previous three years, it far exceeded the level of aid from these countries, which was about $130 billion in 2010. And nontariff barriers are also much higher.[3] The damage this tactic does to developing countries is immense.

To create genuinely fair as well as efficient rules of the game, much more needs to be done. International agreements are needed to level the globalization playing field for the poor. Some of this leveling process involves international change, and some involves national changes that can be facilitated by the international community—for example, to prevent propping up corrupt governments that violate human rights, and violent and exploitative rebels that stay in power through international trade in legal goods such as diamonds (which may be mined under conditions that violate the most basic of rights) as well as in illegal goods such as narcotics. Codes of conduct for multinational corporations, regarding political and other behavior, can be developed further. And reasonable limits on the applicability of international property rights must be agreed to, such as those concerning provision of life-threatening medicines in poor countries that cannot afford to pay monopoly **rent**, prices that far exceed production costs. In Chapter 14, you will see that direct foreign investment by multinational corporations (MNCs) may contribute to development, but a country also eventually needs its own modern-sector firms or at least a way of inducing international firms to treat the country as a home base.

Rent In macroeconomics, the share of national income going to the owners of the productive resource, land (i.e., landlords). In everyday usage, the price paid for the use of property (e.g., buildings, housing). In microeconomics, economic rent is the payment to a factor of production over and above its highest opportunity cost. In public choice theory, rent refers to those excess payments that are gained as a result of government laws, policies, or regulations.

It has also been asked whether more cannot be done for the poorest countries than merely leveling the playing field. Many development advocates are calling for more genuine and fuller opening of developed-country markets to exports from the poorest countries. It may also be said that among the worst possible outcomes for a poor country is for the current round of globalization to bypass the country entirely. This is largely the situation in much of sub-Saharan Africa—although a number of countries have benefited substantially from the commodity boom of recent years. Nevertheless, adversely affected by previous waves of globalization, most countries in this region have been much less affected by the present wave.

12.2 International Trade: Some Key Issues

International trade has often played a central role in the historical experience of the developing world. As with many other topics in development, there is a great deal of diversity in developing countries' experiences with trade. In recent years, much of the attention to trade and development issues has been focused on understanding the spectacular export success of East Asia. Taiwan, South Korea, and other East Asian economies pioneered this strategy, which has been successfully followed by their much larger neighbor, China. The experiences of these economies are an important plotline in the unfolding trade and development drama and will be examined later in the chapter.

At the same time, throughout Africa, the Middle East, and Latin America, primary product exports have traditionally accounted for a sizable proportion of individual gross domestic products. In some of the smaller countries, a substantial percentage of the economy's income is derived from the overseas sale of agricultural and other **primary products** or commodities such as coffee, cotton, cacao, sugar, palm oil, bauxite, and copper. In the special circumstances of the

Primary products Products derived from all extractive occupations—farming, lumbering, fishing, mining, and quarrying, foodstuffs, and raw materials.

oil-producing nations in the Persian Gulf and elsewhere, the sale of unrefined and refined petroleum products to countries throughout the world accounts for over 70% of their national incomes—despite obvious benefits, specialization in oil production frequently has brought with it substantial, if sometimes hidden, economic costs, including both economic and political distortions. Many other developing countries must still depend on nonmineral primary-product exports for a relatively large fraction of their foreign-exchange earnings. This is a particularly serious problem in sub-Saharan Africa. Because the markets and prices for these exports are often unstable, primary-product **export dependence** carries with it a degree of risk and uncertainty that few nations desire. This is an important issue, because despite strength since 2002 and some rebounding after the 2008 crisis, the long-term trend for prices of primary goods is downward, as well as very volatile (as we examine later in this section).

Export dependence A country's reliance on exports as the major source of financing for development activities.

Some African countries, including Burkina Faso, Burundi, Central African Republic, Gambia, Niger, and São Tomé and Príncipe, received 8% or less of their merchandise export earnings from manufactures in 2011 (WDI); none of these countries received more than 2% of their export earnings from fossil fuels in 2011. Some other countries such as Nicaragua have similarly low manufacturing export shares.

Indeed, some developing countries have been receiving at least two-fifths of their export earnings from one or two agricultural or nonfuel mineral products. And as noted by David Harvey and his coauthors, "For 40 countries, the production of three or fewer commodities explains all export earnings."[4] And the United Nations Conference on Trade and Development (UNCTAD) reported in 2006 that "out of 141 developing countries, 95 are more than 50% dependent on commodity exports.… In most sub-Saharan African countries, the figure is 80%."[5]

Some developing countries are overwhelmingly dependent on fuel exports. For example, in 2011, Venezuela, Yemen, and Algeria each received 97% of their export earnings from fossil fuels; Nigeria and Iran each received 89% of their export earnings from fossil fuels. Despite the apparent bonanza, high reliance on oil and other fuel exports has also brought with it substantial, if often hidden, economic costs and political distortions. An outsize oil sector often acts as an enclave in the economy, benefiting relatively few citizens, yet resulting in reduced exports from other sectors of the economy that might do more to benefit development in the long term.

Export dependence also extends to services, notably tourism, which is "exported" when foreign visitors purchase domestically produced services, including hotel stays, restaurant meals, local transportation, theme park admissions, tour packages, and value added in retail (such as wages of workers in stores when tourists purchase goods). These expenditures are paid for by money from other countries, such as the dollars that Americans spend in destinations like beaches in Grenada and wildlife parks in Tanzania. This dependence is clearest in Small Island Developing States (SIDS), a special UN category. But a sudden loss of income from service exports can be as devastating as the loss of other export revenues. This happened in 2011 in the Middle East and North Africa (MENA) region during and after the conflicts associated with the "Arab Spring," which heavily affected tourism. In Egypt, which is highly dependent on earnings from tourism, "tourist arrivals" fell by 32% in 2011, and tourist expenditures correspondingly fell from about $51 billion to about

$43 billion, and remained at depressed levels. In 2011, tourism revenues in Tunisia fell by nearly 30%.[6] In addition to demonstrating the economic advantages of democratic political institutions that do not rely upon repression and violence, such experiences also illustrate the benefits of diversification.

In addition to their export dependence, many developing countries rely, generally to an even greater extent, on the importation of raw materials, machinery, capital goods, intermediate producer goods, and consumer products to fuel their industrial expansion and satisfy the rising consumption aspirations of their people. For a majority of developing nations, import demands exceeded their capacity to generate sufficient revenues from the sale of exports for much of the post–World War II period. This led to chronic deficits on their balance of payments position vis-à-vis the rest of the world. Whereas such deficits on the **current account** (an excess of import *payments* over export *receipts* for goods and services) were compensated for on their balance of payments table by a surplus on the **capital account** (a receipt of foreign private and public lending and investment in excess of repayment of principal and interest on former loans and investments), the debt burden of repaying earlier international loans and investments often becomes acute. In a number of developing countries, severe deficits on current and capital accounts have led to a depletion of international monetary reserves, currency instability, and a slowdown in economic growth.

Current account The portion of a country's balance of payments that reflects the market value of the country's "visible" (e.g., commodity trade) and "invisible" (e.g., shipping services) exports and imports.

Capital account The portion of a country's balance of payments that shows the volume of private foreign investment and public grants and loans that flow into and out of the country.

In the 1980s and 1990s, this combination of rising trade deficits, growing foreign debts, accelerated capital flight, and diminished international reserves led to the widespread adoption of fiscal and monetary austerity measures, especially in Africa and Latin America (often with the involvement of the International Monetary Fund, or IMF), which may have further exacerbated the slowdown in economic growth and the worsening of poverty and unemployment in much of the developing world. These various concepts of international economics will be explained in more detail later in this chapter and in the next. Here the point is merely that a chronic excess of foreign expenditures over receipts (which may have nothing to do with a developing country's inability to handle its financial affairs but rather may be related to its vulnerability to global economic disturbances) can significantly retard development efforts. It can also greatly limit a low-income nation's ability to determine and pursue its most desirable economic strategies.

Many indebted countries went into surplus as they paid down some of their debt. In the new century, a pattern of trade surpluses has strengthened for many, though by no means all, developing countries. Developing countries have sought to avoid repeats of the crisis conditions of Latin America in the 1980s, sub-Saharan Africa in the 1980s and 1990s, and East Asia in 1997–1998. The sudden collapse of export earnings during the 2008 financial crisis provided a glimpse of the dangers. This pattern carries its own risks; for example, it means that developing countries are effectively exporting capital, and it leaves economies vulnerable to a sharp correction when the large and chronic U.S. balance of payments deficits are reversed.[7]

But international trade and finance must be understood in a much broader perspective than simply the intercountry flow of commodities and financial resources. By opening their economies and societies to global trade and commerce and by looking outward to the rest of the world, developing countries

invite not only the international transfer of goods, services, and financial resources but also the developmental or antidevelopmental influences of the transfer of production technologies; consumption patterns; institutional and organizational arrangements; educational, health, and social systems; and the more general values, ideals, and lifestyles of the developed nations of the world. The impact of such technological, economic, social, and cultural transfers on the character of the development process can be either consistent or inconsistent with broader development objectives. Much will depend on the nature of the political, social, and institutional structure of the recipient country and its development priorities. Whether it is best for developing countries to look primarily outward (as single economies or as blocs) and promote more exports, either passively or actively; to emphasize looking inward and substitute domestic production for imports, as the protectionists and cultural nationalists propose; or to be simultaneously and strategically outward- and inward-looking in their international economic policies cannot be stated a priori. Individual nations must appraise their present and prospective situations in the world community realistically in the light of their specific development objectives. Only thus can they determine how to design the most beneficial trade strategy. Although participation in the world economy is all but inevitable, there is ample room for policy choice about what *kind* of participation to promote and what policy strategies to pursue. As you will see, WTO membership comes with prohibitions or restrictions on some policies, but there remains a great deal of scope for policy choice for developing countries.

Five Basic Questions about Trade and Development

Our objective in the next few sections is to focus on traditional and more contemporary theories of international trade in the context of five basic themes or questions of particular importance to developing nations.

1. How does international trade affect the rate, structure, and character of economic *growth*? This is the traditional "trade as an engine of growth" controversy, set in terms of contemporary development aspirations.
2. How does trade alter the *distribution* of income and wealth within a country and among different countries? Is trade a force for international and domestic equality or inequality? In other words, how are the gains and losses distributed, and who benefits?
3. Under what conditions can trade help a nation to achieve its *development* objectives?
4. Can a developing country by its own actions determine how much it trades or which products and services it sells?
5. In the light of past experience and prospective judgment, should a developing country adopt an outward-looking policy (freer trade, expanded flows of capital and human resources, etc.) or an inward-looking one (protectionism in the interest of self-reliance), or some combination of both, for example, in the form of regional economic cooperation and strategic export policies? What are the arguments for and against these alternative trade strategies for development?

Clearly, the answers or suggested answers to these five questions will not be uniform throughout the diverse economies of the developing world. The whole economic basis for international trade rests on the fact that countries do differ in their resource endowments, their preferences and technologies, their scale economies, their economic and social institutions, and their capacities for growth and development. Developing countries are no exception to this rule. Some are rapidly ascending through the income rankings as they expand their industrial capacities. Some are very populous yet deficient in both natural resources and human skills, at least in large regions of the country. Others are sparsely populated yet endowed with abundant mineral and raw material resources. Yet others are small and economically weak, still having at present neither adequate human capital nor the material resources on which to base a sustained and largely self-sufficient strategy of economic and social development.

We begin with a statistical summary of recent trade performance of developing countries and patterns. There follows a simplified presentation of the basic neoclassical theory of international trade and its effect on efficiency, equity, stability, and growth (four basic economic concepts related to the central questions outlined here). We then provide a critique of the relevance of pure free-trade theories for developing countries in the light of both historical experience and the contemporary realities of the world economy. Like free markets, **free trade** has many desirable theoretical features, not the least of which is the promotion of static economic efficiency and optimal resource allocation. But also like free markets and perfect competition, free trade exists more in theory than in practice—and today's developing nations have to function in the imperfect and often highly unequal real world of international commerce. Consequently, we will briefly discuss alternative trade models that focus on imperfect competition, unequal trade, and the dynamic effects of differential human resource and technological growth. Later in the chapter and in the next chapter, we examine the balance of payments, review some issues in international finance, engage in an in-depth analysis of debt crises, and explore the range of commercial policies (tariffs, subsidies, quotas, exchange-rate adjustments, etc.) that a developing country might wish to adopt within the broader context of the ongoing debate about the relative merits of export promotion versus import substitution. We then examine a wide range of commercial policies used in developing countries, including import tariffs, physical quotas, export promotion versus import substitution, policies to directly or indirectly influence exchange rates, bargaining over technology licensing and market access, strategy for export upgrading, international commodity agreements, and economic integration. Our objective is to ascertain the conditions under which these policies might help or harm developing countries in their dealings with the developed world and with one another. We then summarize the various positions in the ongoing debate between the "trade optimists" and "trade pessimists," and between outward- and inward-looking strategies of development. Finally, we look at the trade policies of developed countries to see in what ways they directly and indirectly affect the economies of the developing world. An outstanding example of the benefits of world trade is illustrated at the conclusion of this chapter, where the sources of the pioneering success of now high-income Taiwan are examined.

Free trade The importation and exportation of goods without any barriers in the form of tariffs, quotas, or other restrictions.

Importance of Exports to Different Developing Nations

Although the overall figures for export volumes and values of developing countries are important indicators of patterns of trade for the group as a whole, we will see throughout this chapter that *what* a country exports can matter as much as the *dollar value* of its exports. Table 12.1 has been compiled to provide a capsule picture of the relative importance of merchandise export earnings to various developing nations of different sizes and in different regions. For purposes of comparison, some developed countries are included.

As with most development topics, there is high diversity among developing countries. Traditionally, however, developing countries are typically are more dependent on trade than developed countries. As Table 12.1 indicates, while large countries are understandably less dependent on trade than small countries, at any given size, many developing countries tend to devote a large share of their output as merchandise exports. We see that some large countries, most importantly Brazil, which have had unusually closed economies, tend to be less dependent on foreign trade in terms of national income than most relatively small countries.

And some very low income countries, such as Burundi and Ethiopia, remain markedly divorced from the global economy. As a group, however, less developed nations are typically more dependent on foreign trade in terms of its share in national income than the very highly developed countries are. This is reflected in the case of traditionally export-oriented Japan, whose merchandise exports amounted to roughly 13% of GDP in 2012. In contrast, many developing countries with similar sized populations export a much higher share of output, including Nigeria, Bangladesh, Russia, Mexico, Philippines, and Vietnam, and have a merchandise export share that is substantially higher than that of Japan.

The greater recorded share of developing-country exports in GDP is probably due in part to the much higher relative prices of nontraded services in developed than in developing countries. Nevertheless, the point remains that developing countries are generally more dependent on trade in international economic relations because most trade is in merchandise, for which price disparities are smaller across countries. Moreover, in general, the exports of developing countries are much less diversified than those of the developed countries (though some upper-middle-income countries are very highly diversified). While total exports and the share of manufactures in merchandise exports have been rising for many developing countries, it is important to keep this rise in perspective. A few newly industrializing countries (NICs) still command a dominant position in developing-country exports. For example, in 2011, South Korea alone exported far more merchandise than either all of South Asia (including India) or all of sub-Saharan Africa; and, in fact, South Korea exported more manufactured goods than South Asia and sub-Saharan Africa *combined*.[8] At the same time, the emergence of China as "workshop of the world" highlights the connection between manufactured export share and high growth in developing countries, as examined further in section 12.6 and explored in the China, Taiwan, and Southe Korea case studies in Chapters 4, 12, and 13, respectively.

The composition of exports differs markedly across countries. For developed countries such as Japan, the United Kingdom, and the United States, manufactures comprise 90%, 66%, and 63% of merchandise exports, respectively—higher than the developing country average. But developing countries are also diverse in their exports. For example, among the five so-called BRICS countries,

TABLE 12.1 Structure of merchandise exports: Selected Countries, 2012

Country	GDP, $ billions, 2012	Merchandise exports, $ billions, 2012	Merchandise Exports, % of GDP, 2012	Food, % of Total, 2012	Agricultural raw materials, % of total, 2012	Fuels, % of total, 2012	Ores and Metals, % of total, 2012	Manufactures, % of totals, 2012
Algeria	205.8	74.0	36	0	0	97	0	2
Benin	7.6	1.4	18	61	24	0	1	15
Bolivia	27.0	10.9	40	14	1	55	25	5
Brazil	2252.7	242.6	11	32	4	11	16	35
Burkina Faso	10.4	2.4	23	38	52	0	1	8
Burundi	2.5	0.1	5	74	5	0	8	13
Central African Republic	2.2	0.2	10	1	31	1	62	4
China	8227.1	2048.8	25	3	0	2	1	94
Cote d'Ivoire	24.7	12.4	50	51	13	26	0	10
Ecuador	84.0	23.9	28	30	4	58	1	8
Egypt, Arab Rep.	262.8	29.4	11	14	2	32	6	45
Ethiopia	41.6	3.0	7	78	9	0	1	10
Gambia, The	0.9	0.1	11	82	2	0	9	7
Ghana	40.7	12.0	29	48	2	39	2	9
India	1841.7	293.2	16	11	2	19	3	65
Indonesia	878.0	188.1	21	18	6	34	6	36
Iran, Islamic Rep.	514.1	95.5	19	4	0	70	2	12
Japan	5959.7	798.6	13	1	1	2	3	90
Malawi	4.3	1.3	30	76	5	0	9	9
Malaysia	305.0	227.4	75	13	2	20	2	62
Mexico	1178.1	370.9	31	6	0	14	4	74
Mozambique	14.2	4.1	29	20	5	16	51	7
Nicaragua	10.5	2.7	25	90	2	1	2	6
Niger	6.8	1.5	22	14	3	1	76	6
Nigeria	262.6	114.0	43	2	6	89	0	3
Peru	203.8	45.6	22	21	1	14	50	14
Philippines	250.2	52.0	21	9	1	2	5	83
Russian Federation	2014.8	529.3	26	3	2	70	4	14
Rwanda	7.1	0.5	7	51	5	0	34	10
South Africa	384.3	87.3	23	8	2	12	32	45
United Kingdom	2471.8	468.4	19	6	1	14	4	66
United States	16244.6	1547.3	10	10	2	10	4	63
Vietnam	155.8	114.6	74	19	4	11	1	65
Yemen, Rep.	35.6	8.5	24	7	0	89	0	3

Source: World Bank, World Development Indicators, 2013, Table 4.4, at: http://wdi.worldbank.org/table/4.4, accessed 18 February 2014.

for India and especially China, manufactures make up a substantial majority of exports; but Brazil, South Africa, and especially Russia are much more specialized (and dependent) in commodity exports. Manufactured exports themselves are highly diverse in the extent of their skill and technology content.

As introduced earlier in the chapter, many developing countries are also dependent on one or a few commodity exports. In addition to losing the benefits of maintaining a competitive manufacturing sector, this carries substantial risks of facing falling relative prices in the long run and highly unstable prices in the short run.

Demand Elasticities and Export Earnings Instability

Most statistical studies of world demand patterns for different commodity groups reveal that in the case of primary products, the **income elasticity of demand** is relatively low: The percentage increase in quantity of primary agricultural products and most raw materials demanded by importers (mostly rich nations) will rise by less than the percentage increase in their gross national incomes (GNIs). By contrast, for fuels, certain raw materials, and manufactured goods, income elasticity is relatively high.[9] For example, it has been estimated that a 1% increase in developed-country incomes will normally raise their imports of foodstuffs by a mere 0.6% and of agricultural raw materials such as rubber and vegetable oils by 0.5% but will raise imports of manufactures by about 1.9%. Consequently, when incomes rise in rich countries, their demand for food, food products, and raw materials from the developing nations goes up relatively slowly, whereas demand for manufactures goes up relatively rapidly. The net result of these low income elasticities of demand is the tendency for the relative price of primary products to decline over time.

Income elasticity of demand
The responsiveness of the quantity of a commodity demanded to changes in the consumer's income, measured by the proportionate change in quantity divided by the proportionate change in income.

Moreover, since the **price elasticity of demand** for (and supply of) primary commodities also tends to be quite low (i.e., inelastic), any shifts in demand or supply curves can cause large and volatile price fluctuations. Together these two elasticity phenomena contribute to what has come to be known as **export earnings instability**. A 2012 UNCTAD study found that commodity price volatility faced by developing countries clearly increased over the past half century—and in the post 2003 period, in particular—potentially increasing vulnerability for exporters dependent on commodity exports. And instability (or volatility) in export earnings and the terms of trade can lead to lower and less predictable rates of economic growth.[10]

Price elasticity of demand
The responsiveness of the quantity of a commodity demanded to a change in its price, expressed as the percentage change in quantity demanded divided by the percentage change in price.

Export earnings instability
Wide fluctuations in developing-country earnings on commodity exports resulting from low price and income elasticities of demand leading to erratic movements in export prices.

While almost all attention goes to merchandise exports, there has been a slow rise in the share of commercial services in the exports of both developed and developing countries. For the former, these are more likely to represent highly skilled activities such as investment banking and management consulting, while for the latter, construction and other less skill-intensive activities are more common.

The Terms of Trade and the Prebisch-Singer Hypothesis

The question of changing relative price levels for different commodities brings us to another important quantitative dimension of the trade problems historically faced by developing nations. The total value of export earnings depends not only on the volume of these exports sold abroad but also on the price paid for them. If export prices decline, a greater volume of exports will have to be sold merely to keep total earnings constant. Similarly, on the import side, the total foreign exchange expended depends on both the quantity and the price of imports.

Clearly, if the price of a country's exports is falling relative to the prices of the products it imports, it will have to sell that much more of its exports and enlist more of its scarce productive resources merely to secure the same level of imported goods that it purchased in previous years. In other words, the real

or social opportunity costs of a unit of imports will rise for a country when its export prices decline relative to its import prices.

Economists have a special name for the relationship or ratio between the price of a typical unit of exports and the price of a typical unit of imports. This relationship is called the **commodity terms of trade**, and it is expressed as P_x/P_m, where P_x and P_m represent the export and import price indexes, respectively, calculated on the same base period (e.g., 2012 = 100). The commodity terms of trade are said to deteriorate for a country if P_x/P_m falls, that is, if export prices decline *relative to* import prices, even though both may rise. Most scholarship has broadly confirmed that historically, the prices of primary commodities have declined relative to manufactured goods.[11] As a result, the terms of trade have on the average tended to worsen over time for the non-oil-exporting developing countries while showing a relative improvement for the developed countries. Moreover, recent empirical studies suggest that real primary-product prices declined at an average annual rate of 0.6% in the twentieth century, although the commodity price boom prior to the financial crisis was the largest boom since 1900. But the strong increases since 2002 have not nearly negated the long-term trends; and this period of price rises already may have peaked.[12]

Commodity terms of trade
The ratio of a country's average export price to its average import price.

The main theory for the declining commodity terms of trade is known as the **Prebisch-Singer hypothesis**, after two famous development economists who first explored its implications in the 1950s.[13] They argued that there was and would continue to be a secular (long-term) decline in the terms of trade of primary-commodity exporters due to a combination of low income and price elasticities of demand. This decline would result in an ongoing transfer of income from poor to rich countries that could be combated only by efforts to protect domestic manufacturing industries through a process that came to be known as *import substitution*, considered later in this chapter. As noted in Box 12.1, recent research has added new evidence in support of the hypothesis.

Prebisch-Singer hypothesis
The argument that the commodity terms of trade for primary-product exports of developing countries tends to decline over time.

Both because of this theory and because of the unfavorable terms-of-trade trends, developing countries have been doing their utmost over the past several decades to diversify into manufactures exports. After a slow and costly start, these efforts have resulted in a dramatic shift in the composition of developing-country exports, especially among middle-income countries. Led at first by the East Asian Tiger economies of South Korea, Taiwan, Hong Kong, and Singapore and now followed by many other countries, including China, the share of merchandise exports accounted for by manufactured goods has risen strongly in many developing countries.

Unfortunately, this structural change has not brought as many benefits to most developing countries as they had hoped, because relative prices within manufactures have also diverged: Over the past few decades, the prices of the basic manufactured goods exported by developing countries fell relative to the advanced products exported by rich countries. The price of textiles fell especially precipitously, and low-skilled electronic goods were not far behind.

Using alternative methods, the United Nations found that the real decline in developing-country export prices of manufactures in the 1980s was about 3.5% per year, or about 30% for the decade. In a detailed study, Alf Maizels discovered that the terms of trade in manufacturing goods for developing countries vis-à-vis the United States deteriorated over the 1981–1997 period.[14] The declines in textile prices accelerated dramatically starting in the late 1990s.

BOX 12.1 FINDINGS Four Centuries of Evidence on the Prebisch-Singer Hypothesis

There is a broad consensus among development economists that if a long-term negative trend in prices of a developing country's main commodity exports *relative* to its imports can be confirmed, diversification of the nation's mix of exports should be encouraged. Traditionally, developing economies, and particularly the least developed countries, have exported commodities and imported manufactures. Commodity prices are so volatile—and some hypothesized commodity price cycles potentially so long—that it is difficult to prove a long-term trend, but studies have generally tended to confirm the broad outlines of the Prebisch-Singer hypothesis (including a well-known 1994 International Monetary Fund study). But even though the unanticipated boom in commodity prices in the first years of this century has a long way to go before it will reverse the twentieth-century trend, some have questioned whether the decline in the relative price of commodities to manufactures can be reversed.

To obtain a reliable answer, it is best to have longer periods of data than have previously been available. To make matters even more difficult, empirical work has also been challenging because most tests depend on assumptions about the statistical properties of the data over time.[a] In a 2010 article in the *Review of Economics and Statistics*, David Harvey and his colleagues applied new techniques that require fewer statistical assumptions and also collected data going remarkably farther back in time—in some cases, back to 1650. This makes it much easier to disentangle long-term trends from cycles.

In a striking example of their findings, the authors concluded that "the relative price of an important commodity like coffee has been declining at an annual rate of 0.77% for approximately 300 years!" More generally, they found that "overall, eleven major commodities show new and robust evidence of a long-run decline in their relative price." These commodities are aluminum, coffee, hides, jute, silver, sugar, tea, tobacco, wheat, wool, and zinc.

As the authors summarize:

> In our opinion, this provides much more robust support that the Prebisch-Singer hypothesis is relevant for commodity prices. For the remaining fourteen commodities, no positive and significant trends could be detected over all or some fraction of the sample period. These zero-trending commodities suggest that the Lewis hypothesis may also play a part in explaining the behavior of certain commodity prices;…conversely, however, in the very long run, there is simply no statistical evidence that relative commodity prices have ever trended upward.

[a]Testing issues include whether the time series contains a unit root and whether there have been structural breaks.

Source: Based on David I. Harvey, Neil M. Kellard, Jakob B. Madsen, and Mark E. Wohar, "The Prebisch-Singer hypothesis: Four centuries of evidence," *Review of Economics and Statistics* 92 (2010): 367–377.

Having reviewed some of the international trade issues that developing countries face, we turn next to consider alternative theories of the role that trade plays in economic development.

12.3 The Traditional Theory of International Trade

The phenomenon of transactions and exchange is a basic component of human activity throughout the world. Even in the most remote villages of Africa, people regularly meet in the marketplace to exchange goods, either for money

or for other goods through simple **barter transactions**. A transaction is an exchange of two things—something is given up in return for something else. In an African village, women may barter food such as cassava for cloth or simple jewelry for clay pots. Implicit in all transactions is a price. For example, if 20 kilos of cassava are traded for 1 meter of bark cloth, the implicit price (or terms of trade) of the bark cloth is 20 kilos of cassava. If 20 kilos of cassava can also be exchanged for one small clay pot, it follows that clay pots and 1-meter pieces of bark cloth can be exchanged on a one-to-one basis. A price system is already in the making.

Barter transactions The trading of goods directly for other goods in economies not fully monetized.

Comparative Advantage

Why do people trade? Basically, because it is profitable to do so. Different people possess different abilities and resources and may want to consume goods in different proportions. Diverse preferences as well as varied physical and financial endowments open up the possibility of profitable trade. People usually find it profitable to trade the things they possess in large quantities relative to their tastes or needs in return for things they want more urgently. Because it is virtually impossible for individuals or families to provide themselves with all the consumption requirements of even the simplest life, they usually find it profitable to engage in the activities for which they are best suited or have a **comparative advantage** in terms of their natural abilities or resource endowments. They can then exchange any surplus of these home-produced commodities for products that others may be relatively more suited to produce. The phenomenon of **specialization** based on comparative advantage arises, therefore, to some extent in even the most subsistence economies.

Comparative advantage Production of a commodity at a lower opportunity cost than any of the alternative commodities that could be produced.

Specialization Concentration of resources in the production of relatively few commodities.

These same principles of specialization and comparative advantage have long been applied by economists to the exchange of goods between individual nations. In answer to the questions of what determines which goods are traded and why some countries produce some things while others produce different things, economists since the time of Adam Smith have sought the answers in terms of international differences in costs of production and prices of different products. Countries, like people, specialize in a limited range of production activities because it is to their advantage to do so. They specialize in activities where the gains from specialization are likely to be the largest.

But why, in the case of international trade, should costs differ from country to country? For example, how can Germany produce cameras, electrical appliances, and automobiles cheaper than Kenya and exchange these manufactured goods for Kenya's relatively cheaper agricultural produce (fruits, vegetables, cut flowers, coffee, and tea)? Again, the answer is to be found in international differences in the structure of costs and prices. Some things (manufactured goods) are relatively cheaper to produce in Germany and can profitably be exported to other countries like Kenya; other things (agricultural goods) can be produced in Kenya at a lower relative cost and are therefore imported into Germany in exchange for its manufactures.

The concept of *relative* cost and price differences is basic to the theory of international trade. The *principle of comparative advantage*, as it is called, asserts that a country should, and under competitive conditions will, specialize in the export of the products that it can produce at the lowest *relative cost*. Germany

may be able to produce cameras and cars as well as fruits and vegetables at lower *absolute* unit costs than Kenya, but because the commodity cost differences between countries are greater for the manufactured goods than for agricultural products, it will be to Germany's advantage to specialize in the production of manufactured goods and exchange them for Kenya's agricultural produce. So even though Germany may have an **absolute advantage** in the cost of both commodities, its comparative cost advantage lies in manufactured goods. Conversely, Kenya may be at an absolute disadvantage vis-à-vis Germany in both manufacturing and agriculture in that its absolute unit costs of production are higher for both types of products. It can nevertheless still engage in profitable trade because it has a comparative advantage in agricultural specialization (or alternatively, because its absolute disadvantage is less in agriculture). It is this phenomenon of differences in comparative advantage that gives rise to beneficial trade even among the most unequal trading partners.

Absolute advantage Production of a commodity with the same amount of real resources as another producer but at a lower absolute unit cost.

Relative Factor Endowments and International Specialization: The Neoclassical Model

The classical comparative advantage theory of free trade is a static model based strictly on a one-variable-factor (labor cost), complete-specialization approach to demonstrating the gains from trade. This nineteenth-century free-trade model, primarily associated with David Ricardo and John Stuart Mill, was modified and refined in the twentieth century by two Swedish economists, Eli Hecksher and Bertil Ohlin, to take into account differences in factor supplies (mainly land, labor, and capital) on international specialization. The Hecksher-Ohlin neoclassical (or variable-proportions) **factor endowment trade theory** also enables us to describe analytically the impact of economic growth on trade patterns and the impact of trade on the structure of national economies and on the differential returns or payments to various factors of production.

Factor endowment trade theory The neoclassical model of free trade, which postulates that countries will tend to specialize in the production of the commodities that make use of their abundant factors of production (land, labor, capital, etc.).

Unlike the classical labor cost model, however, where trade arises because of fixed but differing labor productivities for different commodities in different countries, the neoclassical factor endowment model assumes away inherent differences in relative labor productivity by postulating that all countries have access to the same technological possibilities for all commodities. If domestic factor prices were the same, all countries would use identical methods of production and would therefore have the same relative domestic product price ratios and factor productivities. The basis for trade arises not because of inherent technological differences in labor productivity for different commodities between different countries but because countries are endowed with different factor supplies. Given relative factor endowments, relative factor prices will differ (e.g., labor will be relatively cheap in labor-abundant countries), and so will domestic commodity price ratios and factor combinations. Countries with cheap labor will have a relative cost and price advantage over countries with relatively expensive labor in commodities that make intensive use of labor (e.g., primary products). They should therefore focus on the production of these labor-intensive products and export the surplus in return for imports of capital-intensive goods.

Conversely, countries well endowed with capital will have a relative cost and price advantage in the production of manufactured goods, which tend to require relatively large inputs of capital compared with labor. They can thus

benefit from specialization in, and export of, capital-intensive manufactures in return for imports of labor-intensive products from labor-abundant countries. Trade therefore serves as a vehicle for a nation to capitalize on its abundant resources through more intensive production and export of commodities that require large inputs of those resources while relieving its factor shortage through the importation of commodities that use large amounts of its relatively scarce resources.

To summarize, the factor endowment theory is based on two crucial propositions:

1. *Different products require productive factors in different relative proportions.* For example, agricultural products generally require relatively greater proportions of labor per unit of capital than manufactured goods, which require more machine time (capital) per worker than most primary products. The proportions in which factors are actually used to produce different goods will depend on their relative prices. But no matter what factor prices may be, the factor endowment model assumes that certain products will always be relatively more capital-intensive while others will be relatively more labor-intensive. These relative factor intensities will be no different in India than in the United States; primary products will be the relatively labor-intensive commodities compared with secondary manufactured goods in both India and the United States.
2. *Countries have different endowments of factors of production.* Some countries, like the United States, have large amounts of capital per worker and are therefore designated capital-abundant countries. Others, like India, Egypt, or Colombia, have little capital and much labor and are designated labor-abundant countries. In general, developed countries are relatively capital-abundant (one could also add that they are well endowed with skilled labor), while most developing countries are labor-abundant.

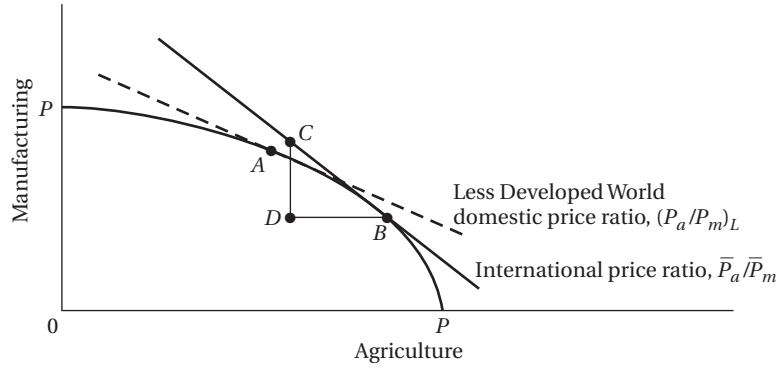
The factor endowment theory goes on to argue that capital-abundant countries will tend to specialize in such products as automobiles, aircraft, sophisticated electronics, communication goods, and computers, which use capital intensively in their technology of production. They will export some of these capital-intensive products in exchange for the labor- or land-intensive products like food, raw materials, and minerals that can best be produced by countries that are relatively well endowed with labor or land.

This theory, which played a predominant role in the early literature and policy advice on trade and development, encouraged developing countries to focus on their labor- and land-intensive primary-product exports. It was argued that by trading these primary commodities for the manufactured goods that developed countries were theoretically best suited to produce, developing nations could realize the enormous potential benefits to be had from free trade with the richer nations of the world. Little attention was given in this literature to diversification as an objective or the productivity benefits of expanding manufactures' share.

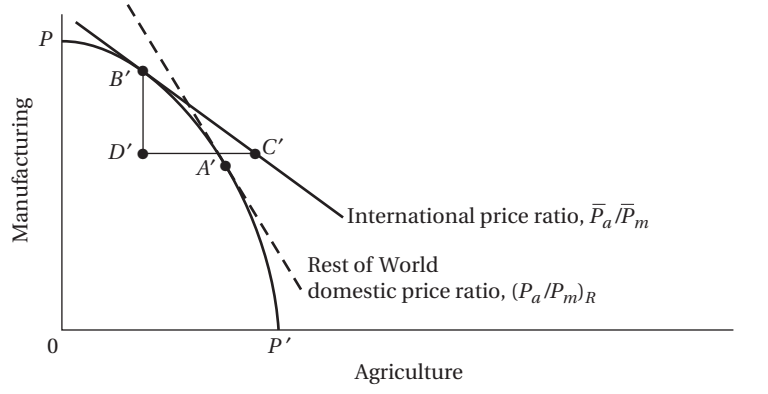
The mechanism whereby the benefits of trade are transmitted across national boundaries under the factor endowment approach is analogous to that of the classical labor cost approach. However, in the factor endowment

case, with the possibility of differing factor combinations for producing different commodities, nations are assumed to be operating initially at some point on their concave (or increasing opportunity cost) production possibility frontier, determined by domestic demand conditions. For example, consider the standard two-country, two-commodity model. Let the two countries be "Less Developed World" and "Rest of World" and the two commodities be agricultural goods and manufactured goods. Figure 12.1 portrays the theoretical benefits of free trade with Less Developed World's domestic (no-trade) production possibility frontier shown in Figure 12.1a and Rest of World's frontier in Figure 12.1b. Point A on the Less Developed World production possibility frontier PP in Figure 12.1a provides the illustration. With full employment of all resources and under perfectly competitive assumptions, Less Developed World will be producing and consuming at point A, where the relative price ratio, P_a/P_m, will be given by the slope of the dotted line, $(P_a/P_m)_L$, at point A.[15]

FIGURE 12.1 Trade with Variable Factor Proportions and Different Factor Endowments



(a) Less Developed World (without trade, production and consumption occur at A; with trade, production is at B, consumption is at C; exports = BD; imports = DC)



(b) Rest of World (without trade, production and consumption occur at A'; with trade, production is at B', consumption is at C'; exports = $B'D'$; imports = $D'C'$)

Similarly, Rest of World may be producing and consuming at point A' in Figure 12.1b, with a domestic price ratio, $(P_a/P_m)_R$, that differs (agricultural goods are relatively more costly, or conversely, manufactured goods are relatively cheaper) from that of Less Developed World. Note that with a closed economy, both countries will be producing both commodities. However, Less Developed World, being poorer, will produce a greater proportion of food products in its (smaller) total output.

The relative difference in costs of production and prices at points A and A' (i.e., their different slopes) gives rise once again to the possibilities of profitable trade. As in the classical labor cost model, the international free-trade price ratio, $\overline{P}_a/\overline{P}_m$, will settle somewhere between $(P_a/P_m)_L$ and $(P_a/P_m)_R$, the domestic price ratios of Less Developed World and Rest of World, respectively. The lines $\overline{P}_a/\overline{P}_m$ in both graphs in Figure 12.1 denote the common world price ratio. For Less Developed World, this steeper slope of $\overline{P}_a/\overline{P}_m$ means that it can get more manufactured goods for a unit of agriculture than in the absence of trade; that is, the world price of agricultural goods in terms of manufactures is higher than Less Developed World's domestic price ratio. It will therefore reallocate resources away from its costly capital-intensive manufacturing sector and specialize more in labor-intensive agricultural production. Under perfectly competitive assumptions, it will produce at point B on its production frontier, where its relative production (opportunity) costs are just equal to relative world prices. It can then trade along $\overline{P}_a/\overline{P}_m$, the prevailing international price line, exporting BD agricultural products in return for DC manufactured imports and arrive at a final consumption point C with more of *both* goods than before trade. To give a numerical example, suppose that the free-trade international price ratio, $\overline{P}_a/\overline{P}_m$, were 2 to 1. In other words, a unit of agricultural goods sells at a price twice that of a unit of manufactured goods. This means that for every unit of agriculture that Less Developed World exports to Rest of World, it can import 2 units of manufactured goods. The slope of the international price line graphically portrays this trading ratio, these terms of trade. If Less Developed World exports BD agriculture (say, 30 units), it will receive DC manufactures (60 units) in return.

Similarly, for Rest of World, the new international price ratio means more agricultural products in exchange for manufactured goods than at domestic prices. Graphically, the international price ratio has a lesser slope than Rest of World's domestic price ratio (see Figure 12.1b). Rest of World will therefore reallocate its abundant capital resources so as to produce more manufactured goods and less agriculture, as at point B', where its relative domestic production costs are just equal to relative world prices. It can then trade $B'D'\,(=DC)$ of these manufactures for $D'C'\,(=BD)$ of Less Developed World's agricultural products. Rest of World can therefore also move outside the confines of its production frontier and end up consuming at a point like C' in Figure 12.1b. Trade is balanced—the value of exports equals the value of imports for both regions. Moreover, it has resulted in increased consumption of both goods for both regions, as shown by a comparison between free-trade points C and C' and no-trade points A and A' in Figure 12.1.

The main conclusions of the neoclassical model of free trade are that all countries gain from trade and world output is increased. However, there are several others in addition to these two basic conclusions. First, due to increasing

opportunity costs associated with resource shifting among commodities with different factor intensities of production, complete specialization will not occur as in the classical comparative-advantage model. Countries will tend to specialize in products that use their abundant resources intensively. They will compensate for their scarce resources by importing products that use these scarce resources most intensively. But rising domestic costs and therefore prices in excess of world prices will prevent complete specialization from occurring.

Factor price equalization In factor endowment trade theory, the proposition that because countries trade at a common international price ratio, factor prices among trading partners will tend to equalize.

Second, given identical technologies of production throughout the world, the equalization of domestic product price ratios with the international free-trade price ratio will tend to **factor price equalization** across trading countries. Wage rates, for example, will rise in labor-abundant Less Developed World as a result of the more intensive use of human resources in the production of additional agricultural output. But the price of scarce capital will decline due to the diminished production of manufactured goods, which are heavy users of capital. In Rest of World, the price of its abundant capital will rise relative to its scarce labor as more emphasis is placed on the production of capital-intensive manufactured goods and less on labor-intensive agriculture.

The neoclassical factor endowment theory therefore makes the important prediction that international real wage rates and capital costs will gradually tend toward equalization. Much of the direct competition is in the low-skilled labor that developing countries have in relative abundance; many low-skilled manufacturing jobs have indeed been lost outright in developed countries, and wage growth has at best been slow, if not declining, in real terms. In recent years, many highly paid manufacturing workers in the more developed countries have been concerned that freer trade and greater international competition would drive their wages down to developing-country levels. However, on average, with the exception of a few Asian economies, the wage gap between developed and less developed country manufacturing workers has remained persistently wide. This is due in part to higher skills and in part to complementary factors such as the higher general knowledge base embedded within corporations, so wages can remain higher commensurate with the resulting higher productivity.[16] But some part is likely due to protectionism.

Third, within countries, the factor endowment theory predicts that the economic return to owners of the abundant resources will rise in relation to owners of scarce resources as the abundant factor is more intensively used; in developing countries, this would generally mean a rise in the share of national income going to labor. In the absence of trade, labor's share might be smaller. Thus, trade tends to promote more equality in domestic income distributions.

Finally, by enabling countries to move outside their production possibility frontiers and secure capital as well as consumption goods from other parts of the world, trade is assumed to stimulate economic growth. If developed countries have the comparative advantage in producing higher-skill capital goods, trade would lower the price of equipment and machinery and stimulate investment and growth for developing countries. Developing-country exporters learn from their customers in developed countries, who may also alert them to other products they might produce given their mix of skills, as the experience of Taiwan shows. Trade also enables a nation to obtain the domestically expensive raw materials and other products (as well as knowledge, ideas, new

technologies, etc.) with which it is relatively less well endowed at lower world market prices. It can thus create the conditions for a more broadly based and self-sustaining growth of its industrial output.

Trade Theory and Development: The Traditional Arguments

We are now in a position to summarize the theoretical answers to our five basic questions about trade and development, derived from the neoclassical free-trade model.

1. Trade is an important stimulator of economic growth. It enlarges a country's consumption capacities, increases world output, and provides access to scarce resources and worldwide markets for products without which developing countries would be unable to grow.
2. Trade tends to promote greater international and domestic equality by equalizing factor prices, raising real incomes of trading countries, and making efficient use of each nation's and the world's resource endowments (e.g., raising relative wages in labor-abundant countries and lowering them in labor-scarce countries).
3. Trade helps countries achieve development by promoting and rewarding the sectors of the economy where individual countries possess a comparative advantage, whether in terms of labor efficiency or factor endowments. It also lets them take advantage of economies of scale.
4. In a world of free trade, international prices and costs of production determine how much a country should trade in order to maximize its national welfare. Countries should follow the principle of comparative advantage and not try to interfere with the free workings of the market through government policies that either promote exports or restrict imports.
5. Finally, to promote growth and development, an outward-looking international policy is required. In all cases, self-reliance based on partial or complete isolation is asserted to be economically inferior to participation in a world of unlimited free trade.

12.4 The Critique of Traditional Free-Trade Theory in the Context of Developing-Country Experience

The conclusions of traditional international trade theory are derived from a number of explicit and implicit assumptions that in many ways are often contrary to the reality of contemporary international economic relations. This is not to deny the potential benefits of a world of free trade but rather to recognize that the real world is beset by national protectionism, international noncompetitive pricing policies, and other market failures.

What are the major and crucial assumptions of the traditional factor endowment theory of trade, and how are these assumptions violated in the

real world? What are the implications for the trade and financial prospects of developing nations when a more realistic assessment of the actual mechanism of international economic and political relations is made?

Six basic assumptions of the traditional neoclassical trade model must be scrutinized:

1. All productive resources are fixed in quantity and constant in quality across nations, and are fully employed.
2. The technology of production is fixed (classical model) or similar and freely available to all nations (factor endowment model). Moreover, the spread of such technology works to the benefit of all. Consumer tastes are also fixed and independent of the influence of producers (international consumer sovereignty prevails).
3. Within nations, factors of production are perfectly mobile between different production activities, and the economy as a whole is characterized by the existence of perfect competition. There are no risks or uncertainties.
4. The national government plays no role in international economic relations; trade is carried out among many atomistic and anonymous producers seeking to minimize costs and maximize profits. International prices are therefore set by the forces of supply and demand.
5. Trade is balanced for each country at any point in time, and all economies are readily able to adjust to changes in the international prices with a minimum of dislocation.
6. The gains from trade that accrue to any country benefit the nationals of that country.

We can now take a critical look at each of these assumptions in the context of the contemporary position of developing countries in the international economic system. Some of these criticisms form the rationale for other, non-neoclassical theories of trade and development, including vent-for-surplus, structuralist, and North-South models.

Fixed Resources, Full Employment, and the International Immobility of Capital and Skilled Labor

Trade and Resource Growth: North-South Models of Unequal Trade This initial assumption about the static nature of international exchange—that resources are fixed, fully utilized, and internationally immobile with product production functions everywhere identical—is central to the traditional theory of trade and finance. In reality, the world economy is characterized by rapid change, and factors of production are fixed neither in quantity nor in quality. Critics point out that this is especially true with respect to resources that are most crucial to growth and development, such as physical capital, entrepreneurial abilities, scientific capacities, the ability to carry out technological research and development, and the upgrading of technical skills in the labor force.

It follows, therefore, that relative factor endowments and comparative costs are not given but are in a state of constant change. Moreover, they are often determined by, rather than themselves determine, the nature and character of international specialization. Any initial state of unequal resource endowments may be reinforced and exacerbated by the very trade that these differing resource endowments were supposed to justify. Specifically, if rich nations (the *North*) as a result of historical forces, are relatively well-endowed with the vital resources of capital, entrepreneurial ability, and skilled labor, their continued specialization in products and processes that use these resources intensively can create the necessary conditions and economic incentives for their further growth. By contrast, developing-world countries (the *South*), endowed with abundant supplies of unskilled labor, by specializing in products that intensively use unskilled labor and for which world demand prospects and terms of trade may be very unfavorable, often find themselves locked into a stagnant situation that perpetuates their comparative advantage in unskilled, unproductive activities. This, in turn, inhibits the domestic growth of needed capital, entrepreneurship, and technical skills. As some developing-country scholars have effectively argued, static efficiency can become dynamic inefficiency, and a cumulative process is set in motion in which trade exacerbates already unequal trading relationships, distributes the benefits largely to the people who are already relatively well off, and perpetuates the physical and human resource underdevelopment that characterizes most low-income nations. As one well-known developing-country scholar put it, "With few exceptions, the technological distance between the developing and the developed countries is widening. Neoclassical international trade theory, by postulating identical production functions for different products in various countries, assumes this problem away."[17]

In recent years, some economists have therefore challenged the static neoclassical model with alternative dynamic models of trade and growth that emphasize the process of factor accumulation and uneven development along the lines suggested in the preceding paragraphs. These so-called **North-South trade models** focus specifically on trade relations between rich and poor countries, whereas the traditional model was assumed to apply to all nations. The typical North-South model argues, for example, that initial higher endowments of capital in the industrialized North generate external economies in manufacturing output and higher profit rates. This, in combination with the rise in monopoly power, stimulates higher Northern growth rates (in accordance with Harrod-Domar and factor share growth models discussed earlier) through further capital accumulation. As a result, the rapidly growing North develops a cumulative competitive advantage over the slower-growing South. If we then add differential income elasticities of demand (higher for Northern "capital goods" than for Southern "consumption goods") and capital mobility to the model (in the form of South-to-North capital flight, as occurred in the 1980s), the basis for the developing-world trade pessimism would be further enhanced. Nobel laureate Paul Krugman and other modern trade theorists have also introduced models incorporating imperfect competition and other more realistic features.[18]

North-South trade models Trade and development theories that focus on the unequal exchange between the North developed countries and the South developing countries in an attempt to explain why the South gains less from trade than the North.

Some economies, like the Four Asian Tigers (Taiwan, South Korea, Singapore, and Hong Kong), have succeeded in transforming their economies through

purposeful effort from unskilled-labor to skilled-labor to capital-intensive production. Other Asian countries, notably China, are following in their footsteps. However, for the vast majority of low-income nations, the possibility of trade itself stimulating similar structural economic changes is more remote without the application of judicious development policies.

Another interesting example of the new, postneoclassical genre of international trade models is contained in Michael Porter's *Competitive Advantage of Nations*.[19] Porter's fundamental departure from the standard, neoclassical factor endowment theory is to posit a *qualitative* difference between basic factors and advanced factors of production. He argues that standard trade theory applies only to basic factors like undeveloped physical resources and unskilled labor. For the advanced factors, which are more specialized and include highly trained workers with specific skills, and knowledge resources such as government and private research institutes, major universities, and leading industry associations, standard theory does not apply. Porter argues that "the central task facing developing countries is to escape from the straitjacket of factor-driven national advantage…where natural resources, cheap labor, locational factors and other basic factor advantages provide a fragile and often fleeting ability to export." He concludes that "creation of advanced factors is perhaps the first priority."[20]

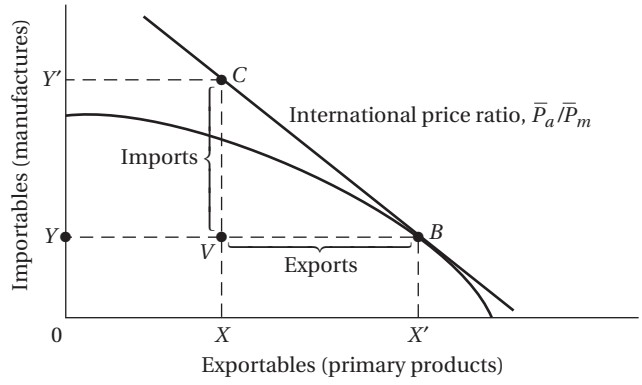
Unemployment, Resource Underutilization, and the Vent-for-Surplus Theory of International Trade The assumption of full employment in traditional trade models, like that of the standard perfectly competitive equilibrium model of microeconomic theory, violates the reality of unemployment and underemployment in developing nations. Two conclusions could be drawn from the recognition of widespread unemployment in the developing world. The first is that underutilized human resources create the opportunity to expand productive capacity and GNI at little or no real cost by producing for export markets products that are not demanded locally. This is known as the **vent-for-surplus theory of international trade**. First formulated by Adam Smith, it was expounded in the context of developing nations by the Burmese economist Hla Myint.

Vent-for-surplus theory of international trade The contention that opening world markets to developing countries through international trade allows those countries to make better use of formerly underutilized land and labor resources so as to produce larger primary-product outputs, the surpluses of which can be exported.

According to this theory, the opening of world markets to remote agrarian societies creates opportunities not to reallocate fully employed resources as in the traditional models but rather to make use of formerly *underemployed* land and labor resources to produce greater output for export to foreign markets. The colonial system of plantation agriculture, as well as the commercialization of small-scale subsistence agriculture, were made possible, according to this view, by the availability of unemployed and underemployed human resources. In terms of our production possibility analyses, the vent-for-surplus argument can be represented by a shift in production from point V to point B in Figure 12.2, with trade enlarging final domestic consumption from V to C.

We see that before trade, the resources of this closed developing-world economy were underutilized. Production was occurring at point V, well within the confines of the production possibility frontier, and $0X$ primary products and $0Y$ manufactures were being produced and consumed. The opening up of the nation to foreign markets (probably as a result of colonization) provides the economic impetus to utilize these idle resources (mostly excess land and

FIGURE 12.2 The Vent-for-Surplus Theory of Trade



labor) and expand primary-product exportable production from $0X$ to $0X'$ at point B on the production frontier. Given the international price ratio, $\overline{P}_a/\overline{P}_m$, $X' - X$ (equal to VB) primary products can now be exported in exchange for $Y' - Y$ (equal to VC) manufactures, with the result that the final consumption point, C, is attained with the same primary products (X) being consumed as before but with $Y' - Y$ more imported manufactures now available.

Unfortunately, in the short run, the beneficiaries of this process were often colonial and expatriate entrepreneurs rather than developing-country nationals. And, in the long run, the structural orientation of the developing-country economy toward primary-product exports in many cases created an export "enclave" and inhibited needed structural transformation in the direction of a more diversified economy.

Fixed, Freely Available Technology and Consumer Sovereignty

Just as capital resources are rapidly growing and being dispersed to maximize the returns of their owners throughout the world, rapid technological change is profoundly affecting world trading relationships. One of the most obvious examples of the impact of developed-country technological change on developing-country export earnings is the development of synthetic substitutes for many traditional primary products. Since World War II, **synthetic substitutes** for such diverse commodities as rubber, wool, cotton, sisal, jute, hides, and skins have been manufactured in increasing quantities. The developing world's market shares of these sectors have fallen steadily.

Synthetic substitutes Commodities that are artificially produced but can be substituted for the natural commodities (e.g., manufactured rubber, cotton, wool, camphor, and pyrethrum).

On the other side of the ledger, however, is the argument that the worldwide availability of new technologies developed in the West has given many newly industrializing countries the opportunity to capitalize on Western research and development expenditures. By first imitating products developed abroad but not on the frontiers of technological research, certain middle-income countries with sufficient human capital (e.g., the Asian NICs) can follow the **product cycle** of international trade. Using their relatively lower

Product cycle In international trade, the progressive replacement of more developed countries by less developed countries in the production of manufactures of increasing complexity.

wages, they move from low-tech to high-tech production, filling manufacturing gaps left vacant by the more industrialized nations. Eventually, the hope is to catch up with the developed countries, as in the case of Japan, Singapore, and South Korea. China has made striking progress through this strategy.

The assumption of fixed worldwide consumer tastes and preferences dictating production patterns to market-responsive atomistic producers is unrealistic. Not only are the capital and production technologies disseminated throughout the world by means of the multinational corporations often aided by their home governments, but also consumer preferences and tastes are often created and reinforced by the advertising campaigns that dominate local markets. By creating demands for imported goods, market-dominating international enterprises can create the conditions for increased profitability. This is particularly significant in developing countries, where limited and imperfect information in both production and consumption creates a situation of highly incomplete markets. For example, it has been estimated that in many developing nations, more than 90% of all advertising is financed by foreign firms selling in the local market.

Internal Factor Mobility, Perfect Competition, and Uncertainty: Increasing Returns, Imperfect Competition and Issues in Specialization

The traditional theory of trade assumes that nations are readily able to adjust their economic structures to the changing dictates of world prices and markets. Movements along production possibility frontiers involving the reallocation of resources from one industry to another may be easy to make on paper, but according to structuralist arguments, such reallocations are extremely difficult to achieve in practice. This is especially true in developing nations, where production structures are often rigid and factor movements are largely restricted. The most obvious example of this is plantation and small-farm commercial agriculture. In economies that have gradually become heavily dependent on a few primary-product exports, the whole economic and social infrastructure (roads, railways, communications, power locations, credit and marketing arrangements, etc.) may be geared to facilitate the movement of goods from production locations to shipping and storage depots for transfer to foreign markets. Over time, cumulative investments of capital may have been sunk into these economic and infrastructure facilities, and they cannot easily be transferred to manufacturing activities located elsewhere. Thus, the more dependent nations become on a few primary-product exports, the more inflexible their economic structures become, and the more vulnerable they are to the unpredictabilities of international markets. It may take many years to transform an underdeveloped economy from an almost exclusively primary-product, export-oriented reliance to a more diversified, multisector structure. More generally, structuralist critics argue that all kinds of politically and institutionally generated structural rigidities, including product supply inelasticities, lack of intermediate products, fragmented money markets, limited foreign exchange, government licensing, import controls, poor transport and distribution facilities, and scarcities of managerial and skilled labor, often inhibit a developing country's ability to respond to changing international price signals in the smooth and frictionless way of the neoclassical trade model.[21]

Thus, the internal processes of adjustment and resource reallocation that are necessary to capitalize on changing world economic conditions are much more difficult for the less diversified developing economies to realize than for their rich counterparts in the North. And yet, curiously enough, developing countries that begin to expand their capacities to produce low-cost, labor-intensive manufactured goods for export in industries such as textiles, shoes, sporting goods, handbags, processed foodstuffs, wigs, and rugs have often found these exports blocked by tariff and nontariff barriers erected by developed countries to restrict the entry of such low-cost goods into their home markets.[22] The reasons usually given by the North are that this low-cost foreign competition will create unemployment among the higher-cost domestic industries of the developed country and that the problems of internal economic adjustment are too serious to permit such unfettered foreign competition! And while notable improvements have been made through the WTO and bilateral offers (discussed later in the chapter), protectionism in various forms remains a serious impediment to growth in the developing world, especially for the least developed countries.

Moreover, by assuming either fixed or diminishing **returns to scale** (fixed or increasing production costs as output is expanded), the labor cost and factor endowment theories of trade neglect one of the most important phenomena in international economic relations. This is the pervasive and income-widening effect of increasing returns to scale and hence decreasing costs of production. Decreasing production costs mean simply that large existing firms are able to underprice smaller or new firms and thus exert monopolistic control over world markets. Far from being a rare exception, economies of scale are a common factor in determining trade patterns. Economies of large-scale production lead to monopolistic and oligopolistic control of world supply conditions (just as they do in domestic markets) for a wide range of products.

In addition, **monopolistic** and **oligopolistic market control** of internationally traded commodities, along with widespread product differentiation, intraindustry trade, and external economies of production, means that large individual corporations are able to manipulate world prices and supplies (and often demands as well) in their own private interest. Instead of competition, we find joint producer activities and oligopolistic bargaining among giant buyers and sellers as the most pervasive price- and quantity-determining force in the international economy.[23] But from the perspective of developing nations trying to diversify their economies and promote industrial exports in particular, the phenomenon of **increasing returns** and **product differentiation** (monopolistic competition), combined with the noneconomic power of large multinational corporations (their political influence with many governments—see Chapter 14), means that the first nations to industrialize (the rich nations) are often able to take advantage of these economies of scale and differentiated products to perpetuate their dominant position in world markets.[24]

The second major limitation of the perfectly competitive assumption of trade models is its exclusion of **risk** and **uncertainty** in international trading arrangements. It may not be in a low-income country's long-run interest to invest heavily in primary-product export promotion, given the historical instability of world markets for primary commodities in comparison with those for manufactured goods. As was already pointed out, concentration on one

Returns to scale How much output expands when all inputs are proportionately increased.

Monopolistic market control A situation in which the output of an industry is controlled by a single producer (or seller) or by a group of producers who make joint decisions.

Oligopolistic market control A situation in which a small number of rival but not necessarily competing firms dominate an industry.

Increasing returns A disproportionate increase in output that results from a change in the scale of production.

Product differentiation Attempts by producers to distinguish their product from similar ones through advertising or minor design changes.

Risk A situation in which the probabilities of the various possible outcomes are known, but the actual outcome is not known.

Uncertainty A situation in which neither the actual outcome nor even the precise probabilities of the various possible outcomes are known.