## Chapter 11

# **International Trade and Economic Development**

"Plenty of good land, and liberty to manage their own affairs their own way, seem to be the two great causes of prosperity of all new colonies." Adam Smith, <u>Wealth of Nations</u>, Book IV, Chapter VII.

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#### II. Chapter Summary and Review

A majority of the world's population live in the developing world, characterized in part by low per capita real GDP, poor health, high illiteracy, rapid population growth, and low growth of GDP. Although the purpose of trade theory is not to explicitly address development questions, trade theory has made some important contributions to development issues.

The traditional comparative advantage argument is often viewed as a static argument that promotes the status quo of poverty. Because most developing nations are low-cost producers of primary products, the principle of comparative advantage is seen as trapping these nations as producers of primary products rather than fostering a transition to manufacturing and industrial production, which are taken as signs of progress. Trade can, however, promote genuine development as well as produce the static gains due to traditional comparative advantage.

For nations with ineffective fiscal and monetary policies, trade can provide increased employment through export markets. This is called the **vent for surplus** argument. Surplus domestic production of minerals and agricultural goods can be sold in export markets. The increased production possible through expanded markets can also allow firms to reap the benefits of economies of scale. Perhaps equally important is the spread of ideas, technology, and finance that access and exposure to international markets may promote. Trade can also be instrumental in promoting competition in small markets that may be monopolized by few local firms.

An important controversy in the debate over the role of trade in economic development is the effect of changes in the terms of trade on developing nations. As defined in Chapter 4, the terms of trade generally represents the price of exports relative to the price of imports.

There are a number of alternative measures of the terms of trade, the simplest of which is the **net barter**, **or commodity terms of trade**. The barter terms of trade is expressed as an index, with the base year set equal to 100, and each subsequent year's terms of trade stated relative to 100. The barter terms of trade, N, can be written as

$$N = \left(\frac{P_X}{P_M}\right) 100$$

 $P_X$  is the price index of exports and  $P_M$  is the price index of imports. Both  $P_X$  and  $P_M$  are set equal to 100 in the base year, so N=100 in the base year. If, in the year following the base year, the price of exports increases by 10% and the price of imports increases by 5%, then the new barter terms of trade will be

$$N = \left(\frac{110}{105}\right)100 = 104.8$$

There has been an improvement in the barter terms of trade by 4.8% with the price received by a nation for its exports increasing by more than the price paid by the nation for imports from other nations.

The **income terms of trade** represents the quantity of goods that can be imported with export earnings. Export earnings are  $P_X$  times  $Q_X$ , where  $Q_X$  is an index of the quantity of exports. Dividing the export earnings by the price of imports gives the quantity of imports that can be purchased, which is the income terms of trade, I.

$$I = \frac{P_X Q_X}{P_m}$$

where I is the income terms of trade. An increase in the income terms of trade means that a nation can now afford more imports with its export earnings.

The **single factoral terms of trade** measures an index of the capability of factors employed in export industries to buy imports. The single factor terms of trade, S, is calculated as

$$S = \frac{P_X}{P_M} Z_X$$

The variable,  $Z_X$ , is an index of productivity. Given  $P_X/P_M$ , an increase in  $Z_X$  means that a given set of factors used in export production can now earn more imports. The single factoral terms of trade can be extended to include the productivity of factors used by the foreign nations to supply the imports, producing the **double factoral terms of trade**. Because the double factor terms of trade are less important and infrequently used, its measure will not be developed here. Although all of the above terms of trade measures are important, it is the barter terms of trade that are most often used and referred to as "the terms of trade."

Controversy over the terms of trade stems from the argument that the terms of trade of developing countries can be expected to fall over time, turning in favor of the developed nations. If true, then although trade may bring gains to both developing and developed nations, it is the developed nations that will continually secure a larger share of the gains from trade. To understand the argument better, draw an analogy between an individual and a nation. An individual sells labor and buys goods. The price at which an individual sells labor is the wage-rate and the price at which an individual buys is the average price of goods. The ratio of the selling price to the buying price is really the real wage, so an individual's real wage is akin to a nation's terms of trade. If the real wage (terms of trade) continually decreases, then fewer gains from production will accrue to the worker and more to the firm. A continual decline in a nation's terms of trade means a continual decline in the gains from trade.

The basis for believing that the terms of trade will deteriorate for developing nations lies in the nature of the labor markets in developed nations versus developing nations. In developing nations labor is generally weak and marked by high rates of unemployment and nonexistent or weak labor unions. If there are labor productivity increases, then the productivity gains will not be realized by weak labor in the form of higher wages. Rather, the reduction in the cost of production due to increased productivity will be passed along to consumers in the form of lower prices. Thus, the price of the exports of developing nations ( $P_X$ ) will decrease over time.

In developed nations, so goes the argument, strong labor will appropriate the productivity gains in the form of higher wages, leaving prices in the developed nations relatively unaffected rather than continually decreasing, so the prices of imports for developing nations ( $P_M$ ) will be unaffected. Strong unions may even be able to increase wages faster than productivity, which forces the prices in developed nations to increase.

In addition, the income elasticity of demand for manufactured goods is higher than the income elasticity of demand for agricultural goods. As income increases in the world, an increasing proportion of income is spent on manufactured goods. The increase in demand for manufactured goods will lead to an increase in the price of manufactured goods, with little of the new income going to the agricultural goods produced by developing nations.

Empirical studies conducted to test this hypothesis are subject to serious statistical problems, but some interesting themes emerge. First, there seems to

have been a small secular decline in the barter terms of trade, but an increase in the income terms of trade. That is, although the price of exports relative to imports for developing nations have declined, the ability to import has increased due to an even faster growth in export volumes. The income terms of trade may be more important to developing nations if the interest is in measuring what these nations can buy from the rest of the world with their export earnings.

In addition to the *level* of the relative price of exports faced by developing nations, there is the separate concern of the *volatility* of export prices. If export prices exhibit considerable volatility then so will the underlying economy that relies on export earnings to finance domestic consumption and investment.

As mentioned, many developing economies tend to export primary products like minerals and agricultural goods. Primary product prices exhibit relatively high volatility because of the price elasticities of demand and supply. The price elasticity of demand by developed nations for the primary product exports of developing nations is relatively low because such products make up a very small part of developed countries' incomes. When a small proportion of income is spent on a product, then a price change of the product is relatively meaningless, producing a small response. (Consider the effect of a change in the price of a newspaper for the average U.S. family.) In addition, primary products may have few close substitutes, contributing to the low price elasticity of demand.

The price elasticity of supply for primary products is small because of the difficulty of increasing input use in developing countries in response to a price increase. In addition, the production of agricultural goods cannot be increased easily within a given growing season.

With low price elasticities on both the supply and demand sides, both the demand and supply curves will be steep. (Draw steep, but not perfectly vertical, supply and demand curves and shift one of the curves.) The consequence of shifts of the demand curve or the supply curve is a large change in price and a small change in quantity. Thus, when supply or demand curves shift there will be considerable price volatility.

In response to possible volatility of export prices, countries have pursued policies to stabilize such prices (see *International Economics* for details), but the policies have generally not proven successful due to the cost of the policies themselves.

Although this **export instability** argument is valid, the evidence suggests that it does not extend to all products, and, in any case, the level of export instability is small in an absolute sense and has not proven to significantly impede development.

Partially in response to the perceived problems associated with the production and export of primary products, as well as to the questionable equating of industrialization with development, a number of developing countries in the 1950s, 1960s, and 1970s pursued industrialization through **import-substitution industrialization (ISI)**. ISI is the use of tariffs to reduce imports of industrial products and to promote and protect domestic industry in order to replace imports of industrial products. It is, indeed, easier to promote domestic industry by erecting import tariffs than it is to promote industrialization through exports by persuading other countries to lower their trade barriers. It is also clear that a domestic market exists for the industrial products because the goods are already imported. Foreign firms will also have an incentive to locate industry (**tariff factories**) in the domestic market to avoid the high tariffs.

There are, however, distinct disadvantages to an ISI policy. First, the domestic market in most developing countries is limited, making economies of scale difficult to achieve. Second, as is the case with any form of protection, a special interest group is created that diverts attention from profiting through promoting efficiency to profiting by maintaining the trade barriers. Finally, ISI can get more costly. Effort will initially be devoted to replacing the imports that are most easily produced domestically. In time, however, further expansion will require more technologically advanced production that is not so easily replicated domestically, unless the necessary capital is imported, which is exactly what the ISI policy tries to discourage.

The experience with ISI has, on balance, not been favorable. Very simply, ISI tries to promote the production of goods in which *other* nations have a comparative advantage, as demonstrated by the original trade pattern prior to the ISI policy. Moreover, the high tariffs necessary to protect inefficient industries produce significant costs to domestic consumers. ISI also copies foreign production methods, which for most less developed economies means capital-intensive production methods, producing only modest employment gains and over-investment in physical capital. Other sectors' investment needs are neglected, providing few jobs for labor displaced from the import-substitution sectors.

The alternative to ISI is **export-oriented industrialization**. The advantages of export-oriented industrialization are that it emphasizes a nation's comparative advantage, and expansion and economies of scale are not limited by the size of the domestic market. The cost of such *outward-looking policies* is the effort needed to compete in the world market in addition to the trade barriers often imposed by developed countries on the labor-intensive goods of the developing countries. In response to the failure of ISI, a number of nations have pursued export-oriented industrialization, beginning in the 1980s, with the support of the World Bank and new agreements negotiated in the Uruguay Round on reducing the trade barriers of the developed countries.

### **III.** Questions

**1.** a) Explain why primary goods exhibit more price instability than manufactured goods.

b) Export instability often refers to the volatility of prices of exports for developing countries. Perhaps more important is the instability of export earnings (price of exports times quantity of exports). Are export earnings more likely to be unstable due to the business cycle in other countries or due to changes in growing conditions in the exporting country? (See Problem 10 of Chapter 11 in *International Economics*.)

c) How can **buffer stocks** ideally eliminate unstable export prices and earnings?

d) Based on the *International Economics* text, how important is export instability, and, therefore, how important is the maintenance of buffer stocks?

**2.** The price indices of exports and imports, along with an index of the quantity exported are presented in Table 1 below for various years for the country of Mauritius. (Price indices for exports and imports are known as "unit value indices.")

and Quantity Exported Index				
	Export Unit	Import Unit	Quantity Exported	
	Value Index	Value Index	Index	
1992	108.7	102.1	100.0	

#### Table 1: Export Unit Value Index, Import Unit Value Index, and Quantity Exported Index

1993	104.5	99.9	104.2
1994	107.4	105.3	105.1

Source: Adapted from the IMF's, International Financial Statistics, April 1997.

a) Calculate the commodity terms of trade of Mauritius for the years 1992-1994.

b) Comment on the meaning of the changes in the commodity terms of trade from 1992-1994.

c) Calculate the income terms of trade for the years 1992-1994, setting the 1992 income terms of trade equal to 100.

d) Comment on the meaning of the changes in the income terms of trade from 1992-1994.

**3.** a) Explain why the commodity terms of trade can be expected to decline over time for developing nations.

b) In Question 2 the commodity terms of trade fell while the income terms of trade increased. Explain how this could happen due to technical change in the export sector.

c) Explain how an increasing supply of labor could cause a decline in the commodity terms of trade, but an increase in the income terms of trade.

d) Is a nation necessarily better off if the commodity terms of trade fall while the income terms of trade increase?

**4.** a) What has been the long-run experience of countries that have pursued ISI?

b) The *International Economics* text mentions that ISI is not a feasible long-run policy for development and that export-oriented industrialization might be appropriate. What's a possible justification for this view? Consider simple comparative advantage.

**5.** a) In what ways can international trade contribute to genuine economic development?

b) Under what circumstances might international trade create problems for developing countries?

**6.** Large inflows of capital to developing countries in the 1970s and early 1980s, although instrumental in financing growth, eventually led to a foreign debt problem for many countries due to slowly growing exports, low export prices, and high interest rates.

To avoid default, many developing countries used the services of the International Monetary Fund (IMF) to help renegotiate repayment of interest and debt. In return, these countries accepted austerity measures imposed by the IMF, which included reductions in imports, inflation, wages, and domestic public programs.

Why might the IMF impose such measures, and why might these measures be viewed as overly harsh?

**7.** Answer the following after reading Case Study 11-6 in *International Economics*.

a) Has globalization reached all nations to a similar extent?

b) According to Case Study 11-6, is the cause of poverty in the poorest nations due to globalization?

c) How has recent globalization affected the very poor?