

often differ between the developing countries and the industrialized countries. Many argue that these differences result in the greater share of trade-related benefits going to the industrialized countries and may even contribute to the furthering of underdevelopment in the LDCs. Two issues related to these differences, export instability and long-run changes in the terms of trade, have received considerable attention. We now look at these issues in more detail.

### Export Instability

**Export instability** refers to the fact that the export earnings tend to fluctuate annually to a greater extent for developing countries than for industrialized countries (ICs). Often, the focus is not on export earnings (prices of exports times quantities of exports) but on export prices and their fluctuations. Whether the focus is on prices or on earnings, however, the variability is regarded as a problem because, with the relatively **high degree of openness** of many developing countries (that is, a high ratio of foreign trade to gross domestic product, GDP), variability in the export sector is often associated with variability in GDP and the domestic price level. The internal instability is considered undesirable because of the uncertainties generated for producers and consumers. It can also put a strain on the rather ineffective macroeconomic policy instruments of the developing countries. In addition, planning for development is made more difficult. When export earnings are high in "good" years, development projects can be started that use imported equipment, but when export earnings subsequently decline, foreign exchange is not available to complete and to operate the projects, resulting in waste and a disrupted planning process.

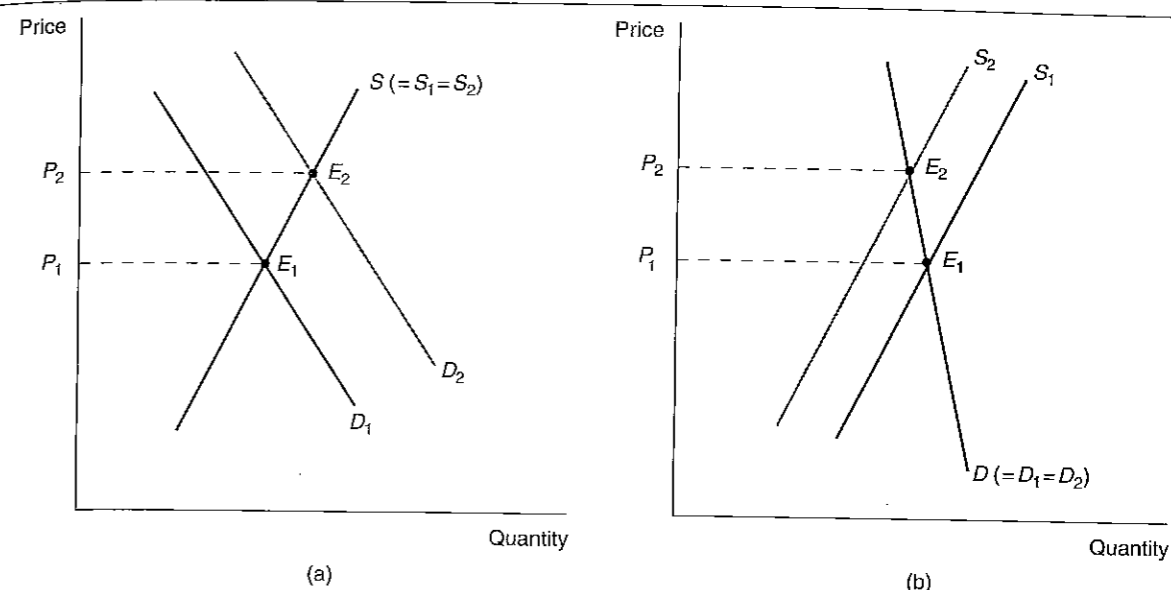
### Potential Causes of Export Instability

To account for price and earnings instability of the LDCs, economists usually list three main reasons. All three reasons are associated with the fact that many developing countries are relatively more engaged in the export of primary products than of manufactured goods. The first two reasons pertain to price variability, while the third reason focuses on total export earnings variation.

The first explanation for price instability in developing-country exports combines shifts in the demand curve for their exports with an inelastic supply curve of exports. The situation is illustrated in Figure 1, panel (a). Demand curve  $D_1$  indicates the demand for the developing-country export good in time period 1, while curve  $D_2$  indicates demand in time period 2. The supply curve  $S$  is assumed to apply to both periods. Note that the supply curve tends toward vertical, reflecting the supply inelasticity characterizing primary products. (For example, at the end of the harvesting period, a farmer has little choice but to sell most of the crop on the market, regardless of price.) When the demand curve shifts from  $D_1$  to  $D_2$ , price rises from  $P_1$  to  $P_2$ . If in a third period, demand then shifts back to position  $D_1$ , price will fall back to  $P_1$ . Obviously, there is considerable potential price instability in this scenario. A possible way to reduce the price instability would be for economic conditions in the buying countries (the ICs) to be stabilized. Hence, better macroeconomic measures in the industrialized or developed countries can reduce instability in the less developed countries.

A second explanation for price instability [panel (b) of Figure 1] is the converse of the first one. Suppose that the demand curve for the export good is inelastic; this is usually the case for primary products because either the demand is a derived demand for use in a final good or the product is a food product that characteristically faces low price elasticities. Shifts in the supply curve because of factors such as variable weather conditions in the producing countries can then cause substantial price instability. In panel (b), a constant demand curve is plotted against supply in the first period ( $S_1$ ) and the second period ( $S_2$ ). If weather conditions (such as a failure of the monsoons in India) in the second period reduce production, the price change is large, from  $P_1$  to  $P_2$ . With a resumption of favorable conditions in

FIGURE 1 Demand-Supply Shifts and Price Instability



In panel (a), a shift of the export demand curve in period 1 ( $D_1$ ) to the export demand curve in period 2 ( $D_2$ ), in conjunction with a given inelastic supply curve in the two periods, yields a relatively large price increase. A shift back in demand to  $D_1$  in a subsequent period would generate a substantial price decline. In panel (b), with an inelastic demand curve  $D$  for the primary product in the two periods, a shift in the supply curve in the first period ( $S_1$ ) to supply curve  $S_2$  in the second period likewise causes a relatively large price change. A shift back in supply to  $S_1$  in the next period would generate substantial price instability for the two periods as a whole.

the next period,  $S_2$  shifts out again, and price again varies. In this case, the LDC may wish to search out alternative exports whose production is not so dependent on random factors.

A third explanation offered for instability is the high degree of **commodity concentration** in the export bundle, although this explanation is debated in the literature. (See Love 1986, 1990; Massell 1970, 1990.) In some LDCs, one or two goods constitute a majority of the total export earnings. This lack of diversification implies that dramatic price rises (or declines) in the one or two goods will cause total export earnings to rise (or fall) dramatically. If the bundle of goods were more diversified or less concentrated, then a price increase in some goods could be offset by price declines in other goods, making for greater stability in the total value of the export bundle. Examples of countries with relatively high degrees of commodity concentration are Honduras, where coffee and bananas comprise almost one-half of total exports; Saudi Arabia, where crude and refined petroleum account for about 90 percent of total exports; Uganda, where coffee constitutes about 60 percent of exports; Zambia, where copper constitutes approximately 85 percent of exports; and Zimbabwe, where tobacco and tobacco manufactures comprise about 35 percent of exports.<sup>3</sup> Clearly there could potentially be some benefit to such developing countries from undertaking policies to increase the number of different types of goods exported, especially labor-intensive manufactured goods.

<sup>3</sup>United Nations, 1997 *International Trade Statistics Yearbook*, Vol. I (New York: United Nations, 1999), pp. 430, 847, 1014, 1089, and 1096.

### Long-Run Terms-of-Trade Deterioration

The problem of **long-run deterioration in the terms of trade** refers to the allegation that, over the span of several decades or so, there has been a persistent tendency for the commodity terms of trade (price of exports/price of imports) to fall for developing countries. If the world is viewed as consisting of two groups of countries—the LDCs and the ICs—then the implication is that the commodity terms of trade have been improving for ICs, since exports from LDCs (ICs) are imports into ICs (LDCs). In other words, the international economy is transferring real income from LDCs to ICs, an opposite transfer to that which many people think is desirable. At the extreme, the terms-of-trade behavior can generate immiserating growth (see Chapter 11).

This hypothesis of secularly declining terms of trade (TOT) for LDCs is often referred to as the **Prebisch-Singer hypothesis** because of its popularization by two long-time United Nations economists, Raul Prebisch and Hans W. Singer (see Box 1). The hypothesis emerged in response to statistical studies showing that, particularly for Great Britain, the TOT had risen dramatically in the 50- to 100-year period ending with World War II. The inference was made that, since the ICs' TOT had improved, the LDCs' TOT must have deteriorated.

A number of economists pointed out that such an inference was invalid. (See Baldwin 1955; Ellsworth 1956; Meier 1968, chap. 3; Morgan 1959, 1963.) One reason concerns the way international trade data are recorded. Exports are usually recorded f.o.b. (free on board), which means that insurance and transportation costs are not included; however, imports are usually recorded c.i.f. (cost, insurance, and freight). Hence,  $P_{\text{exports}}/P_{\text{imports}}$  for the ICs could have been rising because, as has been the case over the long run, transport costs had been falling (which would reduce the denominator of the TOT expression). Thus, the use of the reciprocal of the industrialized countries' TOT as an indication of the developing countries' TOT is invalid, since the recording procedure could be consistent with improving TOT for both LDCs and ICs due to the decline in transportation costs.

Another reason for objection to long-run studies of TOT behavior concerns quality changes in products. It is very difficult to incorporate quality changes into price indexes, and a rise in price for a product may not indicate a true price increase if the quality of the product purchased has also improved. Quality improvements have been greater in manufactured goods than in primary products in the long run. Thus, since the share of primary products (manufactured goods) in LDC exports is larger (smaller) than in LDC imports, even if  $P_{\text{exports}}/P_{\text{imports}}$  is falling for the LDCs this may not be a true "deterioration" in the terms of trade. While the developing countries may be paying relatively more for their imports, they may also be receiving relatively better products.

Other economists used direct data for several developing countries to ascertain whether there had been a long-run deterioration in the terms of trade. (For a bibliography of such studies, see Diakosavvas and Scandizzo 1991.) As might be expected from economic research, both rising and falling trends in LDCs' TOT have been found. Many researchers have chosen not to examine the developing countries' TOT but the long-run behavior of primary product prices versus the prices of manufactured goods. Research has found a long-run relative decline in primary-product prices. (See Diakosavvas and Scandizzo 1991, and Spraos 1983, chap. III.) As these authors note, however, this is not identical to secular deterioration in LDCs' terms of trade, since ICs also export primary products and LDCs also export manufactured goods.

#### Differing income elasticities of demand

Several reasons have been offered for the alleged long-run TOT decline of developing countries. (See the various studies cited so far in this section and Singer 1987.) A compelling reason for believing in a long-run TOT decline centers on **differing income elasticities of demand for primary products and manufactured goods**. Empirical evidence indicates



### BOX 1

### RAUL PREBISCH (1901-1986) AND HANS WOLFGANG SINGER (BORN 1910)

RAUL PREBISCH was born on April 17, 1901, in Tucuman, Argentina. When he graduated with an economics degree in 1923 from the University of Buenos Aires, he had already written nine professional journal articles, the first having appeared when he was 17. He was professor of political economy at his alma mater from 1925 to 1948, also serving simultaneously as director of economic research for the National Bank of Argentina (1927-1930) and under-secretary of finance for Argentina (1930-1932), among other posts. He then embarked upon a career with the United Nations, serving as executive secretary of the U.N.'s Economic Commission for Latin America (ECLA) from 1948 to 1962 and as secretary-general of the United Nations Conference on Trade and Development (UNCTAD, an organization based in Geneva) from 1964 to 1969. He subsequently became director-general of the U.N.'s Latin American Institute for Economic and Social Planning.

Dr. Prebisch wrote several influential studies, with particularly noteworthy ones being "Commercial Policy in the Underdeveloped Countries" (*American Economic Review*, May 1959), *The Economic Development of Latin America and Its Principal Problems* (1949), and *Towards a New Trade Policy for Development. Report of the Secretary-General of the United Nations Conference on Trade and Development* (1964). His thesis of the secular deterioration of the terms of trade of LDCs is his most widely cited contribution, but he was concerned with problems of industrialization of the LDCs throughout his career. He appears to have first crystallized the notion of a "center-periphery" in the world economy, whereby systematic forces emanating from the center (the DCs) cause great difficulties for the periphery (the LDCs). His ability to articulate his views at the international agency level has ensured that they have been and will be long-lasting.

Raul Prebisch was awarded several honorary degrees, including degrees from Columbia University and the Universidad de los Andes (Colombia). He also received the Jawaharlal Nehru Award for International Understanding in 1974, the Dag Hammarskjöld Honorary Medal of the German U.N. Association in 1977, and the Third World Prize of the Third World Foundation in 1981.

HANS W. SINGER was born in 1910 in Elberfeld (now Wuppertal), Rhineland, Germany. He earned his diploma in political science from Bonn University in 1931. He received his

Ph.D. in economics from Cambridge University in 1936, doing his work during the formative years of Keynesian economics at Cambridge. He served as assistant lecturer in economics at Manchester University from 1938 to 1945, as economics research officer in the U.K. Ministry of Town and Country Planning in 1945-1946, and as lecturer in political economy at Glasgow University in 1946-1947. He then undertook a U.N. career, building and serving in the Economics Department of the U.N. Secretariat. He became professor of economics at the University of Sussex and its Institute of Development Studies in 1969, and has remained on the institute's academic staff long after his "official" retirement.

Professor Singer's early concern was with unemployment, and he published *Unemployment and the Unemployed* in 1940. He then worked on problems of wartime planning. He subsequently turned to the area of economic development and made many contributions, including *Economic Development of Under-Developed Countries* (1950), *International Development, Growth and Change* (1964), and *Technologies for Basic Needs* (1977). Another work studied in higher education was his text *Rich and Poor Countries* (with Javed A. Ansari, 4th ed., 1988). His most famous article is "The Distribution of Gains between Investing and Borrowing Countries" (*American Economic Review*, May 1950).

Professor Singer's work has been of broad scope, extending beyond the terms-of-trade issue to the structure of the world economy, basic needs, food aid, and technology transfer. He has taken the lead in spreading knowledge of Third World problems worldwide. His ideas and efforts serve as constant reminders that there is no "quick fix" to LDC problems and that development should be approached from the perspective of possible actions in DCs as well as in LDCs.

Sources: Mark Blaug, ed., *Who's Who in Economics: A Biographical Dictionary of Major Economists 1700-1986*, 2nd ed. (Cambridge, MA: MIT Press, 1986), pp. 696-97, 788-89; Luis E. Di Marco, ed., *International Economics and Development: Essays in Honor of Raul Prebisch* (New York: Academic Press, 1972), pp. xvii-xix; Gerald M. Meier and Dudley Seers, eds., *Pioneers in Development* (New York: Oxford University Press for the World Bank, 1984), pp. 173, 273-74; J. G. Palma, "Raul Prebisch," in John Eatwell, Murray Milgate, and Peter Newman, eds., *The New Palgrave: A Dictionary of Economics*, Vol. 3 (London: Macmillan, 1987), pp. 934-36; *Who's Who in the World*, 1st ed., 1971-1972 (Chicago: Marquis Who's Who, 1970), p. 746; *Who's Who in the World*, 10th ed., 1991-1992 (Wilmette, IL: Marquis Who's Who, 1990), p. 1004. ○

or the effects on total saving of any changes in the distribution of income tied to the growth in the export sector. Again, however, the empirical results are not always conclusive.

In sum, while empirical analysis often supports the idea of a positive connection between the expansion of international trade and growth in income, a certain ambiguity remains. The manner and degree to which trade influences growth and development is complex and often country-specific. The nature of the effect appears to vary with the degree of development, the nature of the economic system, and world market conditions outside the influence of the individual country. World business cycles in particular seem to play an important role. Finally, the relationship between trade and growth increasingly appears to be more simultaneous than uniquely causal. While empirical analysis has not as yet provided a conclusive answer to the links between trade and growth, some of the recent models of growth through endogenous technological change that incorporate various effects of international trade might prove more successful.<sup>5</sup>

## TRADE POLICY AND THE DEVELOPING COUNTRIES

We now turn to a brief examination of the manner in which trade policy can be used to influence growth and development in developing countries. Our analysis is restricted to three areas: export instability, terms-of-trade behavior, and inward- versus outward-looking development strategies.

### Policies to Stabilize Export Prices or Earnings

Several kinds of policies that conceptually can stabilize prices or export earnings have been used at various times. We consider a few general policies, but none of them has been judged very successful in practice.

#### *International buffer stock agreement*

A policy that has continued to receive wide attention and is favored by many LDCs is an **international buffer stock agreement**. (The most well known of such agreements is the International Tin Agreement, which is currently inoperative.) Indeed proposals adopted at a special United Nations General Assembly session in 1974 called for an expansion in the number of such agreements as a means of generating greater benefits for LDCs in the world economy. In the international buffer stock agreement, producing nations (often joined by consuming nations) set up an international agency endowed with funds and a quantity of the commodity. If the world price of the good falls below the floor, the agency will buy it to bring the price up to the floor. On the other hand, if the world price rises above the ceiling, the agency will sell the good to bring the price down to the ceiling. If the agency is successful, then producing (and consuming) countries have realized greater stability than would otherwise have been the case.

#### *International export quota agreement*

Another mechanism for introducing greater stability into LDC exports is an **international export quota agreement**, a type of agreement exemplified historically by the International Coffee Agreement and, less rigidly, by the current Association of Coffee Producing Countries (14 countries).<sup>6</sup> In an export quota agreement, producing countries choose a target price for the good (e.g., \$2.50 per pound of coffee) and make a forecast of world demand for the coming year. Then they determine the quantity of supply that will, in conjunction with estimated world demand, yield the target price. Suppose that the estimated necessary

<sup>5</sup>For examples of these models, see especially Romer (1989) and Grossman and Helpman (1991).

<sup>6</sup>For a look at recent action by this group, see Mara Lemos, "Coffee Moves Sharply Higher on News of an Agreement to Cut Back on Exports," *The Wall Street Journal*, May 22, 2000, p. C29.

supply is 400 million pounds of coffee. The agreement divides up the 400 million pounds among the supplying countries and stipulates that no country can export more than its designated share. If the forecast of demand is correct and supplying countries adhere to their quotas, then the price in the coming year will be at the target level.

The export quota agreement contains a mechanism for keeping prices stable. If the world price falls because of a decrease in demand, the export quotas of the supplying countries will be tightened and the price will return to \$2.50. Analogously, if the world price rises, the quotas will be relaxed and the price will fall back to \$2.50. Thus, greater stability is provided with the agreement in place than would otherwise have been the case.

### *Compensatory financing*

Another mechanism for dealing with export instability focuses on alleviating the consequences of the instability for the developing countries. This mechanism is known as **compensatory financing**. An international agency is provided with funding and forecasts the growth trend of the export earnings of each participating LDC. (The International Monetary Fund has had a compensatory financing facility since 1963.) Suppose that export earnings in 2001 for the developing country fall below the forecast level. The agency responds by extending a short-term loan to the LDC, and the steady flow of foreign exchange to the LDC for the purchase of development imports is thus sustained. If, in 2004, the cycle turns around and the developing country's export earnings rise above trend, the loan can be repaid. Advocates of this approach emphasize that it is superior to international commodity agreements (ICAs) because compensatory financing does not interfere with the allocative function of prices.

### **Problems with International Commodity Agreements**

Given the developing countries' interest in greater use of international commodity agreements, it is useful to indicate potential difficulties with such arrangements. From the standpoint of feasibility, the crucial features for success in a buffer stock agreement are the levels at which the ceiling price and the floor price are set. If the designated price range *does not contain the long-run free-market equilibrium world price*, then the agreement may not be sustainable. Suppose that the designated price range is from \$3.75 to \$4.00 per pound of tin but that the actual long-run free-market world price is \$3.60 per pound. The result of the agreement will be that the agency will continually be purchasing the good and will exhaust its endowment of funds. It will also accumulate quantities of the good that can only be unloaded at a loss. Further, the price will not have been stabilized and the agency will have no funds with which to continue its operations. If, instead, the long-run equilibrium world price is \$4.20 rather than \$3.60, then the agency will exhaust its initial endowment of the good. While it will have accumulated funds with which to set up a new agreement at a higher price range, the buffer stock has not performed its stabilizing function. (See Johnson 1967, chap. V.)

There are also forecasting difficulties with export quota agreements. If long-run demand is weaker than estimated, then the supply on the world market from the producing countries will depress the price below what was desired. To raise the price, the countries must hold back exports and will be faced individually with the problem of an accumulation of stocks of the good. If long-run demand is stronger than estimated, individual country stocks will be depleted and countries can no longer stabilize the price. Despite the inability to stabilize, however, the latter situation benefits the LDCs because their export earnings will be higher than anticipated.

A more fundamental difficulty of the export quota arrangement is that, even if the demand and therefore price have been correctly estimated, the agreement must embody *all* exporters of the good or it will be undermined. If there are  $n$  exporting countries but only  $n - 1$  of them participate, then the  $n$ th country will not be constrained in its exports. If it


**CASE STUDY 1 THE LENGTH OF COMMODITY PRICE SHOCKS**

In a recent article, Paul Cashin and Hong Liang of the International Monetary Fund and C. John McDermott of the Reserve Bank of New Zealand (1999) sought to determine the likelihood of success of price stabilization schemes for primary commodities. As the history of such agreements suggests, there is reason for pessimism regarding their viability.

The approach of Cashin, Liang, and McDermott was first to note that about 25 percent of world merchandise trade is accounted for by primary products. In addition, on average, about one-half of export earnings of developing countries are derived from primary commodities. Indeed, a single product can often comprise a substantial portion of a country's export earnings. (See Table 2 as well as discussion earlier in this chapter.) Then Cashin, Liang, and McDermott pursued the question of how long would intervention by a price stabilization scheme have to occur in order to provide for stability over time in any given commodity's price, given that price "shocks" take place frequently.

Assembling monthly price data for 1957-1998 on 44 commodities, Cashin, Liang, and McDermott calculated the length of a typical deviation from trend of any given

price shock or disturbance. More precisely, they calculated the length of time, after an initial disturbance in price (either up or down), that it took for the amount of the initial disturbance to be dissipated by one-half (i.e., the half-life of the shock). The half-lives were quantified in months, and results are given in Table 3. Clearly, the length of time required for some prices to settle down is very long. Such long reaction periods mean that a stabilization scheme for any given product would not be likely to be successful without substantial funding to continue the program for several years. This can importantly account for the failure of the International Sugar Agreement in 1984, the International Tin Agreement in 1985, the International Cocoa Agreement in 1988, and the International Coffee Agreement in 1989. (Note that these four commodities all have long half-lives.) On the other hand, the International Natural Rubber Agreement (half-life less than four years) is a functioning agreement. Further, the alternative to price stabilization schemes, compensatory financing, might involve a very long commitment of funds in order to offset the shortfall in earnings for the duration of the effects from a downward price disturbance.

**TABLE 2 Country Export Dependence on a Single Primary Commodity (annual average of dollar value of exports, 1992-1997)**

Commodity	50 Percent or More of Export Earnings	20-49 Percent of Export Earnings
Aluminum		Tajikistan
Bananas		Honduras, St. Vincent and the Grenadines
Cocoa	Saô Tomé and Príncipe	Côte d'Ivoire, Ghana
Coffee	Burundi, Ethiopia, Uganda	Rwanda
Copper	Zambia	Chile, Mongolia
Copra and coconut oil	Kiribati	
Cotton		Benin, Chad, Mali, Pakistan, Sudan, Uzbekistan
Gold		Ghana, Papua New Guinea, South Africa
Iron ore	Mauritania	
Natural gas	Turkmenistan	Algeria
Petroleum	Angola, Bahrain, Republic of Congo, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Oman, Qatar, Saudi Arabia, Venezuela, Yemen	Azerbaijan, Brunei, Cameroon, Ecuador, Equatorial Guinea, Norway, Papua New Guinea, Russia, Syria, Trinidad and Tobago, United Arab Emirates
Sugar		Guyana, Mauritius, St. Kitts & Nevis
Timber		Equatorial Guinea, Laos, Solomon Islands
Tobacco	Malawi	Zimbabwe

Source: Paul Cashin, Hong Liang, and C. John McDermott, "Do Commodity Price Shocks Last Too Long for Stabilization Schemes to Work?" *Finance and Development* 36, no. 3 (September 1999), p. 41.

**THE LENGTH OF COMMODITY PRICE SHOCKS (CONTINUED)**

**TABLE 3 Duration of Commodity Price Shocks, January 1957-December 1998**

Less than 1 Year	1 Year-4 Years	4 Years-8 Years	More than 8 Years
Bananas	Aluminum	Beef	Cocoa beans
Heating oil	Fishmeal	Coconut oil	Coffee (robusta)
Hides	Gasoline	Copper	Coffee (other milds)
Softwood (logs)	Iron ore	Groundnut oil	Cotton
Softwood (sawn wood)	Lamb	Lead	Gold
Sugar (European Union)	Rubber	Maize	Hardwood (logs)
Tea	Soybean meal	Palm oil	Hardwood (sawn wood)
	Soybeans	Phosphate rock	Natural gas
	Sugar (United States)	Soybean oil	Nickel
	Wheat	Wool (coarse)	Petroleum
		Wool (fine)	Rice
		Zinc	Sugar (free market)
			Tin
			Tobacco
			Triple superphosphate

Source: Paul Cashin, Hong Liang, and C. John McDermott, "Do Commodity Price Shocks Last Too Long for Stabilization Schemes to Work?" *Finance and Development* 36, no. 3 (September 1999), p. 42.

Source: Paul Cashin, Hong Liang, and C. John McDermott, "Do Commodity Price Shocks Last Too Long for Stabilization Schemes to Work?" *Finance and Development* 36, no. 3 (September 1999), pp. 40-43.

sells large quantities, the world price will fall below the target price. Further, the exporting countries in any export quota agreement must honor their quotas. If they secretly sell more than their allotted amounts, downward pressure on the good's price takes place. For example, although the Organization of Petroleum Exporting Countries (OPEC) is more a price-raising than a price-stabilizing organization, it has had difficulty in maintaining the target price of crude oil because individual members cut prices in order to sell larger-than-agreed-upon volumes.

Along the same line, consuming countries are often brought into export quota agreements, and therefore it is necessary that the entire set of consuming nations be included in the agreement. If this is not the case, the exporting countries will find outlets for additional sales in nonparticipating buying countries, and downward pressure will be put on the price. In sum, without full participation and adequate enforcement procedures, export quota agreements will not perform their stabilizing function.

Thus, there are a number of difficulties pertaining to successful implementation of stabilization agreements. For a look at an additional problem regarding the length of necessary intervention, see Case Study 1.

**Suggested Policies to Combat a Long-Run Deterioration in the Terms of Trade**

Several general policy measures have been suggested for alleviating the alleged secular deterioration of the TOT of LDCs. One strategy is increased **export diversification into manufactured goods** by the LDCs. If the export bundle increasingly contained relatively more manufactured goods, this would circumvent in part the difficulties experienced by the LDCs both with respect to the differing income elasticities of demand and the effects

*Export diversification*

of technological change. The manufactured goods would presumably be labor-intensive goods in accordance with LDCs' abundant labor supplies and the Heckscher-Ohlin theorem. Such a strategy is easier to recommend than to implement, and long-term measures such as increased education may be necessary. Nevertheless, many developing countries have dramatically increased the share of manufactured goods in their exports in the last one to two decades.

*Export cartels*

Another possible measure is the formation of an **export cartel** by developing countries. A significant feature of the success of OPEC in the 1970s was that, although the dramatic oil price increases caused difficulties for oil-importing LDCs, developing countries in general looked positively on OPEC's success because it demonstrated that at least some developing countries could organize to obtain a larger share of the gains from trade in the world economy. (See Bhagwati 1977, pp. 6-7.) However, it has become clear with OPEC that a redistribution via the export cartel route may not be a long-term solution to the difficulties of primary product exporters. To be successful, all exporting countries must be part of the process; there must not be strong substitution possibilities for the good in question; and members of the agreement must not cheat on the agreement. These conditions are most likely to be met where only a few countries dominate the world market and where demand is inelastic both in the short run and the long run. These conditions are not likely to be fulfilled for many primary products exported by developing countries.

*Import and export restrictions*

A third policy option is the use of developing-country import or export restrictions to improve the terms of trade. As discussed in Chapters 14 and 15, a country with the ability to influence world prices can gain welfare by imposing its optimum tariff (assuming no retaliation). However, economists are generally skeptical of the value to any particular developing country of adopting such trade restrictions. To influence the terms of trade, a country must be large in the economic sense in one or more of its export commodities, and this may not be the case for many LDCs. While industrialized countries' demand for primary products tends to be price-inelastic—and hence there is scope for LDCs to improve their TOT by restrictions—the inelasticity applies to primary products as a whole and not to primary products from any one supplier. Demand curves facing any individual country are more elastic than those facing suppliers as a whole. Further, the difficulties of organizing many LDCs to act in concert were mentioned above. Finally, any reduction in the volume of trade by the use of restrictions will deprive LDCs of necessary development imports (e.g., machinery, transport equipment, parts) from the ICs and will introduce price distortions into the economy which can be disadvantageous for development.

*Economic integration projects*

A policy option receiving increased attention is the formation of economic integration projects among the developing countries themselves. These projects may be, for example, free-trade areas or common markets. The idea behind integration projects from the standpoint of the terms-of-trade problem is that the LDC member countries can avoid the potential TOT deterioration in their trade with industrialized countries by having increased trade among themselves. In addition, more market power in world markets may be possible by acting as a united front. Further, the enlarged market size within the region may stimulate investment, the emergence of manufactured goods production, and the diversification required to avoid export instability and TOT deterioration. However, as noted in Chapter 18, such unions run into difficulties regarding the sacrifice of national sovereignty and the distribution of benefits among the partner countries.

In recent years, there has been a resurgence of interest and participation in economic integration on the part of many developing countries. The ever-growing list of participants includes Mexico (NAFTA, APEC), the countries of MERCOSUR, Chile (in several FTAs),

the Asian countries in APEC, the members of the Central American Common Market, members of the Andean Pact, and the participants in the Caribbean Common Market (CARICOM). (See Chapter 18 for a more in-depth discussion of groups involved in economic integration.) What is of particular note is that these various integration schemes increasingly involve groups of both developing and industrialized countries. These arrangements thus often facilitate the flow of new technologies and promote development in the developing countries that takes best advantage of their underlying comparative advantages. Given the experiences of a number of the developing and semi-industrialized countries, it is clear that integration arrangements will not automatically lock the developing country into specializing in the production of primary products.

## CONCEPT CHECK

1. How can price instability in a product be related to the demand and supply elasticities of the product?
2. Why do economists tend to favor the use of compensatory financing rather than international commodity agreements to enhance efficient resource allocation in LDCs?
3. Why might diversification of LDC exports into manufactured goods help to alleviate any possible long-run deterioration in the LDCs' terms of trade?
4. Why does the mere existence of transfer pricing by multinational corporations in a manner unfavorable to LDCs not automatically imply that the transfer pricing has caused a long-run deterioration in the terms of trade of the LDCs?

**"Inward-Looking" versus "Outward-Looking" Trade Strategies**

In view of the preceding discussion, what is the appropriate trade strategy for LDCs? Economists and policymakers have debated two competing strategies regarding the trade sector. An **inward-looking strategy** is an attempt to withdraw, at least in the short run, from full participation in the world economy. This strategy emphasizes **import substitution**, that is, the production of goods at home that would otherwise be imported. This can economize on scarce foreign exchange and ultimately generate new manufactured exports without the export difficulties of primary products if economies of scale are important in the import-substitute industries and if the infant industry argument (see Chapter 15) applies. The strategy uses tariffs, import quotas, subsidies to import-substitute industries, and other measures of this type. In contrast, an **outward-looking strategy** emphasizes participation in international trade by encouraging the allocation of resources without price distortions. It does not use policy measures to shift production arbitrarily between serving the home market and foreign markets. In other words, it is an application of production according to comparative advantage; the current expression is that the LDCs should **"get prices right."** (See Case Study 2.) Some analysts go further and focus particularly on **export promotion**, whereby policy steps such as export subsidies, encouragement of skill accumulation in the labor force and the use of more advanced technology, and tax breaks are used to generate more exports, particularly labor-intensive manufactured exports in accordance with the Heckscher-Ohlin theorem.

*Trade strategy and economic performance*

Does the choice of which trade strategy to employ make a difference in the performance of the developing country economy? The World Bank's *World Development Report 1987* (chap. 5) examined experience for 41 LDCs in an attempt to answer this question. It classified countries according to four categories of trade strategy. A country was classified as a **strongly-outward-oriented economy (SO)** if it had few trade controls and if its currency was neither overvalued nor undervalued relative to other currencies and thus did not discriminate between exports and production for the home market in incentives provided. A country was classified as a **moderately-outward-oriented economy (MO)** if the incentives biased production slightly toward serving the home market rather than exports,


**CASE STUDY 2 PRICE DISTORTIONS IN PAKISTANI AGRICULTURE**

In some developing countries, government pricing policies discourage agricultural production. This occurs if government procurement or support prices are below the prices that would exist with a free market. If the good is an export good, foreign exchange earnings are potentially sacrificed because of the government action.

One of the authors investigated price distortions while on assignment in Pakistan with the U.N. Food and Agriculture Organization in 1985. For selected export goods, the procedure was to compare the price received at the farm by producers (the producer price) with the export price received as the good leaves the country (the border price). Adjustments were made for the costs of transport, handling of the goods from the farm to the port, and processing. If the two prices are the same, then "prices are right" and no distortions of incentive exist. However, if the adjusted producer price is less (greater) than the border price, then the structure indicates a price distortion against (in favor of) production of the crop.

Table 4 presents a capsule summary of the findings. The three export goods examined were Basmati rice (the highest-quality rice), IRRI rice (a moderate-quality rice),\* and a particular type of cotton. The three goods were purchased by government corporations for export (acting like a marketing board). The ratios of producer price to border price fluctuated a good deal from year to year because world prices varied more than government purchase prices. Nevertheless, in general, Table 4 sug-

\*IRRI rice is a high-yielding variety developed by the International Rice Research Institute in the Philippines.

gests that in Basmati production, in which Pakistan has a strong comparative advantage in world markets, the Pakistani system provided a disincentive. The disincentive was less clear in IRRI rice and cotton, but no ratios for IRRI and cotton were above 1.0. Thus, the "getting prices right" concept suggests that an increase in government purchase prices or introduction of a greater role for the market (which has taken place to some extent since that time) could have benefited Pakistan.

effective rates of protection were relatively low, and the exchange rate was only slightly biased against exports (i.e., home currency slightly overvalued). A **moderately-inward-oriented economy** (MI) clearly favors production for the home market rather than for export through relatively high protection because of import controls, and exports are definitely discouraged by the exchange rate. Finally, a **strongly-inward-oriented economy** (SI) exhibits comprehensive incentives toward import substitution and away from exports through more severe measures than in MI.

The 41 countries were classified by their trade strategy for two periods, 1963–1973 and 1973–1985. Only three economies were classified as SO in each period: Hong Kong, South Korea, and Singapore. Ten countries were in the MO category in the first period and eight in the second; Brazil, Israel, Malaysia, and Thailand were so classified in both periods. The MI category contained 12 countries for 1963–1973 and 16 for 1973–1985. The countries appearing in this category in both periods were El Salvador, Honduras, Kenya, Mexico, Nicaragua, the Philippines, Senegal, and Yugoslavia. Finally, the SI category contained 16 economies in the first period and 14 in the second period, with Argentina, Bangladesh, Burundi, Dominican Republic, Ethiopia, Ghana, India, Peru, Sudan, Tanzania, and Zambia be-

TABLE 4 **Ratio of Producer Prices to Border Prices, Pakistan, 1975–1984**

Year	Basmati Rice	IRRI Rice	Cotton
1975–1976	0.37	0.65	0.91
1976–1977	0.71	0.91	0.57
1977–1978	0.70	0.65	0.92
1978–1979	0.35	0.61	0.84
1979–1980	0.36	0.59	0.77
1980–1981	0.43	0.53	0.71
1981–1982	0.46	0.66	0.98
1982–1983	0.45	0.89	0.82
1983–1984	0.45	0.90	0.69

Source: D. Appleyard, *Comparative Advantage of Agricultural Production Systems and Its Policy Implications in Pakistan*, FAO Economic and Social Development Paper no. 68 (Rome: U.N. Food and Agriculture Organization, 1987), pp. 4, 5, 7.

ing so classified in both periods. Note the predominance of African and Latin American countries in the two inward-looking categories.

No overall trends in trade strategy were discernible in the sample of LDCs between 1963–1973 and 1973–1985, although considerable movement took place between categories. Six countries turned inward by moving from MO to MI (Cameroon, Colombia, Costa Rica, Côte d'Ivoire, Guatemala, Indonesia), and three countries switched from MI to SI (Bolivia, Madagascar, Nigeria). On the other hand, Tunisia moved from MI to MO and Pakistan and Sri Lanka from SI to MI. In addition, Chile, Turkey, and Uruguay switched from an SI strategy to an MO strategy.

With respect to the comparative performance of countries operating under the different trade strategies, the World Bank staff's conclusions were strongly stated: "The figures suggest that the economic performance of the outward-oriented economies has been broadly superior to that of the inward-oriented economies in almost all respects" (World Bank 1987, p. 85). Various criteria of economic performance were examined to reach this conclusion. In terms of the average growth rates of real GDP, a ranking for 1963–1973 showed that, in terms of the four designations, SO > MO > MI > SI; for 1973–1985, the average growth rate of MI countries slightly exceeded that of MO countries, but the rest of the ranking remained intact. The same general pattern was true of growth rates of GNP per capita, with an average growth rate of 6.9 percent in the SO countries and 1.6 percent in the SI countries for 1963–1973. The average per capita GNP rates were 5.9 percent in the SO countries and minus 0.1 percent in the SI countries for 1973–1985. Further, saving as a percentage of GDP was greater for the two outward categories in the second period, although this was not true for the first period. The growth rates of manufactured exports among the outward countries substantially exceeded those of the inward countries in both periods. Finally, capital was used more efficiently (as expressed in lower quantities of capital required to get additional units of output) in the outward economies than in the inward economies.

A measure that did not show superior performance for the countries with outward orientation was the rate of inflation. These rates were close to each other in all four categories in 1963–1973, but the MO economies had the highest rates in 1973–1985, and the average rate for SO and MO countries exceeded that for MI and SI countries in those years. The World Bank explained this phenomenon by indicating that an outward strategy ties a country's inflation rate to that of the world economy to a greater extent than the inward strategy, and world inflation was high in the 1973–1985 period.

In addition to the general findings on the better economic performance under an outward-looking strategy, the World Bank suggests that outward orientation rather than inward orientation may lead to a more equal income distribution (World Bank 1987, p. 85). A reason for this result is that the expansion of labor-intensive exports generates employment opportunities, while import substitution policies often result in capital-intensive production processes that displace labor. Another benefit of the outward-looking strategy is that foreign exchange shortages are less common. With import substitution, an initial saving of foreign exchange is often temporary because the replacement of imports of final goods by domestic production requires imports of raw materials, capital equipment, and components. The end result may be increased rather than decreased dependence on imports. (See Krueger 1983, pp. 7–8.)

The World Bank's findings (see also World Bank 1991) and those of advocates of comparative advantage have led to the recommendation that the LDCs adopt more outward-oriented policies. Indeed, the world economy in the late 1980s and the 1990s saw a strong emergence of support for the market—witness the economic reforms in Central and Eastern Europe and the former republics of the Soviet Union and also in many other LDCs. For

### CASE STUDY 3 AFRICA AND THE MISSING EXPORT ENGINE OF GROWTH

As noted, during the 1980s and 1990s emphasis focused on the importance of outward-looking economic policies to foster growth and development in the developing countries. Formal statistical analysis has consistently shown that there is a close link between sustained economic growth and development and the ability to export successfully in the world economy. For example, it has been found that, in the 1970s and 1980s, developing countries with open economies grew at 4.5 percent per year in contrast with an annual growth rate of 0.7 percent in closed economies. The growth rates of open industrialized economies were also found to be larger than those of their closed counterparts. Results of this kind have been criticized for oversimplifying the growth issue and not sufficiently incorporating other issues such as inefficient currency markets and trade policy regimes, the presence of monopoly, corruption, and defective macroeconomic policies. The main point of criticism is that "openness" measures simply are not sufficiently broad or inclusive enough to reveal accurately the critical forces acting on a country's growth, and thus some doubt can remain as to the link between trade and growth.

Adding further to the discussion, a recent paper by Robert Sharer of the International Monetary Fund (1999) points out that in fact, in recent years, no country with an inward-focused policy has proved successful in attaining or sustaining a high internal growth rate of GDP. As an example, during the past two decades, Sub-Saharan Africa has lagged behind other developing countries in growth in both exports and income. (Perhaps encouragingly, though, the U.S. Congress passed a bill in May 2000 that substantially liberalized restrictions on imports from Africa into the United States.) More specifically, from 1975 to 1997 the annual growth rate of income in Sub-Saharan Africa was 2.2 percent and that of exports was only 4.7 percent. In contrast, GDP grew by 7.6 percent in six of the major East Asian countries and 3.0 percent in Latin America as exports expanded at 15.7 percent and 9.6 percent respectively, in the two areas. Consequently, Africa's share of world trade has fallen from 4 percent in 1980 to less than 2 percent today.

The critical factor here is that successful outward-looking policies have generally proved effective in attracting the investment necessary to stimulate growth and development in developing countries as a group. It is more than pure investment, however, as the foreign com-

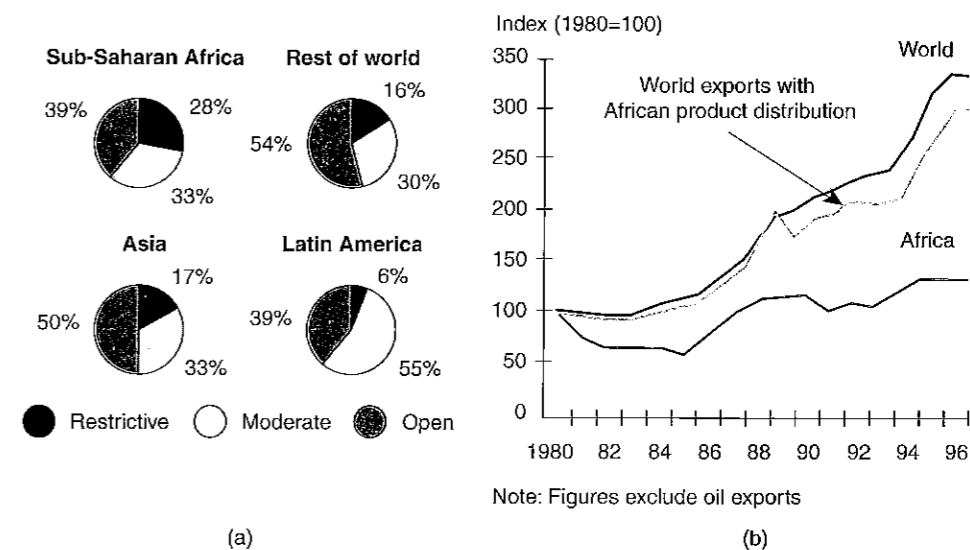
ponent of this investment traditionally brings with it not only scarce capital but also a transfer of technology, management skills, organizational skills, and entry into highly competitive international markets. Reflecting this problem, foreign investment into Africa rose by only 5.8 percent per year (from \$6 billion to \$16 billion) from 1980 to 1997 compared to the 14.5 percent average annual increase (from \$12 billion to \$140 billion) for developing countries as a group.

Although there was substantial progress in liberalizing trade during the 1990s, the African countries remain, on average, much more protectionist than their trading partners and/or competitors. According to the IMF, in the early 1990s more than 75 percent of African countries had relatively restrictive regimes and literally none could be classified as "open." This situation changed considerably during the 1990s, and by the end of 1998 nearly 40 percent had attained an open regime although 28 percent still maintained very restrictive trading policies. The current position of African countries and their share in world export markets is demonstrated in Figure 2. However, these trade and growth figures are further complicated by the fact that Africa's terms of trade have also deteriorated by nearly 15 percent over the past two decades. The major problem, appears to be that not only has Africa's world share of exports declined but Africa has been slow in moving into new export markets. To demonstrate this point, if Africa's nonoil market share of world exports had remained at the 1980 level, the value of its world exports in 1997 would have been in the neighborhood of \$150 billion instead of only \$62 billion. By relying on traditional exports with low income elasticities instead of moving into exports with greater growth potential, African countries have sacrificed many of the potential gains from a rapidly globalizing environment.

In sum, while more-or-less crude cross-section studies must be viewed with appropriate caution, the evidence is convincing that freer trade does impact positively on growth. It must be further acknowledged that growth is a complicated matter and that it is idiosyncratic to each country. Hopefully the intriguing cross-sectional results relating to growth and openness of an economy will lead to more detailed studies of the growth experience of individual countries over time, enabling policymakers to make better decisions with regard to stimulating economic growth in their countries.

### AFRICA AND THE MISSING EXPORT ENGINE OF GROWTH (CONTINUED)

FIGURE 2 Restrictive African Trade Regimes and African Export Experience (IMF staff estimates)



Source: Robert Sharer, "Trade: An Engine of Growth for Africa," *Finance and Development* 36, no. 4 (December 1999), p. 27. Used with permission.

As is evident in panel (a), Sub-Saharan African countries have less openness in their trade sectors than do Asia, Latin America, and the rest of the world. Such restrictive policies and the consequent loss of market share implied in panel (b) suggest that opportunities for faster income growth may have been missed.

Sources: Robert Sharer, "Trade: An Engine of Growth for Africa," *Finance and Development* 36, no. 4 (December 1999), pp. 26-29; Jeffrey D. Sachs and Andrew Warner, "Economic Reform and the Process of Global Integration," *Brookings Papers on Economic Activity*, no. 1 (1995), pp. 1-95; Francisco Rodriguez and Dani Rodrik, "Trade Policy and Economic Growth: A Sceptic's Guide to the Cross-National Evidence," National Bureau of Economic Research Paper no. 7081, April 1999; "The Never-Ending Question," *The Economist*, July 3, 1999, p. 68.

a look at countries that have not done so well in attaining effective outward-looking growth, however, see Case Study 3.

Despite the seeming advantage of outward-looking policies, some economists and policymakers are reluctant to embrace the strategy wholeheartedly. First, expansion of manufactured exports, such as that attained by Hong Kong, South Korea, Singapore, and Taiwan (often called the "Four Tigers" of Asia), can run into protectionist barriers in the industrialized countries. Since the labor-intensive manufactured exports threaten long-existing industries in ICs (e.g., textiles and shoes), restrictions such as the Multifiber Arrangement in textiles and apparel may stifle this route to development for many LDCs. In addition, the export path may require skills in the labor force that are not yet fully developed and will require a large commitment of resources in order to do so (although import substitution runs into this same problem). Further, Paul Streeten (1982, pp. 165-66) has pointed out that there is a "fallacy of composition" in the outward-looking strategy because, while any one country may face high price elasticities of demand in manufactured goods exports, the demand facing all developing countries is less elastic than that facing any one country. Substantial price declines may occur if all LDCs follow the same path. In addition, some empirical studies dispute any positive relationship between exports and industrialization (see Chow 1987) or suggest that the positive link occurs only above some threshold income level (see Tyler 1981).

It should be noted that some mix or sequence of the two strategies may be appropriate in some cases. For example, South Korea engaged in import substitution before embarking on its export-led growth path (see Singer and Ansari 1988, pp. 261–63). In cases of infant industries or where the Krugman-type protection arguments apply (see Chapter 16), this may be a good strategy. In addition, some have suggested (see Todaro 1997, chap. 13) that economic integration among developing countries may offer benefits because it is a combination of an outward-looking strategy (through freer trade with other LDC partners) and an inward-looking strategy in which the union as a whole is turning away from the rest of the world economy. In any event, the precise extent to which a country should turn outward or inward depends on the external and internal characteristics of that country. The policies to be recommended can be decided only on a case-by-case basis.

Finally, an excellent overview of the history and current state of thinking on trade policy and economic development can be found in a paper by Anne O. Krueger (1997). After reviewing the theoretical, policy, and empirical work that has focused on this issue in the past 50 years, she points out several lessons that have been learned regarding the current state of knowledge in this area. Not surprisingly, the first lesson which she cites is that empirical research which tests for the presence and relative importance of certain stylized facts is critical to the successful application of theory and policy selection. Nowhere is this more in evidence than in trade policy, where early policy decisions were based on facts that were often little more than a mixture of “touristic impressions, half truths and misapplied policy inferences” (Krueger 1997, p. 3). What has happened over recent years is a demonstration that developing countries can expand export earnings based on, among other things, increased exports of manufactures. In addition, there is also clear evidence that producers in these countries do indeed respond to economic incentives. The experience of the East Asian countries has been particularly effective in demonstrating the viability of trade policies that promoted industrialization through reliance on foreign markets (as opposed to domestic markets) and were based on sound ideas of comparative advantage that went beyond reliance on primary commodities. Krueger suggests that the East Asian experience demonstrated that the earlier export pessimism that underlay ideas of import substitution was perhaps more an indicator of inward-oriented trade and payments regimes than an outward focus based on dynamic comparative advantage. If nothing else, the East Asian experience put to rest the idea that developing countries with an outward focus would lock themselves permanently into a pattern of primary-product specialization.

In addition to the contribution of important analytical research and the development of better measurement techniques, Krueger also notes the critical importance of theory in demonstrating why simple interpretations of economic performance based on commonly held stylized facts were often in fact wrong. Thus, it is important that if theory results are to be useful to policymakers, the critical ideas must be able to be related to specific phenomena that are observable, hopefully quantifiable, and recognizable to the policymaker. While there is always the danger that theories will be misinterpreted or used incorrectly, they are crucial for analyzing problems, policies, and outcomes. However, she concludes, “No matter how careful economists are, special interests always will seize their research results in supporting their own objectives. And, no matter how sophisticated and careful research findings are, there always will be politicians formulating, and non-economists administering policies” (Krueger 1997, pp. 17–19). There is little doubt that a clear understanding of comparative advantage and the importance of fostering the presence of correct relative prices of products and factors is central to harnessing the potential role of international trade in promoting the development of the industrializing country.

## SUMMARY

The less developed countries in the world economy are characterized by relatively low levels of per capita income, a relatively high concentration of exports in primary products, and export instability; they may also face long-run forces that cause a deterioration in their commodity terms of trade. The trade problem of export instability and its potentially adverse implications for the LDCs is thought by many to be traceable to the primary product orientation of their export bundle, and they have focused on international commodity agreements as a means to alleviate this problem. These agreements can, however, reduce LDC export earnings and welfare under some circumstances. The alleged long-run deterioration in the terms of trade has various po-

tential causes, several of which could be addressed by increased diversification of exports of LDCs. Finally, LDCs face a basic choice of the extent to which they wish to become active participants in the world economy through outward-looking policies or to turn inward through import-substitution policies. Some empirical evidence suggests that the outward-looking approach may enhance economic performance in comparison with the inward-looking approach, but the outward-looking strategy is not without its difficulties. In general, however, economists think that the outward-looking approach may help the developing countries realize positive static and dynamic development effects of trade.

## KEY TERMS

commodity concentration	international buffer stock agreement	Prebisch-Singer hypothesis
compensatory financing	international export quota agreement	repatriation of earnings
differing income elasticities of demand for primary products and manufactured goods	intrafirm trade	strongly-inward-oriented economy
export cartel	inward-looking strategy	strongly-outward-oriented economy
export diversification into manufactured goods	long-run deterioration in the terms of trade	unequal market power in product and factor markets
export instability	moderately-inward-oriented economy	vent for surplus
export promotion	“get prices right”	
high degree of openness	moderately-outward-oriented economy	
import substitution	outward-looking strategy	

## QUESTIONS AND PROBLEMS

- Why might the static gains from trade for the developing country differ from those experienced by industrialized countries?
- How can international trade influence economic development positively over time?
- The analysis in this book has heretofore indicated that all participating countries gain from international trade. If this is so, why do some observers argue that trade can actually contribute to underdevelopment in LDCs?
- Why is export price instability judged to be a problem for the LDCs? Why might it seem more likely to occur for LDCs than for ICs?
- Why should we be concerned about a long-run deterioration in the commodity terms of trade of the LDCs? How can such a deterioration be related to the concept of immiserizing growth discussed in Chapter 11?
- This chapter has indicated that diversification of the LDCs' export bundles so that they contain relatively more manufactured goods could potentially alleviate both the instability problem and the possible terms-of-trade problem. Why so? In your view, would such diversification *necessarily* help developing countries? Explain.
- In the context of external sector problems, what case can you build for the formation of common markets among LDCs? Considering Chapter 18 and this chapter together, would you recommend that such international coalitions be formed? Why or why not?