This is an optional chapter for assignment by instructors who desire to cover international trade early in the course but do not want to assign the more graphical Chapter 37 (Chapter 20 in *Macroeconomics* and Chapter 23 in *Microeconomics*) for that purpose. If this updated Chapter 5 of *Economics* is assigned, Chapter 37 should not also be assigned in the same course. Much of the content in Chapter 5 of the 18e is now in Chapter 37 of the 19e. In some places, the transfer of content is word-for-word.

AFTER READING THIS CHAPTER, YOU SHOULD BE ABLE TO:

1. **State several key facts about U.S. international trade.**
2. **Define comparative advantage and explain how it relates to specialization and international trade.**
3. **Explain how exchange rates are determined in currency (foreign-exchange) markets.**
4. **Explain how and why government sometimes interferes with free international trade.**
5. **Describe the purpose and function of the World Trade Organization and discuss trade topics such as trade adjustment assistance, offshoring of jobs, and fair-trade products.**

The United States in the Global Economy

Backpackers in the wilderness like to think they are "leaving the world behind," but, like Atlas, they carry the world on their shoulders. Much of their equipment is imported—knives from Switzerland, rain gear from South Korea, cameras from Japan, aluminum pots from England, sleeping bags from China, and compasses from Finland. Moreover, they may have driven to the trailheads in Japanese-made Toyotas or German-made BMWs, sipping coffee from Brazil or snacking on bananas from Honduras.

International trade and the global economy affect all of us daily, whether we are hiking in the wilderness, driving our cars, listening to music, or working at our jobs. We cannot "leave the world behind." We are enmeshed in a global web of economic relationships, such as the trading of goods and services, multinational corporations, cooperative ventures among the world's firms, and ties among

the world's financial markets. That web is so complex that it is difficult to determine just what is—or isn't—an American product. A Finnish company owns Wilson sporting goods; a Swiss company owns Gerber baby food; and a London-incorporated South African company owns Miller Brewing. Dodge Charger police cars are assembled in Canada. Many "U.S." products such as Boeing aircraft contain numerous components from abroad, and, conversely, many "foreign" products such as Airbus planes contain numerous U.S.-produced parts.

International Linkages

Several economic flows link the U.S. economy and the economies of other nations. As identified in Figure COI 1.1, these flows are:

- ***Goods and services flows*** or simply ***trade flows*** The United States exports goods and services to other nations and imports goods and services from them.
- ***Capital and labor flows*** or simply ***resource flows*** U.S. firms establish production facilities—new capital—in foreign countries, and foreign firms establish production facilities in the United States. Labor also moves between nations. Each year many foreigners immigrate to the United States and some Americans move to other nations.
- ***Information and technology flows*** The United States transmits information to other nations about U.S. products, prices, interest rates, and investment opportunities and receives such information from abroad. Firms in other countries use technology created in the United States, and U.S. businesses incorporate technology developed abroad.
- ***Financial flows*** Money is transferred between the United States and other countries for several purposes, for example, paying for imports, buying foreign assets, paying interest on debt, purchasing foreign currencies by tourists, and providing foreign aid.

The United States and World Trade

Our main goal in this chapter is to examine trade flows and the financial flows that pay for them. What is the extent and pattern of international trade, and how much has that trade grown? Who are the major participants?

Volume and Pattern

Table COI 1.1 suggests the importance of world trade for selected countries. Many countries, with restricted resources and limited domestic markets, cannot efficiently produce the variety of goods their citizens want. So they must import goods from other nations. That, in turn, means that they must export, or sell abroad, some of their own products. For such countries, exports may run from 25 to 50 percent or more of their gross domestic product (GDP)—the market value of all goods and services produced in an economy. Other countries, the United States, for example, have rich and diversified resource bases and large internal markets. Although the total volume of trade is huge in the United States, it constitutes a smaller percentage of GDP than it does in a number of other nations.

Volume For the United States and for the world as a whole, the volume of international trade has been increasing both absolutely and relative to their GDPs. A comparison of the boxed data in Figure COI 1.2 reveals substantial growth in

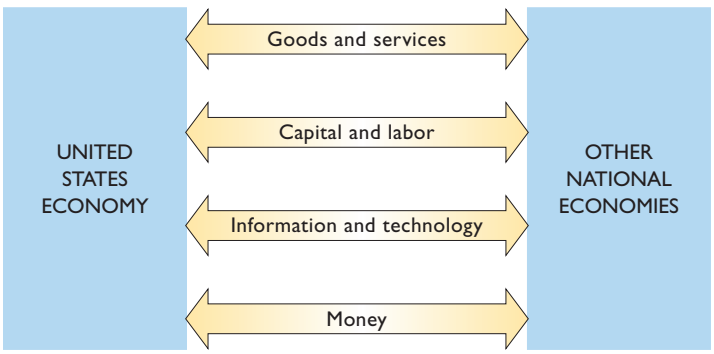


FIGURE COI 1.1 International linkages. The U.S. economy is intertwined with other national economies through goods and services flows (trade flows), capital and labor flows (resource flows), information and technology flows, and financial flows.

TABLE COI 1.1 Exports of Goods and Services as a Percentage of GDP, Selected Countries, 2008

Country	Exports as Percentage of GDP
Belgium	92
Netherlands	77
South Korea	53
Germany	47
Canada	37
New Zealand	32
Italy	29
United Kingdom	29
France	26
Spain	26
Japan	17
United States	13

Source: Derived by authors from *IMF International Financial Statistics*, 2009.

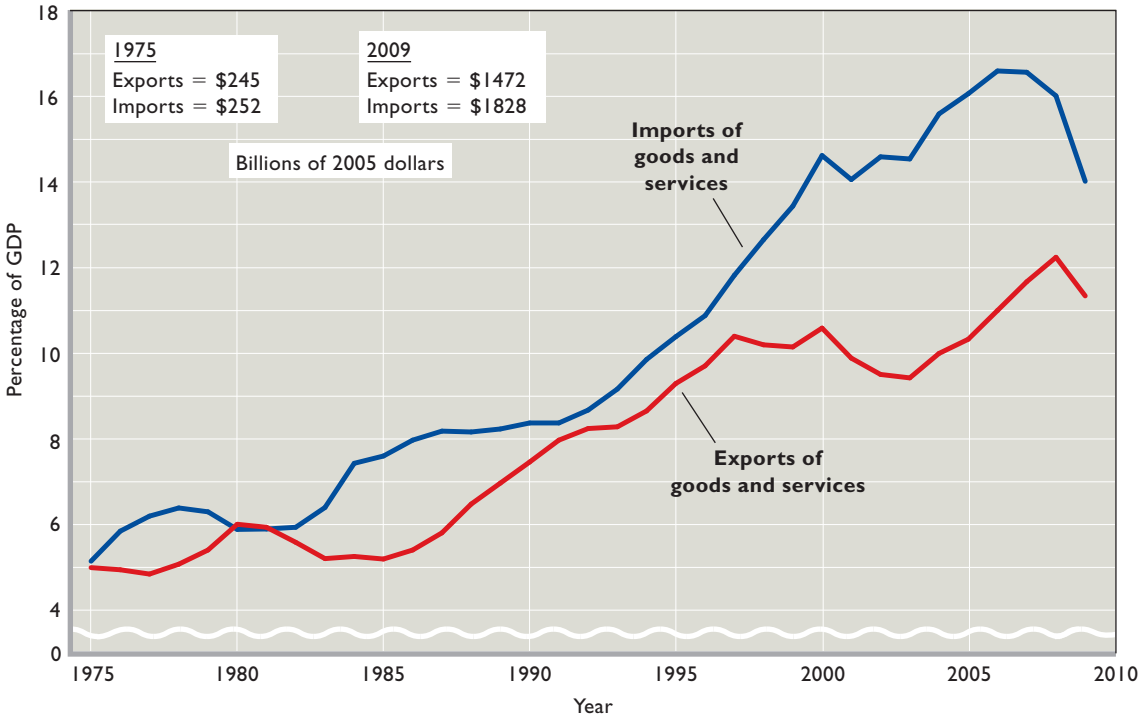
the dollar amount of U.S. exports and imports over the past several decades. The graph shows the rapid growth of U.S. exports and imports of goods and services as percentages of GDP. On a national income account basis, U.S. exports and imports were 11 and 14 percent of GDP, respectively, in 2009.

Even so, the United States now accounts for a diminished percentage of total world trade. In 1950, it supplied about 33 percent of the world's total exports, compared with about 8.5 percent today. International trade has increased more rapidly for other nations than it has for the United States. But in terms of the combined volume of imports and exports, the United States is still the world's leading trading nation.

Dependence The United States is almost entirely dependent on other countries for bananas, cocoa, coffee, spices, tea, raw silk, nickel, tin, natural rubber, and diamonds. Imported goods compete with U.S. goods in many of our domestic markets: Japanese cameras and cars, French and Italian wines, and Swiss and Austrian snow skis are a few examples. Even the "great American pastime" of baseball relies heavily on imported gloves and baseballs.

On the export side, many U.S. industries depend on sales abroad for their profitability. For example almost all segments of U.S. agriculture rely to one degree or another on exports. In fact, exports of rice, wheat, cotton, and tobacco vary from one-fourth to more than one-half of the total output of those crops. The U.S. computer, chemical, semiconductor, aircraft, automobile, machine tool, and

FIGURE COI 1.2 U.S. trade as percentage of GDP, 1975–2009. U.S. imports and exports have increased in volume and as a percentage of GDP since 1975.



Source: Bureau of Economic Analysis, **www.bea.gov**. Data are from the national income accounts and are adjusted for inflation (2005 dollars).

TABLE COI 1.2 Selected Principal U.S. Exports and Imports of Goods, 2009 (in Billions of Dollars)

Exports	Amount	Imports	Amount
Agricultural products	$101.2	Petroleum	$253.6
Chemicals	83.8	Household appliances	105.3
Metals	76.1	Apparel	101.4
Aircraft	74.7	Computers	93.9
Consumer durables	74.0	Pharmaceuticals	81.4
Energy products	61.7	Automobiles	80.2
Pharmaceuticals	46.1	Metals	70.9
Computers	37.7	Chemicals	46.1
Semiconductors	37.5	Generating equipment	44.4
Generating equipment	36.4	Telecommunications equipment	37.3

Source: Consolidated by authors from data provided by the Bureau of Economic Analysis, **www.bea.gov**.

software industries, among many others, sell significant portions of their output in international markets. Table COI 1.2 shows some of the major commodity exports and imports of the United States.

Trade Patterns The following facts will give you an overview of U.S. international trade:

- A *trade deficit* occurs when imports exceed exports. The United States has a trade deficit in goods. In 2009, U.S. imports of goods exceeded U.S. exports of goods by $517 billion.
- A *trade surplus* occurs when exports exceed imports. The United States has a trade surplus in services. U.S. firms and citizens collectively sell (export) more transportation, banking, legal and other services abroad than they purchase (import) from foreign firms and citizens. In 2009, these U.S. exports of services exceeded U.S. imports of services by $138 billion.
- The United States imports many of the same kinds of goods that it exports (see Table COI 1.2).
- About half of the U.S. export and import trade is with other industrially advanced countries. The remainder is with developing countries, including members of the Organization of Petroleum Exporting Countries (OPEC).
- Canada is the United States' most important trading partner quantitatively. In 2007, about 20 percent of U.S. exported goods were sold to Canadians, who in turn provided 15 percent of the U.S. imports of goods (see Table COI 1.3).

TABLE COI 1.3 U.S. Exports and Imports of Goods by Area, 2009*

Exports to	Billions of Dollars	Percentage of Total	Imports from	Billions of Dollars	Percentage of Total
Canada	$206	20	Canada	$227	15
European Union	217	21	European Union	281	18
Germany	43	4	Germany	71	5
United Kingdom	45	4	United Kingdom	46	3
France	26	2	France	34	2
All other EU	103	10	All other EU	130	8
Mexico	129	12	Mexico	180	12
China	69	7	China	297	19
Japan	50	5	Japan	96	6
OPEC countries	48	5	OPEC countries	112	7
All other	327	31	All other	370	24
Total	$1046	100	Total	$1563	100

*Data are on a balance-of-payments basis and exclude military shipments. Percentages do not sum to 100 percent because of rounding.
Source: Bureau of Economic Analysis, **www.bea.gov**.

- The United States has sizable trade deficits with China and Mexico. In 2009, U.S. imported goods from China exceeded exported goods to China by $220 billion, and U.S. imported goods from Mexico exceeded U.S. exported goods to Mexico by $43 billion (see Table COI 1.3).
- The U.S. dependence on foreign oil is reflected in its trade with members of OPEC. In 2009, the United States imported $112 billion of goods (mainly oil) from OPEC members, while exporting $48 billion of goods to those countries (see Table COI 1.3).
- In terms of volume, the most significant U.S. export of *services* is airline transportation provided by U.S. carriers for foreign passengers.

Financial Linkages International trade requires complex financial linkages among nations. How does a nation such as the United States obtain more goods from others than it provides to them? How does the United States finance its trade deficits, such as its 2009 goods and services deficit of $379 billion (= +$138 billion in services − $517 billion in goods) in 2009? The answer is by either borrowing from foreigners or selling real assets (for example, factories or real estate) to them. In terms of borrowing, the United States is the world's largest borrower of foreign funds, which can be used to purchase foreign goods. In terms of selling real assets, the countries with which the United States has large trade deficits end up holding large numbers of U.S. dollars (since, for instance, Sony is paid in dollars when it sells a television set in the United States). Many of these U.S. dollars are then used to buy U.S. real assets, thereby transferring ownership of those assets from U.S. citizens to foreign citizens.

Rapid Trade Growth

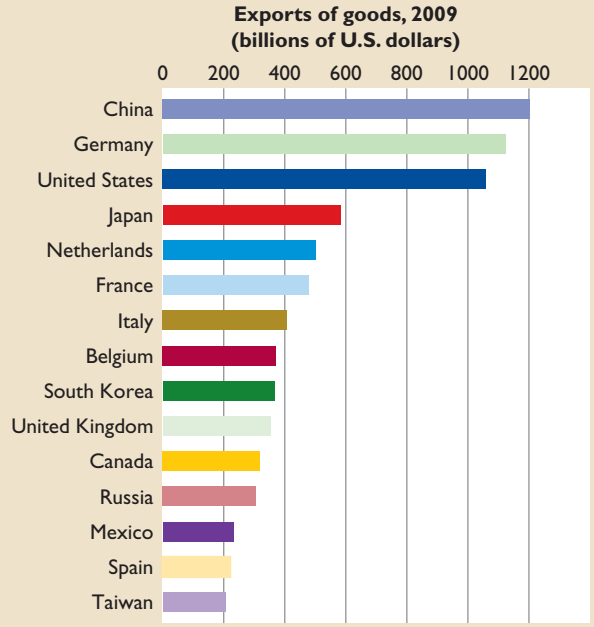
Several factors have propelled the rapid growth of international trade since the Second World War.

Transportation Technology High transportation costs are a barrier to any type of trade, particularly among traders who are distant from one another. But improvements in transportation have shrunk the globe and fostered world trade. Container ships deliver self-contained box cars of goods to ports, which off-load them to waiting trucks and trains. We now routinely transport oil in massive tankers, significantly lowering the cost of transportation per barrel. Grain is loaded onto oceangoing ships at modern, efficient grain silos at Great Lakes and coastal ports. Natural gas flows through large-diameter pipelines from exporting to importing countries—for instance, from Russia to Germany and from Canada to the United States.

GLOBAL PERSPECTIVE COI 1.1

Comparative Exports

China, Germany, and the United States are the world's largest exporters.



Source: Data used with permission of World Trade Organization, **www.wto.org**.

Communications Technology Dramatic improvements in communications technology have also advanced world trade. Computers, the Internet, telephones, and fax (facsimile) machines now directly link traders around the world, enabling exporters to access overseas markets and to carry out trade deals. A distributor in New York can get a price quote on 1000 woven baskets in Thailand as quickly as a quotation on 1000 laptop computers in Texas. Money moves around the world in the blink of an eye. Exchange rates, stock prices, and interest rates flash onto computer screens nearly simultaneously in Los Angeles, London, and Lisbon.

General Decline in Tariffs *Tariffs* are excise taxes (duties) on imported products. They have had their ups and downs over the years, but since 1940 they have generally fallen. A glance ahead to Figure COI 1.4 on page COI1-13 shows that U.S. tariffs as a percentage of imports (on which duties are levied) are now about 5 percent, down from 37 percent in 1940. Many nations still maintain barriers to free trade, but, on average, tariffs have fallen significantly, thus increasing international trade.

Participants in International Trade

All the nations of the world participate to some extent in international trade. Global Perspective COI 1.1 lists the top participants in world trade *by total dollar volume* (as opposed to *percentage of GDP*, as in Table COI 1.1). Observe that China, Germany, the United States, and Japan had combined exports of $4 trillion in 2009. This amounted to 32 percent of total world exports that year. Along with Germany, other western European nations such as France, Britain, and Italy are major exporters. So, too, are the east and southeast Asian countries of South Korea, Taiwan, and Singapore, whose combined exports exceed those individually of France, Britain, or Italy.

China, with its increased reliance on the market system and its reintegration of Hong Kong, has emerged as a major international trader. In 1990 its exports were about $60 billion. In 2009 they were $1202 billion.

QUICK REVIEW COI 1.1

- Four main categories of economic flows link nations: goods and services flows, capital and labor flows, information and technology flows, and financial flows.
- World trade has increased globally and nationally. In terms of volume, the United States is the world's leading international trader. But with exports and imports of only about 11 to 14 percent of GDP, the United States is not as dependent on international trade as many other nations.
- Advances in transportation and communications technology and declines in tariffs have all helped expand world trade.
- Nearly all nations participate in world trade, but the United States, China, Japan, the western European nations, and Canada dominate world trade by volume.

Specialization and Comparative Advantage

In an *open economy* (one with an international sector), a country produces more of certain goods (exports) and fewer of other goods (imports) than it would otherwise. Thus, the country shifts the use of labor and other productive resources toward export industries and away from import industries. For example, in the presence of international trade, the United States uses more resources to make commercial aircraft and to grow wheat and less to make autos and clothing. So we ask: "Do shifts of resources like these make economic sense? Do they enhance U.S. total output and thus the U.S. standard of living?"

The answers are affirmative. Specialization and international trade increase the productivity of a nation's resources and allow for greater total output than would otherwise be possible. These benefits are the result of exploiting both *absolute advantages* and *comparative advantages*. A country is said to have an *absolute advantage* over other producers of a product if it is the most efficient producer of that product (by which we mean that it can produce more output of that product from any given amount of resource inputs than can any other producer). A country is said to have a *comparative advantage* over other producers of a product if it can produce the product at a lower opportunity cost (by which we mean that it must forgo less output of alternative products when allocating productive resources to producing the product in question).

In 1776 Adam Smith used the concept of absolute advantage to argue for international specialization and trade. His point was that nations would be better off if they each specialized in the production of those products in which they had an absolute advantage and were therefore the most efficient producers:

> It is the maxim of every prudent master of a family, never to attempt to make at home what it will cost him more to make than to buy. The taylor does not attempt to make his own shoes, but buys them of the shoemaker. The shoemaker does not attempt to make his own clothes, but employs a taylor. The farmer attempts to make neither the one nor the other, but employs those different artificers. . . .
>
> What is prudence in the conduct of every private family, can scarce be folly in that of a great kingdom. If a foreign country can supply us with a commodity cheaper than we can make it, better buy it of them with some part of the produce of our own industry, employed in a way in which we have some advantage.[1]

In the early 1800s, British economist David Ricardo expanded on Smith's arguments for international specialization and trade by nothing that a country could gain from specialization and trade with other countries even if it was the most efficient producer of each and every product being produced anywhere in the world. Ricardo's insight was that a nation does not need an *absolute advantage* to benefit from specialization and trade. Rather, it needs only a *comparative advantage*.

The nearby Consider This box provides a simple, two-person illustration of how comparative advantage can lead to gains from specialization and trade even when one trading partner holds an absolute advantage and is therefore more productively efficient than her trading partner in the production of all the goods and services that they both can

[1]Adam Smith, *The Wealth of Nations* (New York: Modern Library, 1937), p. 424. (Originally published in 1776.)

TABLE COI 1.4 Mexico's Production Possibilities Table (in Tons)

	Production Alternatives				
Product	A	B	C	D	E
Avocados	0	20	24	40	60
Soybeans	15	10	9	5	0

TABLE COI 1.5 U.S. Production Possibilities Table (in Tons)

	Production Alternatives				
Product	R	S	T	U	V
Avocados	0	30	33	60	90
Soybeans	30	20	19	10	0

make. Be sure to read the box now, because it will greatly help you understand the tabular analysis that follows.

Comparative Advantage: Production Possibilities Analysis

Our goal is to place the idea of comparative advantage that is illustrated for two individuals in the Consider This box into the context of trading nations. For simplicity, we will assume there are just two nations and two products.

Assumptions and Comparative Costs Suppose the production possibilities for one product in Mexico and for one product in the United States are as shown in Tables COI 1.4 and COI 1.5. Both tables reflect constant costs. Each country must give up a constant amount of one product to secure a certain increment of the other product. (This assumption simplifies our discussion without impairing the validity of our conclusions. Later we will allow for increasing costs.)

Also for simplicity, suppose that the labor forces in the United States and Mexico are of equal size. If the United States and Mexico use their entire (equal-size) labor forces to produce avocados, the United States can produce 90 tons compared with Mexico's 60 tons. Similarly, the United States can produce 30 tons of soybeans compared to Mexico's 15 tons. So output per worker in the United States exceeds that in Mexico in producing both goods, perhaps because of better technology. The United States has an *absolute advantage* (relative to Mexico) in producing both soybeans or avocados.

But gains from specialization and trade between the United States and Mexico are possible even under these circumstances. Specialization and trade are mutually "profitable" to the two nations if the comparative costs of producing the two products *within* the two nations differ. What are the comparative costs of avocados and soybeans in Mexico? By comparing production alternatives A and B in Table COI 1.4, we see that 5 tons of soybeans (= 15 − 10) must be sacrificed to produce 20 tons of avocados (= 20 − 0). Or, more simply, in Mexico it costs 1 ton of soybeans (S) to produce 4 tons of avocados (A); that is, 1S ≡ 4A. (The "≡" sign simply signifies "equivalent to.") Because we assumed constant costs, this domestic opportunity cost will not change as Mexico expands the output of either product. This is evident from production possibilities B and C, where we see that 4 more tons of avocados (= 24 − 20) cost 1 unit of soybeans (= 10 − 9).

CONSIDER THIS . . .

A CPA and a House Painter

Suppose that Madison, a certified public accountant (CPA), is a swifter painter than Mason, the professional painter she is thinking of hiring. Also assume that Madison can earn $50 per hour as an accountant but would have to pay Mason $15 per hour. And suppose that Madison would need 30 hours to paint her house but Mason would need 40 hours.

Should Madison take time from her accounting to paint her own house, or should she hire the painter? Madison's opportunity cost of painting her house is $1500 (= 30 hours of sacrificed CPA time × $50 per CPA hour). The cost of hiring Mason is only $600 (= 40 hours of painting × $15 per hour of painting). Although Madison is better at both accounting and painting, she will get her house painted at lower cost by specializing in accounting and using some of her earnings from accounting to hire a house painter.

Similarly, Mason can reduce his cost of obtaining accounting services by specializing in painting and using some of his income to hire Madison to prepare his income tax forms. Suppose Mason would need 10 hours to prepare his tax return, while Madison could handle the task in 2 hours. Mason would sacrifice $150 of income (= 10 hours of painting time × $15 per hour) to do something he could hire Madison to do for $100 (= 2 hours of CPA time × $50 per CPA hour). By specializing in painting and hiring Madison to prepare his tax return, Mason lowers the cost of getting his tax return prepared.

You will see that what is true for our CPA and house painter is also true for nations. Specializing on the basis of comparative advantage enables nations to reduce the cost of obtaining the goods and services they desire.

TABLE COI 1.6 Comparative-Advantage Example: A Summary

Soybeans	Avocados
Mexico: Must give up 4 tons of avocados to get 1 ton of soybeans	***Mexico:*** Must give up $\frac{1}{4}$ ton of soybeans to get 1 ton of avocados
United States: Must give up 3 tons of avocados to get 1 ton of soybeans	***United States:*** Must give up $\frac{1}{3}$ ton of soybeans to get 1 ton of avocados
Comparative advantage: United States	***Comparative advantage:*** Mexico

Similarly, in Table COI 1.5, comparing U.S. production alternatives R and S reveals that in the United States it costs 10 tons of soybeans (= 30 − 20) to obtain 30 tons of avocados (= 30 − 0). That is, the domestic comparative-cost ratio for the two products in the United States is 1S ≡ 3A. Comparing production alternatives S and T reinforces this conclusion: an extra 3 tons of avocados (= 33 − 30) comes at the sacrifice of 1 ton of soybeans (= 20 − 19).

The comparative costs of the two products within the two nations are obviously different. Economists say that the United States has a domestic comparative advantage or, simply, a **comparative advantage** over Mexico in soybeans. The United States must forgo only 3 tons of avocados to get 1 ton of soybeans, but Mexico must forgo 4 tons of avocados to get 1 ton of soybeans. In terms of domestic opportunity costs, soybeans are relatively cheaper in the United States. A nation has a comparative advantage in some product when it can produce that product at a lower domestic opportunity cost than can a potential trading partner. Mexico, in contrast, has a comparative advantage in avocados. While 1 ton of avocados costs $\frac{1}{3}$ ton of soybeans in the United States, it costs only $\frac{1}{4}$ ton of soybeans in Mexico. Comparatively speaking, avocados are cheaper in Mexico. We summarize the situation in Table COI 1.6. Be sure to give it a close look.

ORIGIN OF THE IDEA
O COI 1.1
Absolute and comparative advantage

Because of these differences in domestic opportunity costs, if both nations specialize, each according to its comparative advantage, each can achieve a larger total output with the same total input of resources. Together they will be using their scarce resources more efficiently.

Terms of Trade

The United States can shift production between soybeans and avocados at the rate of 1S for 3A. Thus, the United States would specialize in soybeans only if it could obtain *more than* 3 tons of avocados for 1 ton of soybeans by trading with Mexico. Similarly, Mexico can shift production at the rate of 4A for 1S. So it would be advantageous to Mexico to specialize in avocados if it could get 1 ton of soybeans for *less than* 4 tons of avocados.

Suppose that through negotiation the two nations agree on an exchange rate of 1 ton of soybeans for $3\frac{1}{2}$ tons of avocados. These **terms of trade** are mutually beneficial to both countries, since each can "do better" through such trade than through domestic production alone. The United States can get $3\frac{1}{2}$ tons of avocados by sending 1 ton of soybeans to Mexico, while it can get only 3 tons of avocados by shifting its own resources domestically from soybeans to avocados. Mexico can obtain 1 ton of soybeans at a lower cost of $3\frac{1}{2}$ tons of avocados through trade with the United States, compared to the cost of 4 tons if Mexico produced the ton of soybeans itself.

Gains from Specialization and Trade

Let's pinpoint the gains in total output from specialization and trade. Suppose that, before specialization and trade, production alternative C in Table COI 1.4 and alternative T in COI 1.5 were the optimal product mixes for the two countries. That is, Mexico preferred 24 tons of avocados and 9 tons of soybeans (Table COI 1.4) and the United States preferred 33 tons of avocados and 19 tons of soybeans (Table COI 1.5) to all other available domestic alternatives. These outputs are shown in column 1 in Table COI 1.7.

Now assume that both nations specialize according to their comparative advantage, with Mexico producing 60 tons of avocados and no soybeans (alternative E) and the United States producing no avocados and 30 tons of soybeans (alternative R). These outputs are shown in column 2 in Table COI 1.7. Using our 1S ≡ $3\frac{1}{2}$A terms of trade,

TABLE COI 1.7 Specialization According to Comparative Advantage and the Gains from Trade (in Tons)

Country	(1) Outputs before Specialization	(2) Outputs after Specialization	(3) Amounts Traded	(4) Outputs Available after Trade	(5) Gains from Specialization and Trade (4) − (1)
Mexico	24 avocados	60 avocados	−35 avocados	25 avocados	1 avocados
	9 soybeans	0 soybeans	+10 soybeans	10 soybeans	1 soybeans
United States	33 avocados	0 avocados	+35 avocados	35 avocados	2 avocados
	19 soybeans	30 soybeans	−10 soybeans	20 soybeans	1 soybeans

assume that Mexico exchanges 35 tons of avocados for 10 tons of U.S. soybeans. Column 3 in Table COI 1.7 shows the quantities exchanged in this trade, with a minus sign indicating exports and a plus sign indicating imports. As shown in column 4, after the trade Mexico has 25 tons of avocados and 10 tons of soybeans, while the United States has 35 tons of avocados and 20 tons of soybeans. Compared with their optimum product mixes before specialization and trade (column 1), *both* nations now enjoy more avocados and more soybeans! Specifically, Mexico has gained 1 ton of avocados and 1 ton of soybeans. The United States has gained 2 tons of avocados and 1 ton of soybeans. These gains are shown in column 5.

Specialization based on comparative advantage improves global resource allocation. The same total inputs of world resources and technology result in a larger global output. If Mexico and the United States allocate all their resources to avocados and soybeans, respectively, the same total inputs of resources can produce more output between them, indicating that resources are being allocated more efficiently.

Through specialization and international trade a nation can overcome the production constraints imposed by its domestic production possibilities table and curve. Our discussion of Tables COI 1.4, COI 1.5, and COI 1.7 has shown just how this is done. The domestic production possibilities data (Tables COI 1.4 and COI 1.5) of the two countries have not changed, meaning that neither nation's production possibilities curve has shifted. But specialization and trade mean that citizens of both countries can enjoy increased consumption (column 5 of Table COI 1.7).

WORKED PROBLEMS

W COI 1.1

Gains from specialization

Finally, we need to emphasize that gains from specialization and trade are *not* dependent on constant opportunity costs such as those in our tables. Even in the more realistic cases of increasing opportunity costs, nations will gain by specializing where they have comparative advantages and by trading with other nations.

But with increasing opportunity costs, the *complete* specialization of wheat in the United States and avocados in Mexico might not happen. Instead, the domestic opportunity cost of producing another unit of wheat in the United States or avocados in Mexico might eventually rise to the point that producing an extra unit domestically will cost more than buying a unit from a foreign producer. Rising opportunity costs thus are a major reason why the United States and other countries often import some of the very same general types of goods that they export. As specialization occurs, a nation's comparative advantage can come to an end and thus its further specialization can come to a halt. Specialization often stops short of being fully complete. Nevertheless, the gains from all specialization to that point are fully realized.

GLOBAL PERSPECTIVE COI 1.2

Exchange Rates: Foreign Currency per U.S. Dollar

The amount of foreign currency that a dollar will buy varies greatly from nation to nation and fluctuates in response to supply and demand changes in the foreign exchange market. The amounts shown here are for April 2010. (You can easily update these exchange rates via *The Wall Street Journal*.)

The Foreign Exchange Market

Buyers and sellers, whether individuals, firms, or nations, use money to buy products or to pay for the use of resources. Within the domestic economy, prices are stated in terms of the domestic currency and buyers use that currency to purchase domestic products. In Mexico, for example, buyers have pesos, and that is what sellers want.

International markets are different. Sellers set their prices in terms of their domestic currencies, but buyers often possess entirely different currencies. How many dollars does it take to buy a truckload of Mexican avocados selling for 3000 pesos, a German automobile selling for 50,000 euros, or a Japanese motorcycle priced at 300,000 yen? Producers in Mexico, Germany, and Japan want payment in pesos, euros, and yen, respectively, so that they can pay their wages, rent, interest, dividends, and taxes.

A **foreign exchange market,** a market in which various national currencies are exchanged for one another, serves this need. The equilibrium prices in such currency markets are called **exchange rates.** An exchange rate is the rate at which the currency of one nation can be exchanged for the currency of another nation. (See Global Perspective COI 1.2.)

The market price or exchange rate of a nation's currency is an unusual price; it links all domestic prices with all foreign prices. Exchange rates enable consumers in one country to translate prices of foreign goods into units of their own currency: They need only multiply the foreign product price by the exchange rate. If the U.S. dollar = yen exchange rate is $.01 (1 cent) per yen, a Sony television set priced at ¥20,000 will cost $200 (= 20,000 × $.01) in the United States. If the exchange rate rises to $.02 (2 cents) per yen, the television will cost $400 (= 20,000 × $.02) in the United States. Similarly, all other Japanese products would double in price to U.S. buyers in response to the altered exchange rate.

Dollar-Yen Market

How does the foreign exchange market work? Let's look briefly at the market for dollars and yen. U.S. firms exporting goods to Japan want payment in dollars, not yen; but the Japanese importers of those U.S. goods possess yen, not dollars. So the Japanese importers supply their yen in exchange for dollars in the foreign exchange market. At the same time, there are U.S. importers of Japanese goods who need to pay the Japanese exporters in yen, not dollars. These importers go to the foreign exchange market as demanders of yen. We then have a market in which the "price" is in dollars and the "product" is yen.

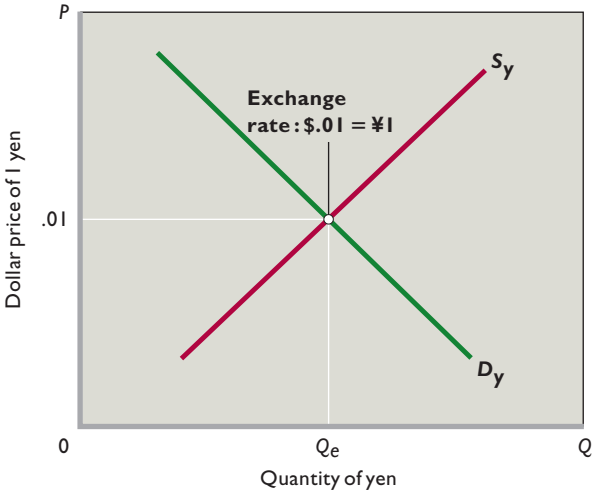
Figure COI 1.3 shows the supply of yen (by Japanese importers) and the demand for yen (by U.S. importers). The intersection of demand curve D_y and supply curve S_y establishes the equilibrium dollar price of yen. Here the equilibrium price of 1 yen—the dollar-yen exchange rate—is 1 cent per yen, or $.01 = ¥1. At this price, the market for yen clears; there is neither a shortage nor a surplus of yen. The equilibrium $.01 price of 1 yen means that $1 will buy 100 yen or ¥100 worth of Japanese goods. Conversely, 100 yen will buy $1 worth of U.S. goods.

INTERACTIVE GRAPHS
G COI 1.1
Exchange rates

Changing Rates: Depreciation and Appreciation

What might cause the exchange rate to change? The determinants of the demand for and supply of yen are similar to the determinants of demand and supply for almost any product. In the United States, several things might increase the demand for—and therefore the dollar price of—yen. For example, incomes might rise in the United States, enabling residents to buy not only more domestic goods but also more Sony televisions, Nikon cameras, and Nissan automobiles from Japan. So people in the United States would need more yen, and the demand for yen would increase. In Figure COI 1.3, the demand curve would shift to the right.

FIGURE COI 1.3 The market for yen. U.S. imports from Japan create a demand D_y for yen, while U.S. exports to Japan (Japan's imports) create a supply S_y of yen. The dollar price of 1 yen—the exchange rate—is determined at the intersection of the supply and demand curves. In this case the equilibrium price is $.01, meaning that 1 cent will buy 1 yen.



A relative increase in interest rates in Japan might have the same general effect. U.S. financial investors might decide to move some of their money to Japanese accounts. They would need more yen then before to accomplish that, thereby shifting the demand curve to the right in Figure COI 1.3.

The point is that an increase in the U.S. demand for either Japanese goods or financial investments will increase the demand for yen and raise the dollar price of yen. Suppose the dollar price of yen rises from $.01 = ¥1 to $.02 = ¥1. When the dollar price of yen increases, we say a **depreciation** of the dollar relative to the yen has occurred. It then takes more dollars (pennies in this case) to buy a single yen. Alternatively stated, the *international value of the dollar* has declined. A depreciated dollar buys fewer yen and therefore fewer Japanese goods; the yen and all Japanese goods have become more expensive to U.S. buyers.

Eventually, changes in exchange rates feed back to alter U.S. imports and exports. With an appreciated yen and a depreciated dollar, consumers in the United States shift their expenditures from Japanese goods to now less expensive American goods. The Ford Escape becomes relatively more attractive than the Honda Civic to U.S. consumers. Conversely, because each yen buys more dollars—that is, because the international value of the yen has increased—U.S. goods become cheaper to people in Japan and U.S. exports to Japan rise.

If the opposite events occurred—if Japanese incomes rose rapidly or U.S. interest rates increased relative to those in Japan—then the Japanese would supply more yen to pay for U.S. goods and to purchase the dollars needed to place money into U.S. financial accounts. In Figure COI 1.3, the supply curve would shift to the right. The increase in the supply of yen relative to the demand for yen would decrease the equilibrium price of yen in the foreign exchange market. For example, the dollar price of yen might decline from \$.01 = ¥1 to \$.005 = ¥1. A decrease in the dollar price of yen is called an **appreciation** of the dollar relative to the yen. It means that the international value of the dollar has increased. It then takes fewer dollars (or pennies) to buy a single yen; the dollar is worth more because it can purchase more yen and therefore more Japanese goods. Each Sony PlayStation becomes less expensive in terms of dollars, so people in the United States purchase more of them. Eventually, the depreciated yen and appreciated dollar would cause U.S. imports from Japan to rise. U.S. exports to Japan would fall because it would take more yen to obtain a dollar.

Whatever the initial cause of the change in the exchange rate, the central point is this: When the dollar depreciates (dollar price of foreign currencies rises), U.S. exports rise and U.S. imports fall; when the dollar appreciates (dollar price of foreign currencies falls), U.S. exports fall and U.S. imports rise.

QUICK REVIEW COI 1.2

- A country has a comparative advantage when it can produce a product at a lower domestic opportunity cost than a potential trading partner can.
- Specialization based on comparative advantage increases the total output available for nations that trade with one another.
- The foreign exchange market (or currency market) is a market in which national currencies are exchanged.
- An appreciation of the dollar is an increase in the international value of the dollar relative to the currency of some other nation; after appreciation a dollar buys more units of that currency. A depreciation of the dollar is a decrease in the international value of the dollar relative to some other currency; after depreciation a dollar buys fewer units of that currency.

Government and Trade

If people and nations benefit from specialization and international exchange, why do governments sometimes try to restrict the free flow of imports or encourage exports? What kinds of world trade barriers can governments erect, and why would they do so?

Trade Impediments and Subsidies

There are four means by which governments commonly interfere with free trade:

- **Protective tariffs** are excise taxes or duties placed on imported goods. Protective tariffs are designed to shield domestic producers from foreign competition. They impede free trade by causing a rise in the prices of imported goods, thereby shifting demand toward domestic products. An excise tax on imported shoes, for example, would make domestically produced shoes more attractive to consumers.
- **Import quotas** are limits on the quantities or total value of specific items that may be imported. Once a quota is "filled," further imports of that product are choked off. Import quotas are more effective than tariffs in retarding international commerce. With a tariff, a product can go on being imported in large quantities; with an import quota, however, all imports are prohibited once the quota is filled.
- **Nontariff barriers** (and, implicitly, *nonquota* barriers) include onerous licensing requirements, unreasonable standards pertaining to product quality, or simply bureaucratic hurdles and delays in customs procedures. Some nations require that importers of foreign goods obtain licenses and then restrict the number of licenses issued. Although many nations carefully inspect imported agricultural products to prevent the introduction of potentially harmful insects, some countries use lengthy inspections to impede imports.
- **Export subsidies** consist of government payments to domestic producers of export goods. By reducing production costs, the subsidies enable producers to charge lower prices and thus to sell more exports in world markets. Two examples: Some European governments have heavily subsidized Airbus Industries, a European firm that produces commercial aircraft. The subsidies help Airbus compete against the American firm Boeing. The United States and other nations have subsidized domestic farmers to boost the domestic food supply. Such subsidies have lowered the market price of food and have artificially lowered export prices on agricultural produce.

Why Government Trade Interventions?

In view of the benefits of free trade, what accounts for the impulse to impede imports and boost exports through government policy? There are several reasons—some legitimate, most not.

Misunderstanding the Gains from Trade

It is a commonly accepted myth that the greatest benefit to be derived from international trade is greater domestic employment in the export sector. This suggests that exports are "good" because they increase domestic employment, whereas imports are "bad" because they deprive people of jobs at home. Actually, the true benefit created by international trade is the overall increase in output obtained through specialization and exchange. A nation can fully employ its resources, including labor, with or without international trade. International trade, however, enables society to use its resources in ways that increase its total output and therefore its overall well-being.

A nation does not need international trade to operate *on* its production possibilities curve. A closed (nontrading) national economy can have full employment without international trade. However, through world trade an economy can reach a point of consumption *beyond* its domestic production possibilities curve. The gain from trade is the extra output obtained from abroad—the imports obtained for a lower opportunity cost than if they were produced at home.

Political Considerations

While a nation as a whole gains from trade, trade may harm particular domestic industries and particular groups of resource suppliers. In our earlier comparative-advantage example, specialization and trade adversely affected the U.S. avocado industry and the Mexican soybean industry. Those industries might seek to preserve their economic positions by persuading their respective governments to protect them from imports—perhaps through tariffs or import quotas.

Those who directly benefit from import protection are few in number but have much at stake. Thus, they have a strong incentive to pursue political activity to achieve their aims. However, the overall cost of tariffs and quotas typically greatly exceeds the benefits. It is not uncommon to find that it costs the public $200,000 or more a year to protect a domestic job that pays less than one-fourth that amount. Moreover, because these costs are buried in the price of goods and spread out over millions of citizens, the cost borne by each individual citizen is quite small. In the political arena, the voice of the relatively few producers demanding *protectionism* is loud and constant, whereas the voice of those footing the bill is soft or nonexistent.

Indeed, the public may be won over by the apparent plausibility ("Cut imports and prevent domestic unemployment") and the patriotic ring ("Buy American!") of the protectionist arguments. The alleged benefits of tariffs are immediate and clear-cut to the public, but the adverse effects cited by economists are obscure and dispersed over the entire economy. When political deal-making is added in—"You back tariffs for the apparel industry in my state, and I'll back tariffs on the auto industry in your state"—the outcome can be a network of protective tariffs, import quotas, and export subsidies.

CONSIDER THIS . . .

Buy American?

Will "buying American" make Americans better off? No, says Dallas Federal Reserve economist W. Michael Cox:

> A common myth is that it is better for Americans to spend their money at home than abroad. The best way to expose the fallacy of this argument is to take it to its logical extreme. If it is better for me to spend my money here than abroad, then it is even better yet to buy in Texas than in New York, better yet to buy in Dallas than in Houston . . . in my own neighborhood . . . within my own family . . . to consume only what I can produce. Alone and poor.*

*"The Fruits of Free Trade," Federal Reserve Bank of Dallas, Annual Report 2002, p. 16.

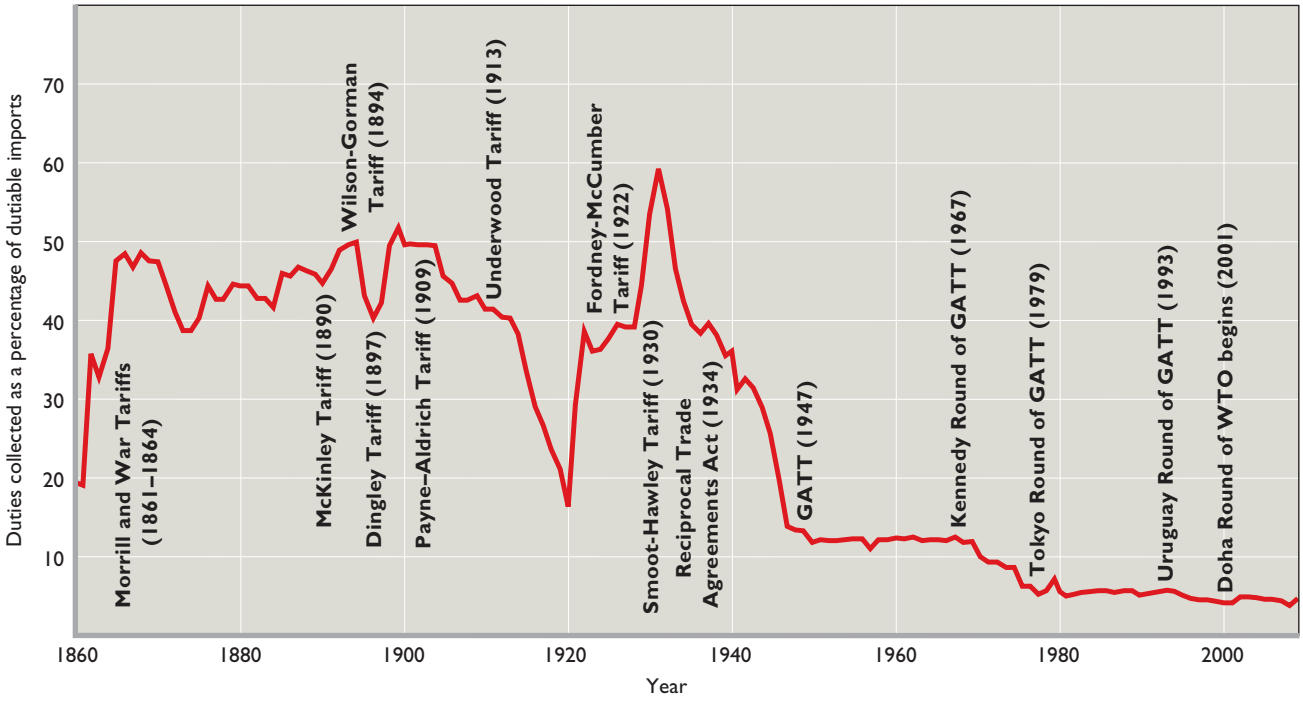
Costs to Society

Tariffs and quotas benefit domestic producers of the protected products, but they harm domestic consumers, who must pay higher-than-world prices for the protected goods. They also hurt domestic firms that use the protected goods as inputs in their production processes. For example, a tariff on imported steel would boost the price of steel girders, thus hurting firms that construct large buildings. Also, tariffs and quotas reduce competition in the protected industries. With less competition from foreign producers, domestic firms may be slow to design and implement cost-saving production methods and introduce new or improved products.

Multilateral Trade Agreements and Free-Trade Zones

When one nation enacts barriers against imports, the nations whose exports suffer may retaliate with trade barriers of their own. In such a *trade war*, escalating tariffs choke world trade and reduce everyone's economic well-being. The **Smoot-Hawley Tariff Act** of 1930 is a classic example.

FIGURE COI 1.4 U.S. tariff rates, 1860–2009. Historically, U.S. tariff rates have fluctuated. But beginning with the Reciprocal Trade Agreements Act of 1934, the trend has been downward.



Source: U.S. Department of Commerce, *FT920 U.S. Merchandise Trade: Selected Highlights,* Monthly, Exhibit 5. (Duty value as a percentage of dutiable exports.)

Although that act was meant to reduce imports and stimulate U.S. production, the high tariffs it authorized prompted adversely affected nations to retaliate with tariffs equally high. International trade fell, lowering the output and income of all nations. Economic historians generally agree that the Smoot-Hawley Tariff Act was a contributing cause of the Great Depression. Aware of that fact, nations have worked to lower tariffs worldwide. Their pursuit of free trade has been aided by powerful domestic interest groups: Exporters of goods and services, importers of foreign components used in "domestic" products, and domestic sellers of imported products all strongly support lower tariffs.

Figure COI 1.4 makes it clear that while the United States was a high-tariff nation over much of its history, U.S. tariffs have generally declined during the past half-century. Today, U.S. tariffs average only 4.7 percent on the imports subject to tariff and more than two-thirds of imports are no longer subject to any tariff at all.

Reciprocal Trade Agreements Act

The **Reciprocal Trade Agreements Act** of 1934 started the downward trend of tariffs. Aimed at reducing tariffs, this act had two main features:

- ***Negotiating authority*** It authorized the president to negotiate with foreign nations agreements that would reduce existing U.S. tariffs by up to 50 percent. Those reductions were contingent on the actions other nations took to lower tariffs on U.S. exports.
- ***Generalized reductions*** The specific tariff reductions negotiated between the United States and any particular nation were generalized through most-favored-nation clauses, which often accompany such agreements. These clauses stipulate that any subsequently reduced U.S. tariffs, resulting from negotiation with any other nation, would apply equally to any nation that signed the original agreement. So if the United States negotiates a reduction in tariffs on wristwatches with, say, France, the lower U.S. tariffs on imported French watches also apply to the imports of the other nations having most-favored-nation status, say, Japan and Switzerland. This way, the reductions in U.S. tariffs automatically apply to many nations.

Today, most-favored-nations status is so common that the U.S. government has renamed it **normal-trade-relations (NTR) status**.

General Agreement on Tariffs and Trade

The Reciprocal Trade Agreements Act provided only bilateral (between two nations) negotiations. Its approach was broadened in 1947 when 23 nations, including the United States, signed the **General Agreement on Tariffs and Trade (GATT).** GATT was based on three principles: (1) equal, nondiscriminatory trade treatment for all member nations; (2) the reduction of tariffs by multilateral negotiation; and (3) the elimination of import quotas. Basically, GATT provided a forum for the negotiation of reduced trade barriers on a multilateral basis among nations.

Since the Second World War, member nations have completed eight "rounds" of GATT negotiations to reduce trade barriers. The eighth round of negotiations began in Uruguay in 1986. After seven years of complex discussions, in 1993 the 128 member nations reached a new agreement. The *Uruguay Round* agreement took effect on January 1, 1995, and its provisions were phased in through 2005.

Under this agreement, tariffs on thousands of products were eliminated or reduced, with overall tariffs dropping by 33 percent. The agreement also liberalized government rules that in the past impeded the global market for such services as advertising, legal services, tourist services, and financial services. Quotas on imported textiles and apparel were phased out and replaced with tariffs. Other provisions reduced agricultural subsidies paid to farmers and protected intellectual property (patents, trademarks, copyrights) against piracy.

World Trade Organization

The Uruguay Round agreement established the **World Trade Organization (WTO)** as GATT's successor. Some 153 nations belonged to the WTO in 2010. The WTO oversees trade agreements reached by the member nations and rules on trade disputes among them. It also provides forums for further rounds of trade negotiations. The ninth and latest round of negotiations—the **Doha Development Agenda**—was launched in Doha, Qatar, in late 2001. (The trade rounds occur over several years in several venues but are named after the city or country of origination.) The negotiations are aimed at further reducing tariffs and quotas, as well as agricultural subsidies that distort trade. One of this chapter's Web-based questions asks you to update the progress of the Doha negotiations.

GATT and the WTO have been positive forces in the trend toward liberalized world trade. The trade rules agreed upon by the member nations provide a strong and necessary bulwark against the protectionism called for by the special-interest groups in the various nations.

For that reason and others, the WTO is controversial. Critics are concerned that rules crafted to expand international trade and investment enable firms to circumvent national laws that protect workers and the environment. What good are minimum-wage laws, worker safety laws, collective bargaining rights, and environmental laws if firms can easily shift their production to nations that have weaker laws or consumers can buy goods produced in those countries?

Proponents of the WTO respond that labor and environmental protections should be pursued directly in nations that have low standards and via international organizations other than the WTO. These issues should not be linked to the process of trade liberalization, which confers widespread economic benefits across nations. Moreover, say proponents of the WTO, many environmental and labor concerns are greatly overblown. Most world trade is among advanced industrial countries, not between them and countries that have lower environmental and labor standards. Moreover, the free flow of goods and resources raises output and income in the developing nations. Historically, such increases in living standards have eventually resulted in stronger, not weaker, protections for the environment and for workers.

The European Union

Countries have also sought to reduce tariffs by creating regional *free-trade zones*—also called *trade blocs*. The most dramatic example is the **European Union (EU),** formerly called the European Economic Community. Initiated in 1958 as the Common Market, in 2003 the EU comprised 15 European nations—Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. In 2004, the EU expanded by 10 additional European countries—Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia. In 2007, the addition of Bulgaria and Romania expanded the EU to its present size of 27 nations.

The EU Trade Bloc

The EU has abolished tariffs and import quotas on nearly all products traded among the participating nations and established a common system of tariffs applicable to all goods received from nations outside the EU. It has also liberalized the movement of capital and labor within the EU and has created common policies in other economic matters of joint concern such as agriculture, transportation, and business practices. The EU is now a strong **trade bloc:** a group of countries having common identity, economic interests, and trade rules.

EU integration has achieved for Europe what the U.S. constitutional prohibition on tariffs by individual

states has achieved for the United States: increased regional specialization, greater productivity, greater output, and faster economic growth. The free flow of goods and services has created large markets for EU industries. The resulting economies of large-scale production have enabled these industries to achieve much lower costs than they could have achieved in their small, single-nation markets.

The effects of EU success on nonmember nations such as the United States have been mixed. A peaceful and increasingly prosperous EU makes its members better customers for U.S. exports. But U.S. firms and other nonmember firms have been faced with tariffs and other barriers that make it difficult for them to compete against firms within the EU trade bloc. For example, autos produced in Germany and sold in Spain or France face no tariffs, whereas U.S. and Japanese autos exported to EU countries do. This puts U.S. and Japanese firms at a serious disadvantage.

By giving preferences to countries within their free-trade zone, trade blocs such as the EU tend to reduce their members' trade with non-bloc members. Thus, the world loses some of the benefits of a completely open global trading system. Eliminating that disadvantage has been one of the motivations for liberalizing global trade through the World Trade Organization. Those liberalizations apply equally to all nations that belong to the WTO.

The Euro One of the most significant accomplishments of the EU was the establishment of the so-called Euro Zone in the early 2000s. As of 2010, 16 members of the EU (Austria, Belgium, Cyprus, Germany, Greece, Ireland, Finland, France, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovenia, Slovakia, and Spain) use the euro as a common currency. Notably, the United Kingdom, Denmark, and Sweden have opted not to use the common currency, at least for now. But gone are French francs, German marks, Italian liras, and other national currencies that were once used by Euro Zone countries.

Economists expect the adoption of the euro to raise the standard of living of the Euro Zone members over time. By ending the inconvenience and expense of exchanging currencies, the euro has enhanced the free flow of goods, services, and resources among the Euro Zone members. International trade among the member nations has increased by roughly 10 percent, with much of that increase happening because companies that previously sold products in only one or two European countries have now found it easier to market and sell their wares in all 16 Euro Zone countries. The euro has also allowed consumers and businesses to comparison shop for outputs and inputs, and this capability has increased competition, reduced prices, and lowered costs.

North American Free Trade Agreement

In 1993 Canada, Mexico, and the United States formed a major trade bloc. The **North American Free Trade Agreement (NAFTA)** established a free-trade zone that has about the same combined output as the EU but encompasses a much larger geographic area. NAFTA has eliminated tariffs and other trade barriers between Canada, Mexico, and the United States for most goods and services.

Critics of NAFTA feared that it would cause a massive loss of U.S. jobs as firms moved to Mexico to take advantage of lower wages and weaker regulations on pollution and workplace safety. Also, they were concerned that Japan and South Korea would build plants in Mexico and transport goods tariff-free to the United States, further hurting U.S. firms and workers.

In retrospect, critics were much too pessimistic. Since the passage of NAFTA in 1993, employment in the United States has increased by more than 20 million workers. Increased trade among Canada, Mexico, and the United States has enhanced the standard of living in all three countries.

Trade-Related Issues

Although trade liberalization and increased international trade raise total output and income, they often disrupt existing patterns of production and resource allocations. Such disruptions can be highly painful to certain industries, firms, and workers in the countries affected. Little wonder, then, that international trade generates media and political controversy. The arguments for special trade protections are examined in a later chapter. Here, we examine two other trade-related issues that are in the news: trade adjustment assistance and offshoring of jobs. (In this chapter's Last Word, we examine another trade-related issue: fair-trade products.)

Trade Adjustment Assistance

A nation's comparative advantage in the production of a certain product is not fixed forever. As national economies evolve, the size and quality of their labor forces may change; the volume and composition of their capital stocks may shift; new technologies may emerge; and even the quality of land and the quantity of natural resources may be altered. As these changes take place, the relative efficiency with which a nation can produce specific goods will also change. Also, new trade agreements such as those we have discussed can suddenly leave formerly protected industries highly vulnerable to major disruption or even collapse.

LAST Word Fair-Trade Products

As a College Student, You May Be Aware of Fair-Trade-Certified Products Such as Those Offered at Starbucks. On Some Campuses, Proponents of Fair-Trade Consumption Are Highly Active in Encouraging Fellow Students To Purchase Only Fair-Trade Goods. What Is Fair Trade All About? And How Effective Is it as an Economic Development Strategy?

Imports of goods by high-income nations from low-income nations increase the demand for labor in low-income nations. Other things equal, increases in labor demand raise wages and incomes. Some observers, however, conclude that the benefits that low-income countries derive from increased production—especially increased exports of agricultural commodities—accrue mainly to large corporations in those countries, some of which are owned by shareholders from high-income nations. Because workers in many low-income countries are highly immobile, have few employment options, and are not unionized, the large dominant sellers can supposedly keep an undeservedly large portion of the proceeds from added exports for themselves (in the form of profits) while simultaneously denying a fair share to their workers (by keeping wages low).

To counter this purported problem, consumer organizations in some of the high-income countries have tried to bypass the usual distribution channels and buy imported goods directly from producers or producer cooperatives that agree to *fair-trade standards*. Such standards guarantee the producers higher-than-market prices if they agree to pay their workers higher-than-market wages and to abide by rules regarding working conditions and workplace safety. Producers and products that meet the fair-trade standards are certified as fair-trade employers and fair-trade products. Fair-trade advocates in the rich nations then strongly urge consumers to purchase products—for example, coffee, wine, bananas, tea, fresh fruit, and cocoa—only from certified fair-trade producers. When pressure is sufficient, some corporate buyers of these products conclude that it may be more profitable to provide fair-trade products to customers than to risk being labeled an exploiter of third-world labor. Because of the higher-than-market prices and wages, fair-trade goods usually are more expensive than noncertified products.

In economic terms, the purpose of the fair-trade movement is to redistribute more of the total gains from international trade directly to low-income producers and workers by increasing the demand for fair-trade imports relative to otherwise identical imports.

Do these efforts succeed? Economists agree that some of the efforts of fair-trade advocates have succeeded in channeling sizable purchases away from otherwise identical substitutes and toward fair-trade goods. These increases in the demand for

Shifts in patterns of comparative advantage and removal of trade protection can hurt specific groups of workers. For example, the erosion of the United States' once strong comparative advantage in steel has caused production plant shutdowns and layoffs in the U.S. steel industry. The textile and apparel industries in the United States face similar difficulties. Clearly, not everyone wins from free trade (or freer trade). Some workers lose.

The **Trade Adjustment Assistance Act** of 2002 introduced some new, novel elements to help those hurt by shifts in international trade patterns. The law provides cash assistance (beyond unemployment insurance) for up to 78 weeks for workers displaced by imports or plant relocations abroad. To obtain the assistance, workers must participate in job searches, training programs, or remedial education. Also provided are relocation allowances to help displaced workers move geographically to new jobs within the United States. Refundable tax credits for health insurance serve as payments to help workers maintain their insurance coverage during the retraining and job search period. Workers who are 50 years of age or older are eligible for "wage insurance," which replaces some of the difference in pay (if any) between their old and new jobs. Many economists support trade adjustment assistance because it not only helps workers hurt by international trade but also helps create the political support necessary to reduce trade barriers and export subsidies.

But not all economists are keen on trade adjustment assistance. Loss of jobs from imports or plant relocations abroad is only a small fraction (about 4 percent in recent years) of total job losses in the economy each year. Many workers also lose their jobs because of changing patterns of demand, changing technology, bad management, and other dynamic aspects of a market economy. Some critics ask, "What makes losing one's job to international trade worthy of such special treatment, compared to losing one's

fair-trade goods, in turn, have increased the demand for the labor used to produce those goods. So, the fair-trade strategy "has worked" insofar as it has raised prices and wages for *some* sellers and *some* workers in low-wage countries—namely those involved with fair-trade programs.

Nevertheless, most economists question the overall effectiveness of the fair-trade approach as a broader economic development strategy. They say that price and wage setting by advocacy groups is based on highly subjective views of fairness that may be at odds with economic realities. Distortions of market prices and wages invite inefficiency and unintended consequences. For example, the higher fair-trade prices may encourage resources to remain producing the fair-trade products long after normal supply and demand circumstances would have encouraged them to move to more productive employment in other parts of agriculture or in manufacturing or services.

The consensus among economists is that fair-trade purchasing in the high-income nations has simply shifted labor demand within and among low-wage countries. Fair trade has not increased the *overall* labor demand nor the average pay of workers in low-wage nations. Sustainable increases in average pay require economywide gains in labor productivity—output per hour of work. Unfortunately, fair-trade purchasing does not accomplish that. Economywide gains in productivity and wages require improvements in the quantity and quality of education, more and improved capital goods, and the use of more efficient technology.

Some economists say that other action by people in high-income nations might benefit the low-income nations more effectively than fair-trade purchasing. For example, pressing for the removal of agricultural subsidies in high-income areas such as the United States and the European Union would reduce the overproduction of agricultural output that floods international markets and depresses international agricultural prices. Those low prices impoverish farmers in low-wage nations and encourage them to concentrate their efforts in producing agricultural commodities that are not produced in the wealthy countries and therefore are unsubsidized. In a sense, the low-wage countries get stuck overproducing low-profit agricultural commodities such as coffee, bananas, and cocoa—keeping those prices artificially low. Ironically, those very low prices (and the low agricultural wages that result) are precisely what the fair-trade movement tries to increase.

job to, say, technological change or domestic competition?" Economists can find no totally satisfying answer.

Offshoring of Jobs

Not only are some U.S. jobs lost because of international trade, but some are lost because of globalization of resource markets. In recent years U.S. firms have found the outsourcing of work abroad increasingly profitable. Economists call this business activity **offshoring:** shifting work previously done by American workers to workers located in other nations. Offshoring is not a new practice but traditionally has involved components for U.S. manufacturing goods. For example, Boeing has long offshored the production of major airplane parts for its "American" aircraft.

Recent advances in computer and communications technology have enabled U.S. firms to offshore service jobs such as data entry, book composition, software coding, call-center operations, medical transcription, and claims processing to countries such as India. Where offshoring occurs, some of the value added in the production process accrues to foreign countries rather than the United States. So part of the income generated from the production of U.S. goods is paid to foreigners, not to American workers.

Offshoring is a wrenching experience for many Americans who lose their jobs, but it is not necessarily bad for the overall economy. Offshoring simply reflects a growing specialization and international trade in services, or, more descriptively, "tasks." That trade has been made possible by recent trade agreements and new information and communication technologies. As with trade in goods, trade in services reflects comparative advantage and is beneficial to both trading parties. Moreover, the United States has a sizable trade surplus with

other nations in services. The United States gains by specializing in high-valued services such as transportation services, accounting services, legal services, and advertising services, where it still has a comparative advantage. It then "trades" to obtain lower-valued services such as call-center and data entry work, for which comparative advantage has gone abroad.

Offshoring also increases the demand for complementary jobs in the United States. Jobs that are close substitutes for existing U.S. jobs are lost, but complementary jobs in the United States are expanded. For example, the lower price of writing software code in India may mean a lower cost of software sold in the United States and abroad. That, in turn, may create more jobs for U.S.-based workers such as software designers, marketers, and distributors. Moreover, the offshoring may encourage domestic investment and expansion of firms in the United States by reducing their production costs and keeping them competitive worldwide. In some instances, "offshoring jobs" may equate to "importing competitiveness." Entire firms that might otherwise disappear abroad may remain profitable in the United States only because they can offshore some of their work.

QUICK REVIEW COI 1.3

- Governments curtail imports and promote exports through protective tariffs, import quotas, nontariff barriers, and export subsidies.
- The General Agreement on Tariffs and Trade (GATT) established multinational reductions in tariffs and import quotas. The Uruguay Round of GATT (1993) reduced tariffs worldwide, liberalized international trade in services, strengthened protections for intellectual property, and reduced agricultural subsidies.
- The World Trade Organization (WTO)—GATT's successor—rules on trade disputes and provides forums for negotiations on further rounds of trade liberalization. The current round is called the Doha Round.
- The European Union (EU) and the North American Free Trade Agreement (NAFTA) have reduced internal trade barriers among their members by establishing large free-trade zones. Of the 27 EU members (as of 2010), 16 countries used the euro as a common currency.
- Increased international trade and offshoring of jobs have harmed some specific U.S. workers and have led to policies such as trade adjustment assistance to try to help them with their transitions to new lines of work.

Global Competition

Globalization—the integration of industry, commerce, communication, travel, and culture among the world's nations—is one of the major trends of our time. There is a lively debate internationally as to whether globalization is a positive or negative force. Those who support globalization focus on the improvements to general standards of living that it brings. Those who oppose it express concerns about its impacts on the environment, unionized workers, and the poor.

One thing about globalization is certain and relevant to our present discussion: It has brought intense competition both within the United States and across the globe. In the United States, imports have gained major shares of many markets, including those for cars, steel, lumber, car tires, clothing, sporting goods, electronics, and toys. Nevertheless, hundreds of U.S. firms have prospered in the global marketplace. Firms such as Apple, Boeing, McDonald's, Intel, Coca-Cola, Starbucks, Microsoft, Monsanto, Procter & Gamble, and Caterpillar have continued to retain high market shares at home and have dramatically expanded their sales abroad. Of course, not all firms have been successful. Some have not been able to compete, because their international competitors make higher-quality products, have lower production costs, or both.

Is the heightened competition that accompanies the global economy a good thing? Although some domestic producers *do* get hurt and their workers must find employment elsewhere, foreign competition clearly benefits consumers and society in general. Imports break down the monopoly power of existing firms, thereby lowering product prices and providing consumers with a greater variety of goods. Foreign competition also forces domestic producers to become more efficient and to improve product quality; that has already happened in several U.S. industries, including steel and autos. Most U.S. firms can and do compete quite successfully in the global marketplace.

What about the U.S. firms that cannot compete successfully in open markets? The unfortunate reality is that they must sell off production facilities, scale back their operations, and try to develop new products. If they remain unprofitable despite their best efforts, they will need to go out of business. Persistent economic losses mean that scarce resources are not being used efficiently. Shifting those resources to alternative, profitable uses will increase total U.S. output. It will be far less expensive for the United States to provide training and, if necessary, relocation assistance to laid-off workers than to try to protect these jobs from foreign competition.

Summary

1. Goods and services flows, capital and labor flows, information and technology flows, and financial flows link the United States and other countries.
2. International trade is growing in importance globally and for the United States. World trade is significant to the United States in two respects: (a) The combined volumes of U.S. imports and exports exceed those of any other single nation. (b) The United States is completely dependent on trade for certain commodities and materials that cannot be obtained domestically.
3. Principal U.S. exports include agricultural products, chemicals, metals, and aircraft. Principal imports include oil, household appliances, apparel, and computers. Quantitatively, Canada is the United States' most important trading partner in terms of the total amounts of exports and imports.
4. Global trade has been greatly facilitated by (a) improvements in transportation technology, (b) improvements in communications technology, and (c) general declines in tariffs. The world's major trading nations by volume of trade are China, Germany, the United States, and Japan. Other major traders include other western European nations (France, the Netherlands, Italy, and the United Kingdom), along with Canada and the east and southeast Asian countries of South Korea, Taiwan, and Singapore.
5. Specialization based on comparative advantage enables nations to achieve higher standards of living through trade with other countries. A trading partner should specialize in products and services for which its domestic opportunity costs are lowest. The terms of trade must be such that both nations can obtain a product via trade at less opportunity costs than if they produced that product at home. Because of rising opportunity costs, domestic production may stop short of complete specialization.
6. The foreign exchange market sets exchange rates between currencies. Each nation's imports create a supply of its own currency and a demand for foreign currencies. The resulting supply-demand equilibrium sets the exchange rate that links the currencies of all nations. Depreciation of a nation's currency reduces its imports and increases its exports; appreciation increases its imports and reduces its exports.
7. Governments influence trade flows through (a) protective tariffs, (b) quotas, (c) nontariff barriers, and (d) export subsidies. Such impediments to free trade result from misunderstandings about the advantages of free trade and from political considerations. By artificially increasing product prices, trade barriers cost U.S. consumers billions of dollars annually.
8. The Reciprocal Trade Agreements Act of 1934 marked the beginning of a trend toward lower U.S. tariffs. In 1947 the General Agreement on Tariffs and Trade (GATT) was formed to encourage nondiscriminatory treatment for all member nations, to reduce tariffs, and to eliminate import quotas. The Uruguay Round of GATT negotiations (1993) reduced tariffs and quotas, liberalized trade in services, reduced agricultural subsidies, reduced pirating of intellectual property, and phased out quotas on textiles.
9. GATT's successor, the World Trade Organization (WTO), has 153 member nations. It implements WTO agreements, rules on trade disputes between members, and provides forums for continued discussions on trade liberalization. The latest round of trade negotiations—the Doha Development Agenda—began in late 2001 and as of mid-2010 was still in progress.
10. Free-trade zones (trade blocs) liberalize trade within regions but may at the same time impede trade with non-bloc members. Two examples of free-trade arrangements are the 27-member European Union (EU) and the North American Free Trade Agreement (NAFTA), comprising Canada, Mexico, and the United States. Sixteen of the EU nations have abandoned their national currencies for a common currency called the euro.
11. The Trade Adjustment Assistance Act of 2002 recognizes that trade liberalization and increased international trade can create job loss for many workers. The Act therefore provides cash assistance, education and training benefits, health care subsidies, and wage subsidies (for persons age 50 or older) to qualified workers displaced by imports or relocations of plants from the United States to abroad.
12. Offshoring is the practice of shifting work previously done by Americans in the United States to workers located in other nations. Although offshoring reduces some U.S. jobs, it lowers production costs, expands sales, and therefore may create other U.S. jobs. Less than 4 percent of all job losses in the United States each year are caused by imports, offshoring, and plant relocation abroad.
13. The global economy has created intense foreign competition in many U.S. product markets, but many U.S. firms are able to compete successfully abroad as well as at home.

Terms and Concepts

comparative advantage
terms of trade
foreign exchange market
exchange rates
depreciation
appreciation
protective tariffs
import quotas
nontariff barriers

export subsidies
Smoot-Hawley Tariff Act
Reciprocal Trade Agreements Act
normal-trade-relations (NTR) status
General Agreement on Tariffs and Trade (GATT)
World Trade Organization (WTO)
Doha Development Agenda
European Union (EU)
trade bloc
euro
North American Free Trade Agreement (NAFTA)
Trade Adjustment Assistance Act
offshoring

Questions

1. Describe the four major types of economic flows that link the United States with other nations. Provide a specific example of each type of flow. LO1
2. How important is international trade to the U.S. economy? In terms of the total volume of exports and imports, what country is the United States' most important trading partner? Was the United States the world's leading export country in 2009? If not, which country was? Place the following four countries in descending order in terms of exports as a percentage of GDP: the United States, Belgium, Canada, and Japan. What key factors account for the rapid growth of world trade since the Second World War? LO1
3. What role do domestic opportunity costs play in determining a nation's area of comparative advantage and therefore specialization relative to that of a trading partner? Provide a numerical example (no need for a table) to support your answer. How does specialization and trade reduce a nation's total cost of obtaining products? Why is specialization sometimes incomplete, such that countries import some of the same categories of goods that they export? LO2
4. True or False? "U.S. exports create a demand for foreign currencies; foreign imports of U.S. goods create a supply of foreign currencies." Explain your answer. Would a decline in U.S. consumer income or a weakening of U.S. preferences for foreign products cause the dollar to depreciate or to appreciate? Other things equal, what would be the effects of that depreciation or appreciation on U.S. exports and imports? LO3
5. If the European euro were to decline in value (depreciate) in the foreign exchange market, would it be easier or harder for the French to sell their wine in the United States? Suppose you were planning a trip to Paris. How would depreciation of the euro change the dollar cost of your trip? LO3
6. What measures do governments take to promote exports and restrict imports? Who benefits and who loses from protectionist policies? What is the net outcome for society? LO4
7. Identify and state the significance of each of the following: (*a*) WTO, (*b*) EU, (*c*) euro, (*d*) NAFTA. What commonality do they share? LO5
8. Explain: "Free-trade zones such as the EU and NAFTA lead a double life: They can promote free trade among members, but they pose serious trade obstacles for nonmembers." Do you think the net effects of trade blocs are good or bad for world trade? Why? How do the efforts of the WTO relate to these trade blocs? LO5
9. Speculate as to why some U.S. firms strongly support trade liberalization while other U.S. firms favor protectionism. Why might some U.S. labor unions strongly support trade liberalization while other U.S. labor unions strongly oppose it? LO5
10. What are the major forms of trade adjustment assistance provided by the U.S. government? How does such assistance help bolster support for free-trade agreements? Do you think workers who lose their jobs because of changes in trade laws deserve special treatment relative to workers who lose their jobs because of other changes in the economy, say, changes in patterns of government spending? LO5
11. What is offshoring of white-collar service jobs and how does that practice relate to international trade? Why has it recently increased? Why do you think more than half of all the offshored jobs have gone to India? Give an example (other than that in the textbook) of how offshoring can eliminate some U.S. jobs while creating other U.S. jobs. LO5
12. **LAST WORD** How does a fair-trade product differ from an otherwise identical imported good? What is the purported benefit of fair-trade certification on purchases of goods such as chocolate, coffee, bananas, and tea? Do fair-trade goods improve average wages or incomes in low-income nations? Why or why not?

Problems

1. Suppose that the comparative-cost ratios of two products—baby formula and tuna fish—are as follows in the hypothetical nations of Canswicki and Tunata:

   Canswicki: 1 can baby formula ≡ 2 cans tuna fish
   Tunata: 1 can baby formula ≡ 4 cans tuna fish

   In what product should each nation specialize? Which of the following terms of trade would be acceptable to both nations: (*a*) 1 can baby formula = $2\frac{1}{2}$ cans tuna fish; (*b*) 1 can baby formula = 1 can tuna fish; (*c*) 1 can baby formula = 5 cans tuna fish? LO2

2. The following are production possibilities tables for China and the United States. Assume that before specialization and trade, the optimal product mix for China is alternative B and for the United States it is alternative U. LO2

	China Production Possibilities					
Product	**A**	**B**	**C**	**D**	**E**	**F**
Apparel (in thousands)	30	24	18	12	6	0
Chemicals (in tons)	0	6	12	18	24	30

	U.S. Production Possibilities					
Product	**R**	**S**	**T**	**U**	**V**	**W**
Apparel (in thousands)	10	8	6	4	2	0
Chemicals (in tons)	0	4	8	12	16	20

   a. Are comparative-cost conditions such that the two countries can gain from specialization? If so, what product should each country produce?
   b. What is the total gain in apparel and chemical output that would result from such specialization?
   c. What are the limits of the terms of trade in this example? Suppose that the actual terms of trade are 1 unit of apparel for $1\frac{1}{2}$ units of chemicals and that 4 units of apparel are exchanged for 6 units of chemicals. What are the gains from specialization and trade for each nation?

3. Initially assume that it costs $1.36 to purchase 1 euro. How many euros are needed to buy $1? How many dollars are needed to purchase an item priced at $84 euros? Next, assume that the exchange rate changes to $1.30 per 1 euro. Will it take more euros or fewer euros to buy the American item priced at $84? Did the euro appreciate or depreciate relative to the dollar? Did the dollar appreciate or depreciate relative to the euro? LO3

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