Chapter 20
DEVELOPING COUNTRIES AND OTHER SMALL OPEN ECONOMIES WITH NON-TRADED GOODS

Many goods and services are not traded internationally due to transportation costs or trade restrictions. Some examples are housing, personal services such as haircuts or dental work, and most government expenditure. Nontraded goods are an important feature of the economies of the developing countries, which tend to be much less integrated into the global marketplace than the industrialized countries.

The chapter presents a simple model of nontraded goods in a small open economy under full employment. By analogy to the earlier discussion of the assignment problem, it is first demonstrated that in order to achieve the dual objectives of balanced trade and equilibrium in the market for nontraded goods, the government must be able to affect the relative price of nontraded goods as well as the level of expenditure. The former can be accomplished by setting the exchange rate, the latter through government spending.

The analysis proceeds to investigate whether the twin goals could be obtained in the absence of government intervention. In a monetary model, where spending is a function of the difference between the supply and the desired holding of money, there will be a tendency for the economy to move towards the equilibrium situation of dual balance if the relative price of nontraded goods is flexible, and if the monetary authorities do not sterilize.

Devaluation presents a policy that is easy to implement and yet can have quite dramatic consequences (the J-curve aside). In the Keynesian model, devaluation improved the trade balance in addition to raising income. In the monetary model presented here, a devaluation still improves the trade balance, but at the cost of contracting expenditure and thus the level of economic activity.

SHORT-ANSWER QUESTIONS

1. Explain why the external-balance line (BB) in Figure 20.5 slopes downward. Why does the internal-balance curve (NN) slope upward?

2. What are the two automatic mechanisms in the monetary approach to the balance of payments which help to restore equilibrium in the nontraded goods market and a zero trade balance?

3. True or false:

A country running a trade balance deficit must eventually adopt policies to reduce this deficit.

4. True or false:

With perfectly flexible prices and immediate adjustment of international reserves, a devaluation has no effect on the trade balance.

5. The ratio of an index of nontraded goods prices over an index of traded goods prices is frequently called

(a) the exchange rate.
(b) the nominal exchange rate.
(c) the real exchange rate.
(d) the rate of exchange.

6. True or false:

Keynesian models should not be applied to the problems of developing countries because financial and goods markets are not developed sufficiently to conduct traditional fiscal and monetary policy.

7. True or false:

Monetarist models should not be applied to problems of developing countries because these models assume that internal prices adjust quickly to external disturbances.

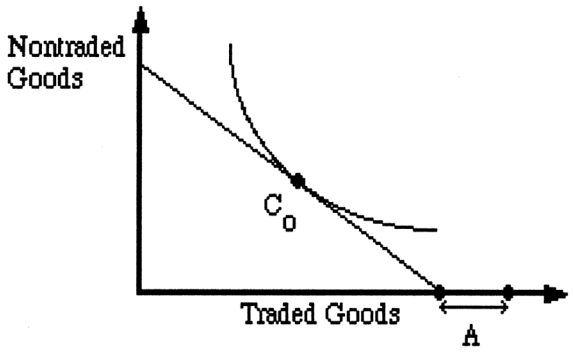
8. Working capital is

(a) capital that is not idle.
(b) plant and equipment.
(c) funds to meet short-term costs.

PROBLEMS

1. Nontraded Goods and Price Determination:

Consider a world of many countries and many goods, traded and non-traded. A small, open economy receives an endowment, E, which consists of a good that it can trade with the rest of the world and a nontraded good. Assume that consumers have homothetic preferences.



(a) If consumers cannot store up inventories of the two goods, what must be true of consumption of the nontraded good at each point in time?

(b) When measured in units of the traded good, suppose the country's expenditure exceeds the value of the endowment by A. At unchanged prices, draw in the new budget line and the new consumption bundle, C1, demanded by consumers.

(c) What must happen to the relative price of nontraded goods to restore equilibrium in the nontraded goods market? Draw in the new budget line and the new consumption bundle, C2.

(d) Suppose this country can store the nontraded good and currently has a large inventory of nontraded goods. The government increases expenditures by the amount A, but is now concerned about maintaining a zero trade balance. What must happen to the price of nontraded goods to keep the trade account in balance? What happens to the level of inventories of the nontraded good?

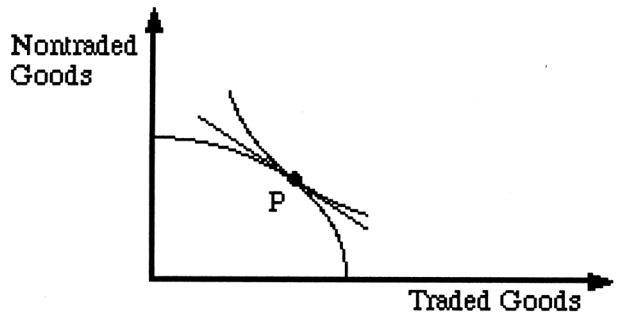
2. Defining and Measuring Nontraded Goods and Services:

(a) What goods and services would you characterize as nontraded in the United States economy?

(b) What was the share of the nontraded goods sector in United States GNP in 1997? (You might use the *Economics Report of the President* to compute an estimate.)

3. Production Effects with Nontraded Goods:

The small open economy depicted below is endowed with resources of capital and labor, which the country uses to produce a good for trade (Traded Goods, or TG) and a good for domestic consumption (Nontraded Goods, or NTG). The country is currently in equilibrium at point P but the government decides to raise the value of its currency.



(a) Draw in the budget line following the appreciation of the currency. What happens to the quantities of TG and NTG produced as a result of the change in prices?

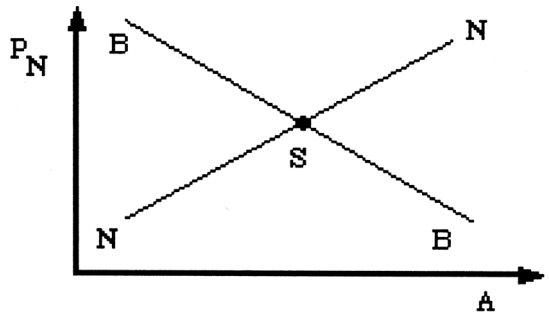
(b) If consumption of NTG must equal production of NTG and the country maintains a zero trade balance, draw in the consumer's consumption bundle given the new price ratio.

(c) Suppose the country can now run a trade surplus or deficit and can store up inventories of NTG. What is the consumer's optimal consumption bundle? What happens to the trade balance?

(d) Identify the substitution effect along the consumer's indifference curve due to the change in relative prices. Does the substitution effect in consumption work in favor of a trade surplus or deficit? How about the substitution effect in production?

4. Dual Balances:

The diagram below shows the external balance line (BB) and the internal balance line (NN) for a small open economy which produces a nontraded good.



(a) Indicate whether each of the four areas in the policy instrument space are associated with a trade deficit or surplus and excess supply or excess demand for the nontraded good.
(b) How is the government able to manipulate the relative price of nontraded goods?
(c) Can the government maintain a position away from point S indefinitely? Why or why not?

5. Inflation, Devaluation, and the Debt Problem:

A small developing country has completed a round of debt negotiations with its creditors. The country agrees to pay 25 million dollars the first year to service the debt. The second year it will pay an additional 25 million dollars, and it promises a final payment of 100 million dollars the third year to cover interest and remaining principal. The exchange rate is 38 units of the domestic currency per U.S. dollar.

(a) If the country discounts its future obligations at 10% a year, what is the present value of its outstanding commitments in terms of domestic currency? In terms of dollars?
(b) The central bank contemplates a 20% devaluation after the first payment is made. What happens to the present value of the debt in terms of domestic currency? In terms of dollars?
(c) Last year, this government incurred a debt of 100 million domestic currency units by selling bonds to its own residents. The face value of

these bonds was 125 million currency units. What has been the rate of return on these bonds?

(d) If the rate of domestic inflation was 30% over the past year, what has been the real rate of return on these bonds?

(e) How might domestic residents try to protect themselves from the effects of domestic inflation?

6. Linking Policies:

In view of the models developed in Chapter 20, why do you think the IMF tends to link debt restructuring with adjustments in other policies, such as trade liberalization, devaluation of the exchange rate, and stabilization of the growth rate of the money supply? Can these policy tools be used independently? In what ways are they necessarily interdependent?

7. Debt-for-Nature Swaps - Another Approach to the Developing Country Debt Problem:

In the early 1990s, Costa Rica, Bolivia, Ecuador, and a few other developing countries sold "conservation bonds" to private organizations and to some European governments in return for their own foreign debt. Such bonds can, for example, allocate funds towards maintaining the tropical rainforest.

(a) What incentives did a developing country have to engage in this transaction?

(b) What incentives to participate did organizations and governments of industrialized countries have?

8. The Effects of a Devaluation:

Why do countries choose to devalue their currencies? List some of the possible expansionary effects on, for example, real balances, output, and the trade balance.

9. The Problems of an Overvalued Currency:

The World Bank has repeatedly cautioned that many developing nations have seriously overvalued currencies.

(a) Why has overvaluation become a chronic problem for many developing countries?
(b) Does an overvalued exchange rate imply that there is excess demand for or excess supply of foreign currency?
(c) The World Bank argues that an overvalued exchange rate is inefficient for two reasons: It encourages producers to shift to import-substituting activities, and scarce resources are expended on rent-seeking. Explain how an overvalued currency can have these effects.