 546, 548–550, 580, 604–606,
 625, 701, 738, 770, 774–776, 778, 785, 786,
 798, 808, 830, 869, 877, 887, 893, 900,
 911–913, 917, 947, 1013, 1014, 1028, 1038,
 1039, 1046, 1049 *see also* governance;
 management; public good; quality
- and accreditation, 24
 and assessment, 24, 28, 32
 and autonomy, 11
 and performance funding, 25
 and public policies, 23–37
 and quality assurance, 23
 and quality improvement, 24
 definitions and terms, 11–12, 24
 financial, 24, 260
 international and regional initiatives, 2, 564, 566,
 621
 scholarly analysis of, 29–33
- accreditation, 9, 24, 27, 28, 30, 31, 55, 58, 60–62,
 70, 116, 137, 143, 210, 212, 224, 287, 289,
 404, 416, 435, 446, 453, 456, 476, 478, 480,
 496, 504, 507, 509–512, 524, 529, 530, 532,
 535, 548, 549, 561, 580, 605, 643, 651,
 663–665, 693, 697, 742, 755, 769, 774–778,
 786, 790, 798, 835, 841, 842, 844, 853, 854,
 877, 886, 887, 894, 896, 900, 902, 906, 909,
 911, 913, 914, 916, 917, 929, 939, 947, 954,
 965, 984–986, 990, 991, 995, 999, 1000,
 1039, 1052, 1066 *see also* accountability
- and globalization, 121–139
 of institutions, 529
 of private higher education, 841
 of programs, 24, 27, 210, 234, 984, 985
- accrediting standards, 70
- ACE (American Council on Education), 59, 396,
 399, 1045, 1046, 1058, 1061
- ACU (Association of Commonwealth
 Universities), 395, 565, 1057
- adjunct faculty/teachers, 923, 1041, 1044
- administration, 135, 141–144, 146, 147, 149–154,
 175, 187, 200, 229, 231, 244, 245, 248, 252,
 259, 260, 262, 322, 348, 367, 385, 396, 399,
 400, 403, 405, 415, 439, 512, 513, 524, 528,
 547, 550, 567, 579, 591, 593, 606, 613, 617,
 623, 632, 655, 656, 660, 673–675, 681, 688,
 699, 700, 702, 707, 721, 724, 737, 748, 749,
 754, 756, 762, 778, 797, 799, 800, 805, 813,
 814, 824, 825, 835, 848, 853, 861, 882–884,
 912, 919, 920, 935, 940, 941, 956, 962, 967,
 973, 978, 994, 1000, 1004–1006, 1027,
 1043, 1045–1047, 1049, 1058, 1061, 1062,
 1065, 1067 *see also* accountability;
 governance; leadership; management
 and management, 150–152
 private versus public, 147–150
- administrative staff, 257, 259, 270, 434, 436,
 580, 708, 713, 802, 813, 844, 877, 920,
 977
- admissions, 1, 52, 111, 224, 235, 252, 259, 263,
 414, 488, 528, 531, 540, 574, 577, 580, 617,
 633, 677, 695, 784, 785, 800, 803, 813, 816,
 818, 831, 846, 847, 862, 920, 921, 938, 948,
 959, 966, 968, 1006, 1010, 1026, 1038,
 1039, 1042, 1043, 1047, 1050 *see also*
 access
 and enrollment, 258
 decisions, 1042, 1043, 1050
 policies, 252, 574, 785, 816, 1026
- adult education, 276, 816, 1036
- adult learners, 548, 834, 871
- affirmative action, 231, 246, 520, 848
- affordability, 299, 499
- Afghanistan, 190, 338, 419, 458
- Africa/African, 2, 3, 27, 50, 51, 55, 109, 110, 112,
 127, 129, 132, 135, 160, 162, 176, 185, 186,
 188, 189, 200, 229, 231, 282, 283, 287, 288,
 290, 300, 304, 335, 381, 385, 386–388, 395,
 403, 404, 409, 419, 444–448, 457, 458,
 483–500, 557–568, 588, 600, 616, 766,
 806, 839, 840, 842, 844, 845, 848, 850,
 852–857, 862, 863, 919, 930, 932, 967,
 971–991, 1045, 1063–1066
- African and Malagasy Common Organization, 493,
 494
- African-American, 185, 231, 1045
- agricultural education, 754

- agriculture, 44, 160, 176, 181, 184, 184, 188, 189, 294, 339, 410, 411, 425, 450, 467, 484, 491, 500, 522, 528, 545, 598, 608, 621, 632, 660, 670–672, 733, 737, 751, 752, 771, 772, 781, 784, 785, 788, 797, 814, 824, 840, 860, 868, 919, 936, 941, 942, 958, 1005, 1020
- AiO (*Assistent-in-Opleiding*) system (the Netherlands), 907
- Al-Azhar University (Cairo, Egypt), 122, 188, 191, 693, 695, 696
- ALFA (América Latina–Formación Académica) program (EU), 471
- Algeria/Algerian, 338, 414, 415, 418
- Algiers (Algeria), 181
- alma mater, 142, 169
- Altbach, Philip G., 1, 121, 329, 1055, 1066
- alumni, 142, 199, 222, 288, 341, 369, 573, 579, 632, 677, 739, 852, 853, 861, 1046, 1047
- American, *see* United States
- American Association of Higher Education, 355, 367, 369
and AAHE *Principles* document, 367
- ANDES (*Associação Nacional de Docentes do Ensino Superior*) (Brazil), 625
- Angelo, Thomas, 353–355, 359, 360, 366, 371
- Anglophone Africa, 127
- Anglo-Saxon, 10, 141, 142, 435, 440, 474, 527, 584, 633, 641, 730, 741, 910
- ANIHE (African Network for Innovations in Higher Education), 499
- Ankara University (Turkey), 1005, 1006
- ANUIES (National Association of Universities and Higher Education Institutions) (Mexico), 884, 885, 887–893, 895
- APDMEN (Asia Pacific Distance and Multimedia Education Network), 552
- APEC (Asia-Pacific Economic Cooperation), 3, 551
- APHEN (Asia Pacific Higher Education Network), 552
- Apollo, 113–115, 209, 290
- applied research, 15, 51, 68, 72, 88, 284, 312, 314, 319, 321, 506, 595, 663, 672, 744, 797, 901, 989
- applied sciences, 44, 174, 175, 177, 184, 550, 578, 592, 665, 669, 670, 732, 735, 737, 741, 742, 789, 812, 822, 989
- Aquinas, Thomas, 162, 301
- Arab Human Development Report, 413, 695, 703
- Arab Open University, 2, 388, 417
- Arab World, 409, 412, 417, 418, 694, 695
- Arabian Gulf, 14, 129
- Arabic, 125, 162, 409–411, 413, 416, 419, 793
- ARC (Australian Research Council), 608
- Argentina, 25, 27, 90, 172, 181, 192, 284, 336, 340, 397, 401, 504, 505, 508, 509, 512, 573–582, 989, 1013, 1059, 1063
- ASAIHL (Association of Southeast Asian Institutions of Higher Learning), 551, 552
- ASEAN (Association of Southeast Asian Nations), 3, 27, 136, 539, 552, 779
- Ashby Commission, the (Nigeria), 920, 924
- Asia, 4, 50, 51, 129, 132, 141, 160, 186, 188, 284, 318, 319, 335, 356, 395, 396, 399, 400, 404, 409, 444–448, 457, 458, 471, 479, 491, 495, 539, 541, 543, 544, 547–549, 551–553, 587, 588, 591, 598, 599, 607, 609, 610, 766, 779, 780, 806, 920, 1057, 1058, 1061, 1062, 1066
- Asia Pacific region, 318, 319, 551, 587, 598, 610
- Asian economic crisis of 1997, 546, 547
- assessment, 3, 24, 26, 28, 29, 31, 33, 39, 40, 51, 58, 60, 61, 70, 71, 84, 86, 143, 145, 151, 154, 254, 260, 309, 313, 317, 318, 343, 347, 351, 353, 354, 357–359, 362–371, 397, 402, 414, 419, 424, 436, 471, 480, 511–513, 524, 531, 542, 548–550, 579, 580, 592, 620, 621, 625, 665, 703, 720, 721, 735, 736, 741, 755, 776–778, 784, 786, 790, 833, 834, 841, 845, 860, 904, 905, 909–911, 913, 914, 917, 959, 968, 995, 999, 1000, 1023, 1025, 1026, 1039, 1055, 1064 *see also* evaluation, quality, self-assessment
- of faculty, 32
- of graduates, 24, 61, 71
- of institutions, 28
- of students, 24, 61, 71
- associate degrees, 79, 114, 830, 1036, 1037, 1043
- Astin, Alexander W., 297, 342, 369
- asynchronous learning, 362, 370
- Athabasca University, 4, 636
- athletics/athletic groups, 329, 334, 343, 1038, 1046–1048
- attrition, 616, 662, *see also* enrollment, students
- AU (African Union), 498, 564
- AUAP (Association of Universities of Asia and the Pacific), 552
- Auckland University (New Zealand), 237
- audits, 26, 60, 145, 530, 532, 595, 605 *see also*: evaluation, assessment
- AUF (*Agence Universitaire de la Francophonie*, or Francophone University Agency), 493
- AUN (ASEAN Universities Network), 552, 779
- AUQA (Australian Universities Quality Agency), 595, 605

1072 *Index*

- Australia/Australian, 14–16, 23, 25–28, 31, 52, 55, 60, 61, 94, 95, 99, 110, 112, 115, 125–127, 132, 133, 160, 185, 198, 212, 230, 284, 290, 309, 311–313, 315–322, 324, 378, 379, 381, 387, 397, 400, 457, 472, 540, 545, 552, 587–593, 595–610, 627, 685, 763, 764, 840, 842, 844, 853, 854, 856, 985, 989, 1051, 1059, 1032
- Austria/Austrian, 13–15, 52, 141, 168, 171–173, 183, 235, 236, 312, 317, 403, 425, 427, 435, 468, 474, 476, 479, 935, 1013, 1065
- AUTM (Association of University Technology Managers) (U.S.), 325
- autonomy, 1, 11–13, 15, 30, 41, 46, 54, 75, 91, 103, 104, 123, 126, 137, 144, 145, 150–153, 159, 161, 189, 199–201, 236, 238, 258, 260, 263, 267, 270, 273, 277–279, 285, 287, 288, 290, 298, 299, 329, 349, 366, 412, 413, 431–433, 452, 455, 470, 476, 477, 505, 507, 509, 512, 520, 522, 527, 529, 531, 533–535, 547, 548, 550, 552, 553, 565, 573, 576, 579, 580, 604–606, 613, 614, 617, 620, 621, 625, 633, 638, 643, 649, 651, 659, 668, 669, 673, 686–688, 698, 705–707, 712–714, 720, 722, 724, 733, 734, 738, 763, 769, 770, 774, 775, 779, 782, 786, 798, 799, 802, 807–809, 815, 816, 820, 821, 823, 833, 842, 869, 877, 882, 883, 886, 897, 899, 905, 911, 931, 932, 936–939, 947, 953, 974, 999–1001, 1009, 1013, 1017, 1020, 1026, 1036, 1037, 1044, 1048, 1049, 1051
- of faculty, 11–15
- of institutions, 12
- auxiliary services, 95, 1046, 1047
- AVU (African Virtual University), 3, 135, 386, 388, 487, 499, 853–855
- Azerbaijan, 127
- azhari educational system (Egypt), 695, 696
- baccalaureate degree, 46, 48, 52, 55, 57, 60, 62, 67, 163, 166 *see also*: bachelor's degree
- baccalauréat* (degree) (France), 343, 488, 714, 716, 717, 722, 723
- bachelor's degree, 41, 53, 56, 57, 67, 68, 79, 109, 116, 233, 271, 272, 278, 297, 404, 473, 474, 478, 522, 526, 527, 589, 597, 599, 683, 722, 742–744, 750, 794, 796, 805–807, 870, 871, 875, 903, 904, 908, 913, 917, 940–943, 954, 1009, 1036, 1037, 1042, 1043, 1049, 1066
- Bahamas, the, 190
- Bahrain, 2, 195, 418, 419
- Baltic States, 427, 468, 520
- Bangladesh/Bangladeshi, 127, 283, 454, 458
- Banta, Trudy, 28, 31, 367, 369
- basic sciences, 576, 578, 595, 598, 660, 661, 682, 757, 760, 784, 785, 788, 877
- Bayh-Dole Act of 1980 (U.S.), 324
- Bazargan, Abbas, 66, 395, 781, 783–786, 789, 790, 1057
- Belarus, 427, 447
- Belgium/Belgian, 15, 168, 288, 464, 484, 486, 914, 1016
- benchmarks, 25, 60, 145, 219, 220, 389, 524, 535, 549, 688, 777, 844, 917, 928, 978
- Benin, 487–489, 500, 920
- Berlin, University of, 45, 177, 312
- bildung* (self-realization and self-development), 45, 47
- binary system, 53, 55, 256, 437, 525, 533, 591, 734, 737, 819, 973
- (Australia), 591
- (U.K.), 256
- biotechnology, 9, 75, 77, 131, 235, 315, 318, 322, 508, 663, 665, 758, 761, 861
- Bjarnason, Svava, 377, 396, 1057
- block grants, 315, 317, 528, 547, 575, 801–803, 1049
- Bloom, David E., 293, 395, 396, 443, 1057
- BNA Act (British North America Act) of 1867 (Canada), 630, 631
- Bolivia, 90, 172, 504, 993
- Bologna; and history of universities, 6, 162
- Bologna Declaration, 53, 56, 60, 233, 434 *see also* European Integration, Bologna process
- Bologna framework/Bologna agreements, 136, 269 *see* Bologna process
- Bologna process, 254, 271–273, 435, 461–478 *see also* European Integration, Bologna Declaration
- borderless higher education, 132, 224, 377, 379, 380, 387, 389, 390, 395, 1057
- Botswana, 129, 403, 563, 564, 856, 857, 930, 971, 1065
- Boyer, Ernest L., 16, 234, 311, 370
- brain drain, 65, 73, 74, 130, 217, 225, 316, 400, 416, 434, 452, 456, 470, 485, 490, 543, 563, 564, 568, 582, 607, 641, 723, 825, 855–857, 863, 876, 890, 916, 930, 916, 930, 944, 960, 990, 1062
- and academic culture, 470, 485, 876, 877, 890, 930, 944, 960
- and employment, 563, 564, 607, 641, 723, 825, 855, 856, 863, 930, 960
- complexity of, 65, 73, 74, 130, 217, 225, 316, 416, 990
- effects on research and publishing, 582

- brain gain, 217, 225, 916
 Brain Korea 21 project, 235, 877
 brain power, 216, 217
 branch campus, 3, 107, 113, 115, 132, 207,
 212, 289, 545, 581, 595, 648, 833, 835,
 863
 branch institutions, 124
 Brazil, 2, 19, 27, 66, 112, 114, 129, 229, 236, 283,
 288, 381, 385, 402, 447, 504, 508–511, 514,
 575, 613–616, 621, 625, 1014, 1064
 Brennan, John, 30–32, 243, 244
 Britain, *see* United Kingdom
 British, 5, 10, 21, 26, 46, 50, 51, 89, 122, 132–134,
 183, 185–192, 198, 237, 238, 243, 247–249,
 251, 257, 263, 268, 272, 278, 317, 336, 348,
 401, 403, 412, 413, 463, 466, 473, 480, 488,
 540, 587–589, 591, 592, 606, 629–631, 633,
 634, 636–638, 642, 695–697, 707, 747, 748,
 754, 765, 795, 798, 839, 840, 919, 923, 971,
 1019, 1020, 1035, 1046, 1063, 1065
 Brown University (United States), 183
 Brunei, 457, 539–542, 544, 548, 551, 886, 1058
 Brunner, José Joaquín, 395, 647, 1057
 Budapest, 168
 Buddhist, 51, 159, 186, 187, 765
 Bulgaria/Bulgarian, 90, 124, 127, 133, 236, 283,
 425, 428, 430, 468
 Burkina Faso, 487, 492, 495, 500
 Burma/Burmese, 2, 188, 551 *see also* Myanmar
burschenschaften (fraternities) (Germany), 332
 Burundi, 403, 447, 484, 485, 488–490, 493, 500,
 1065
 business administration, 3, 65, 70, 74, 131, 133,
 135, 141, 142, 403, 528, 579, 805, 813, 919,
 920, 967, 1043, 1049, 1065
 Cairo University (Egypt), 412, 693, 694, 696, 698,
 700
 Calcutta, 187, 188, 747
 California, 67, 198, 231, 278, 396, 398, 403, 404,
 413, 599, 1037, 1058, 1060, 1065, 1066
 California Institute of Technology (Caltech), 67,
 413
 California State University system, 67
 Calvinist, 171, 182, 183
 Cambodia/Cambodian, 2, 539, 540, 542, 544, 545,
 547, 549, 550
 Cambridge University (U.K.), 237
 Cameroon/Cameroonian, 487, 489–496, 500
 CAMES (African and Malagasy Council for
 Higher Education), 489, 493
 campus culture, 331
 campus movement, 331, 337
 Canada/Canadian, 4, 16, 28, 55, 79, 85, 99,
 114–116, 125, 127, 137, 183, 209, 230, 233,
 312, 317, 320, 324, 350, 381, 387, 395, 404,
 457, 471, 479, 493, 517, 527, 552, 563, 588,
 609, 627–644, 707, 763, 764, 797, 840, 853,
 860, 861, 1051, 1057, 1066, 1067
 candidate of sciences (Russia), 66, 954, 960, 962,
 965
 CAPES (*Coordenação de Aperfeiçoamento de
 Pessoal de Nível Superior*) (Brazil), 620,
 622, 624
 capital expenses, 88, 90
 capital improvements, 90, 92
 career pattern for academic/faculty, 944, 946
 Caribbean, 50, 404, 446–448, 458, 471, 1066
 Carnegie classification of higher education
 institutions, 313
 Carnegie Corporation of New York, 567
 Carnegie Foundation for the Advancement of
 Teaching, 71, 79, 350
 Casanova-Cardiel, Hugo, 66, 395, 881, 1057
 Castille, 163, 167, 181
 Catholic Church, 122, 132, 379, 504, 573, 578,
 614, 616, 629, 633, 636, 637, 648, 650, 995
 Catholic University of Eastern Africa, 186, 842,
 852, 854, 855
 Center for International Higher Education (Boston
 College), 393, 404, 567, 1066
 centers and peripheries, 16, 124, 125
 Centers of Research Excellence Fund (New
 Zealand), 318
 central administration, 439, 617, 702, 721
 Central African Republic, 486, 490, 492
 Central and Eastern Europe, 15, 16, 27, 54, 56, 335,
 338, 395, 465, 468, 470, 471, 1057
Centros de Formación Técnica (technical training
 centers or CFTs) (Chile), 648, 654,
 656–658, 663, 664
 certification, 52, 60, 70, 133, 380, 549, 754, 775,
 778, 917, 974, 986, 1000
 Chad, 486, 489, 492, 500
 Chalmers University (Sweden), 145, 531
 chancellor, 163, 165, 168, 212, 234, 237, 257, 300,
 306, 326, 395, 397, 402, 542, 565, 603, 604,
 606, 610, 668, 752, 782, 788, 843, 846, 929,
 991, 1019, 1021, 1027, 1046, 1057, 1059,
 1064
 character (student), shaping of, 45–47, 176, 243,
 253, 254
 CHEA (Council for Higher Education
 Accreditation) (U.S.), 28
 CHER (Coalition of Higher Education
 Researchers), 29

- Chickering, Arthur, 353
- Chile/Chilean, 25, 90, 108, 109, 113–115, 283–285, 336, 395, 404, 503, 575, 646–659, 661, 663–665
- China, People's Republic of, 2, 4, 15, 17, 51, 66, 74, 110, 112, 115, 116, 122, 125, 128, 130, 159, 160, 190, 192, 195, 229, 233, 235, 275, 319, 337, 350, 382, 385, 398, 405, 410, 447, 454, 457, 458, 471, 527, 552, 587, 599, 600, 607–610, 667–687, 747, 770, 834, 835, 872, 967, 989, 1060, 1067
- Chinese, 54, 110–112, 108, 200, 275, 319, 337, 348, 405, 457, 588, 667–688, 770, 834, 1067
- Christchurch, 171
- Christian, 44, 162, 168, 333, 410, 411, 419, 560, 747, 842, 844, 933
- Church of England, 630, 1019
- CIBT School of Business (China), 115
- CIDA (Canadian International Development Agency), 672, 853
- Civil Rights Act of 1965 (U.S.), 231
- Civil Rights Movement, 185, 337, 1038, 1050
- civil servants, 15, 44, 151, 171, 173–174, 200, 257, 259, 304, 624, 625, 695, 696, 712, 718, 739, 740, 909, 994, 995, 999, 1000
- civil service, 11, 187, 235, 248, 250, 255, 444, 483, 484, 490, 499, 541, 550, 560, 617, 620, 622, 624, 667, 739, 781, 818, 923
- higher education for employment in, 229 *see also* faculty
- in Europe, 11–13
- in Francophone Africa, 483
- Clark, Burton R., 9, 10, 13, 25, 41, 43, 45, 46, 108, 141, 142, 144–146, 148, 149, 151, 185, 200, 234, 236, 238, 284, 309, 344, 379, 712, 794, 798, 801, 1012
- classes préparatoires* (preparatory courses) (France), 715, 718
- classification, 113, 115, 116, 313, 448, 489, 607, 628, 643, 664, 681, 706, 807, 955, 972
- classroom assessment, 347, 366, 368
- classroom behavior, 39, 358–359
- clergy, 43, 44, 47, 161, 163, 169, 171, 174, 188, 193, 200
- CNU (*Conseil National des Universités* or National University Council) (France), 718
- CODESRIA (Council for the Development of Social Science Research in Africa), 567
- cognitive development, 350–352, 356, 361, 363, 364, 370
- cognitive development theories, 356, 370
- Coimbra Group, 57
- Cold War, the, 126, 132, 559, 565
- and student activism, 126
- collaboration, 3, 29, 116, 142, 148, 220, 221, 230, 316, 320, 324, 360, 379, 382, 383, 388, 389, 400, 494, 498, 552, 608, 609, 674, 715, 762, 763, 861, 903, 904, 915, 960, 967, 1011, 1030, 1051, 1062 *see also* partnership
- collaborative degree programs, 128
- collaborative learning, 232, 353, 386
- college system, 164, 294, 637, 870
- college tutorial system, 46
- collegial organization, 19
- collegium*, 9, 10
- Cologne, 167, 168, 172
- Colombia/Colombian, 2, 99, 172, 181, 192, 283, 458, 504, 582
- Colombo Plan (Australia), 591
- colonial, 7, 11, 43–45, 50, 122, 132, 176, 181, 183, 186, 188, 189, 200, 229, 278, 335, 348, 411, 412, 444, 454, 490, 491, 505, 539–541, 590, 613, 616, 629, 633, 695, 697, 747, 748, 756, 765, 770, 771, 778, 839, 840, 848, 867, 882, 919, 923, 971
- institutions, 43–45, 51
- universities, 51, 176, 882
- colonialism, 132, 181, 189, 454, 503, 541, 557, 558, 840, 971
- and educational policy, 439, 468, 651
- and foreign aid, 132, 705
- and language, 7, 16, 17, 42, 43, 46, 50, 51, 127, 410, 541, 588, 629, 633, 756
- and student activism, 261, 334, 340
- in Africa, 557, 558
- in Asia, 747, 748, 756, 770, 771, 778
- neocolonialism and globalization, 126, 138
- Columbia University (United States), 395, 398, 399, 1057, 1060–1061
- COMETT (program for cooperation between higher education and industry), 53, 54, 468
- Comité National d'Evaluation* (France), 26
- commercial enterprises, 135, 234, 235
- commercial providers, 209, 211
- commercialization of higher education, 211
- commercialization of research, 92, 104, 211, 309, 313, 315, 397, 905, 1059
- commercially oriented research, 322–324
- commercially oriented institutions, 317, 322–324, 535
- Commission for Higher Education (Kenya), 841, 842, 844, 846, 847, 862, 863
- Committee on Quality Assurance (Australia), 26
- Commonwealth, 176, 190, 377, 387, 395, 565, 587, 593, 604, 1057

- communism/communist, 51, 54, 199, 283, 334, 335, 338, 414, 423–427, 429–440, 463, 466, 591, 671–679, 681, 684, 743, 966, 967
- Communist Revolution, 190
- community college, 57, 68, 76, 79, 115, 125, 160, 251, 259, 269, 270, 294, 312, 344, 415, 446, 545, 628, 637–639, 642, 868, 869, 871, 1035–1038, 1040, 1042, 1043, 1045, 1050
- Community of European Management Schools, 28
- community service, 7, 26, 222, 300, 350, 1043 *see also* public good
- commuter schools, 331, 344
- commuting, 244, 255–256
- comparability of degrees, mutual degree recognition, 16, 28, 31, 53, 913
- comparative education, 211, 393, 395, 398, 400, 1055, 1057, 1060, 1062
- competitive funding, 89, 90, 104, 319, 649, 661, 775
- computer science, 74, 77, 129, 560, 703, 758–761, 763, 806, 846, 940, 942
- CONACYT (National Council for Science and Technology) (Mexico), 885, 890, 891
- CONEAU (National Committee of University Assessment and Accrediting) (Argentina), 580, 584
- Confucian, 159, 348, 667, 668
- Congo Brazzaville, 486, 492
- Congo, Democratic Republic of, 484, 487, 488, 490
- CONICET (*Comisión Nacional de Investigaciones Científicas y Tecnológicas*) (Argentina), 582, 584
- consultative governance, 143
- consulting, 7, 77, 130, 233, 321, 620, 622, 632, 807, 844
as source of university funding, 321 *see also* faculty; financing
- consumerism, 57, 146
- continuing education, 55, 153, 210, 275, 277, 479, 525, 606, 1047
- continuous quality improvement, 144
- contract/contracts, 7, 13–15, 28, 72, 76, 95, 145, 147, 151, 154, 166, 168, 199, 222, 224, 236, 274, 285, 288, 302, 317, 318, 321, 361, 437, 489, 523, 550, 581, 583, 584, 606, 622, 623, 639, 680, 698, 699, 713, 716, 719–722, 724, 734, 735, 737–741, 764, 800, 834, 890, 894, 904, 905, 907, 909, 910, 926, 945, 946, 959, 979, 988, 1013, 1029, 1030, 1039, 1040, 1046, 1049
- cooperation: *see* partnerships
- Copenhagen, 23, 168, 173, 426, 479, 521–523
- Copenhagen process, 462
- copyright, 135–137, 323
- Cornell University (United States), 237
- corporate, 53, 72, 96, 113–115, 118, 146, 147, 149, 159, 160, 163, 168, 198, 199, 209–211, 220, 235–237, 379, 386, 507, 512, 513, 543, 546, 546, 550, 553, 605, 609, 632, 762, 1011
- corporate models of governance, 149
- corporate universities, 113, 114, 118, 209, 210, 379, 513, 553
- correspondence schools, 282
- corruption, 130, 169, 302, 337, 694, 705, 706, 931
- cost containment, 769
- cost recovery, 93, 94, 100, 104, 219, 288, 546, 547, 625, 685, 851–853
- Costa Rica/Costa Rican, 504
- costs, 14, 15, 25, 78, 84, 86, 88, 89, 91, 93, 94, 96, 98, 105, 141, 146, 152, 192, 219, 231, 232, 234–236, 260, 263, 266–270, 276, 288, 293, 295–297, 303, 310, 313, 325, 326, 379, 385, 388, 397, 447, 450, 451, 466, 506, 546, 590–593, 595, 610, 638, 640–642, 647, 653–657, 659, 662, 708, 763, 765, 769, 789, 835, 849–854, 863, 900, 903, 908, 932, 935, 946, 999, 1010, 1017, 1040, 1041, 1045, 1051, 1059 *see also* financing
and cost recovery, 93, 94, 100, 104, 219, 288, 851–853
and distance education, 385
private, 296, 297, 595
public, 303
- Côte d'Ivoire, 487, 489–491, 495, 496, 929
- Council for Higher Education (Israel), 799, 801, 807
- Council of Higher Education (Turkey), 1006
- Council on Higher Education (South Africa), 973
- CRC (Cooperative Research Center) (Australia), 321
- credential recognition, 225
- credentialing, 55, 257, 261
- credentials, 28, 52, 225, 378, 412, 445, 446, 561, 615, 617, 623, 624, 653, 696, 715, 763, 776, 965, 1016
- credit accumulation and transfer, 270
- credit system, 56, 57, 122, 475, 542, 583, 619, 669, 773, 968, 1052 *see also* ECTS (European Credit Transfer System)
- credit transfer, 56, 73, 210, 270, 463, 469, 475, 496, 545, 722, 779, 817, 904, 1038
- critical thinking, 131, 351, 352, 355, 360, 361, 535
- Croatia, 283, 428
- Crosland, Anthony, 256

1076 *Index*

- cross-border, 27, 127, 208–212, 217, 220, 222, 545, 548, 550, 561, 598, 834, 835, 990, 1051
- CRU (Council of University Rectors) (Chile), 648–652, 654, 655, 657–659, 661, 662, 664
- CTEC (Commonwealth Tertiary Education Commission) (Australia), 593
- Cuba, 283, 503, 504, 582
- cultural heritage, 513, 542
- cultural reproduction, 19
- Cultural Revolution (China), 51, 190, 200, 671, 672, 674, 679, 686, 783
- curricular reform, 3, 50, 453, 507, 583, 996
- curriculum (pl. *curricula*), 39–51, 54, 58, 59, 61, 76, 114–117, 131–134, 136, 165, 174, 199, 207, 209, 210, 220, 222, 224, 225, 230, 244, 247, 249, 252, 254, 255, 263, 264, 270, 284, 285, 309, 311, 331, 339, 342, 343, 348, 349, 351, 353, 365, 367, 389, 400, 449, 453, 463, 473, 506, 539, 541, 552, 558, 637, 650, 652, 656, 669, 679, 787, 795, 817, 818, 842, 848, 860, 876, 907, 911, 915, 919, 931, 953, 982, 996, 1036, 1043, 1044, 1062
- and credentialing, 257, 261
- and culturally-appropriate education, 49
- and educational outcomes, 39
- and elective system, 48
- and general education, 47
- and massification, 49
- contemporary trends, 49–55
- definitions of, 39
- economic dimensions of, 52–55
- European integration and the Bologna Declaration, 56, 60, 461
- faculty control over, 44
- German influences, 45, 48
- history of, 41–49
- lernfreiheit* and *lehrfreiheit*, 45, 48
- liberal education, 43, 45–47
- medieval influences of, 43–45
- Oxford and Cambridge, 43, 165
- practical and professional preparation, 47, 53
- reform of: *see* curricular reform
- responsiveness of, 11, 18, 19, 236, 270, 525, 684, 986, 978, 979, 990
- Scottish influences, 6, 32, 41, 46, 175
- trivium* and *quadrivium*, 42
- Curtin University of Technology (Australia), 599, 600, 602, 854
- cyber universities, 380, 871, 875
- Cyprus/Cypriot, 468
- Czech Republic/Czech, 195, 283, 425, 427, 428, 437, 468, 475
- DAAD (German Academic Exchange Service), 464, 743
- daigaku* (universities) (Japan), 771, 829
- Dalhousie College/Dalhousie University (Canada), 183, 184
- Damelin College (South Africa), 115
- Daoist, 667
- Dark Ages, 159, 161, 172, 557
- Dartmouth College (Germany), 183–184, 278
- databases, 57, 125–127, 131, 134, 135, 142, 362, 383, 384, 491, 494, 497, 855, 1021
- Dawkins reforms (Australia), 595, 597, 604, 609
- Dawkins, John, 593–597
- Daystar University (Australia), 110, 842, 852, 855
- de Weert, Egbert, 396, 899–917, 946, 1058
- de Wit, Hans, 25, 62, 123, 208, 213, 215, 221, 278, 396, 461, 480, 536, 726, 744, 917, 1058
- Deakin University (Australia), 198, 593
- Dean, 143, 147–149, 153, 239, 325, 393, 398, 402, 404, 455, 494, 522, 579, 580, 606, 607, 712, 738, 782, 800, 821, 825, 843, 846, 911, 944, 954, 959, 995, 1005, 1006, 1012, 1028, 1046, 1047, 1055, 1060, 1064, 1066
- Dearing Committee (U.K.), 315, 1025
- Dearing Report, 925, 1028, 1030
- debt burdens, 83, 104
- decentralization, 15, 16, 144, 153, 451, 452, 520, 521, 531, 534, 576, 616, 643, 673, 674, 676, 685–688, 749, 769, 861, 862, 875, 888, 909, 953, 1013
- degree recognition, 289, 968
- demand, 1, 3, 44, 45, 48, 52, 54, 58, 72, 83, 93, 99, 102–104, 115, 117, 123, 133, 134, 145, 146, 150, 161, 164, 180, 196, 197, 200, 209, 210, 231, 232, 236, 237, 245, 251, 268, 275, 282, 283, 286–289, 337, 343, 348, 353, 378, 395, 436, 445, 446, 449–451, 453, 466, 488, 506, 508, 509, 512, 534, 539, 543, 544, 553, 560, 575, 577–581, 590, 593, 597, 598, 606, 607, 615, 617, 617, 634–636, 643, 647, 653, 659, 660, 662, 677, 680, 734, 743, 757, 759–761, 763, 769, 779, 782–785, 789, 794, 798, 806–808, 811, 812, 816, 818, 829, 831, 832, 834, 840, 845, 846, 859, 860, 862, 863, 869, 870, 872, 878, 881, 886–888, 895, 900, 902, 907, 908, 914, 922, 931, 939, 948, 956, 966, 981, 990, 997, 998, 1003, 1009–1011, 1017, 1018, 1023, 1040, 1041, 1050, 1057
- see also* access; enrollment; private higher education
- and access, 132, 539
- and massification, 283, 284
- and workforce, 3, 54, 217, 229

- demand-absorbing, 286, 288, 289, 577, 578, 831
democratic values, 694
democratization, 275, 277, 418, 443, 451, 506,
544, 565, 717, 764, 795, 869, 977, 995,
1000
Denmark/Danish, 25, 26, 66, 97, 129, 150, 179,
197, 246, 319, 320, 326, 384, 402, 407, 464,
474, 479, 517–524, 531, 533, 535, 536,
1064
department head, 149, 843, 885
department-college model, 13
dependence, 7, 13, 17, 33, 51, 55, 92, 96, 105, 121,
126, 145, 146, 170, 171, 177, 178, 180–183,
186–191, 199, 220, 234, 335, 336, 340, 363,
412, 425, 454, 483, 484, 499, 503, 539–541,
553, 557, 559, 573, 605, 609, 610, 613, 615,
669, 697, 722, 748, 754, 756, 771, 778, 779,
808, 815, 816, 822, 840, 848, 850, 851, 868,
878, 920, 923, 926, 930, 935, 966, 994, 995,
1005, 1035
dependency, 17, 33, 126 *see also*, centers and
peripheries
deregulation, 141, 147, 153, 575, 769, 831, 833,
928
DES (Department of Education and Science)
(U.K.), 1022, 1023
development, *see also* donors; economic
development; national development
developing countries, 2, 4, 11, 15, 16, 25, 49, 50,
62, 65, 83–86, 90, 102, 105, 121, 124, 126,
128–138, 196, 197, 200, 217, 229, 283, 294,
300, 303–305, 337, 339, 344, 347, 381, 382,
390, 402, 413, 443–447, 449–458, 472,
479, 485, 486, 494, 508, 530, 567, 647, 850,
867, 871, 878, 879, 919, 968, 976, 981,
1003, 1007, 1064
developing world, 9, 122, 128–130, 132, 136, 195,
196, 288, 304, 385, 447, 450, 472, 508,
1003 *see also* developing countries
DeVry, 113, 115
diaspora, 398, 564, 794, 960, 1060 *see also* brain
drain
differentiation, 9, 10, 12, 13, 18, 61, 68, 112, 144,
266, 278, 281, 284, 290, 310, 364, 431, 486,
507, 511, 527, 545, 617, 621, 643, 651, 657,
667, 677, 681, 684, 687, 703, 721, 729, 732,
734, 891, 901, 903, 914–916, 944, 952, 958,
980, 984, 995, 1025, 1029, 1032, 1033
and apartheid, 186, 343, 971, 972, 976, 977,
988
to promote research, 492
digital divide, 381, 382
diploma mill, 561
Direct Student Loan Program (U.S.), 99
discipline, academic, 4, 28, 247, 315, 326, 348,
349, 350, 370, 592, 608, 617, 901, 1045
dissertation, 46, 68, 69, 73, 261, 273, 624, 876,
877, 899, 945, 960, 963–965
distance education, 2–4, 27, 107, 132, 134, 135,
137, 230, 276, 309, 330, 347, 362, 385, 400,
412, 417, 449, 469, 487, 494, 499, 520, 534,
545, 547, 548, 636, 751, 756, 763, 782, 784,
789, 854, 924, 975, 979, 986, 987,
1009–1011, 1051, 1062 *see also*
information technology; ICT; technology
and access, 135, 385
and capacity building, 499
and cost efficiency, 385, 549, 984
and course credit systems, 122
and cultural contexts, 40, 41
and instruction, 254, 255
and management, 487, 545, 547, 751, 763, 782,
784, 1009, 1010, 1051
and mixed mode instruction, 254, 255
and national development, 487, 545, 547, 751,
763, 782, 784, 1009, 1010, 1051
and private education, 224, 684, 966, 980, 981
and refugees, 183, 184, 463
and rural populations, 450, 952
and teacher training, 188, 489, 509, 592, 670,
737, 796, 840, 1022
and teaching and learning, 347–370
and technology, 377–390
and women, 58, 176, 180–188, 196, 197, 295
correspondence courses, 115, 733, 751
financing of, 451
future of, 487, 545, 547, 751, 763, 782, 784,
1009, 1010, 1051
institutional models of, 132, 326
potential benefits of, 326, 699
quality of, 23–33
distance learning, 28, 198, 207, 255, 256, 362, 370,
417, 450, 499, 507, 548, 568, 733, 853, 854,
901, 934, 1017, 1023 *see also* distance
education
diversification of funding sources, 209, 210, 953
diversity of institutions, 33, 53, 66, 116, 255, 273,
423, 428, 928, 643, 1052
diversity of students, 39, 52, 237, 367, 831
Djibouti, 418, 447
doctoral degree, 14, 56, 65–69, 74, 76–79, 114,
129, 233, 393, 396, 409, 488, 526, 527, 529,
530, 589, 599, 619, 622–624, 661, 683, 738,
787, 804, 817, 830, 855, 876, 877, 878, 906,
907, 945, 948, 960, 962, 1043, 1055,
1058

- doctoral education, 65–79, 403, 742, 900, 906, 907, 964, 1065
 accreditation and assessment of, 70, 71
 and European integration, 73–75
 and international students, 78
 and rankings of degree programs, 76
 and research, 75, 76
 attrition and degree completion, 77, 78
 challenges to, 75–78
 enrollment patterns of, 67–69
 funding of, 71–73
 quality control of, 70, 71
 recruitment of students for, 78
 role of the labor market, 76, 77
 U.S. model of, 66–73
 doctoral graduates, 66, 77, 661, 876, 890, 964, 987
 doctoral preparation, 76, 79
 doctoral students, 67, 72, 73, 75–77, 79, 129, 396, 519, 526, 597, 717–720, 725, 751, 788, 825, 849, 906, 907, 964, 965, 987
 doctorate: *see* doctoral degree, Ph.D. degree
 Dominican Republic/Dominican, 283, 504
 donors, 304, 349, 453, 454, 494, 495, 567, 578, 600, 693, 705, 739, 798, 853, 859 *see also* financing
 and autonomy, 11, 12
 and colonial ties, 304, 494, 600
 and development ideologies, 304, 494, 600
 and rates of return, 84–86
 and the Cold War, 126, 559, 565
 bilateral, 304, 494, 600
dotiorato degree, 817
doyens (deans) (France), 712
 dropout, 301, 522, 584, 616, 662, 717, 738, 741, 743, 790, 811, 812, 819, 824, 835, 912, 924, 927, 997
 dropout rates, 584, 616, 662, 717, 738, 741, 743, 835 *see also* attrition
 Duczmal, Wojciech, 396, 935, 1058
 Dutch, 182, 335
 Dutch East Indies (Indonesia), 122, 132, 182, 192, 283, 335, 336, 404, 447, 539–550, 599, 609, 769–779, 1066

 East Germany/German, 200, 399, 734–737, 1061
 Eastern Europe, 54, 95, 334, 395, 423–425, 429, 431–435, 434, 437–440, 1057
 EC (European Community), 233, 462, 464, 465–469, 470–472
 Eckel, Peter D., 61, 79, 143, 149, 238, 305, 396, 1035, 1058
écoles doctorales (graduate schools) (France), 720
 economic competitiveness, 216, 582, 647
 economic growth, 7, 178, 193–195, 216, 229, 282, 319, 323, 378, 395, 436, 477, 542, 522, 574, 614, 653, 680, 731, 773, 801, 925, 1057
 role of higher education in, 7, 229–240
 economics of higher education: *see* financing
 economic development, 17, 41, 189, 195, 219, 225, 309, 314, 433, 451, 484, 512, 514, 520, 533, 563, 564, 631, 634, 641, 670, 674, 685, 687, 794, 829, 868, 939, 1030
 and Asian tiger economies, 925, 927
 and development of markets, 15, 92, 137, 440, 452, 615, 663
 and socioeconomic development, 564
 economies of scale, 326, 561, 647, 657, 658, 1051
 ECS (Education Commission of the States) (U.S.), 113, 114
 ECTS (European Credit Transfer System), 56, 73, 469, 475, 817, 1016, 1017
 Ecuador, 172, 504
 Edinburgh, 43, 182
 educated person, definitions of, 44, 250, 347, 351
 educational resources, 679, 1047 *see also* financing
 efficiency, 44, 105, 144, 147, 230, 236, 260, 290, 385, 504, 506, 511, 513, 521, 531, 543, 546, 549, 576, 605, 625, 638, 655, 662, 673, 675, 676, 679, 684, 693, 738, 769, 774, 775, 778, 802, 803, 815, 816, 855, 862, 863, 877, 883, 888, 899, 901, 908, 909, 922, 924, 975, 978, 984, 1039, 1051 *see also* accountability, management; governance
 and curricular reform, 50, 453
 and structural adjustment programs, 559, 759, 764
 internal versus external, 12, 235, 261
 lack of, 144, 147
 EFTA (European Free Trade Agreement), 468
 egalitarian values, 246, 260
 Egypt/Egyptian, 2, 125, 129, 132, 191, 192, 338, 397, 410–415, 417, 419, 491, 693–708, 793, 1059
 El-Khawas, Elaine, 17, 23, 25–28, 30–32, 105, 106, 369, 396, 1052, 1058
 El Salvador, 283, 504
 elective system, 48, 49, 270, 695
 elite access, 2
 elite higher education, 7, 239, 248–253, 264, 266, 277, 278, 938
 elite system, 86, 87, 179, 254–256, 258, 266, 926, 935, 938
 e-mail, 135, 136, 386, 566
 employability, 53–55, 693, 742, 817, 845, 915, 987

- employment, 12–14, 50, 53, 60, 62, 74, 76–79, 96, 180, 187, 192, 223, 268, 289, 294, 298, 300, 310, 312, 321, 347, 396, 412, 455, 456, 533, 543, 563, 565, 581, 588, 597, 607, 616, 619, 623, 624, 628, 629, 656, 661, 664, 680, 693, 694, 697–700, 703, 704, 732, 735, 739, 740, 742, 748, 757, 758, 760, 765, 766, 775, 789, 800, 805, 831, 834, 836, 844, 850, 872, 875, 876, 907, 909, 914, 915, 923, 926, 935, 938, 941, 944–946, 952, 979, 988, 1044, 1049, 1058 *see also* faculty; academic profession; working conditions
- and brain drain, 563, 564, 607, 641, 723, 825, 855, 856, 863, 930, 960
- and economic development, 219, 225, 451, 484, 512, 674, 687, 794, 868, 939, 1030
- Enders, Jürgen, 5, 10, 13–15, 192, 196, 208, 397, 946, 1059
- endowment/endowments, 71, 72, 90, 93–95, 100, 104, 105, 273, 288, 318, 547, 630, 678, 762, 781, 786, 800, 803, 852, 1021, 1040, 1051
- engineering, 28, 32, 44, 52, 54, 55, 61, 62, 70, 74, 77, 79, 129, 175, 176, 181, 182, 184, 188, 190, 195, 198, 230, 233, 235, 382, 411, 424, 427, 429, 486, 488, 489, 496, 512, 519, 522, 525, 578, 582, 589, 590, 592, 598, 599, 609, 613, 614, 619, 623, 650, 661, 664, 668, 671, 697, 702, 714–717, 734, 737, 750–753, 755, 760, 771, 772, 775, 778, 782, 784, 785, 788, 789, 796, 797, 800, 802, 804, 807, 814, 815, 824, 830, 831, 834, 835, 846, 867, 869, 871, 875, 877, 888, 892, 900–902, 908, 919, 936, 937, 986, 988, 989, 997, 1004, 1005, 1007, 1008, 1014, 1029, 1030, 1032, 1047, 1049
- England, 6, 25–29, 32, 46, 60, 89, 94, 114, 122, 145, 165, 168, 170, 171, 173, 174, 176, 179, 180, 182, 251, 272, 278, 317, 336, 401, 402, 435, 439, 589, 632, 795, 804, 877, 1022–1026, 1028, 1031–1033, 1051, 1055, 1058, 1063, 1064 *see also*: United Kingdom
- English tutorial model, 44
- Enlightenment, the, 6, 43, 160, 161, 170, 172–174, 196, 605, 882
- ENQA (European Network for Quality Assurance), 27, 476
- enrollment, 1, 2, 25, 66, 94, 102–104, 108, 109, 114, 117, 143, 192, 196, 231, 237, 245, 246, 248, 255, 262, 269, 271, 288, 298, 302, 303, 330, 415, 419, 444, 445, 447–449, 458, 488, 490, 496, 503, 504, 509, 510, 517, 523, 526, 528, 529, 531, 544–546, 558, 560, 574–577, 579, 582, 591, 597, 606, 615, 623, 629, 634, 635, 638, 649, 650, 655–657, 661, 674, 679, 680, 683, 686, 687, 700, 703, 716, 734, 748, 751–753, 769, 774, 782–789, 806, 812, 813, 815, 831, 832, 841, 846, 847, 850, 851, 859, 868, 869, 871, 876, 884, 887–890, 902, 919, 920, 924, 925, 927, 928, 935, 937, 938, 940, 942, 946, 955, 958, 973, 976, 979–981, 986, 993, 997, 1007–1011, 1013, 1014, 1017, 1022, 1032, 1036, 1037, 1040, 1042, 1050 *see also* access; students and access, 920, 1030 and financing, 83–104 in private higher education, 108–110 management, 142 projections, 109 rates, 262, 302
- enterprise colleges, 113, 115, 117, 118
- entrance examinations, 52, 343, 488, 526, 574, 577, 583, 618, 623, 652, 655, 674, 784, 785, 831, 869, 872, 874, 876, 902, 938–940, 958, 959, 997, 1003
- entrepreneurial activities, 95, 142, 152, 154, 301, 550
- entrepreneurial university, 145, 149, 547, 1012
- entrepreneurship, 300, 301, 306, 324, 494, 598, 860
- of universities, 145, 149
- of university graduates, 145, 149
- entry requirements, 526, 848 *see also*, admissions
- Entwistle, Noel, 352, 353, 356–358
- environmental scanning, 238
- EPF (Established Programs Financing) (Canada), 639, 640
- equal opportunity, 295, 528, 583, 731, 883, 967, 1035
- equality, 265, 266, 268, 273, 277, 525, 529, 533, 548, 594, 643, 654, 671, 765
- in educational opportunity, 179, 190
- equity, 306, 306, 399, 416, 418, 486, 497, 513, 543, 568, 576, 647, 651, 655, 702, 708, 774, 784, 836, 845, 848, 893, 925, 978, 982–984, 989, 1032, 1038, 1061 *see also* gender social, 306
- ERASMUS (European Action Scheme for the Mobility of University Students), 3, 26, 55, 56, 136, 196, 468, 469, 472, 473, 479, 520, 524, 533, 743, 1016, 1017
- Erasmus of Rotterdam, 166, 169, 479
- ESIB (National Unions of Students in Europe), 476
- Estonia/Estonian, 53, 428, 447, 468
- Ethiopia/Ethiopian, 7, 122, 127, 129, 404, 557, 558, 563, 567, 1066
- ethnic diversity, 358

1080 *Index*

- EU (European Union), 16, 26, 53, 56, 62, 121, 122, 127, 130, 136, 247, 271, 273, 274, 383, 462, 464, 468, 469, 471–473, 479, 480, 518–520, 523, 524, 716, 815, 818, 827, 998, 1015–1017
- EUA (European University Association), 27, 32, 402, 476, 1064
- EURASHE (European Association of Institutions in Higher Education), 476
- European Commission, 26, 27, 29, 31, 73, 396, 462, 466, 468–473, 477–480, 518, 743, 744, 1058
- European Higher Education Area, 56, 271, 435, 461, 473–475, 478, 480, 521, 742, 965, 968
- European integration, 254, 271–273, 435, 461–478
see also Bologna Declaration, Bologna process
- European Research Area, 475, 478, 480, 521, 905
- Europeanization, 462, 463, 465, 467–469, 471–473, 477, 521, 900, 905
- evaluation, 24, 29, 504, 507, 521, 524, 526, 528, 661, 665, 721, 741, 776, 781 *see also*, assessment; accreditation
of teaching, 364
- Evaluation Institute (Denmark), 23, 26, 524
- examinations, 24, 29 *see also* assessment; evaluation
- expansion, 282 *see also* access; massification
- experiential learning, 361, 364
- external review, 23, 24, 26, 27, 29, 60, 71, 73, 143, 145, 148–150, 154, 215, 222, 266, 278, 318, 319, 354, 361, 363–365, 367, 399, 402, 404, 504, 507, 509, 511–513, 524–526, 528, 530, 533–535, 549, 580, 581, 610, 624, 625, 662, 663, 665, 693, 702, 707, 720, 721, 724, 725, 735, 736, 738, 740–742, 754, 758, 776, 778, 781, 782, 786, 790, 799, 801, 814–816, 819, 820, 824, 826, 833, 870, 875, 877, 886, 887, 891, 894, 899, 910–914, 945, 965, 985, 1005, 1038, 1061, 1064, 1066
- extra-curricular life, 329, 334
- fachhochschulen* (universities of applied sciences) (Germany), 10, 52, 236, 312, 435, 732, 735, 737
- facultés* (disciplines) (France), 488
- facilities, 15, 72, 79, 84, 90, 116, 125, 126, 231, 234, 235, 239, 268, 320, 330, 331, 334, 342, 386, 414, 445, 447, 483, 491, 492, 496, 497, 543, 545, 547, 550, 563, 577, 589, 605, 622, 623, 657, 696, 707, 750, 753, 756, 762, 763, 778, 804, 808, 813, 818, 839, 841, 850–852, 855, 858, 859, 872, 875, 876, 904, 914, 922, 928, 931, 932, 955, 966, 972, 979, 983, 1021, 1023, 1029, 1041, 1046 *see* infrastructure; laboratories; libraries; research
- faculty, 3, 5, 7–9, 11, 13, 15, 17, 18, 41, 44, 45, 47–49, 54, 58, 61, 69, 73, 76, 77, 79, 83, 89, 95, 105, 109, 117, 122, 123, 133, 136, 142–149, 151–154, 164, 171, 199, 218, 221–224, 226, 230–240, 245, 248, 261, 263, 270, 285, 298, 311, 323, 331, 339, 348–350, 353, 358, 360, 362–368, 370, 389, 393, 396, 398–402, 404, 412–415, 419, 427–429, 437, 455, 456, 470, 484, 489, 507, 510, 518, 522, 525, 527, 534, 535, 539, 543, 545, 557, 561–563, 566, 576, 580–582, 588, 595, 601–603, 607, 610, 614, 617, 619, 620, 622, 634, 638, 639, 644, 651, 662, 680, 683, 685, 697, 700, 701, 713, 719, 720, 724, 729, 734, 736, 740, 754, 765, 771, 772, 786–788, 790, 795, 800, 802–804, 813, 821–823, 832, 835, 843, 844, 850, 855–857, 859–861, 868, 869, 875, 877, 891, 892, 906, 913, 914, 929, 931, 937, 939, 944, 951, 952, 954, 959, 960, 962, 966–968, 1005–1007, 1010, 1012, 1014, 1015, 1017, 1023, 1035, 1036, 1039, 1041, 1044–1046, 1049, 1052, 1055, 1057, 1058, 1060–1064, 1066 *see also* academic profession
and academic freedom, 11, 12
and brain drain, 65, 73, 74, 130, 217, 225, 316, 416, 990
development, 224
in private higher education, 281–290
preparation for, 9–11
recruitment, 813, 962
research and scholarship, 309–326
teaching and learning, 347–370
- faculty/student ratio: *see* student/faculty ratio
- Farag, Iman, 397, 693, 697, 702, 706, 1059
- Federal Republic of Germany (West Germany), 730, 732, 743
- fees, 23, 57, 71, 72, 83, 87, 88, 90, 92–96, 99–105, 110, 111, 142, 165, 184, 199, 231, 255, 273, 304, 318, 378, 436, 437, 439, 466, 485, 495, 497, 506, 507, 523, 528, 534, 547, 558, 559, 578, 579, 583, 590–592, 594–596, 605, 606, 609, 642, 643, 649, 650, 655, 656, 658, 659, 662, 677, 678, 703, 714, 715, 717, 739, 755, 762, 764, 774, 775, 786, 787, 800, 802, 805, 813, 823, 826, 829, 831, 832, 844, 851–853, 859, 862, 902, 903, 916, 917, 924,

- 927–929, 931, 932, 936, 938, 939, 942, 948, 966, 1014, 1017, 1021, 1023, 1025, 1032, 1040, 1041, 1049, *see also*, financing; tuition
 and institutional financing, 92, 94
 and rates of return, 85
 fee waivers, 88
 FEE-HELP (system of income-contingent loans) (Australia), 596
 fellowships, 96, 471, 479, 520, 551, 582, 584, 607, 608, 620–622, 719, 751, 763, 826, 952, 958, 990
 Fergany, Nader, 695
FernUniversität (Germany), 3
 Filipino *see* the Philippines
 financial aid, 84, 93, 96, 98, 100–102, 104, 106, 231, 299, 305, 397, 577, 765, 833, 875, 916, 998, 1015, 1036, 1038–1041, 1047, 1049, 1050, 1059 *see also* financing
 and assessing student need, 98
 and student activism, 329–343
 and tuition, 94, 95
 grants, 97
 loans, 97
 scholarships, 97
 financial assistance: *see* financial aid
 financial need, defining, 83–85
 financing, 15, 23, 83, 84, 88, 90, 92, 94, 96, 101, 102, 104, 123, 142, 230, 260, 397, 399, 432, 450, 451, 494, 504–506, 523, 526, 528–530, 532, 534, 546, 548, 582, 590, 605, 621, 635, 639, 653, 722, 764, 769, 798, 808, 825, 826, 849–851, 883, 885, 890, 892–894, 936, 951, 953, 955, 956, 964, 966, 967, 999, 1012, 1014, 1028, 1039, 1059, 1061 *see also* costs; donors; economics of higher education; foreign aid
 and block grants, 97
 and entrepreneurialism, 145, 149
 and expenditures, 88
 and financial diversification, 209
 and financial support for students, 83–104
 and historical reliance on government funding, 100
 and management, 83–104
 and performance funding, 91
 and public policy, 87
 and student activism, 329–343
 of private higher education, 281
 of research, 309
 patterns, 83–104
 policies, 83–104
 fine arts, 190, 522, 671, 781, 788
 Finland, 14, 15, 53, 66, 129, 145, 178, 182, 231, 380, 384, 468, 479, 517–519, 521, 524–527, 533, 535, 536
 FIPSE (Fund for the Improvement of Postsecondary Education) (U.S.), 90, 471
 first-degree programs, 131
 first-generation students, 760
 first-year students, 48, 655, 657, 662, 784, 823, 824, 858
 Five-Year Plan (China), 670, 749, 752, 761, 808
 Flavelle Commission (Canada), 632, 633
 flexible governance structure, 149
 FOMEC (Fund for the Improvement of Quality in Universities) (Argentina), 576, 583
 Ford Foundation, 567
 foreign aid, 129, 132, 705 *see also* donors; financing
 dependence on, 83–104
 need for, 83–85
 need for a new aid model, 102–104
 foreign direct investment, 659
 foreign language, 56, 127, 221, 233, 239, 305, 367, 463, 465, 470, 703, 706, 787, 876, 949
 foreign scholars, 207, 235 *see also*
 internationalization; labor market
 and internal politics, 216
 reliance on, 207–226
 working conditions of, 207–226
 foreign students, 3, 17, 95, 129, 167, 232, 278, 343, 463, 465, 466, 518, 524, 527, 530, 535, 545, 588, 589, 592–600, 605, 610, 707, 723, 738, 743, 744, 779, 834, 900, 903, 949, 967, 968, 1023, 1051 *see also*: international students
 foreign study, 3 *see also* study abroad
 Forest, James J.F., 1, 305, 347, 357, 359, 363, 365, 371, 393, 399, 1055, 1061
 for-profit higher education, 107–118, 1052 *see also*, private higher education
 and corporate universities, 113
 and enterprise colleges, 115
 definition of, 110–113
 degree-granting versus non-degree granting, 114
 growth of sector, 116
 relationship with the private sector, 107–118
 size and scope of sector, 108–110
 super-systems, 116
 types and classifications of institutions, 113–116
 for-profit institutions, 67, 93, 94, 107, 108, 110–112, 114, 116, 117, 271, 290, 446, 1036, 1037, 1040, 1051
 for-profit providers, 27, 107–118, 285
 for-profit sector, 107, 108, 110, 113, 115–117
 Fouad I University, 191

1082 *Index*

- France, 6, 13, 15, 19, 25, 26, 28, 45, 46, 52, 60, 66, 87, 97, 98, 114, 125, 131, 160, 163–168, 171–175, 178, 180–183, 196, 197, 201, 230, 245, 246, 254, 279, 336, 342, 343, 439, 447, 462, 464, 466, 473, 484, 486, 488, 491, 609, 613, 629, 711, 714, 716, 721–726, 730, 817, 840, 965, 967, 1004, 1013, 1014
- franchise/franchising, 112, 124, 133, 207, 210, 217, 251, 342, 379, 547, 600, 617, 981, 984
- Francophone Africa, 97, 484, 487
- Francophone University Agency (*Agence Universitaire de la Francophonie*, or AUF), 493
- Francophone Virtual University, 487
- fraternities, 319, 329, 331–333, 845, 1048
- Freire, Paulo, 352, 371
- French Revolution, 46, 124, 160, 161, 172–174, 178, 179, 426, 711, 994
- Friedman, Milton, 293, 300, 610
- FTE (full-time equivalent), 523, 989
- funding formulas, 89, 90, 104, 105, 769
- funding, external sources of, 83–104, 492, 622
- fundraising, 95, 142, 148, 152, 153, 222, 825, 853, 1040, 1046
strategies for, 95, 142
- further education, 195, 251, 259, 268, 272, 276, 312, 379, 479, 593, 750, 785, 906, 965, 1003, 1025, 1032
- further education colleges (U.K.), 251, 312, 1025, 1032
- Gabon, 486, 487, 489, 492, 495, 500
- Galileo, 43, 173, 201
- García de Fanelli, Ana M., 397, 573–576, 578, 579, 581, 584, 1059
- GATS (General Agreement on Trade in Services), 122, 126, 136–138, 403, 477, 561, 743, 990, 1065
- Gaza Strip, 415
- Geiger, Roger, 175, 312, 324
- gender, 233, 296, 356, 358, 399, 400, 416, 530, 535, 558, 695, 752, 774, 806, 807, 812, 814, 824, 845, 847, 848, 860, 861, 976, 1035, 1038, 1042, 1061, 1062 *see also*, equity
and access, 845
and rates of return, 356
and social norms, 306, 356
and workforce, 194
in scientific and academic administration careers, 13, 14
issues, 400, 530, 535, 1062
- general education, 41, 43, 45, 47, 51, 53, 58–61, 131, 171, 178, 183, 249, 352, 367, 453, 454, 466, 469, 761, 789, 883, 1044
- Geneva/Swiss, 182
- Georgia/Georgian, 110, 184
- Germany/German, 6, 13, 15, 17, 45, 47, 52, 55, 66, 75, 87, 97, 125, 127, 160, 164, 167, 171, 173–175, 177, 180, 184, 194, 196, 197, 200, 230, 245, 272, 273, 312, 320, 326, 331, 332, 336, 342, 384, 399, 425, 436, 439, 462–466, 473–476, 519, 527, 609, 668, 712, 729–739, 741–744, 771, 817, 840, 878, 906, 967, 1061
- German Democratic Republic (East Germany), 200, 399, 734–737, 1061
- gewerbe instituten* (trade schools), 177
- Ghana/Ghanaian, 122, 189, 283, 560, 567
- GI Bill (Servicemen's Readjustment Act) of 1944 (U.S.), 302, 303, 305, 306, 1038
- Glasgow/Scot, 43, 44, 168, 174, 1019
- globalization, 3, 4, 10, 12, 27, 40, 49, 55, 61, 121–128, 131, 134–136, 138, 196, 200, 207–210, 213, 225, 281, 288–290, 236, 370, 371, 378, 388, 389, 393, 400, 402, 403, 434, 438, 440, 443, 449, 451, 452, 465, 467, 477, 498, 503, 508, 510, 512, 539, 545, 552, 553, 561, 659, 667, 684, 687, 763, 765, 778, 779, 789, 870, 978, 1003, 1055, 1062, 1064, 1065
and commodification of higher education, 122
and corporate universities, 113–115, 118, 210
and European integration, 122
and European languages, 126–128
and export initiatives, 136
and information technology, 134–136
and international student and scholar mobility, 128–131
and labor markets, 128–131
and multinationalization, 131–134
and neocolonialism, 126
and private higher education, 118
and the curriculum, 131
and the English language, 126–128
and twinning programs, 121–138
centers and peripheries, 124–126
definitions of, 123, 124
entrepreneurialism and competition, 121–138
GATS and the World Trade Organization, 136
history of, 121–138
international agreements and frameworks, 136–138
- governance, 3, 10, 83, 88, 90, 91, 104, 121, 141, 143–145, 147–154, 209, 210, 222, 232, 237,

- 238, 244, 245, 248, 252, 261–264, 269, 287, 288, 290, 300, 316, 342, 365, 397–399, 401, 402, 413, 414, 418, 432, 433, 455, 456, 500, 506, 518, 520–522, 527, 529, 531, 535, 539, 541, 550, 565, 579, 604, 620, 621, 630–633, 636, 637, 639, 667, 673, 684, 721, 735, 739, 740, 751, 775, 778, 788, 795, 797–800, 808, 815, 820, 824, 843, 869, 875, 884–886, 894, 911, 919, 929, 931, 932, 953, 954, 978–980, 982, 1000, 1005, 1006, 1011, 1012, 1017, 1027, 1028, 1037, 1044–1046, 1059–1061, 1063, 1064 *see also* administration; leadership; management; organization; government involvement
- and autonomy, 11, 12
and financing, 142
and information technology, 142
and institutional structure, 141–152
and management, 150
and market competition, 142
corporate models of, 149
flexible structures of, 143
models of, 147–149
shared governance, 149
theoretical approaches, 144
trends, 147
- governing boards, 26, 236, 237, 257, 333, 401, 520, 531, 581, 639, 1037, 1063
- government involvement, 101, 294, 798 *see also* governance; leadership; academic freedom
and government control of universities, 147–149
and government reform strategy, 147–149
and internal governance, 141–145
and professorial authority, 347
in private higher education, 118
- government regulation, 104, 628, 637, 775, 778, 1048
- graduate education, 65, 66, 73, 74, 77–79, 88, 281, 284, 285, 288, 349, 579, 730, 788, 789, 834, 876, 890, 899, 906, 919, 951, 962, 964, 965, 1015 *see also* doctoral education
- graduate school, 6, 66, 79, 251, 252, 274, 279, 397–399, 542, 591, 720, 794, 842, 873, 876, 877, 889, 904, 906, 1007, 1059–1061
- graduation rates, 33, 91, 598, 661, 662, 1008
- grandes écoles* (professional schools) (France), 10, 41, 45, 46, 52, 124, 160, 174, 177, 178, 197, 249, 254, 712–719, 722, 723, 725, 1004
- grants, 71–73, 89, 96, 97, 100, 102, 199, 231, 257, 269, 294, 299, 305, 314, 315, 317, 319, 320, 322, 324, 380, 468, 470, 471, 495, 523, 528, 530, 532, 533, 547, 578, 583, 590–592, 594, 600–603, 605, 608, 633–636, 638–640, 642, 751, 754, 755, 796, 798–801, 813, 823, 852, 872, 903, 928, 945, 1020, 1029, 1040, 1041, 1049 *see also* donors; financial aid; scholarships
- Great Britain, *see* United Kingdom
- Greece/Greek, 159, 178, 410, 453, 479, 1007, 1013, 1015
- gross enrollment ratio, 544, 574, 919, 924, 925, 976, 1008, 1030 *see also* participation rate
- Group of Eight (Australia), 313
- Guatemala/Guatemalen, 504
- guild, 6, 9, 18, 163, 165, 278, 379, 999, 1019
of masters, 163, 1019
of students, 163
- Guinea/Guinean, 488, 495, 500
- Gulf (Arabian, states of), 14, 129, 413–415
- Gumport, Patricia, 114, 141, 144, 146, 147, 150, 151, 393, 1055
- habilitation (Germany), 273, 718, 720, 740, 945, 947
- Harman, Grant, 105, 142, 186, 309, 311, 313, 315, 317, 322, 323, 325, 397, 1059
- harmonization, 121, 122, 271, 462, 465, 467–469, 471–474, 521, 723, 913
- Hartley, Matthew, 236, 301, 305, 397, 458, 933, 1059
- Harvard College/Harvard University, 44, 48, 49, 59, 67, 137, 183, 184, 249, 294, 297, 302, 305, 395, 397, 401, 402, 443, 1052, 1057, 1059, 1063, 1064
- Hauptman, Arthur M., 83, 89, 101, 397, 1059
- HAUs (historically advantaged universities), 986, 987
- Hayhoe, Ruth, 122, 398, 667–670, 672, 686, 1060
- HBOs (*hoger beroepsonderwijs*) (the Netherlands), 52, 900–904, 908–910, 912, 914, 915
- HBUs (historically black universities), 979, 982, 986–988
- Hebrew, 44, 191, 793–795, 797, 804
- Hebrew University (Jerusalem), 191, 795, 797, 804
- HECS (Higher Education Contribution Scheme) (Australia), 94, 95, 593–597, 605, 606, 610
- Heidelberg University (Germany), 167, 168, 182, 696, 729
- HELB (Higher Education Loans Board) (Kenya), 839, 846, 849–851
- HELTS (Higher Education Long-Term Strategy 2003–2010) (Indonesia), 769, 775
- Herrera, Linda, 398, 409, 411, 1060
- Higher Education Funding Council (U.K.), 26, 89, 317, 402, 1064

- Higher Education Quality Council (U.K.), 27, 31, 1019
- Hindu, 51, 159, 186, 187, 333, 765
- Hispanics, 231, 1045
- history, 24, 29, 40, 42–44, 49, 51, 70, 92, 124, 131, 132, 141, 146, 159, 161, 175, 177, 186, 193, 198, 200, 201, 208, 232, 264, 270, 281, 282, 293, 294, 332, 335, 337, 348, 400–402, 404, 409, 410, 426, 444, 449, 451, 454, 472, 484, 512, 517, 521, 539, 552, 558, 591, 623, 629, 632, 647, 667, 673, 696, 698, 701, 704, 711, 724, 743, 749, 761, 770, 815, 840, 843, 867, 868, 878, 881–883, 889, 900, 923, 935, 951, 972, 974, 978, 993, 1003–1005, 1035, 1055, 1060, 1062–1064, 1066
- and developing countries, 159–201
- and developing societies, 159–201
- and European historical influences, 183–200
- and German institutions, 167
- and *grandes écoles*, 166
- and guilds, 163
- and Latin America, 181
- and massification
- and medieval influences, 161, 162, 169
- and nation-state influences, 159–201
- and post-industrial society, 192
- and social mobility, 196
- and technology, 159–201
- and the French Revolution, 160
- Bologna, 164
- Cambridge, 165
- colonial forms of education, 185, 186
- early history and the church, 159–201
- Enlightenment, 160, 161
- Industrial Society, 174
- of curricula, 39
- of distance learning, 159–201
- of French institutions, 166
- of higher education in (name of country), 229
- of the academic profession, 5–9
- of universities, 180
- Oxford, 165
- Paris, 162
- Reformation, 170, 171
- Salerno, 162
- U.S. developments, 184
- historical background, 747, 830, 919, 951
- HIV/AIDS, 494, 564, 565, 568, 845, 860, 861, 1046
- homo academicus*, 12
- homo economicus*, 12
- Honduras, 159, 504
- Hong Kong, 14, 17, 25, 55, 129, 188, 198, 317, 319, 350, 398, 552, 599, 600, 688, 1060
- HRDC (Human Resources Development Canada), 216, 471
- human capital theory, 73, 216, 293, 591, 673
- humanism, 216
- humanities, 44, 166, 169, 410, 418
- Humboldt, Wilhelm von, 6, 124, 177, 201, 312, 729, 827
- Humboldtian (model, tradition), 6, 10, 13, 45, 47, 236, 271, 378, 435, 438, 440, 553, 712
- Hungary/Hungarian, 25, 90, 168, 183, 195, 320, 425–428, 433, 437, 468, 470
- IAOU (Iran Azad (open) University), 782
- IAU (Islamic Azad University), (Iran), 783, 784, 788
- IAVI (International Aids Vaccine Initiative), 861
- Iceland/Icelander, 53, 379, 517–519, 527, 528, 531, 534, 536
- ICT (information and communication technology), 318, 377, 379, 380, 389, 390, 500, 566, 588, 789, 855, 925, 989
- and globalization, 378–379
- and institutional processes, 377–390
- and institutional structure, 384–386
- and limiting effects of brain drain, 386
- and maintenance challenges, 384
- and university libraries, 383
- and virtual conferences, 383
- CD Rom technology, 377–390
- e-mail, 384, 386
- IDB (Inter-American Development Bank), 509, 510
- Ignatius Loyola, 172
- IGS (Institutional Grants Scheme) (Australia), 600, 608
- IIE (Institute for International Education), 74, 599
- illiteracy/illiterate, 4, 179, 187, 294, 341, 385, 616, 653, 694, 697, 702, 704, 748
- IMF (International Monetary Fund), 486, 506, 546, 849
- immigration, 128, 130, 216, 223, 225, 230, 400, 563, 588, 591, 793, 835, 1051, 1062 *see also* brain drain; diaspora,
- impact studies, 31, 32
- in loco parentis*, 47, 331, 342
- independence, 7, 13, 51, 170, 176, 178, 180–183, 186–191, 199, 234, 335, 336, 340, 412, 425, 454, 483, 484, 499, 503, 539–541, 557, 559, 573, 613, 615, 669, 697, 748, 754, 756, 771, 778, 779, 808, 815, 822, 840, 848, 868, 923, 926, 936, 994, 995, 1035
- India/Indian, 2, 4, 15, 17, 51, 74, 111, 112, 114, 116, 118, 122, 127–130, 159, 160, 176, 181, 186–188, 192, 195, 209, 229–231, 288,

- 331, 333, 334, 336, 340, 380, 382, 385, 398, 400, 410, 419, 447, 458, 471, 492, 587, 599, 696, 747–766, 770, 840, 854, 925, 926, 971–977, 988, 991, 1013, 1060, 1062
- Indian University Education Commission, 51, 747–765
- Indira Gandhi National Open University, 4, 419, 756
- Indonesia/Indonesian, 122, 132, 182, 192, 283, 335, 336, 404, 447, 539–550, 598, 609, 769–779, 1066 *see also* Dutch East Indies
- Industrial Revolution, 44, 124, 160, 174, 193, 195, 312, 410, 449, 613, 993
- innovation, 7
- INQAAHE (International Network of Quality Assurance Agencies in Higher Education), 23, 27
- institutional capacity, 523 *see also* institutional structure
- institutional effectiveness, 28, 33, 367
- institutional structure, 414, 533–536, 627, 628, 660, 889, 982, 1049 *see also* institutional capacity;
and Western models, 414
organization and management, 414
- Institutos Profesionales* (professional institutes or IPs) (Chile), 648, 657, 664
- instructional methods, 40, 351, 450 *see also*,
teaching methods
- intellectual development, 46, 47, 176
- intercollegiate sports: *see* athletics
- intercultural, 207, 211–216, 218, 219, 222, 225, 588
- interdisciplinary, 145, 153, 220, 276, 318, 360, 400, 518, 533, 534, 782, 800, 818, 1062
- interdisciplinary research, 145, 153, 400, 1062
- International Council for Open and Distance Learning, 198
- international education, 74, 137, 211, 213, 216, 217, 220, 223, 226, 393, 396, 398–400, 471, 479, 527, 551, 599, 763, 766, 778, 836, 967, 968, 1055, 1058, 1060–1062
- international mobility of faculty, 16, 210, 217
- international mobility of students, 16, 210, 217, 522, 985
- International Network for Higher Education in Africa, 567
- international students, 3, 16, 74, 127, 128, 211, 221, 225, 463, 472, 599, 603, 606, 683, 835, 967, 986, 1026, 1051 *see also*: foreign students
- internationalization, 3, 8, 16, 17, 112, 121, 123, 131, 207–226, 288–290, 367, 370, 389, 396, 399, 403, 434, 462, 463, 466, 472, 477, 479, 521, 523–525, 527, 528, 530, 533, 534, 598–600, 667, 684, 685, 687, 696, 743, 744, 764, 766, 829, 834–836, 900, 901, 951, 967, 968, 978, 986, 1058, 1061, 1065 *see also*,
European integration
and distance education, 212, 254, 255, 270, 271, 276
and European integration, 461–482
and globalization, 16, 121, 123, 131, 208, 210
and governance issues, 210
and strategic alliances, 217, 220
and transnational partnerships, 389
challenges of, 224–226
definition of, 211–215
policies, 221–224
rationales for, 215–221
- Internet, 3, 4, 113, 121, 123–127, 130–132, 134, 135, 138, 142, 196, 198, 201, 219, 230, 233, 362, 373, 379, 381, 385, 449, 450, 494, 498, 499, 561, 566, 606, 855, 878 *see also*, ICT (information and communication technology)
and institutional structure and processes, 134, 135
and the English language, 381
and university websites, 382
connectivity, 384–386
donor interest in, 377–390
effects on research, 386–387
- Internet-based training, 498, 499
- IP (intellectual property), 9, 136, 314, 315, 321–325, 397, 439, 506, 563, 648, 654, 656, 657, 663, 664, 1059 *see also* research and scholarship
ownership of, 9, 324, 325
rights, 9, 506, 563 *see also* research and scholarship
- Iram, Yakov, 398, 793–795, 805, 1060
- Iran/Iranian, 66, 190, 338, 395, 458, 781–790, 929m, 1057
- Iraq/Iraqi, 190, 412, 415, 418, 419
- Ireland/Irish, 15, 27, 53, 55, 60, 176, 182, 439, 464, 476, 588, 589, 1019–1025
- Islamic, 51, 186, 187, 333, 335, 337, 338, 340, 348, 398, 404, 409, 410, 413, 415, 417–419, 540, 541, 560, 701, 782–784, 788, 932, 1004, 1009, 1060, 1066
- Islamic world, 333, 337, 338
- Israel/Israeli, 17, 133, 173, 191, 305, 338, 398, 415, 457, 793–809, 1016, 1060
- Istanbul/Turk, 178, 190, 410, 1004–1006, 1008, 1017
- Istanbul University (Turkey), 1004, 1005
- IT (information technology): *see* ICT (information and communication technology)

- Italy/Italian, 6, 13, 15, 53, 162–164, 166, 167, 171, 177, 179, 180, 197, 200, 245, 257, 336, 461, 464, 473, 474, 614, 696, 811–813, 816, 817, 825, 1013
- ITB (Bandung Institute of Technology) (Indonesia), 772
- IUT (*institut universitaire de technologie*, or university institute of technology) (France), 714–716, 719, 722, 723, 726
- Ivory Coast: *see Côte d'Ivoire*
- ivory tower, 174, 199, 271, 287
- Ivy League, 174
- JAB (Joint Admissions Board) (Kenya), 846, 848
- Jakarta (Indonesia), 182, 770–772, 779769
- Jamaica, 190
- JAMB (Joint Admissions and Matriculation Board) (Nigeria), 921, 924
- Japan International Cooperation Agency, 672
- Japan/Japanese, 7, 17, 27, 41, 51, 58–60, 66, 75, 110, 112, 122, 125, 127, 130, 132, 133, 160, 172, 177–179, 191, 192, 194–197, 235, 245, 275, 283, 312, 317–320, 325, 402, 404, 414, 457, 458, 466, 519, 552, 599, 608, 609, 668, 670, 672, 685, 797, 829–831, 834, 835, 868, 929, 989, 1013, 1014, 1064
- Japanese imperial universities, 41
- Jayaram, N., 51, 340, 398, 747, 753, 756, 765, 766, 1060
- Jefferson, Thomas, 294, 1035, 1037, 1039
- Jesuits (Society of Jesus), 132, 168, 172, 181–183, 411, 613, 629
- Jewish, 162, 411, 419, 730, 793–795, 798, 799
- Jews, 166, 411, 793, 806
- Jibril, Munzali, 398, 919, 1060
- job market, 69, 76, 77, 282, 289, 511, 615, 656, 694, 699, 702, 703, 708, 760
- job roles, academic, 9, 69, 910
- Joensuu University (Finland), 145
- Johns Hopkins University (U.S.), 6, 48, 184, 632
- joint programs, 116, 416, 467, 581
- joint venture, 142, 466, 903
- Jomo Kenyatta University of Science and Agriculture, 843, 851, 860
- Jones, Glen A., 54, 56, 116, 398, 627, 630, 633, 639, 642, 1060
- Jones International University, 116
- Jordan/Jordanian, 2, 109, 129, 198, 412, 417–419, 659, 793
- journals, 331–332, 350 *see also* publishing; research and scholarship acquisition of, 331–332 and centers and peripheries, 331–332 and local languages, 331–332 and new partnerships, 331–332 biases in research, 331–332, 354, 656, 953 editorial difficulties, 331–332 electronic, 331–332 international versus regional, 331–332 lack of access to, 331–332 print-based, 331–332 scientific, 331–332
- junior colleges, 504, 750, 829–831, 835, 871, 872, 875
- junior professors, 273, 740
- KBN (State Committee for Scientific Research) (Poland), 945
- KCSE (Kenya Certificate of Secondary Education), 846
- Kehm, Barbara M., 399, 464, 729, 731, 732, 735, 1061
- Keller, George, 229, 232, 234, 237–239, 399, 1061
- KENET (Kenya Education Network), 855
- Kenya/Kenyan, 110, 283, 288, 401, 491, 839–843, 845–853, 855–857, 859–863, 1063
- Kerr, Clark, 9, 41, 121, 122, 232, 379
- key-point institutions (China), 683
- King, Jacqueline E., 61, 79, 305, 399, 1035, 1042, 1061
- King's College (Canada), 183, 630
- King's College (U.K.), 176, 630
- Kinser, Kevin, 107, 226, 285, 305, 363, 371, 393, 399, 1052, 1055, 1061
- Knight, Jane, 25, 31, 62, 122, 123, 136, 207, 208, 210, 213–217, 221, 226, 399, 477, 1061
- knowledge-based economy, *see* knowledge economy
- knowledge economy, 122, 216, 231, 232, 378, 379, 389, 450, 462, 477, 478, 519, 543, 544, 553, 643, 744, 832, 900, 904, 909, 915, 925, 926, 928, 931
- and brain drain, 122–124
- and centers and peripheries, 124, 125
- and globalization, 128–129
- and institutional differentiation, 122–133
- and scholarly journals, 122–130
- and the role of libraries, 122–125
- knowledge society, 5, 18, 193, 209, 210, 219, 433, 440, 552, 744, 996
- knowledge transfer, 17, 142, 318, 393, 535, 685, 1030, 1055
- Koranic, 348, 695
- Korea/Korean, 4, 50, 51, 66, 74, 125, 130, 132, 193, 194, 229, 235, 283, 302, 318–320, 325, 326, 340, 380, 401, 414, 457, 458, 519, 599,

- 659, 664, 834, 867–878, 920, 925, 989, 1007, 1011, 1063
- koto-senmon-gakko* (colleges of technology) (Japan), 829
- Kuwait/Kuwaiti, 2, 195, 415, 417, 419, 457
- Kyong Dang (Korea), 867
- Kyrgyzstan, 127, 133
- labor markets, 15, 26, 39, 53, 56, 76, 77, 131, 213, 216, 219, 296, 312, 329, 401, 403, 418, 432, 510–513, 526 *see also* economics of higher education; employment; national development; unemployment
- and academic profession, 5–9
- and brain drain, 65
- and continuing education, 83
- and corporate universities, 107
- and language, 3
- and private higher education, 281
- and programs of study, 2, 83, 121
- and women, 256
- globalization of, 121–126
- laboratories, 3, 45, 46, 68–70, 72, 73, 76, 78, 124–126, 176, 252, 265, 267, 277, 278, 312–314, 320, 357, 447, 455, 489, 553, 561, 623, 683, 751, 753, 808, 817, 818, 922, 931, 935, 988 *see also* research and scholarship; science; institutional structure
- laissez-faire*, 59, 462, 463, 465
- land-grant institutions, 48, 58 *see also*: Morrill Land Grant Act (U.S.)
- language, 3, 7, 16, 17, 42, 43, 46, 50, 51, 55, 56, 110, 121–123, 125, 127, 128, 131, 133, 166, 175, 176, 181, 187, 208, 221, 230, 233, 239, 278, 282, 305, 367, 371, 381, 382, 390, 399, 409–411, 419, 461, 463, 465, 469, 470, 479, 493, 503, 525, 541, 558, 588, 598, 600, 616, 629, 637, 670, 703, 704, 706, 729, 737, 744, 748, 751, 756, 766, 770–772, 779, 787, 793, 829, 834–836, 858, 868, 876, 922, 949, 971, 1005, 1036, 1061
- Laos/Laotian, 539, 542, 544, 548, 550
- Latin, 42–44, 121, 122, 126, 160, 161, 166, 169, 196, 410, 729, 952
- Latin America, 2, 14, 16, 46, 50, 66, 110, 114, 129, 132, 177, 181, 233, 282, 286, 287, 334, 336, 340, 396, 399, 404, 414, 423, 445–448, 458, 491, 503–506, 508, 509, 512, 514, 613, 615, 618, 619, 701, 886, 967, 1048, 1058, 1061, 1066
- Lattuca, Lisa R., 39, 58, 59, 348, 400, 1062
- Latvia/Latvian, 283, 427, 428, 447, 468
- laurea* degree, 815
- laurea specialistica* degree, 812, 817, 818, 827
- Laureate Education, Inc. (formerly Sylvan Learning Systems), 118, 135, 137, 290, 659
- leadership, 12, 18, 65, 78, 124, 125, 143, 145, 147, 148, 150, 151, 153, 154, 226, 236–238, 249, 251, 252, 257, 259, 270, 273, 284, 294, 349, 363, 369, 403, 412, 430, 439, 457, 511, 520, 531, 594, 615, 663, 668, 670, 672–674, 679, 683, 684, 688, 695, 696, 733, 775, 778, 800, 820, 821, 843, 858, 876, 972, 1009, 1028, 1043, 1046, 1065 *see also* autonomy; governance; management
- and distance education, 12, 145
- and financial diversification, 152
- and poor institutional leadership, 12, 147–148
- and student activism, 261, 333–334
- and women, 152
- learning: *see also* teaching and learning
- assessments of, 358, 364
- community, 232, 233
- contracts, 361
- management systems, 384, 386
- moments, 355, 363
- objects (reusable learning objects), 383, 384, 389
- outcomes, 39, 56, 57, 61, 349, 356, 357, 363, 367, 370, 1039
- research on, 142, 225, 383, 917
- society, 269, 276, 277, 479, 1025
- learning-centered teaching, 363
- Learning Style Inventory, 355
- Lebanon/Lebanese, 2, 132, 412, 414, 415, 417, 419, 793
- lecture format, 43, 348
- lecturing, 357–359
- Lee, Molly N.N., 113, 289, 350, 400, 539, 540, 542, 545–548, 550, 872, 874, 875, 1062
- legal frameworks, 108, 110, 436, 504, 581, 604, 684, 833, 843, 849, 953, 995
- legal requirements, 137, 649
- legitimacy, issues of, 6, 112, 116, 153, 270, 285, 289, 361, 413, 419, 667, 698, 707
- lehrfreiheit* (freedom in teaching), 45, 48, 177, 191, 199, 348
- lernfreiheit* (freedom in learning), 45, 48, 177, 191, 199, 348
- Lesotho, 558, 856
- Levy, Daniel C., 107, 109, 116, 117, 181, 209, 226, 281, 282, 284, 287, 336, 400, 577, 886, 933, 1052, 1062
- liberal arts, 41, 42, 44, 53, 55, 117, 161, 183, 249, 251, 262, 270, 277, 397, 454, 670, 870, 1004, 1036, 1042, 1047, 1059

- liberal arts colleges, 41, 117, 183, 249, 251, 262, 397, 1004, 1036, 1042, 1047, 1059
- liberal education, 43, 45–48, 58, 59, 61, 176, 249, 263, 453, 454, 458, 591
- Liberia/Liberian, 188, 561
- libraries, 3, 7, 70, 124, 134, 230, 231, 252, 267, 268, 278, 371, 380, 383, 385, 410, 447, 455, 497, 547, 561, 577, 700, 808, 853, 858, 859, 876, 878, 904, 935, 966, 1029 *see also* institutional structure; research and scholarship
and new technologies, 377
centers and peripheries, 124, 125
challenges of maintaining, 3
inadequacies of, 124, 125
- Libya/Libyan, 412
- licence* or *license* (diploma) (France), 52, 163, 325, 355, 714, 722, 723, 725
- licenciatura* (degree) (Chile), 649, 895
- licensing, 25, 26, 137, 224, 234, 314, 318, 322–325, 548, 778, 841, 954, 965, 1041
- life sciences, 68, 77, 318, 472, 814, 823, 824
- lifelong learning, 5, 8, 56, 145, 153, 210, 255, 269, 367, 378, 380, 475, 487, 509, 525, 533, 534, 821, 870, 904, 953, 1025 *see also* distance education
and continuing education and training, 5–12
- LINGUA (program which promotes the learning of European languages) (EU), 55, 56, 479
- Lisbon/Portuguese, 167, 461, 477–479, 613, 968
- Lisbon Strategy, 167, 478, 479
- Lithuania, 172, 178, 428, 439, 468
- loans, 23, 70, 72, 96, 97, 99, 100, 102, 104, 105, 199, 231, 269, 288, 299, 305, 306, 324, 517, 530, 546, 547, 595, 596, 598, 600, 609, 622, 635, 642, 649, 654, 655, 708, 846, 849–852, 862, 863, 872, 903, 935, 948, 1025, 1041 *see also* financial aid; financing
and private higher education, 281
and privatization, 83–107
and tuition, 83–107
- London School of Economics (U.K.), 1020
- long-cycle programs, 522, 996
- loosely coupled system, 149
- low income families, 89, 642, 643, 731
- Lusophone Africa, 499, 565
- Luther, Martin, 168, 170
- Lutheran, 171, 182
- Luxembourg, 464, 469
- lycées* (secondary schools) (France), 46, 49, 159, 174, 178, 262, 263, 714–716
- Maastricht Treaty, 462, 468, 469, 473
- MacArthur Foundation, 567
- Machiavelli, 173
- Madagascar, 484, 487–490, 495, 500
- Madrasa*, 51, 159, 186, 187, 191, 338, 409, 410, 413, 765, 781, 1004
- Magnus, Albertus, 162, 323
- maîtres de conférences* (assistant professors) (France), 528, 530, 718–720, 725, 1014
- maîtrise* (diploma) (France), 52, 714, 715, 722, 725
- major: *see* academic major
- Makerere University (Uganda), 189, 840, 863
- Malawi, 186, 192, 403, 1065
- Malaysia/Malaysian, 50, 55, 109, 113, 116, 118, 127, 128, 132, 133, 188, 192, 229, 284, 338, 400, 539–551, 599, 600, 779, 925, 989, 1062
- Mali, 487, 500, 557
- Malta, 53
- management, 5, 9, 12, 28, 29, 32, 54, 69, 74, 90, 107, 112, 114, 115, 123, 129, 134, 138, 141–148, 150–154, 192, 195, 200, 219, 222, 229, 231, 232, 235, 236, 238, 250, 260, 265, 267, 275, 277, 316, 319, 325, 339, 358, 378, 379, 384, 386, 396, 397, 399, 401–403, 405, 424, 431, 433, 436, 449, 450, 455, 458, 471, 484, 493, 494, 497, 500, 530, 533, 535, 548, 549, 552, 560, 567, 595, 597, 605, 606, 608, 609, 655, 661, 662, 672, 674, 682, 684, 686, 701, 707, 712, 713, 718, 721, 724, 733, 736, 738–740, 750–753, 759–762, 769, 770, 774–776, 778, 789, 790, 794, 799, 803, 833, 843, 845, 849, 853, 854, 858, 862, 869, 870, 873, 877, 883, 886, 892, 905, 909–911, 929, 935–937, 942, 955, 956, 959, 966, 976, 985–987, 999, 1000, 1014, 1024, 1027, 1028, 1047, 1058, 1059, 1061, 1065, 1067
see also administration; governance; leadership
and accountability, 23, 25, 29
and governance, 141, 144
and strategic planning
challenges, 229, 235
need for improved information systems, 876
- Marginson, Simon, 151, 208, 400, 506, 510, 512, 587, 591, 594, 606, 1062
- market competition, 593–596, 1035, 1050
- market competitiveness, 370, 593–596, 832, 1050
- market demand, 44, 48, 210, 453, 509, 511, 513, 533, 606, 996
- market economy, 54, 209, 210, 436, 470, 539, 674, 677, 759–761

- market forces, 8, 10, 132, 276, 349, 370, 610, 757, 939, 948, 990, 1013, 1024, 1052
- market-based strategies, 91
- marketization, 141, 142, 144, 147, 152, 220, 435, 507, 508, 510, 511, 546, 594, 596, 683, 688, 900
- market-oriented, 151, 154, 317, 370, 503, 535, 560, 687, 816, 820, 1005
- Marxism, 54, 336, 338, 340, 424, 733, 735
- mass access, 2, 11–12
- mass higher education, 2, 39, 78, 138, 160, 161, 192, 195, 238, 244, 247–251, 253–264, 266–271, 273, 274, 277, 278, 282, 310, 404, 413, 429, 440, 590, 591, 597, 609, 610, 638, 642, 677, 680, 686, 811, 822, 829, 832, 948, 964, 993, 994, 999, 1025, 1030, 1066
- mass institutions, 255, 252, 259, 260, 262, 264
- mass system/system of mass access, 2, 86, 255, 256, 264, 274, 521, 716, 811, 926
- massification, 2, 3, 5, 7, 10, 49, 121, 123, 152, 201, 263, 275, 283, 284, 430, 435, 462, 463, 681, 716, 829, 926, 947, 948, 958, 1049, 1050
see also access, enrollment
and funding, 83
and student activism, 329
- master's degree, 55, 56, 65, 66, 68, 116, 233, 251, 271, 284, 398–400, 404, 405, 473, 474, 488, 526, 527, 543, 579, 583, 683, 722, 742, 744, 750, 757, 787–789, 797, 806, 876, 877, 884, 889, 891, 899, 903, 908, 912, 913, 917, 923, 936, 941–943, 945, 954, 987, 1043, 1060–1062, 1066, 1067
- mathematics, 44, 50, 74, 77, 173, 175, 194, 249, 348, 355, 410, 492, 578, 590, 629, 667, 772, 781, 814, 824, 893, 921, 922, 952, 1004, 1044
- matriculation, 526, 528, 529, 809, 834, 921, 922, 924, 980
- matriculation rate, 824
- Mauritania, 419, 489, 495
- Mauritius/Mauritian, 380, 487, 488
- Mauritius College of the Air, 488
- MBA (master's of business administration) degree, 131, 985, 986, 990, 1028, 1049
- McDonaldization, 121, 124
- McGill University, 183, 184, 630, 632
- McKeachie, Wilbert J., 363
- mechanics institutes (U.K.), 45, 174, 1019
- medieval scholasticism, 42, 44, 162
- medieval, 6, 42–45, 55, 56, 122, 123, 128, 159–163, 165, 168–170, 173, 174, 195, 199, 201, 249, 312, 332, 454, 729, 1004
- Mediterranean, 285, 409, 423, 471, 793
- Meiji Restoration, 41, 829
- Melbourne University (Australia), 185
- MERCOSUR, 504
- merging, 118, 487, 522, 677, 696, 701, 784, 901, 988
- meritocracy, 41, 196, 198, 664, 687, 831
- meritocratic, 41, 47, 178, 195, 198, 244, 246, 253, 258, 259, 455, 511, 667, 706
- MERLOT (Multimedia Education Resource for Learning and Online Teaching), 383
- Mexico, 27, 113, 127, 129, 172, 181, 229, 336, 395, 404, 458, 471, 479, 504, 505, 582, 881–895, 993, 1057, 1066
- Middle Ages, 6, 16, 166, 168, 196, 613, 696, 711, 1019 *see also* medieval
- Middle East, 160, 190, 200, 381, 385, 398, 403, 411, 417, 419, 444, 446, 448, 457, 458, 543, 560, 588, 930, 1003, 1006, 1008, 1015, 1017, 1060, 1065
- Middle East Technical University (Turkey), 403, 1003, 1006, 1008, 1017, 1065
- Milan, 401, 811, 813, 1063
- military, 8, 42, 46, 52, 159
- Millennium Development Goals (United Nations), 452, 457
- MIT (Massachusetts Institute of Technology), 235, 382
- modernization, 8, 41, 160, 178, 179, 188, 190, 338, 339, 419, 426, 438, 503, 504, 510, 512, 513, 541, 594, 613, 667, 668, 672, 685, 694, 698, 748, 813, 817, 821, 823, 825, 826, 881–883, 886, 887, 889–893, 953, 956, 1004
- modular course, 254, 270
- modular curriculum, 254, 817
- modular system, 46, 542
- modularization, 254
- Moi University, 847, 848, 851, 852, 854–856, 861
- Mollis, Marcela, 400, 503, 505–507, 509, 510, 512, 1062
- Monash University (Australia), 400, 587, 591, 592, 599–601, 609, 985, 1062
- monotechnics (technical colleges specializing in one area of study), 423, 437, 919
- Mora, José-Ginés, 401, 993, 994, 998–1000, 1063
- Morocco/Moroccan, 182, 192–194, 412, 414, 491
- Morrill Land Grant Act of 1862 (U.S.), 294, 1038
- Morrill-McComas Land Grant Act of 1890 (U.S.), 185
- Moscato, Roberto, 401, 811, 815, 825, 1063
- Moscow, University of, 951
- Mozambique, 447, 563, 971
- MSHE (Ministry of Science and Higher Education) (Iran), 781, 782

1090 *Index*

- multicultural, 211, 360, 398, 468, 553, 588, 1060
 multicultural education, 211
 multidisciplinary learning outcomes, 349
 multinationalization, 123, 131, 133, 134, 211
 Munich, 168, 172, 173
 Muslims, 187, 411, 413, 793
 Musselin, Christine, 178, 182, 401, 711, 713, 720–722, 1063
 Myanmar, 539, 540, 544, 548

 NAAC (National Assessment and Accreditation Council), India, 755
 NAB (National Accreditation Board for Higher Education) (Indonesia), 404, 549, 776, 777, 1066
 NAFTA (North American Free Trade Agreement), 136, 479, 504
 Namibia/Namibian, 115, 129, 563, 856, 930, 971
 Napoleonic model, 10, 13, 160, 178, 181, 435, 440, 505, 613, 617, 618, 712, 994, 995
 Napoleonic tradition, 10, 995
 National Agency for Quality Assessment and Accreditation (Spain), 995, 1000
 National Defense Education Act of 1958 (U.S.), 294, 305
 national development, 50, 452, 484, 535, 542, 552, 634, 677, 679, 688, 767, 772, 832, 836, 977 *see also* economics of higher education
 contributions of higher education to, 219, 225, 451, 484, 512, 674, 687, 794, 868, 939, 1030
 expectations about, 219, 225, 451, 484, 512, 674, 687, 794, 868, 939, 1030
 National Evaluation Committee (France), 60
 National Research Council (U.S.), 71, 401, 621, 634, 1063
 National Science Foundation (U.S.), 73–75
 National Universities Commission of Nigeria, 398, 498, 921, 927–930, 1060
 national university corporations (Japan), 833
 nationalism, 168, 181, 332, 336–339, 414 *see also* colonialism; historical background; national development; student activism
 and national universities, 411, 484
 effects of study abroad on, 339
 NCPI (National Center for Postsecondary Improvement) (U.S.), 118
 NCPTLA (National Center for Postsecondary Teaching, Learning and Assessment) (U.S.), 353
 Neave, Guy, 10, 12, 13, 23, 24, 30, 271, 278, 344, 463, 531, 899, 994, 1016
 Neocolonialism, 126, 138

 neo-liberal policies, 141, 508, 512, 559
 neo-liberalism/neo-liberal ideology, 440, 503, 511, 546
 NEPAD (New Partnership for Africa's Development), 484, 492, 497, 498, 500
 New Zealand, 25, 26, 31, 55, 85, 99, 127, 160, 176, 185, 237, 317, 319, 324, 387, 457, 552, 587, 588, 597, 599, 605, 685, 1051
 Newton, 30, 43, 173, 174, 201
 Ngome, Charles K., 401, 839–841, 848, 852, 855–858, 1063
 Nicaragua, 504
 Niger, 447, 500
 Nigeria/Nigerian, 50, 51, 132, 189, 231, 398, 491, 498, 499, 558, 560, 564, 919–921, 923–932, 1060
 Netherlands, the Dutch, 14, 15, 17, 25–27, 43, 52, 97, 114, 127, 128, 145, 148, 150, 151, 171, 174, 182, 197, 288, 320, 335, 342, 384, 396, 397, 464, 474, 476, 533, 609, 899, 900, 902, 904–907, 914, 985, 1058, 1059
 non-degree granting institutions, 109, 113, 114, 628, 637, 682, 1039
 nonprofit status, 92, 110, 287
 Nordic, 46, 47, 53, 317, 479, 480, 518–520, 526, 528, 531, 532, 536
 NORDPLUS (Nordic exchange programs for students and teachers), 479, 520
 North (vs. the South), 15, 74
 North America/North American, 3, 14, 15, 43, 128–130, 136, 160, 181, 183, 185, 343, 348, 381, 396, 400, 416, 417, 419, 427, 429, 434, 435, 437–440, 471, 479, 504, 505, 540, 542, 593, 608, 618, 630, 685, 830, 925, 1058, 1062
 Northern Ireland, 60, 439, 1021–1025
 Norway/Norwegian, 15, 52, 58, 66, 144, 198, 300, 320, 468, 475, 476, 479, 517–524, 528–530, 534–536, 587, 599
 Norwegian Agency for Quality Assurance in Education, 300, 530
 not-for-profit private higher education, 107, 111, 219, 446, 453, 1036, 1037, 1039, 1040 *see also*: nonprofit
 Nova Southeastern University, 67
 NPM (new public management), 141, 144, 145, 151, 833, 1028
 NSF (National Science Foundation) (U.S.), 73–75

 OBHE (Observatory on Borderless Higher Education) (U.K.), 132, 224, 380, 387, 388
 OCAM (*Organisation Commune Africaine et Malgache*), 493, 494

- OECD (Organization for Economic Development and Cooperation), 27, 29, 66, 85, 105, 142, 244, 278, 309, 311–314, 316, 317, 319, 323–325, 400, 401, 403, 416, 465, 517–519, 523, 525, 587–589, 598, 608, 641, 644, 835, 892, 902, 925, 998, 1013, 1026, 1058, 1062, 1063, 1065, 1067
- offshore branch campuses, 3, 595
- offshore campus, 841–844, 862
- offshore education, 211, 212
- offshore institutions, 124
- oligarchy, professorial, 261, 263
- online (teaching and learning), 377, 387, 388
- open access; *see* access: open
- open door, 68, 79, 274, 463, 465, 488, 671, 672, 685, 703, 811–813, 939
- open source movement, 382
- open universities; *see also* distance education
- Open University (Arab), 2, 388, 417, 419
- Open University (Finland), 15, 523, 525, 526, 545, 706, 782
- Open University (Israel), 794–797, 806
- Open University (U.K.), 135, 198, 244, 267, 268, 274, 417, 1022, 1023
- operating expenses, 88, 635, 676, 1040
- oral examinations, 47
- organized anarchy, 149, 236
- OSSREA (Organization for Social Science Research in East and Central Africa), 567
- outcomes, 8, 26, 28, 33, 39, 53, 56, 58, 60, 61, 71, 75, 124, 149, 152, 213–215, 219–221, 310, 320, 322, 349, 352, 353, 356, 357, 362–365, 367–370, 450, 403, 518, 521, 529–531, 694, 704, 735, 770, 776, 905, 912, 953, 980, 990, 1039
- outcomes-based assessment, 60
- outputs, 12, 18, 89, 214, 260, 310, 317, 322, 323, 326, 397, 620, 770, 802, 911, 984, 1059
- Oxbridge model, 13
- Oxbridge tradition, 6, 10
- Oxford, and history of universities, 165
- Oxford University (U.K.), 237, 861, 1019
- Pacific Rim, 319
- Pakistan, 127, 129, 187, 454, 458
- Palestine/Palestinian, 129, 191, 414, 415, 417–419, 793, 794
- Panama, 504
- Papacy, 159, 164, 165, 169–170
- Paraguay, 504
- Paris, 6, 122, 162–169, 172, 244, 278, 343, 348, 473, 486, 505, 629, 712, 729, 817, 1004, 1019
- Parisian model, 165
- Park, Namgi, 66, 401, 867, 869, 871, 878, 1063
- part-time faculty, 14, 962, 966, 1046
- part-time graduate, doctoral students, 77
- part-time students, 77, 255, 629, 656, 686, 841, 939, 940, 942, 948, 966, 1032, 1036
- part-time study, 53, 55, 948
- participation rates, 86, 278, 504, 517, 589, 593, 627, 629, 643, 650, 774, 806, 888, 902, 919, 926, 976, 1008, 1022, 1024–1026, 1030, 1032
- Partnership for Higher Education in Africa, 567
- partnerships, 30, 56, 116, 207, 217, 222, 224, 313, 316, 321, 326, 379, 386, 388, 507, 510, 545, 640, 685, 860, 870, 904, 915, 978, 979, 981, 1051 *see also* cooperation
- among scholarly societies, 128–131
- and distance education, 132
- facilitated by Internet technology, 134–136
- for faculty professional development; subregional cooperation, 128–131
- international, 224
- institutional, 316
- patent/patents, 75, 137, 142, 154, 234, 310, 313, 318, 322–325, 443, 458, 478, 518, 683, 945
- PBC (Planning and Budget Committee) (Israel), 796, 799–803, 807, 808
- PCER (Commission on Education Reform) (Korea), 870
- PCFC (Polytechnics and Colleges Funding Council) (U.K.), 1024
- peer review, 7, 60, 88, 127, 145, 315, 318, 383, 435, 500, 549, 580, 620, 640, 661, 758, 776, 803, 841, 985, 1023, 1038, 1039
- Peking University (China), 668, 683
- Pell Grants (U.S.), 97, 294, 299, 305, 399, 1061
- performance evaluation, 366, 526, 581, 816
- performance funding, 25, 91, 92, 642
- performance indicators, 91, 92, 144, 435, 944
- performance measures, 26, 28, 31, 144, 147, 150, 236, 287, 317, 318, 322, 507, 908
- performance standards, 23
- performance-based funding, 89, 91, 605, 769, 900, 904, 908, 917
- peripheral (vs. central), 16, 124, 125
- Perkin, Harold, 5, 42, 43, 46, 51, 159, 175, 193, 278, 348, 401, 724, 1063
- Peru/Peruvian, 109, 172, 504, 993
- PGC (Planning and Grants Committee) (Israel), 798–800, 802, 804, 806

1092 *Index*

- Ph.D. degree, 14, 57, 66, 67, 73, 76–79, 237, 273, 309, 316, 398, 400–405, 488, 519, 520, 522, 524, 543, 582, 590, 592, 622, 632, 649, 665, 715, 718, 722, 725, 739, 784, 788, 789, 795, 797, 803, 804, 855, 856, 890, 908, 941, 942, 945–947, 960, 962, 964, 1015, 1043, 1060–1067 *see also*: doctoral degree
- philanthropic elites, 695
- philanthropic foundations, 71, 73, 75
- philanthropic organizations, 71, 73, 75 *see also* donors
- philanthropy, 48, 92, 95, 288, 694
- Philippines, the Filipino, 93, 94, 100, 108, 132, 172, 192, 200, 283, 539–546, 549, 550
- philosophy, 24, 42–45, 47, 51, 76, 99, 161, 162, 174–176, 181, 195, 259, 294, 297, 349, 358, 363–365, 367, 393, 400, 410, 453, 454, 553, 608, 614, 619, 702, 750, 771, 781, 807, 843, 911, 971, 972, 975, 993, 1004, 1043, 1055, 1062
- Physics, 44, 176, 315, 361, 403, 410, 492, 578, 590, 892, 922, 952, 1029, 1032, 1065
- PNU (Payam Noor University), Iran, 784
- Poland/Polish, 14, 108, 110, 167, 168, 172, 195, 229, 283, 284, 396, 428, 429, 437, 439, 447, 470, 935, 937–939, 942–949, 1058
- policy-driven funding, 89
- political activism on university campuses, 330, 335, 336, 393, 615, 679, 697, 1055 *see also* student activism
- political conditions, 130, 444, 517 *see also* governance; government involvement; student activism
- political science, 30, 33, 77, 188, 211, 339, 371, 393, 414, 702, 718, 821, 948, 1055
- polytechnic, 26, 53, 179, 190, 246, 251, 256, 268, 312, 435, 446, 488, 496, 497, 499, 525–527, 533, 545, 670, 673, 682, 748–750, 762, 772, 829, 830, 871, 882, 884, 919–923, 927, 928, 931, 935, 936, 954, 1022–1024, 1030
- Pope, 163–170, 172
- Portugal/Portuguese, 26, 50, 108, 167, 172, 181, 219, 312, 317, 402, 479, 499, 613, 616, 929, 1064
- postcolonial, 11, 412, 503
- post-communist, 283, 424, 426, 430–435
- postdoc (postdoctoral position), 13, 69, 77, 128, 273, 310, 403, 527, 532, 582, 607, 640, 719, 724, 725, 909, 1065
- postdoctoral study, 69
- postdoctoral positions (postdocs), 69, 724
- postgraduate students, 66, 245, 321, 471, 488, 530, 532, 606, 622, 847, 851
- post-industrial, 19, 58, 160, 161, 180, 192–194, 196, 198, 200, 231, 269
- post-industrial society, 19, 160, 161, 180, 192–194, 196, 198, 200, 231
- poverty, 169, 187, 294, 300, 385, 452, 457, 472, 498, 552, 616, 697, 702, 832, 852, 881, 932, 1042
- and financial aid, 92
- and student activism, 286
- Prague, 53, 163, 167–169, 182, 430, 475, 742, 913
- preparatory schools, 262, 653
- president (college or university), 137, 143, 147, 149, 153, 178, 188, 189, 234, 235, 237, 238, 270, 272, 274, 278, 279, 294, 298, 302, 306, 326, 348, 350, 371, 395, 396, 398, 401, 431, 469, 486, 489, 542, 576, 579, 580, 583, 630, 632, 650, 651, 669, 685, 705, 713, 724–726, 739, 751, 799, 800, 833, 835, 843, 868–870, 877, 878, 916, 931, 933, 968, 972, 995, 1005, 1009, 1011, 1012, 1038, 1040, 1045–1047, 1057, 1058, 1060, 1063, 1064
- prestige, 10, 13, 15, 67, 74, 237, 252, 550, 576, 595, 600, 604, 625, 648, 653, 654, 662, 663, 681, 683., 684, 687, 698, 700, 704, 716, 741, 822, 830, 833, 835, 883, 900, 959, 960, 999, 1017, 1049
- pre-university industry (of tutors, preparatory schools, etc.), 653
- primary education, 7, 16, 17, 42–43, 46, 50, 51, 127, 410, 541, 588, 629, 633
- and language, 46, 443, 457, 489, 559, 664, 696, 698, 849
- and rates of return, 295
- and UNESCO, 198
- and women, 58, 176, 180–188, 196, 197, 295
- funding for, 92
- Princeton College/Princeton University (United States), 183
- private benefits, 86, 103, 231, 293, 296, 299, 300, 304, 305, 594
- private costs, 296, 297, 595, 598
- private good, 2, 3, 123, 306, 508
- public good/private benefits, 296
- PRIs (public sector research institutions), 314, 316, 320, 321, 323–325
- private higher education, 107–110, 112, 114, 115, 117, 118, 142, 209, 223, 281–284, 288–290, 396, 400, 404, 434, 437, 485–487, 496, 497, 509, 529, 531, 542, 546, 548, 549, 560, 561, 565, 568, 652, 681, 682, 684, 704, 707, 712, 737, 785, 786, 788, 833, 844, 852, 867, 868, 878, 883, 885–887, 889, 894, 895, 936, 938, 939, 941, 942, 947–949, 956, 965, 980, 981,

- 984, 985, 1058, 1062, 1066 *see also*
 for-profit institutions; privatization
 and accountability, 287, 288
 and autonomy, 11, 12, 565, 652
 and faculty, 281–290
 and graduate education, 284
 and internationalization, 288–290
 and multinationalization, 288–290
 and private philanthropic organizations, 71, 75,
 142
 and religious institutions, 286, 288
 and student activism, 286
 comparative trends, 281–290
 effect on governance trends, 287, 288
 expansion and differentiation, 281–290
 financing of, 288
 for-profit versus non-profit, 107–117
 governance of, 287, 288
 institutional types of, 281–290
 programs of study, 59, 756, 759
 regulation of, 549
 private rate of return, 295
 private sector, 2, 58, 75, 78, 79, 93, 94, 99, 107,
 108, 117, 121, 199, 222, 225, 269, 274, 275,
 281–288, 290, 388, 423, 437, 455, 491, 504,
 506, 508–510, 518, 532, 534, 540, 546, 549,
 573, 578, 583, 596, 600, 605, 615, 619–625,
 641, 643, 699, 753, 760–762, 764, 765, 787,
 788, 829–834, 840, 853, 857, 860, 867, 871,
 872, 884, 885, 887, 889, 895, 926, 926, 929,
 942, 946–948, 957, 958, 961, 965, 966,
 988–990, 998, 1008, 1010, 1016
 role in massification of higher education,
 282–284
 privatization, 1, 103, 104, 108, 110, 123, 141, 144,
 211, 294, 398, 417, 418, 424, 435, 437, 440,
 506, 508–511, 546, 547, 560, 575, 683, 686,
 694, 705, 706, 708, 747, 755, 762, 764, 765,
 829, 833, 900, 909, 938, 1013, 1049, 1060
 privilege, 7, 11, 14, 18, 19, 46, 47, 116, 163, 167,
 168, 177, 178, 232, 244, 247, 253, 258, 262,
 282, 411, 425, 429, 468, 505, 613, 616, 617,
 621, 682, 701, 709, 762, 766, 923, 976,
 1017, 1049
 professional associations, 70, 209, 310, 378, 604,
 777, 778
 professional degree, 65, 67, 75, 128, 274, 525, 578,
 617, 750, 760, 778, 1036, 1043
 professional development, 210, 222, 379, 386, 758,
 759, 901, 910, 1030, 1039
 and professional conferences, 351
 for distance education staff, 347–370
 for librarians, 369, 383
 lack of opportunities for, 378
 need for among administrative staff, 269
 professional doctorates, 65–79
 professional drift, 10
 professional education, 6, 41, 47, 49, 50, 53, 190,
 479, 605, 617–619, 650, 754, 755, 760, 763,
 764, 778, 819, 832, 834, 900, 901, 953, 954,
 956
 professional organizations, 71, 739
 professionally-oriented institutions, 71, 285, 522
 professorial autonomy, 11, 12, 41 *see also*:
 autonomy, faculty
 professorial oligarchy, 261, 263
 professoriate, 13, 14, 16, 18, 49, 74, 76, 77, 151,
 238, 311, 519, 641, 812, 822, 909 *see also*:
 faculty
 program of study, 48, 366, 367, 489, 715, 903, 964
see also: academic major
 Project 21/1 (China), 682–685, 687
 Project 98/5 (China), 683, 658, 687
 Protestant, 132, 160, 163, 165, 168, 170–173, 182,
 183, 333, 411, 616, 630, 631, 633, 696,
 1020
 Prussia/Prussian, 6, 124, 168, 173, 176, 177, 182,
 425, 729, 935
 psychology, 45, 67, 115, 127, 191, 350, 366, 370,
 395, 573, 578, 580, 664, 856, 857, 940,
 1057
 public benefits, 86, 293–296, 298, 299, 302–305,
 323, 594
 public costs, 258, 303
 public funding, 89–91, 96, 100–104, 141, 153, 184,
 209, 219, 298, 309, 310, 316, 326, 451, 508,
 518, 530, 545, 546, 576, 594–596, 609, 610,
 655, 716, 722, 723, 776, 831, 900, 902, 908,
 909, 913, 928, 1029
 public good, 2, 104, 112, 231, 306, 316, 382, 452,
 476, 477, 508, 555, 605, 633, 634, 694,
 1049
 and entrepreneurialism, 25, 145
 and national development, 219, 225, 451
 and national universities, 414, 484, 498, 574,
 576, 579, 833
 and private higher education, 299–304
 and the “ivory tower syndrome”, 271, 287
 public investment, 87, 293, 322, 506, 900, 908
 public management, 141, 144, 151, 833, 1028
 public policy, 24–26, 29, 30, 33, 104, 117, 283,
 295, 299, 367, 404, 580, 582, 633, 643, 647,
 769, 851, 977, 1030, 1059, 1066
 public policy challenges, 580, 633, 647, 851, 977
 public policymaking, 237, 364, 439, 536, 542, 782,
 808, 965, 1011

1094 *Index*

- public service, 32, 102, 135, 270, 520, 575, 730, 775
- public subsidies, for higher education, 112, 290, 295–298, 305, 596, 616, 620, 622, 831
- publishers, 127, 131, 135, 137
- publishing, 16, 123, 127, 200, 326, 371, 561, 562, 568, 608, 804
- centers and peripheries, 16, 124, 125 *see also* research and scholarship
- Putnam, Robert D., 299
- QAA (Quality Assurance Agency) (U.K.), 26, 60, 1025
- Qatar/Qatari, 133, 195, 415, 418, 457
- Qing dynasty (China), 667, 668
- QOU (Al-Quds Open University), 417
- quadrivium*, 42, 161, 454
- quality assurance, 2, 23, 26, 28–33, 57, 58, 60–62, 71, 144, 151, 152, 210, 212, 224, 310, 383, 401, 404, 435, 475, 476, 478, 506, 511, 523, 524, 526–530, 532, 543, 548, 549, 551, 580, 595, 605, 610, 620, 693, 694, 705, 774–776, 778, 780, 786, 789, 790, 829, 832–834, 842, 845, 911–914, 917, 947, 968, 978, 979, 981, 984, 986, 999, 1000, 1025, 1026, 1038, 1039, 1063, 1066
- agencies, 23, 26, 27, 32, 60, 549, 981, 986, 1025, 1026
- assessment, 12, 71, 531, 535, 548, 579, 580, 735, 786, 790, 911, 917, 929, 968, 995, 1000, 1025, 1026
- quality control, 2, 9, 27, 65, 70, 133, 274, 532, 543, 548, 552, 553, 561, 755, 803, 912, 947, 1027 *see also* evaluation; accreditation; assessment
- quality evaluation, 528, 662
- quality improvement, 24, 89, 105, 144, 154, 465, 534, 583, 836, 862, 891
- quality standards, 17, 446, 913, 914, 921
- Quebec (Canada), 172, 381, 629–631, 635–637, 640, 642
- Queen Elizabeth I (England), 165, 182
- quota, 231, 523, 544, 545, 547, 591, 592, 623, 733, 785, 869, 870, 874–877, 921
- Quran/Quranic, 159, 187, 190, 411 *see also*: Koran/Koranic
- racial diversity, 259, 343, 358
- RAE (Research Assessment Exercise) (U.K.), 31, 145, 317, 1023, 1024, 1028–1030
- Ramsden, Paul, 352, 353, 365
- R&D (research and development), 72, 123, 309, 316, 401, 405, 465–467, 480, 518, 551, 575, 628, 640, 641, 644, 661, 722, 733, 870, 891, 925, 988, 1063, 1067
- public funding of, 316–318
- stimulation of, 309–326
- rankings: of institutions, of programs, 2, 9, 10, 15, 71, 143, 609, 621, 643, 663, 681, 741, 785, 900, 911, 914, 946, 948, 960, 1011, 1012, 1015, 1024
- rate of growth, 245, 429, 438, 574, 850, 1032
- rate of return/return on investment, 85, 295, 296, 304, 306, 451, 559 *see also* efficiency
- rate of return, private, 295
- and human capital theory, 73, 216, 295
- public, 85, 86
- Real Universidad de México*, 882
- recteurs* (rectors) (France), 712
- rector, 143, 144, 147, 153, 163–166, 168, 176, 196, 234, 236, 237, 239, 261, 271, 300, 315, 336, 393, 395–397, 399–404, 431, 433, 455, 464, 473, 474, 494, 522, 579, 620, 621, 648, 651, 664, 726, 738, 739, 750, 751, 756, 777, 779, 799–801, 817, 820, 821, 825, 861, 885, 886, 911, 939, 944, 946, 954, 955, 984, 995, 1005, 1006, 1011, 1012, 1017, 1019, 1027, 1046, 1055, 1057–1059, 1061–1066
- red brick universities (U.K.), 1020
- reform, 3, 6, 14, 27, 33, 42, 43, 45, 47, 50, 76, 79, 131, 141, 142, 144, 145, 160, 161, 163, 164, 166–172, 174, 176, 177, 179, 200, 234, 235, 240, 266, 271–274, 279, 287, 288, 290, 312, 316, 319, 325, 331, 335, 336, 340, 342, 344, 401, 410–414, 416–418, 423–425, 429, 431–436, 438, 439, 441, 444, 449, 453, 456–458, 462, 470, 473, 474, 476, 478, 483, 485, 486, 488, 496, 497, 500, 503, 504, 506–511, 517, 519, 521–523, 525, 526, 528–835, 539, 541, 543, 545, 547, 565–568, 573, 576, 580, 583, 593, 595–597, 600, 604, 609, 614, 618, 620, 625, 629, 636–639, 642–644, 650, 651, 668–677, 679–686, 688, 693, 694, 698, 704–706, 712, 713, 722, 731–736, 738–740, 742, 744, 747, 749, 757, 759, 761, 764, 790, 795, 811, 812, 815–827, 832, 833, 836, 861, 862, 868–870, 886, 889, 892, 899, 901, 919, 926, 928, 930–932, 937–939, 944, 951–953, 956, 959, 965, 968, 972, 994, 996, 1001, 1004, 1005, 1007, 1008, 1011–1013, 1017, 1024, 1063
- curricular, 3, 50, 507, 583, 996
- governance, 141, 673
- of institutions, 889
- public policy, 11, 12, 24, 287 *see also* accountability; financing; management

- reforma*, the (Latin America), 336, 994
- Reformation, the, 6, 42, 43, 160, 161, 163, 164, 168, 172, 200
- regionalization, 10, 211, 462
- relationships, student-teacher, 43, 44, 245, 248–250, 254, 255, 286, 348, 361, 700, 703, 720
- relevance, 8, 49, 76, 89, 112, 174, 214, 219, 223, 319, 357, 383, 483, 496, 497, 500, 508, 518, 524, 541, 543, 552, 553, 647, 693, 765, 770, 774, 775, 778, 789, 820, 844, 860–863
- relevant age group, 2, 188, 192, 195, 245–248, 252, 253, 262, 266, 504, 805, 925, 942, 1008
- religious institutions, 286, 288, 577, 682 *see also* historical background; private higher education
- funding sources of, 288
- religious organizations, 282, 333, 334, 344, 795, 929
- religious private universities, 282
- remedial courses, 819, 921
- Renaissance, the, 42, 124, 159, 162, 169, 312, 390, 410
- Renardus, 383, 384
- research activities, 88, 129, 267, 277, 309–311, 313, 314, 326, 478, 480, 491, 492, 494, 566, 577, 580, 582, 588, 592, 594, 608, 643, 712, 715, 716, 718, 724, 725, 754, 802, 825, 845, 853, 906, 910, 945, 952, 993, 998, 999
- research:
- and centers and peripheries, 125, 284, 311, 312, 314, 315, 318, 320, 321, 324, 326, 397, 402, 491, 492, 494, 553, 578, 606, 640, 651, 693, 825, 884, 914, 1047, 1059, 1064
- and donor agendas, 50
- and intellectual property, 325
- and publishing, 320–322
- and scientific communication, 322–326
- and teaching loads, 232
- and technology, 322–326
- and the Internet, 322–326
- assistants, 72, 77, 397, 909, 1014, 1015, 1059
- commercialization of, 92, 104, 211, 397, 905, 1059
- competitive funding mechanisms for, 319
- dependence on donors, 304
- facilities, 15, 72, 235, 268, 491, 492, 804, 875
- faculty, 146, 234, 563, 803
- funding councils, 315
- funding for, 309–326
- inadequate infrastructure for, 309–313
- income from, 316–318
- industry funding for, 320–322, 608
- infrastructure, 315, 324, 563, 595, 607, 608, 808, 906, 1029
- institutes, 6, 41, 46, 55, 74, 125, 160, 175, 177–179, 191, 232, 234, 235, 239, 278, 314, 317, 318, 325, 326, 400, 437, 467, 490, 520, 521, 533, 609, 614, 618, 622, 687, 713, 714, 716, 718, 720, 721, 723, 724, 736, 744, 751, 794, 797, 804, 861, 870, 876, 904, 905, 952, 960, 962, 964, 1015, 1062
- institutes and centers of, 61, 322–326
- intensive universities, 309, 310–313, 322, 326, 604, 1024, 1033
- laboratories, 78, 277, 314, 751
- links with industry, 309, 320–322, 661, 1030
- methods, 45, 395, 398, 1057, 1060
- oriented universities, 67, 72–74, 77, 125
- priorities, 88, 316, 318–320, 904, 989
- priority setting for, 8, 309, 316, 318–320, 326
- productivity, 142, 312, 347, 542
- public funding of, 309, 316–318
- quality, assessments of, 145, 317, 523, 905
- role of the state in directing, 314–316
- role of universities in, 210, 309, 398, 535, 650
- the role of the state in, 147, 149, 309, 314, 432, 456, 548, 686, 954
- universities, 6, 10, 16, 44, 47, 50, 67, 78, 117, 122, 125, 174, 175, 177, 184, 191, 231, 251, 256, 270, 273–275, 277, 278, 312, 313, 317, 324, 445, 510, 545, 609, 619, 620, 632, 641, 677, 795, 800, 803, 804, 806, 807, 835, 916, 968, 1035, 1036, 1038, 1040, 1042, 1045, 1047
- residence halls, 7, 234, 385, 852, 862, 1046
- residential, 41, 43, 45, 47, 230, 244, 250, 255, 256, 331, 344, 590, 841, 854, 972, 1046
- residential colleges, 41, 43, 45, 47, 590, 1046
- resource allocation, 35, 145, 146, 148, 150, 151, 154, 222, 304, 318, 521, 532, 621, 701, 721, 845, 949
- Resource Development Network (U.K.), 383
- retention, 52, 57, 94, 234, 352, 364, 398, 593, 662, 790, 835, 855, 968, 1060
- retrenchment, 626, 671, 679, 899
- revenue, sources of, 84, 378, 546, 659, 677, 1039
- Robbins Commission on Higher Education (U.K.), 1021
- Robbins Report (U.K.), 246, 1021, 1022
- Rockefeller Foundation, 567
- Romania/Romanian, 25, 110, 171, 337, 425, 426, 428, 430, 439, 468
- Rome, 159, 164, 166, 168, 169, 172, 173, 464, 813, 1023

- Rosovsky, Henry, 293, 301, 305, 402, 443, 458, 933, 1064
- RTS (Research Training Scheme), 608
- Rudolph, Frederick, 44, 48, 49, 187, 348
- Russell Group (U.K.), 313, 1024
- Russia, 14, 66, 108, 110, 116, 128, 129, 173, 175, 177, 178, 184, 190, 192, 195, 197, 200, 283, 288, 410, 423, 425, 447, 458, 461, 471, 475, 520, 527, 840, 935, 951–968, 989
- Russian Modern University for the Humanities, 386
- Rwanda, 484, 490, 500, 856
- Sakai Project, 382
- Salamanca (Spain), 167, 181, 476, 993
- salaries, 14, 15, 74, 129, 130, 165, 166, 231, 232, 265, 300, 414, 436, 456, 490, 495, 496, 562, 563, 591, 607, 621, 622, 638, 640, 662, 694, 698–700, 706, 708, 713, 716, 721, 725, 726, 758, 844, 852, 853, 857, 945–947, 960, 995, 998, 999, 1014
- Salerno (Italy); and history of universities, 6, 162, 162, 288
- Sandstones (Australia), 592, 594, 600, 606, 608, 610
- Santiago (Chile), 395, 647, 658, 659, 1057
- satellite campuses, 27, 210, 217, 975
- Saudi Arabia/Saudi Arabian, 2, 412, 413, 415, 418, 419
- SAUVCA (South African Universities Vice Chancellors' Association), 565, 991
- Scandinavia/Scandinavian, 66, 168, 171, 178, 466, 517–524, 530, 531, 534–536
- Schmidt, Evanthia Kalpazidou, 517
- scholarship, 24, 29, 44, 48, 51, 72, 73, 76, 95, 96, 121, 122, 124, 126–128, 130, 136, 159, 170, 177, 179, 187, 197, 234, 277, 281, 284, 289, 294, 302, 305, 309–311, 313, 326, 347, 349, 350, 352, 356, 369, 414, 419, 446, 451, 452, 456, 471, 483, 495–497, 547, 558, 562, 579, 582, 583, 591, 595, 596, 599, 606, 608, 609, 642, 652, 654, 655, 659, 665, 730, 762, 770, 774, 794, 797, 852, 855, 872, 875, 877, 901, 910, 932, 948, 953, 990, 1015 *see also* research
and financial diversification, 552
and national budgets, 528, 546, 625, 786, 801, 813, 832
for needy students, 102, 231, 255, 846, 849, 850
see also donors; financing; tuition
- Schwartzman, Simon, 66, 402, 536, 613–616, 619, 622, 623, 1064
- science, 6, 15, 16, 30, 33, 42, 43, 46, 50, 51, 66, 69, 72–77, 79, 121, 124, 126, 127, 129, 130, 138, 173–178, 187, 190, 191, 193–195, 211, 223, 232, 235, 249, 279, 305, 312, 314–316, 318–320, 322, 324, 339, 370, 371, 393, 398, 400–402, 404, 410, 413, 414, 419, 437, 454, 455, 464, 466, 472, 480, 487, 491, 498, 513, 519, 521–523, 528, 531, 533, 534, 545, 551, 560, 567, 581, 598, 609, 619, 623, 652, 659, 661, 663, 665, 670, 672, 673, 678, 680–682, 688, 695, 702, 703, 712, 731, 735, 748, 750–754, 756–761, 763, 775, 782–784, 786, 787, 789, 794–796, 799, 802, 803, 805, 808, 813, 814, 823, 824, 829, 830, 832, 834, 840, 842, 846, 851, 852, 858, 867, 871, 875, 885, 891, 892, 899–905, 909–911, 915–917, 922, 935, 936, 940, 942, 944, 948, 952, 954, 955, 958, 960, 962, 964, 965, 976, 986–989, 1005, 1008, 1015, 1020, 1022, 1023, 1029, 1030, 1032, 1044, 1047, 1049, 1055, 1060, 1062–1064, 1066
see also research and scholarship
and funding difficulties, 316–318
and lack of graduates in science fields, 309–313
and lack of scientific equipment and supplies, 322–326
and scientific communities, 322–326
centers and peripheries of, 16
low student enrollment in, 309–313
national agendas for, 26, 29, 288, 378, 380, 469, 473, 478, 507, 567, 634, 739
scientific communication and research, 322–326
scientific research, 3, 9, 125, 160, 312, 314, 319, 401, 417, 455, 492, 498, 500, 534, 550, 573, 625, 651, 672, 694, 794, 795, 815, 817, 820, 861, 891, 905, 945, 954, 988, 1038, 1063
- Scientific Revolution, 43, 44, 160, 173, 174
- Scotland/Scottish, 6, 28, 32, 41, 43, 44, 46, 60, 145, 160, 164, 165, 168, 171, 174–176, 180, 182, 183, 186, 188, 278, 439, 589, 590, 1019–1027, 1033, 1064
- Scott, Peter, 10, 16, 53, 54, 58, 123, 177, 208, 402, 423, 425, 428, 431, 440, 441, 536, 1064
- SEAMEO (Southeast Asian Minister of Education Organization), 551, 779
- Secondary Examination Certificate (Egypt), 702, 703
- Sehoole, Chika Trevor, 402, 971, 983, 1064
- selection process (of students), 526, 528, 532, 715, 717, 863 *see also* admissions
- self-assessment, 24, 841, 1000
- self-evaluation, 27, 60, 70, 150, 365, 526, 621, 663, 776, 778, 786, 790, 820, 912–914
- self-governance, 522, 529, 573, 588, 735, 740, 799–800, 815, 820, 975
- self-help, 97
- self-regulation (institutional), 663, 911, 912, 979

- seminar, 45, 172, 174, 180, 181, 183, 188, 220, 221, 233, 249, 251, 254, 256, 281, 294, 305, 309, 396, 410, 431, 466, 493, 737, 741, 854, 875, 1058
- senate/academic board, 147–149, 153, 397, 604, 620, 632, 639, 732, 752, 799, 800, 817, 820, 843, 995, 1012, 1027, 1046, 1059
- Senegal, 182, 484, 485, 487–492, 496, 497, 567
- senshu-gakko* (specialized training colleges) (Japan), 829
- service learning, 306, 350
- Servicemen's Readjustment Act of 1944, 302, 305 *see also* GI Bill
- Shabani, Juma, 403, 483, 484, 489, 1065
- shadow education (private coaching or tutorial services), 755 *see also*, pre-university industry
- shared governance, 143, 149, 150, 154, 1046
- Shattock, Michael, 142, 147–149, 403, 1019, 1065
- short-cycle programs, 522, 573, 578, 815, 996, 997
- Shulman, Lee, 350, 351
- Sierra Leone, 129, 188–189
- Simsek, Hasan, 403, 1003, 1065
- Singapore, 14, 50, 55, 125, 127, 129, 133, 188, 198, 209, 457, 539–542, 544–547, 550, 551, 599, 600, 608, 610, 1011
- Sir Thomas More, 169
- Slovak Republic/Slovakia, 53, 428, 429, 468
- Smith, Adam, 174–175, 201, 293, 295, 605
- Slovenia/Slovenian, 427, 428, 430, 437, 439, 457, 468
- Smolentseva, Anna, 66, 403, 951, 952, 959, 1065
- social benefits of higher education, 293, 295, 316
- social mobility, 196–198, 282, 544, 614, 615, 694, 695, 698, 806, 1035, 1052
- social net benefit, 451
- social prestige, 576, 698, 822
- social rate of return, 296
- social sciences, 43, 54, 69, 72, 73, 76, 160, 174, 175, 195, 284, 339, 366, 382, 398, 401, 402, 429, 533, 547, 550, 567, 578, 579, 581, 590, 595, 597, 598, 609, 623, 651, 660, 661, 670, 678, 681, 682, 702, 730, 735, 737, 747, 751, 754, 797, 798, 800, 804–806, 847, 852, 892, 903, 908, 919, 936, 940–942, 942, 955, 962, 966, 986–989, 997, 1023, 1029, 1060, 1063, 1064
- social stratification, 769
- socialization, 146, 245, 249, 251, 260, 334, 343, 411, 412, 715, 720
- SOCRATES, 3, 136, 196, 468, 469, 479, 520, 524
- Somalia/Somali, 418
- Sorbonne Conference, 1998, 722
- Sorbonne Declaration, 473, 474, 479
- sororities, 329, 331–333, 1048
- sources of support, private, 84, 87, 95, 96
- sources of support, public, 87
- South (vs. the North), 16
- South Africa/South African, 27, 50, 55, 109, 112, 113, 115, 129, 130, 135, 176, 185, 186, 288, 290, 324, 343, 380, 381, 385, 387, 402, 424, 458, 491, 558, 560, 561, 563, 564, 567, 588, 600, 840, 842, 844, 856, 930, 971–975, 977, 979–982, 984–991, 1064
- South America/South American, 90, 200 *see also*: Latin America
- South Korea/Korean, 74, 130, 193, 194, 229, 235, 340, 458, 920, 925, 989, 1007
- South-North patterns of migration, 15, 74, 129
- Southeast Asia, 129, 186, 188, 404, 539, 541, 543, 544, 547–549, 551–553, 587, 599, 607, 766, 779, 1066
- Soviet Union/Soviets, 126, 132, 338, 427, 458, 462, 463, 466, 670, 951, 956, 967
- Soviet Russia, 190, 197, 967
- Spain/Spaniards, 6, 53, 66, 99, 133, 167, 171, 172, 177, 180, 181, 317, 337, 410, 476, 479, 505, 613, 882, 890, 989, 993–999
- specialization, 6, 9, 41, 45–49, 54, 58, 59, 76, 142, 284, 348, 362, 399, 543, 583, 671, 735, 788, 869, 870, 875, 1061
- spending per student, 69, 85, 103, 595
- spin-offs, 142, 145, 314, 322, 324, 325, 1030
- Sporn, Barbara, 25, 141, 142, 145, 146, 149, 151, 152, 403, 1065
- Sputnik, 731, 744
- Sri Lanka, 127, 188
- St Andrews (Scotland), 168, 169, 1019
- staff/student ratio, 428, 429 *see also* student/faculty ratio
- stakeholder/stakeholders, 31, 32, 60, 83, 112, 134, 149, 207, 213, 214, 220, 236, 287, 315, 316, 320, 326, 453, 461, 476, 477, 483, 486, 520, 533–535, 548, 713, 833, 839, 861, 899, 931, 932, 990
- standards, 2, 7, 11, 15–18, 23–25, 27, 46, 47, 56, 57, 60, 61, 68, 70, 71, 91, 111, 124, 216, 218, 219, 244, 245, 248, 252, 254–258, 265–268, 273, 283, 287, 354, 368, 369, 384, 385, 429, 446, 452, 453, 549, 551, 580, 587, 589, 597, 607, 617, 662, 663, 665, 669, 670, 672, 677, 693, 699–701, 705, 708, 735, 742, 748, 750, 753–755, 757, 759, 766, 770, 773, 776–778, 795, 802, 804, 808, 835, 841, 859, 868, 894, 913, 914, 916, 921, 928, 929, 940, 941, 945, 953, 954, 966, 968, 979, 984, 985, 997, 1038, 1039, 1051

- Stanford University (U.S.), 67, 184, 382, 393, 397, 400, 403, 1055, 1059, 1062, 1065
- start-ups, 142, 145, 301, 306, 318, 324, 480
- state, role of in governance, 141–157
- stipends, 72, 73, 88
- stopping out, 255, 1042
- strategic considerations, 904, 905
- Strategic Council on Intellectual Property (Japan), 325
- strategic decision making, 150, 236, 239, 1017
- strategic management, 143, 151, 152
- strategic planning, 154, 237, 238, 316, 432, 518, 521, 549, 567, 568, 769, 844, 845, 862, 864
- strategy, 30, 98, 101, 105, 142, 146, 149, 150, 235–238, 304, 319, 325, 352, 361, 367, 395, 399, 478–480, 533, 575, 622, 671, 680, 764, 769, 770, 775, 779, 849, 854, 863, 869, 874, 875, 890, 911, 953, 956, 975, 976, 982, 983, 989, 1030, 1045, 1051, 1057, 1061
- Strathclyde University (Scotland), 145, 1022
- stratification, 19, 125, 146, 147, 600, 608, 610, 623, 687, 769, 960
- Strayer University (United States), 115
- structural adjustment, 485, 506, 513, 559, 747, 757, 759, 761, 764, 770, 840
- student activism, 59, 261, 334–341, 343
 - and newspapers, 331, 332
 - and politics, 335
 - and religious organizations, 333
 - and student culture, 331
 - and student governments, 333, 334
 - and unions, 333, 334
 - and violence, 335–337
 - during the 1960s, 340
 - fraternities and sororities, 332
 - historical perspectives, 335–337
 - ideological variations, 337–339
 - impact of, 331
 - prospects for, 343
 - sociological dimensions, 339
- student activists, 59, 335, 338–341, 343
- student assessment, 24, 31, 309, 367, 436, 860
- student characteristics, 39, 57, 356, 357
- student culture, 245, 329–331, 333
- student diversity, 39, 40, 52, 237, 367, 831
- student feedback, 357, 358, 360
- student financial aid, 84, 96, 100–102, 104, 299, 397, 1036, 1038, 1039, 1059
- student governments, 166, 333, 334, 1048
- student learning, 24, 28, 31, 61, 142, 226, 347–352, 356, 357, 362, 363, 365–369, 447, 721, 1039, 1051
- student loan programs, 72, 99, 100
- student movements, 181, 286, 329, 335–338, 340, 341, 574, 650, 731, 831, 883
- student newspapers, 329–336, 343, 344, 475, 885, 1046, 1048
- student organizations, 333
- student outcomes assessment, 370
- student participation (in governance), 261, 262, 333, 334, 336, 361, 450, 695, 888
- student portfolio, 366, 367
- student selection, 258, 526, 528, 532, 717, 863, 1006, 1009 *see also* access, admissions
- student services, 154, 231, 600, 801, 803, 1013, 1046
 - effect on budgets and time to completion, 154
 - privatization of, 154
- student success, 1039
- student unions, 7, 333, 334, 476, 1048
- student unrest, 160, 181, 200, 331, 339, 340
- student/faculty ratio, 105, 427–429, 510, 595, 680, 700, 734, 736, 788, 804, 813, 944, 1014, 1023
- student/staff ratio: *see* student/faculty ratio
- students, mobility of, 16, 55, 61, 210, 217, 255, 465, 467, 470, 471, 473, 535, 743, 817 *see also* internationalization
- studium*, 161–163, 166, 167
- studium generale*, 162, 163, 166, 167
- study abroad, 126, 128, 131, 221, 224, 289, 415, 463, 465, 467, 523, 525, 527, 528, 668, 685, 743, 779, 903 *see also* internationalization
 - and nationalism, 207–226
 - and women, 207–226
 - during colonial period, 207–226
 - for faculty development, 219
 - rising costs of, 207–226
- sub-Saharan Africa, 2, 50, 304, 387, 444–448, 458, 483–487, 491, 492, 494, 495, 497–499, 557–562, 565, 568, 845, 863, 919, 930
- subsidies, 451, 466, 599, 609
- subsidization, 99, 100, 105, 110, 112, 296, 297, 305
- Sudan, 189, 414, 415, 417, 418
- Swaziland, 115, 558, 856, 971
- Sweden/Swedes/Swedish, 14, 15, 17, 27, 46, 47, 58, 59, 63, 66, 99, 144, 145, 150, 179, 182, 195, 197, 246, 247, 320, 323, 324, 413, 435, 463, 468, 476, 479, 517–521, 527, 530–533, 535, 536, 552, 609, 989, 1013
- Switzerland/Swiss, 52, 66, 115, 171, 180, 230, 468, 476, 519, 609
- Sydney University (Australia), 185
- syllabus, 165, 174, 175, 249, 250, 360, 766

- Sylvan Learning Systems (now Laureate Education, Inc.), 118, 135, 137, 290, 659
- Syria/Syrian, 3, 191, 388, 411, 417, 696, 793, 1007
- Syrian Virtual University, 3, 388, 417
- Tadjudin, M.K., 404, 769, 1066
- Tae Hak (the Great School) (Korea), 867
- Taiwan, 50, 51, 130, 457, 599, 610, 1016
- tanki-daigaku* (junior colleges) (Japan), 829
- Tanzania/Tanzanian, 108, 447, 558, 563, 840
- Tarbiat Modarress University (Iran), 66, 789
- Task Force on Higher Education, World Bank, 59, 121, 131, 305, 395, 402, 443, 445, 458, 506, 508, 1057, 1064
- tax-based policies, 92
- tax-based support, 88
- taxicab professors, 581, 701
- teacher training, 188, 484, 486, 489, 509, 545, 558, 573, 578, 591, 592, 597, 670, 737, 749, 781, 796, 797, 800, 802, 804, 814, 824, 840, 882, 884, 887, 888, 891, 1007, 1008, 1014, 1022
- teaching: 347–375
 and classroom discussion, 359–360, 476, 478, 484, 499, 551, 700, 701, 875
 and collaborative learning, 386–387, 494, 498, 566
 and developmental theory, 353
 and learning, 9, 16, 24, 26, 149, 177, 198, 207, 347–376
 and student feedback, 353, 354, 360, 786
 and technology, 361–362, 436, 449, 487, 494
 assessment of, 32, 359, 364–369, 721
 assistants, 72, 73, 254, 527, 719, 804, 871, 930, 936
 collaborative teaching, 356–358
 effectively/teaching effectiveness, 358–361, 455, 456, 505, 603
 initiatives to improve, 362–364
 lecturing effectively, 357, 358, 359
 methods; *see also* instructional methods, 357–359
 portfolio, 153, 350, 364–367, 436, 600
 quality, assessments of, 365–366, 1025–1027
 research on effective teaching and learning, 352–364
 training for, 359–361, 411, 416–418, 436, 454, 464, 473, 486, 489
- technical schools, 55, 189, 255, 437, 1010, 1011
- technikons, 499, 842, 844, 973–976, 979–981, 983, 985–989
- Technion (the Hebrew Institute of Technology at Haifa), 199, 305, 794, 795, 797, 804
- technische hochschulen* (Germany), 45, 174, 177
- technology, 1, 3, 4, 8, 9, 15, 46, 50, 51, 53, 54, 61, 66, 67, 118, 122–125, 129, 131, 134, 137, 138, 141, 142, 145, 153, 154, 174, 176, 177, 191–195, 199, 208, 222, 223, 230, 231, 233, 235, 237, 238, 249, 276, 300, 305, 314, 315, 318, 319, 322–326, 347, 361, 362, 370, 377–390, 393, 401, 402, 413, 414, 419, 424, 431, 436, 443, 447, 449, 450, 454, 455, 458, 467, 479, 480, 487, 497, 498, 500, 508, 510, 519, 522, 523, 525, 526, 528, 531, 534, 545, 573, 587, 589, 593, 595, 598–600, 602, 609, 619, 637, 641, 650, 656, 660, 661, 665, 668, 671, 672, 678, 680, 688, 702, 703, 714, 748, 750–755, 758–762, 1030, 1041 *see also*
 distance education, ICT (information and communications technology)
 and digital divide, 381–382
 and knowledge networks, 386, 388–389
 and reusable content objects, 383–384
 applied technology, 383
 computer technology, 383–384
 digital technology, 383
 educational technology, 383
 licensing office, 325
 transfer, 8, 145, 153, 322–326
 wireless technology, 384–386
- Technology Transfer Facilitation Law of 2000 (Korea), 325
- technology transfer office, 154, 325, 326
- Teferra, Damtew, 135, 304, 404, 488, 557, 559, 562–564, 566, 568, 1066
- TEMPUS (Trans European Mobility Program for University Studies), 56, 470
- tenure, 13, 77, 239, 1044 *see also* civil service; faculty
- tenure-track, 13, 77, 239, 1044
- textbooks, 47, 50, 51, 126, 127, 131, 200, 355, 358, 361, 417, 541, 700, 706, 855, 858, 589, 952
- Thailand/Thai, 4, 7, 122, 188, 340, 485, 539–551, 599, 779, 1011, 1014
- Third World, 129, 130, 192, 335, 337, 339–341, 463, 472, 561, 694, 1055
- Tiananmen Square, 200, 337
- Tillett, Anthony, 647, 1066
- Togo, 487, 500, 558
- Tokyo, 191, 404, 668, 1066
- total quality management, 151, 549
- total quality movement, 144
- TQA (Teaching Quality Assessment) (U.K.), 1025–1027

1100 *Index*

- trade, 25, 32, 116, 118, 122, 126, 136, 137, 177, 188, 198, 207, 209–211, 216, 217, 223–225, 322, 400, 403, 411, 435, 452, 468, 471, 477, 500, 545, 552, 561, 575, 587, 588, 629, 631, 696, 743, 762, 764, 915, 989, 990, 1030, 1062, 1065
- trademarks, 323
- training: *see* professional development
- transcript, 270
- transdisciplinary research, 314, 326, 553
- transfer programs, 637, 640
- transfer, student (between institutions), 583, 637, 664
- transformation, 49, 58, 144, 211, 238, 243, 247, 260, 263, 269, 275, 284, 287, 288, 383, 396, 403, 413, 419, 423, 425, 428, 429, 432, 478, 503, 504, 507, 508, 565, 613, 637, 671, 701, 721–723, 734, 736, 805, 811, 827, 830, 833, 862, 863, 881, 884, 888, 890, 895, 937, 947, 954, 959, 960, 962, 967, 968, 972, 977–979, 994, 1003, 1007, 1017, 1024, 1058, 1065
- transmission of skills, 243, 244, 250, 253, 254, 994
- transnational education, 211, 212, 403, 545, 549, 581, 778, 779, 1065
- transnational, definition of, 211, 212
- transparency, 142, 315, 320, 382, 462, 474, 476, 478, 512, 580, 706, 707, 744, 770, 776, 786, 877, 887, 893, 908, 909, 913 *see* accountability; financing; governance; reform
- Treaty of Rome, 464, 1023
- Trinidad/Trinidadian, 189, 190
- Trinity College, Dublin (Ireland), 171, 182, 1019, 1020
- trivium*, 42, 161, 163, 453
- Trow, Martin, 2, 7, 9, 12, 30, 86, 105, 149, 201, 243, 244, 275, 278, 279, 402, 404, 504, 531, 536, 798, 811, 933, 1064, 1066
- Truman Commission on Higher Education (U.S.), 294
- trustees, boards of, 178, 199, 234, 257, 270, 369, 396, 455, 699, 782, 788, 844, 869, 877, 878, 995, 1006, 1037, 1045, 1047, 1058
- trustees, government appointees as, 234
- trustees in private higher education, 234
- tuition, 23, 71–73, 83, 87, 88, 90, 92–96, 99–105, 110, 111, 142, 184, 231, 269, 272–274, 277, 278, 283, 286, 288, 289, 299, 302, 381, 432, 453, 477, 485, 510, 520, 523, 528, 534, 547, 558, 559, 577–579, 583, 589, 591–593, 596, 598, 600, 609, 622, 623, 625, 633, 634, 642, 643, 654, 659, 677, 678, 706, 717, 739, 744, 755, 774, 775, 786, 787, 800, 802, 805, 807, 808, 829, 831, 832, 844, 850–852, 872, 873, 878, 902, 903, 916, 917, 927–929, 931, 936, 938–940, 942, 948, 955, 956, 966, 968, 1014, 1017, 1039–1042, 1049–1052 *see* *also* financing and private higher education, 23–35 and student activism, 23–35 fees, setting of, 23, 87, 88, 90, 92–96, 99–105, 142, 184, 273, 485, 523, 528, 534, 547, 559, 591, 592, 596, 642, 643, 717, 739, 774, 775, 786, 787, 800, 802, 805, 829, 831, 832, 902, 903, 916, 917, 927, 928, 936, 938, 942, 948, 966, 1014
- Tunisia/Tunisian, 182, 412, 414, 418, 491
- Turkey/Turks, 4, 118, 132, 178, 190, 284, 403, 468, 1003, 1005, 1009–1011, 1013–1017, 1065
- tutor, 43, 44, 47, 173, 176, 348, 370, 656, 958
- tutorial, 46, 254, 507, 548, 607, 854, 860, 996
- tutorial model (British), 44, 348
- twinning programs, 123, 131, 134, 545, 600, 762, 763
- two-tier track system (Poland), 943
- two-tiered fee structures, 95
- UBA (University of Buenos Aires) (Argentina), 574, 576, 1059, 1062
- UEMOA (Economic and Monetary Union of West Africa), 492
- UFC (Universities Funding Council) (U.K.), 1024
- Uganda/Ugandan, 189, 558, 563, 840, 863
- UGC (University Grants Commission) (U.K.), 403, 751, 754, 755, 757, 758, 761–764, 766, 798, 1020–1024, 1030, 1065
- UI (Universitas Indonesia) (Indonesia), 404, 772
- Ukraine/Ukrainian, 109, 112, 427
- UMAP (University Mobility in Asia and the Pacific), 551
- UNAM (National Autonomous University of Mexico), 882, 883, 887, 889, 892
- undergraduate students, 48, 74, 415, 526, 606, 622, 660, 677, 717, 774, 805, 806, 840, 846, 847, 849, 1015, 1032, 1042, 1044, 1046, 1052
- undergraduate programs, 48, 54, 56, 66, 510, 533, 578, 583, 628, 664, 682, 716, 788, 871, 876, 982, 983, 1007 *see also* curriculum
- unemployment, 39, 53, 533, 543, 597, 623, 680, 694, 697, 703, 732, 735, 748, 760, 789, 834, 844, 914, 926, 928 *see also* employment; labor markets
- unemployment and effects on access and time to completion, 39
- unemployment and underemployment, 39, 594

- UNESCO, 25, 59, 108, 131, 194, 196, 198, 201, 212, 225, 395, 396, 398, 400, 402–405, 412, 417–419, 458, 465, 476, 483, 485, 486, 495, 498, 508, 539, 544, 551, 552, 574, 700, 781, 925, 1057, 1058, 1060, 1062, 1064–1067
- UNESCO Harare Cluster Office, 403, 483, 498, 1065
- UNESCO Regional Bureau of Education for the Asia and Pacific, 551
- UNESCO-CEPES (European Center for Higher Education of UNESCO), 405, 476, 1067
- UNISA (University of South Africa), 135, 842, 844, 972, 973, 986, 987
- UNISAT (University Through Satellite), 494
- unit credits, 254
- Unitarianism, 171, 173
- Unitarians, 266–268
- United Kingdom, 4, 14–17, 45, 47, 53, 55, 60, 125, 127, 129, 131, 133–135, 137, 174–178, 180, 181, 185, 186, 189, 192, 195–200, 212, 237, 246, 248, 266, 271, 313, 315, 320, 324, 326, 378, 379, 384, 387, 404, 417, 439, 447, 462, 464, 466, 467, 473, 480, 545, 563, 564, 587–589, 638, 730, 763, 764, 795, 817, 906, 985, 1014, 1019–1033
- United Nations Economic Commission in Africa, 567
- United States/Americans, 2, 6, 13, 24, 26, 28, 41, 44, 46–49, 52, 55, 57–61, 65–67, 70–79, 84, 87, 95, 107, 111, 124–133, 137, 160, 175–180, 183, 184, 195, 196, 199, 200, 230–232, 237, 239, 247, 251–253, 260, 264, 267, 269, 270, 277, 278, 293, 299, 302, 304, 305, 312, 319, 320, 324, 325, 330–334, 337, 342–344, 347–350, 371, 393, 397, 399, 403, 413, 415, 416, 440, 457, 463, 472, 479, 545, 563, 582, 587, 618, 627, 632, 641, 686, 730, 747, 763, 764, 795, 797, 804, 806, 835, 840, 842, 852, 855, 856, 860, 861, 868, 878, 890, 906, 925, 926, 930, 946, 967, 985, 989, 1014, 1015, 1036–1040, 1043, 1050, 1052, 1055, 1059, 1061, 1065
- universal access, 2, 243, 247, 251, 253–260, 264, 267, 269–271, 274, 275, 277, 278, 504, 807
- universal access institutions, 254
- universal higher education, 195, 243, 244, 254, 258, 259, 263
- universal system/system of universal access, 7
- universitas*, 163, 388, 404, 452, 772, 1019, 1066
- universities, history of, 159, 201, 711, 724, 900 *see also* history
- University Autonomy Plan (Korea), 869
- University Challenge Fund (U.K.), 324
- university enterprises (and income from), 677
- University Grants Commission (India), 380, 751, 754
- University Grants Commission (U.K.), 257, 754
- University Grants Committee (Hong Kong), 317, 319, 320, 590, 638, 798, 1020
- University of Air (Japan), 833
- University of Berlin (Germany), 45, 177, 312
- University of California (United States), 67, 243, 396, 398, 403, 404, 1037, 1058, 1060, 1065, 1066
- University of California-Berkeley (United States), 67
- University of Cape Town (South Africa), 185, 300, 458
- University of Chicago (United States), 133, 249, 302, 393, 396, 1055, 1058
- University of Copenhagen (Denmark), 521
- University of Dakar (Senegal), 489, 492, 497
- University of Dar-es-Salaam (Tanzania), 840
- University of Eastern Africa (Kenya), 842, 852, 854
- University of Gondishapoor (Iran), 781
- University of Göttingen (Germany), 237, 521
- University of Iceland (Iceland), 527, 528, 534
- University of London (U.K.), 176
- University of Maastricht (the Netherlands), 901
- University of Nairobi (Kenya), 840, 841, 847, 848, 850, 852, 854, 855, 858, 860, 861
- University of New Brunswick (Canada), 183, 630, 637
- University of Paris (France), 122, 473, 505, 1004, 1019
- University of Pennsylvania (United States), 33, 183, 293, 397, 399, 1059, 1061
- University of Phoenix (United States), 115
- University of Pretoria (South Africa), 385, 402, 971, 1064
- University of Rangoon (Burma), 188
- University of Rio de Janeiro (Brazil), 614
- University of Tehran (Iran), 66, 395, 781, 782, 788, 789, 1057
- University of the Air (Japan), 4, 833
- University of the West Indies (West Indies), 189
- University of Toronto (Canada), 183, 207, 398, 399, 405, 627, 630, 632, 633, 637, 667, 1060, 1061, 1067
- University of Twente (the Netherlands), 5, 145, 396, 397, 899, 901, 1058, 1059
- University of Virginia (United States), 294, 298
- University of Warwick (U.K.), 145, 403, 1065
- University of Wisconsin-Madison (United States), 299

1102 *Index*

- University of Wittenberg (United States), 170
University of Zimbabwe (Zimbabwe), 186
university partnerships with industry, 56, 321, 326
University Reform Act (*Ley de Reforma Universitaria*, or LRU) (Spain), 994, 995, 998–1000
university–industry collaboration, 320, 324
Universidad Tecnológica Nacional (Argentina), 401, 574, 577, 658
Uruguay/Uruguayan, 108, 112, 340, 504
USAID (U.S. Agency for International Development), 853
USAID Education for Democracy and Development Initiative, 853
USIU (United States International University) (Kenya), 840, 842, 848, 855–857
USSR; *see also* Soviet Union, 744, 952, 964, 967
- Van Vught, Frans, 24, 30, 141, 147, 215, 477, 994
Van der Wende, Marijke, 16, 25–27, 477
Venezuela/Venezuelan, 504
VET (Vocational Education and Training) sector (Australia), 589, 597, 605
Vienna/Viennese, 141, 168, 172, 174, 403, 1065
Vietnam/Vietnamese, 200, 337, 342, 539–546, 549, 600
VIHEAF (Virtual Institute for Higher Education in Africa), 498, 499
virtual campus programs, 789
virtual communities, 256
virtual institutions, 388, 498
virtual universities, 3, 16, 27, 116, 135, 380, 386, 388, 417, 487, 499, 527, 694, 853 *see also* for-profit; technology
Virtual University of the Arctic, 388
vocational colleges, 236, 330, 552, 528, 682, 869, 870
vocational training, 52, 255, 261, 268, 302, 312, 454, 464, 479, 598, 714, 784, 816, 831, 901, 915
von Humboldt, Wilhelm, 124, 177, 199, 312, 729, 827
- Wales/Welsh, 60, 176, 185, 278, 439, 590, 592, 600, 601, 609, 804, 1020, 1022–1026, 1032–1033
WASC (Western Association of Schools and Colleges) (U.S.), 842
Washington Accord, 28, 55
- Weber, Max, 234, 249, 275
Weimar Republic (Germany), 729, 731
West Africa, 188, 189, 229, 458, 492
West Bank, 94, 415
West Indies/West Indian, 50, 176, 186, 188–190
Western Europe/Western European, 15, 16, 41, 46, 54, 56, 110, 128, 130, 180, 197, 199, 233, 245, 246, 331, 342, 343, 350, 378, 423–425, 434, 427, 429, 431, 434–440, 457, 463, 470, 472, 608, 613
William and Mary College, 183
William of Ockham, 163, 166, 169, 170
wireless technologies, 383–385, 390
wissenschaft (development of the mind), 6, 45, 177, 191
Westerheijden, Don, 24, 26–28, 30–31, 141, 150, 215, 913
women; *see* gender
World Bank, 3, 25, 27, 85, 86, 90, 93, 105, 131, 189, 192–194, 196, 199, 201, 297, 304, 381, 382, 386, 395, 396, 400, 402, 433, 444, 445, 447, 448, 457, 458, 472, 483–486, 495, 504, 508–510, 539, 540, 543–546, 559, 567, 587, 672, 849, 859, 920, 925, 929, 1057, 1058, 1062, 1064
working conditions, 10, 12, 14, 74, 129–130, 300, 473, 483, 490, 495–496, 549, 561, 563, 622, 639, 698, 938, 944, 999
work-study, 96, 97, 353
WTO (World Trade Organization), 122, 136
WWI (World War I), 187, 189, 191, 249, 336, 696, 697, 731, 754, 935, 1020
WWII (World War II), 51, 58, 59, 105, 180, 185, 187, 191–193, 196–197, 245, 247, 269, 293, 302, 305, 306, 337, 399, 528, 540, 589–590, 615, 633, 713, 730, 732, 771, 798, 830, 935, 1021, 1049, 1061
Wyclif, John, 163, 166, 169
- Yale University (United States), 67, 183, 184, 237, 294
Yonezawa, Akiyoshi, 404, 829, 831–833, 835, 836, 1066
- Zambia/Zambian, 186, 403, 563, 1065
Zewail, Ahmed, 413, 419
Zha, Qiang, 405, 667, 683, 686, 1067
Zimbabwe, 186, 403, 483, 971, 1065
Zurich/Swiss, 182