# Chapter 13
## The Global Economy

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Chapter 13: The Global Economy

Do you know how many Philippine Pesos, South African rand, or Peruvian nuevos soles you can get for a United States dollar? No? You might be surprised, if you traveled to one of these countries, to find out that the average person-on-the-street in any city can often easily quote you the going rate between their currency and the United States dollar. People in smaller economies have always been very vulnerable to international economic conditions and hence make it a habit to keep on top of them.

In contrast, because the United States is a large economy and its currency currently dominates the world financial system, people living in the U.S. historically tended to be relatively unaware of global economic conditions. In recent years that has changed. Now international trade and global borrowing and lending have significantly increased in importance, for the United States as well as globally. A large proportion of consumer goods at Wal-Mart or other discount stores come from abroad. The person who responds to your phone inquiry about computer services may be based in a foreign country. International flows of financial capital are less evident to the average person, but are very important in affecting U.S. interest rates and financial markets. Employment patterns have been impacted by foreign trade, and it is hard to miss discussions about the merits and demerits of “globalization.”

1. Macroeconomics in a Global Context

In earlier chapters, we have seen that nations tally up imports and exports in their national accounts (Chapter 5), and that an increase in domestic incomes tends to increase our demand for imports from other countries (Chapter 10). But it is time to get more specific about how national economies are linked together, and the opportunities and problems this creates.

1.1 Global Connections

As discussed in Chapter 5, an economy that has no international linkages is called a closed economy, while one that participates in the global economy is called an open economy. The economic linkages among countries can take many forms, including:

- international trade flows, when goods and services that have been created in one country are sold in another.
- international income flows, when capital incomes (profit, rent, and interest), labor incomes, or transfer payments go from one country to another.
- international transactions in assets, when people trade in financial assets such as foreign bonds or currencies, or make investments in real foreign assets such as businesses or real estate.
- international flows of people, as people migrate from one country to another, either temporarily or permanently.
• international flows of *technological knowledge, cultural products*, and other intangibles, which can profoundly influence patterns of production and consumption, as well as tastes and life-styles.
• international sharing of *common environmental resources*, such as deep-sea fisheries and global climate patterns.
• the institutional environment created by *international monetary institutions, international trade agreements, international military and aid arrangements*, and *banks, corporations, and other private entities that operate at an international scale*.

Any one of these forms of interaction may be crucially important for understanding the macroeconomic experience of specific countries at specific times. Mexico and Turkey, for example, receive significant flows of income from remittances sent home by citizens working abroad. Biological hazards, such as diseases or insects that threaten human health or agriculture, can travel along with people and goods. Trade in “intellectual property” such as technology patents and music copyrights is currently an issue of hot dispute.

Thoroughly describing the international economic system is much too grand a project for one textbook. This chapter will lay out some basics of international trade and international finance, looking briefly at selected international institutions and the question of how global linkages can affect living standards and macroeconomic stabilization. Later chapters will look in more detail at issues of growth and sustainability.

1.2 Major Policy Tools

Governments can try to control the degree of “openness” or “closedness” of their economies through a variety of policy tools. The most drastic way to “close” an economy is to institute a **trade ban**. In theory a country could prohibit all international trade, but this hardly ever happens. More often countries make trade in selected goods illegal, or ban trade with particular countries (such as the United States ban on trade with Cuba). Inspections at the country’s borders, or at hubs of transportation such as airports, are used to enforce a ban.

| **trade ban**: a law preventing the import or export of goods or services |

A less drastic measure is a **trade quota**, which does not eliminate trade, but sets limits on the quantity of a good that can be imported or exported. A quota on imports, by restricting supply, generally raises the price that can be charged for the good within the country. An import quota helps domestic producers by shielding them from lower-price competition. It hurts foreign producers because it limits what they can sell in the domestic market. Foreign producers may, however, get some benefit in the form of extra revenues from the artificially higher price.

| **trade quota**: a restriction on the quantity of a good that can be imported or exported |
A third sort of policy—which has been used very often throughout history—is a **tariff** (or “duty”). Tariffs are taxes charged on imports or exports. Tariffs, like quotas, may serve to reduce trade since they make internationally traded goods more costly to buy or sell. Like quotas, import tariffs benefit domestic producers while raising prices to consumers. Unlike quotas, however, import tariffs provide monetary benefit to the government. Also unlike quotas, tariffs do not give foreign producers an opportunity to increase prices – in fact, foreign producers may be forced to lower prices in order to remain competitive with domestic producers who do not pay the tariff.

| tariffs: taxes put on imports or exports |

The last important major category of trade-related policies—**trade-related subsidies**—may be used to either expand or contract trade. Export subsidies, paid to domestic producers when they market their products abroad, are motivated by a desire to increase the flow of exports. Countries can also use subsidies to promote a policy of **import substitution**, by giving domestic producers extra payments to encourage the production of certain goods for domestic markets, with a goal of reducing the quantity of imports.

| trade-related subsidies: payments given to producers to encourage more production, either for export or as a substitute for imports |
| import substitution: the policy of encouraging domestic producers to make products that can be used in place of imported goods |

Government policies can also influence international capital transactions. Central banks often participate in foreign exchange markets with policy goals in mind (as will be discussed below). Countries sometimes institute **capital controls**, which are restrictions or taxes on transactions in financial assets such as currency, stocks, or bonds, and/or on foreign ownership of domestic assets such as businesses or land. Restrictions on how much currency a person can take out of a country, for example, are one type of capital control. Such controls are usually instituted to try to prevent sudden, destabilizing swings in the movement of financial capital.

| capital controls: the regulation or taxation of international transactions involving assets |

Countries may also regulate the form that foreign business investments can take. Some have required that all business ventures be at least partially owned by domestic investors. Some have required that all traded manufactured goods include at least a given percentage of parts produced by domestically-owned companies. Sometimes such controls are related to a development strategy (see Chapter 14), while in other cases they simply reflect a desire to avoid excessive foreign control of domestic economic affairs.

Some trade polices are enacted to try to attract foreign investment, for example by giving foreign companies tax breaks and other incentives. A popular form of this is the **foreign trade zone**, a designated area of the country within which many tax, tariff, and perhaps regulatory policies that usually apply to manufacturing are not enforced. By
attracting foreign investment, countries may hope to increase employment or gain access to important technologies. A well known example is the \textit{maquiladora} policy in Mexico under which manufacturing plants can import components and produce goods for export free of tariffs.

\begin{itemize}
  \item \textbf{foreign trade zone:} a designated area of a country within which foreign-owned manufacturers can operate free of many taxes, tariffs, and regulations
\end{itemize}

\textbf{Migration controls} are another important aspect of policy. Countries generally impose restrictions on people visiting or moving into their territory, and a few also impose tight regulations on people leaving the country. While beliefs about race, national culture, and population size are often the most obvious influences behind the shaping of these controls, economic concerns also play a role. For example, policies may be affected by concerns about the skill composition of the domestic labor force or the desire to get remittances from out-migrants.

\begin{itemize}
  \item \textbf{migration controls:} restrictions on the flows of people into and out of a country
\end{itemize}

Countries do not necessarily choose sets of policies that consistently lead towards “openness” or consistently towards “closedness.” Often there is a mix—policies are chosen for a wide variety of reasons, and can even run at cross-purposes. Nor do countries choose their policies in a vacuum. Policymakers need to take account of the reactions of foreign governments to their policies. Increasingly they also need to pay attention to whether their policies are in compliance with international agreements.

1.3 Patterns of Trade and Finance

International trade has grown immensely in recent years. Sometimes the sum of a country’s imports and exports of goods and services, measured as a percent of GDP, is used as a measure of an economy’s “openness.” Growth in trade according to this measure is shown in Figure 13.1, for the years 1965-2003.\footnote{While it might be tempting to interpret this measure as "the part of GDP that is traded," that is not correct. Recall that only net exports (that is, exports minus imports) is a component of GDP. This measure of "openness" (exports plus imports, divided by GDP), on the other hand, can even exceed 100% for countries very active in trade. The purpose of expressing the volume of total trade as a percent of GDP is simply to control for the overall growth of production over time.} While trade still remains relatively less important in the United States than in other countries, its importance has been increasing here as well.

Why has trade grown over time? One reason is improvements in transportation technology. The costs and time lags involved in shipping products by air, for example, are far reduced now from what they were in 1950. Fruit from Chile and flowers from Colombia are now flown into the U.S. every day—and are still fresh when they arrive. A second reason for increased trade is advances in telecommunications. The infrastructure for communication by phone, fax, and computer has improved dramatically, making it
much easier for businesses to communicate with potential overseas suppliers and customers. Apparel companies in New York, for example, can communicate details about styles and sizes to their foreign suppliers almost instantaneously. Better telecommunications even make it possible for some kinds of services such as customer support to be directly imported from, for example, call centers in India. Thirdly, many governments have, over time, lowered their tariffs and other barriers to trade.

![Graph showing trade as a percentage of GDP from 1965 to 2000 for the world and the United States.](image)

Figure 13.1 Trade Expressed as a Percentage of Production, World and United States, 1965-2003

*The worldwide volume of trade, expressed as a percentage of GDP, has been increasing over the past four decades. While the United States remains less “open” than many economies, trade has become more important here as well.*


Figure 13.2 shows the volume of exports that the U.S. sells to the top ten buyers of its goods, and the volume of its imports that come from the top ten countries which sell to it. Historically the near neighbors of the U.S.—Canada and Mexico—have been very important trading partners. Various western European economies, and Japan after it industrialized have also, not surprisingly, played a strong role. For political reasons the U.S. government has historically encouraged trade with certain strategic allies, including South Korea and Taiwan, explaining their presence among the major trading partners.

The biggest development in recent years has been the emergence of The Peoples Republic of China as a major source of U.S. imports. Until about 1980, U.S. trade with China was negligible. Since then, U.S. importation of Chinese products—especially electronics (including computers and televisions), clothing, toys, and furniture—has boomed. While China buys some U.S. goods (including agricultural products and aircraft), the value of U.S. imports from China far exceeds the value of U.S. exports to China.
The United States' neighbors, Canada and Mexico have long been among its major trading partners. But China has been an increasingly important source of merchandise imports.


The volume of global financial transactions has also exploded in recent years. For example, foreign exchange flows in 2004 had average volumes of about $1.9 trillion—per day. This is a daily figure of nearly $300 per person on earth. The volume in 2004 was over a third higher than it had been only three years earlier.

1.4 Controversies about Trade and Finance

Is greater openness to international trade and finance a good thing, or a bad thing? You have probably heard arguments in the media about how globalization can “destroy” jobs by causing industries to move overseas. Many people feel that when capital moves too freely, interests of local communities and the environment can suffer. On the other hand, many commentators—with a number of economists often among them—argue that
globalization is a good thing. While a few people may end up having to suffer temporary losses, they say, a more integrated global economy will bring greater overall benefits.

In the next section, we will describe the basic logic behind the story that free trade, by creating efficiencies in production and allocation that countries could not achieve on their own, leads to better living standards. Then we will examine the many other issues that may cause countries to maintain trade barriers, at least in regards to some goods and services.

Discussion Questions

1. How do international linkages affect your own life? Can you give examples of the sorts linkages listed in Section 1.1 that have had direct effects on you or your family?

2. Production of apparel has been widely globalized in recent years. Before going to class, check the labels on a number of items of clothing you own. What countries are represented?

2. The Case for “Free Trade”

Economists and policymakers have argued for centuries about whether it is better for a country to engage in free trade with other countries, or to limit trade using the policy tools discussed earlier. Many economic theorists argue for a “free trade” position, using the Ricardian model of trade to argue that a country that engages in trade can reap significant welfare gains. David Ricardo, in On the Principles of Political Economy and Taxation (1817), presented a simple model that showed how national specialization in the production of one of two goods, followed by exchange of the two goods across national boundaries, could allow two countries to achieve levels of consumption that would be impossible on their own. In this section, we present Ricardo’s basic model, along with other arguments for free trade.

**free trade:** exchange in international markets that is not regulated or restricted by government actions

**Ricardian model of trade:** A two-good, two-country model, created by David Ricardo in 1817, that shows both countries gaining from specialization and trade

2.1 The Ricardian Model

Ricardo used the example of two goods—wine and cloth—and two countries, Portugal and England. England has a relatively cool and cloudy climate that makes it ill-suited for grape-growing. Portugal, meanwhile, has a relatively warm and sunny climate, good for grapes.

Suppose that, given its resources, Portugal can produce a maximum of 200 units of wine, if it devotes all its resources to wine, or 100 units of cloth, if it devotes all of its
resources to cloth. (A “unit” is just a specified amount, for example 1,000 bottles of wine, or 1,000 bolts of cloth – we use this terminology to keep the example numerically simple). This is illustrated in Figure 13.3, using a Production Possibility Frontier (as introduced in Chapter 2), along with the simplifying assumption that production has constant returns (so the frontier is just a straight line). Meanwhile, England can produce a maximum of 200 units of wine or 400 units of cloth, as illustrated in Figure 13.4

But suppose that the Portuguese would like to be able to consume 100 units of wine and 100 units of cloth, as represented by point A in Figure 13.3, and the English would like to be able to consume 100 units of wine and 300 units of cloth, represented by point B in Figure 13.4. As we can see, if each relies only on its own production possibilities, points A and B are unachievable.

**Figure 13.3 Portugal’s Production Possibilities Frontier**

*Portugal can produce 200 units of wine if it specializes in wine, or 100 units of cloth, if it specializes in cloth. Or it can produce any combination on the line between these two points. It would like to consume, however, a larger bundle—represented by point A.*
England can produce 200 units of wine if it specializes in wine, or 400 units of cloth, if it specializes in cloth. Or it can produce any combination on the line between these two points. It would like to consume, however, a larger bundle—represented by point B.

But suppose that Portugal specialized in producing wine, while England specialized in cloth production. This production combination is illustrated in the Production section of Table 13.1 and by points C and D in Figures 13.3 and 13.4. Total production would be 200 units of wine, and 400 units of cloth.

Table 13.1 Production, Exchange, and Consumption of Wine and Cloth

<table>
<thead>
<tr>
<th>Production</th>
<th>Wine</th>
<th>Cloth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal</td>
<td>200</td>
<td>0</td>
</tr>
<tr>
<td>England</td>
<td>0</td>
<td>400</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>200</strong></td>
<td><strong>400</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exchange</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal</td>
<td>sell 100</td>
<td>buy 100</td>
</tr>
<tr>
<td>England</td>
<td>buy 100</td>
<td>sell 100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consumption</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>England</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>200</strong></td>
<td><strong>400</strong></td>
</tr>
</tbody>
</table>

Further, suppose that Portugal and England were to agree to trade 100 units of Portuguese wine for 100 units of English cloth, as listed in the Exchange section of Table 13.1. The costs of imports relative to exports are called the terms of trade. In this example, when England and Portugal exchange 100 units of wine for 100 units of cloth, the terms of trade are 1:1.

**terms of trade:** the price of imports relative to exports

Now Portugal and England could each consume the quantities listed in the Consumption section of Table 13.1. Note that their total consumption does not exceed the
total amount produced of each good; but Portugal can now consume at point A, and England at point B—the desired points that they could not each reach on their own!

The “magic” behind this result is that Portugal and England differ in their opportunity costs of production. For every unit of cloth Portugal produces, it must give up the production of 2 units of wine. For every unit of cloth England produces, it needs to give up production of only half a unit of wine. England has a comparative advantage in cloth production, since cloth costs less in terms of the other good (wine) in England than in Portugal. Portugal, likewise, has a comparative advantage in production of wine. An additional unit of wine comes at the cost of ½ a unit of cloth when produced in Portugal, but requires giving up 2 units of cloth when produced in England, as noted in Table 13.2.

<table>
<thead>
<tr>
<th>Country</th>
<th>Opportunity Cost of 1 Unit of Cloth</th>
<th>Opportunity Cost of 1 Unit of Wine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal</td>
<td>2 units of wine</td>
<td>½ unit of cloth</td>
</tr>
<tr>
<td>England</td>
<td>½ unit of wine</td>
<td>2 units of cloth</td>
</tr>
</tbody>
</table>

The principle of comparative advantage says that you should specialize in what you do (relatively) best. Even if it turns out that one of the countries is more efficient at producing both goods, it still pays to specialize. Only if both countries have the same opportunity costs will there be no possible gains from trade.

comparative advantage (principle of): gains from trade occur when producers specialize in making goods for which their opportunity costs are relatively low

In the case of Ricardo’s story, the source of comparative advantage was climate and other resource endowments that differed between England and Portugal. It’s not hard, by extension, to understand why bananas are currently exported by Ecuador, while Sweden finds it advantageous to import bananas rather than grow them in greenhouses.

But comparative advantage can also be created by human action. Countries can become more efficient in producing particular goods by investing in the physical capital needed to produce them. Sometimes technological advances or changes in the social

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2 You can see this by examining the slope of the production possibilities frontier in Figure 13.3. Comparing the two endpoints, moving left to right, we can see that a fall (or negative “rise”) of 200 units of wine is accompanied by a “run” of +100 units of cloth. Since the curve is straight, the slope is therefore $\frac{-200}{100} = -2$ throughout. At any point, then, a reduction in wine production of two units is needed to increase cloth production by 1 unit.

3 When a country can produce a good at a lower absolute cost than another country—for example, by producing it using fewer labor hours along with the same (or lesser) quantities of other inputs—the country is said to have an absolute advantage. But absolute advantage is not necessary for trade, nor will having an absolute advantage in a particular good necessarily prevent a country from importing that good. If a country exists that has low absolute production costs in all goods, it should still buy the goods that it is relatively less efficient at producing from higher-cost countries, allowing it to specialize in the goods in which it is relatively most efficient.
organization of work can change the pattern of comparative advantage, and the evolution of comparative advantage over time may thus be unpredictable.

Economists often like to make a distinction between countries which are thought to be more suited for labor-intensive production processes, such as stitching clothing or making handicrafts, and others that specialize in relatively capital-intensive production, such as the manufacture of airplanes or automobiles. The fact that the United States has more manufactured capital per worker than does Bangladesh, for example, is considered to be an explanation of why Bangladesh exports clothing. Bangladesh presumably has a comparative advantage in relatively labor-intensive industries. Clothing production, meanwhile, has nearly disappeared from the United States (see Chapter 8).

**labor-intensive production**: production using methods that involve a high ratio of labor to capital

**capital-intensive production**: production using methods that involve a high ratio of capital to labor

The economic theory of factor-price equalization predicts that free trade should tend to equalize the returns to capital and labor across countries. For example, to the extent that the United States is rich in capital, and relatively lacking in labor power, returns to capital are theorized to be relatively low and returns to labor relatively high, in the absence of trade. (The logic of this is that a scarce factor will command a higher return — higher demand for a factor, relative to available supplies, increases the price that must be paid for it.) Since factor endowments in Bangladesh are the opposite, capital investments there would be expected to receive high returns in the absence of trade, while workers receive low wages compared to those in the U.S.

Once the two countries start to trade, however, the demand for capital in the United States should rise (because the country now has a larger market for selling its capital-intensive goods), increasing the return on investments there. The demand for labor, however, will fall, since the U.S. now imports labor-intensive goods from Bangladesh. Meanwhile, the demand for labor in Bangladesh should rise (because it now exports labor-intensive goods), putting upwards pressure on wages in that country, while returns to capital there fall. According to this theory, in a (hypothetical) world of perfectly free trade, we would expect wages to eventually converge, so that workers in the United States and Bangladesh would be paid about the same. Returns to capital investments would also be equalized.

**factor-price equalization**: the theory that trade should eventually lead to returns to factors of production being equal across countries

These simple categories of “labor intensity” and “capital intensity” and the theory of factor-price equalization can be misleading, however. One reason is that investments in human capital—health, skills, and education—blur the distinction between “labor” and “capital.” Some studies suggest that the United States' comparative advantage is now tilted towards goods that require production by an educated and skilled workforce, and
away from production that involves merely heavy machinery (as well as away from lower-skilled work). When production is intensive in human capital, the earlier two-way classification is harder to apply. Meanwhile studies of factor prices are mixed in their support of the theory of factor price equalization. Ongoing changes in technology, skills, and the composition of production, as well as deliberate government policies that limit and shift patterns of trade, make it difficult to test the theory.

2.2 Other Arguments For Free Trade

Specialization and trade can lead to improvements in economic efficiency, as the “gains from trade” story points out. Trade allowed Portugal and England, in Ricardo’s story, to more efficiently organize the use of their resources to produce wine and cloth. The result was a more highly valued level and combination of outputs than the countries could have achieved without trade. Ricardo’s result is the main justification behind some economists’ advocacy of free trade – international trade that is not regulated or restricted by governments in any way. Many commentators have also pointed to additional advantages international trade could have, in theory.

One of these desirable outcomes is technical. A production process is characterized by **economies of scale** if the cost per unit of production falls as the volume of production rises. With trade, the volume of a country’s production of a good can be substantially higher than what its internal (domestic) market can use, increasing the opportunity for economies of scale to be realized. A larger market means that goods can be produced more cheaply.

**economies of scale**: reductions in the average cost of production resulting from a higher output level

Other advantages are related to what some economists see as positive attributes of free opportunities for trade or exchange, in general. Free trade gives countries the incentive to produce goods that have high value on the world market. This may encourage competition and innovation, to the ultimate benefit of all. In addition, some argue, countries with thriving trade relations are more likely to remain at peace, since war would eliminate all the benefits of trade.

2.3 International Trade Agreements

Up through the early decades of the 20th century, many countries remained quite closed to trade, charging high tariffs or imposing strict quotas on imported goods. After World War II this began to change. Countries rarely reduce their barriers to trade unilaterally, since a country that lets in more foreign imports usually also wants its products likewise to be welcomed abroad. But, starting in the 1940s, many countries became more interested in negotiating mutual reductions in tariffs and quotas.

Some trade agreements are “bilateral,” meaning that two countries negotiate directly with each other. Other agreements are “multilateral,” involving a group of countries. In 1948, 23 countries joined the General Agreement on Tariffs and Trade
(GATT), which sought to set out rules for trade and enhance negotiations. Eight subsequent negotiation “trade rounds,” some of which led to significant reductions in average tariff rates among participating countries, were sponsored by GATT. In 1995, the Uruguay Round of GATT trade negotiations led to the creation of a new forum for multilateral negotiations, the **World Trade Organization (WTO)**. Currently, the WTO includes 149 member countries. Besides being a forum for trade negotiations, the WTO attempts to set out rules about trade and is charged with investigating and making judgments when countries have trade disputes.

**World Trade Organization (WTO):** An international organization that provides a forum for trade negotiations, creates rules to govern trade, and investigates and makes judgment on trade disputes.

Meanwhile, some countries have entered into regional trade agreements with their neighbors. Leading examples of such attempts to integrate trade within a regional area include the European Union (EU), formed in 1992, containing 25 European countries as members; the North American Free Trade Agreement (NAFTA) entered into in 1994 by the United States, Canada, and Mexico; and Mercosur in Latin America. There is some debate about whether such regional agreements promote “free trade” or retard it. Regional integration promotes both trade *expansion* (within the region) and trade *diversion* (away from trade with other regions). It is not clear whether the benefits of trade expansion always outweigh the losses from trade diversion.

**Discussion Questions**

1. Suppose that in a one-hour time period, you can buy 6 bags of groceries or clean 3 rooms. Your housemate, on the other hand, is slower-moving and can buy only 3 bags of groceries, or clean only 1 room, in an hour. You clearly have an absolute advantage in production of both these services. Does this mean you should do all the work?

2. Ricardo’s model discusses benefits to countries at an aggregate level. But what if you were a Portuguese cloth maker or an English winemaker? Might you have a different view about the benefits of trade? What sorts of factors might influence how you feel about your country’s trade policies?

3. **Why Nations Often Resist “Free Trade”**

   The Ricardian arguments for “free trade” emphasize efficiency, increased production and consumption, and the possible benefits of an integrated global economy. This leads some economists to argue that free trade is always best. But the “free trade” arguments may also neglect issues of institutional, political, social, and environmental context that can drastically reduce the possible “gains from trade”—or even make free trade work *against* national or global well-being. An examination of contemporary real-world issues and policies shows how complex the picture is.
3.1 The Health of Nations, Regions, Industries and Jobs

One very important reason that many policymakers have, historically, restricted trade is that they feel this is necessary to “protect” domestic industries and jobs from foreign competition. Countries have frequently engaged in protectionist policies to discourage imports and/or encourage exports of specific goods. The United States, for example, still engages in protection of a variety of industries including Southern cotton, Northwestern timber, and Midwestern sugar beets. Without government protection, these industries would lose market share to lower-cost foreign producers. Such adjustment to global competition can be very painful. When United States automakers began to lose out to foreign competition, for example, a swath of the Midwest became so economically depressed that it became known as the "rust belt."

**protectionist policies:** the use of trade policies such as tariffs, quotas, and subsidies to protect domestic industries from foreign competition

Sometimes protectionism is called a “beggar-thy-neighbor” approach, since each country is, in effect, trying to gain at the expense of other countries. Each country wants to raise its own production levels while simultaneously reducing the access of foreign producers to its market. If protection is successful, does it actually make a country better off? Since the Ricardian model demonstrates the benefits of trade, you might think that anything other than mutual free trade must yield lower benefits. But, in fact, other theories in economics demonstrate that an individual country may be able to do better than “free trade” if, while engaging in some amount of trade, it can use tariffs to turn the terms of trade in its own favor. A country that can force another country to be open to its exports, while selectively putting some level of duty on imports from that country, may be able to gain relative to the “free trade” case. The other country loses out. Yes, trade can yield benefits—but the selective use of protectionist policies can be used to distribute these benefits to the advantage of the more powerful parties. (See Economics in Context and end-of-chapter exercise 4).

“Beggar-thy-neighbor” policies can only work if other countries do not retaliate with their own protective policies. But this is often not the case. During the Great Depression, for example, the United States enacted the Smoot-Hawley tariff in an attempt to support domestic agriculture and industry. This tariff bumped up average tariff rates to a high of nearly 60%. Other countries responded with retaliatory tariffs, creating what is sometimes called a “trade war.” As a result, the volume of global trade declined by two-thirds between 1929 and 1934. The Smoot-Hawley tariff decreased imports, as it was intended to—but it also ended up dramatically decreasing the ability of U.S. producers to sell their goods abroad. While the trade war did not, itself, cause the Great Depression, the contraction of international trade that it created certainly did not help the major countries involved escape it, either.
When Ricardo wrote about trade between England and Portugal in 1817, it was indeed true that England exported cloth to Portugal in return for wine. But this was not pure “free trade,” and it had not come about simply due to the impersonal forces of economic efficiency and comparative advantage.

Prior to the Treaty of Metheun in 1703, Portugal had severely restricted the importation of cloth from abroad, and England had imported wine primarily from France. But England lost much of its access to French wine during the War of Spanish Succession. Portugal, meanwhile, was persuaded to join a military alliance with England by displays of England’s superior naval power. The 1703 treaty cementing their alliance also contained economic terms: Portugal would admit English cloth without charging any tariffs at all, while England would reduce its tariffs on Portuguese wine to two-thirds of what it collected on French wine. Some commentators argue that this was a crucial—and negative—turning point for the development of Portuguese manufacturing.

How does this historical account differ from the “gains from trade” story?

Even after decades of trade negotiations—and encouragement by economists to “liberalize” their trade regimes—many countries continue to have protectionist policies, at least of a modest, piecemeal sort. While simple economic theory ignores issues of power differentials between countries, and assumes that labor and capital resources can immediately and smoothly adjust to new patterns of commerce, in real life things can be quite different. Trade relations continue to be an arena where countries try to exert dominance over each other. Policymakers continue to be concerned about the job losses and industrial dislocations that global competition can cause. Policies to ease structural unemployment (see Chapter 7) may help, but there is no sign that—at least in democratic countries—policymakers will completely abandon protectionist tendencies anytime soon.

3.2 Revenue

Another historically important reason for tariffs is that they may be an important source of government revenue. Until 1913, for example, the United States had no income tax, and the federal government relied heavily on tariffs to run its operations. In many poorer countries today, it is still very difficult to collect taxes on incomes and property. People may be spread over wide geographical areas and much of the economy may not be monetized. In contrast, taxes on monetized transactions at harbor facilities or airports may be relatively easy to collect. Thus tariffs can be an important source of revenue for health, education, defense, and other governmental activities.
3.3 Industrial Policy as a Strategy for Growth

Ricardo’s two-country, two-good model is a “static” model that doesn’t take into account the passage of time. But patterns of comparative advantage can change. Should a country simply follow whatever comparative advantage it happens to have at a given time, or should it explore policies that might change its comparative advantage? If the country could end up better off in the long run by deliberately changing its mix of productive capabilities, it might achieve “dynamic efficiency” overall—that is, efficiency-based welfare gains over a sustained period of years—even if “static efficiency” is sacrificed over the short run.

Issues of dynamic comparative advantage may justify using trade barriers as a way to improve the mix of productive capacities in an economy, bringing higher benefits over the long run.

In fact, many countries that have achieved high rates of industrialization—including the United States, United Kingdom, Japan, South Korea and others—did so behind substantial tariff barriers. If these countries had stayed with their natural comparative advantages as they existed in the past, the U.S. might still be known mostly for its production of wheat and raw cotton and the U.K. for its wool, while South Korea and Japan would still import all their cars. Policies that excluded foreign imports of manufactured textiles or automotive parts helped these countries to shift their economies away from less-processed goods towards a more industrial economic base. Now they all compete in global markets for sophisticated manufactured goods.

The infant industry argument asserts that sometimes industries can take a while to get established in a country, and that “learning by doing” helps industries get more efficient over time. Governments adopt an infant industry approach when they use trade policies to protect selected domestic industries from foreign competition until the industries become able to compete on world markets. The main drawback to an infant industry approach is that, for these policies to work well, governments also have to stop protecting or subsidizing industries that do not achieve sufficient levels of efficiency. This can be politically difficult if these industries have in the meantime become entrenched and powerful. If inefficient industries get government help for too long—as some believe has happened in India and parts of Latin America—the policy can encourage dependence on government subsidies and protection, rather than encourage innovation and competitiveness.

infant industry: an industry which is relatively new to its region or country

While poorly designed support of specific industries can be harmful, the historical record suggests that the deliberate manipulation of trade in order to encourage particular industries has played an important role in the economic development of many countries. Countries that have not engaged in the encouragement of specific industries have often remained “locked in” to patterns of trade in which they specialize in only raw materials (such as minerals or crops) or labor-intensive manufactures. Concerns about global
inequality might suggest that poor countries should be allowed to practice more protection, while countries that have already achieved a high standard of living should be especially encouraged to open their markets to imports from poorer countries.

3.4 Military and Food Security

Countries often limit trade for security reasons. In the United States, for example, some of the same people who argue for “free trade” in most goods also argue for increased development of domestic petroleum (or other energy) resources, on the grounds that excessive reliance on imports decreases economic self-sufficiency and military preparedness. The United States also bans the export of weapons, certain strategic materials, and technology to countries thought of as potential enemies.

Food security is also an issue for many countries. Japan, for example, is heavily dependent on food imports, and some worry that this could make the country very vulnerable in the case of a war or other disruption in trade. Japan has long used quotas and tariffs to limit rice imports, providing protection for its domestic rice producers.

One of the arguments for free trade mentioned above was that trade should encourage cooperative behavior and peace. However, to the extent a country becomes dependent on other countries for vital resources such as oil, water, or food, this may also become a cause for war. Some commentators interpret United States military actions in the Middle East, for example, as primarily motivated by a desire to assure a steady supply of imported petroleum.

3.5 Diversification in an Unpredictable World

While specialization for trade has clear advantages, it may also have a significant downside. A country that has specialized becomes more vulnerable to certain kinds of problems. Two of these have already been mentioned: “lock-in” to a dynamically disadvantageous mix of production capabilities, and security problems related to military and strategic goods. Because the future is uncertain, it is hard to know whether a current choice to specialize will be wise in the long run.

Another especially important source of uncertainty is variation in the terms of trade. Changes in terms of trade can occur as a result of changes in international supply and demand. When a bumper crop occurs, or a new country starts to export a good, or people’s tastes change, the terms of trade may fluctuate in unforeseen ways. The structure of international prices can also be subject to deliberate manipulation through the exertion of political and military power. Lastly, terms of trade may also be manipulated by large corporate international traders, some of whom have gained substantial market power in their field of commerce.

Variations in the terms of trade have created serious problems in many countries. In Ethiopia, for example, producing coffee for export currently provides the means for life for about one-quarter of the population. When the price of an important export is high
in international markets, economies that reply on one or a few exports for a good deal of their income do well. But when prices weaken—or plummet, as coffee prices did in 1989—economies dependent on specialized exports are subjected to major crises that are outside of their control. Countries that specialize in a particular crop also become very vulnerable to ecological events such as droughts or plant diseases. While the "gains from trade" story emphasizes the benefits of specialization, these kinds of considerations suggest that some degree of **diversification** may be wise. Countries may use trade policies such as tariffs, quotas, and subsides to try to encourage more variety in the range of goods and services they produce.

3.6 Labor, Environmental, and Safety Standards

Traditionally, democratic governments have been able to enact policies perceived to be in the public good, even though they are not always in the perceived self-interest of business actors. Minimum standards for pay and safety on the job, for example, as well as reasonable environmental standards and safety standards for consumer products are widely considered necessary for a healthy, just society. Yet such policies are often resisted by some in business community because they may increase costs and decrease profits.

With capital increasingly mobile, multinational corporations are able to move their operations to countries with lower labor and environmental standards. Countries that want to hold on to their business base may therefore find themselves drawn into a **race to the bottom**, in which they compete to attract businesses based on their country’s *lack of* attention to social and environmental concerns. Such competition has the potential to create quite a different relationship between states and businesses than has been assumed in the past: rather than governments shaping business and macroeconomic conditions, large corporations are now playing an increasing role.

**race to the bottom**: a situation in which countries or regions compete in providing low-cost business environments, resulting in deterioration in labor, environmental or safety standards

One way in which countries can try to avoid such a "race to the bottom" is to ban both the domestic manufacture and importation of goods that are considered hazardous to consumers, or have been made under labor standards that are considered inhumane, or made using production processes that cause serious damage to the environment. In this way, at least the *domestic* market is reserved for producers who follow higher standards. The setting of standards may also encourage potential trading partners to raise their environmental, labor, or safety standards, so that their goods can be admitted.

3.7 When is Limiting Trade “Unfair”?

When should a limitation of trade be considered legitimate, and when should it not be? This is a complicated question that is a topic of vigorous, ongoing debate. Most countries will staunchly defend their right to restrict trade for purposes such as military
security or consumer safety, so international trade agreements tend to stop short of banning all restrictions.

But beyond agreement on a few principles, debates become heated. Consider three examples:

**GMO products.** The European Union has banned the importation of GMO (genetically-modified organism) products, on the grounds that they present threats to public health and the environment. The United States and other grain-producing countries have contested this at the WTO, arguing that GMO products are safe and the real reason for the ban is that the EU simply wants to protect its farmers. (The WTO recently ruled that the ban was illegal—but the ruling is unlikely to end the debate.)

**Dumping.** The United States has accused China of subsidizing the production of many of its products and *dumping* them on United States markets. "Dumping" is the selling of products on foreign markets at prices that are unfairly low (that is, below the cost of production), and is forbidden in international agreements. The United States argues that it has the right to retaliate by putting quotas and tariffs on Chinese goods. But China, of course, can argue that it simply is blessed with a low-cost production environment, and that the United States is engaging in protectionism.

| **dumping**: selling products at prices that are below the cost of production |

**Labor standards.** In some extreme cases, such as the use of slave labor, restrictions on trade are usually considered permissible. But should countries be allowed to use trade restrictions to punish unfair labor practices? Some poorer countries have accused richer countries of imposing unreasonably high labor standards. Under the pretext of trying to protect global workers, they say, the richer countries are just trying to protect their workers from fair competition.

Questions of what will be ruled "fair" or "unfair" by the WTO—and whether such rulings can be enforced (see Economics in the News) —often come down to questions of political economy. Large, powerful countries and corporations use the WTO negotiations and dispute resolution mechanisms as ways to advance their own interests. Smaller and less powerful groups have a more difficult time getting their voices heard. Many labor, environmental, and social justice groups, for example, charge that the WTO primarily serves the interests of powerful multinational corporations. They worry that WTO negotiations have served to speed up the "race to the bottom" and reduced national sovereignty. Observers concerned about economic development believe that WTO rules disadvantage countries that are still relatively poor, by forbidding the use of the sorts of industrial policies that helped other countries achieve economic growth at an earlier time.
Economics in the News: WTO launches probe into U.S. cotton subsidies

ABC News and Reuters, Sept. 28, 2006

GENEVA - The World Trade Organization (WTO) launched a probe on Thursday into whether the United States has dismantled huge subsidies to its cotton farmers that have been ruled illegal.

The move was sought by Brazil, which says Washington has not complied fully with a landmark 2004 verdict in which the Geneva-based trade referee decreed part of the multi-billion dollar U.S. cotton support program broke global trade rules and demanded sweeping changes.

The investigation will take at least 90 days. If it wins, Brazil could be entitled to levy billions of dollars of retaliatory sanctions against U.S. goods.

According to Oxfam, U.S. subsidies to the country's 25,000 cotton farmers totaled $5 billion in 2005 for a crop that was worth less than $4 billion.

Some people might say this news story illustrates how the WTO interferes with national sovereignty—the right of a country to make its own laws and policies. Others might say that it shows how difficult it is to make powerful countries follow fair trading rules. What do you think?

In 2001, the WTO officially launched the Doha Round of negotiations, which was, in its official statements, intended to take special account of the needs and interests of poorer countries. At the time of this writing, however, the Round is at a stalemate. Many poorer countries pushed for richer countries to reduce their tariffs and subsidies, particularly on agricultural goods. On the other hand, top priorities for richer countries included getting poorer countries to open their service industries (such as banking and airline transportation) to foreign companies and to abide by stricter rules on intellectual property (for example, to stop making less expensive versions of patented drugs). With the wealthier nations showing little willingness to reduce protection of their domestic agricultural industries, Doha Round talks were suspended in July 2006.

Discussion Questions

1. What international trade issues have you seen in the news recently? What views are presented by different interest groups in trade debates? Are there any issues that particularly affect your community?

2. Which reasons for limiting trade seem to you to be the most legitimate? Which ones seem more questionable to you? What could you do to find out more about the issues?
4. International Finance

In addition to trade in goods, countries are also linked through exchange of currencies, flows of income, and by purchases and sales of real and financial assets across national borders. As we move into considering how international finance is related to trade and to domestic macroeconomic policies, the realization that “everything is linked to everything else” can get overwhelming. Most topics we’ve discussed earlier in this book—such as supply and demand, interest rates, inflation, aggregate demand, and the Fed—will come back into play. In order to ease into the topic, we will focus on relatively simple concepts and models, starting with the market for currency exchange.

4.1 Purchasing Power Parity

Purchasing power parity (PPP) refers to the notion that, under certain idealized conditions, the exchange rate between the currencies of two countries should be such that the purchasing power of currencies is equalized. Consider, for example, the exchange rate between United States dollars ($) and European euros (€). At the time of this writing, one dollar is worth about .79 euros. When we say “the exchange rate” for the dollar, what we mean is the number of unit of the foreign currency you can get for a dollar.4

<table>
<thead>
<tr>
<th>purchasing power parity (PPP):</th>
<th>the theory that exchange rates should reflect differences in purchasing power among countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>exchange rate:</td>
<td>the number of units of one currency that can be exchanged for a unit of another currency</td>
</tr>
</tbody>
</table>

If currencies can be traded freely against each other, goods are freely traded and totally identical across countries, and transportation costs are not important, then there is a certain logic to this theory. Suppose a gold chain costs $200 in New York. If you live in the United States and change $200 into euros, the theory of PPP says that the number of euros you get for your dollars should be exactly enough for you to buy the identical gold chain in Paris. If, indeed, the chain costs €158 (= 200 dollars × .79 euros per dollar) in Paris, PPP holds. You might notice that this theory is similar to that of “factor price equalization” discussed earlier, and the logic behind the two theories is the same. If economies really were as smoothly integrated as we are assuming in our idealized world, an item (whether a gold chain or an hour of labor services) should cost the same, no matter where you are.

If this isn’t true, there should be pressures leading towards change. For example, suppose the gold chain costs $200 in New York and €158 in Paris, but the exchange rate is higher, at 1 euro per dollar. Why would anyone buy a chain in New York, if by changing their money into euros they could order the chain from Paris and save €42? For

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4 Exchange rates can be (confusingly) quoted either as units of foreign currency per unit of domestic currency (as above, considering the home country to be the United States) or as units of domestic currency per unit of foreign currency. The two rates are inverses of each other. For example, when the number of euros per dollar is .79, the number of dollars per euro is $1/.79 = 1.27.
chains to be sold in both locations—in this idealized world—the price in New York would have to be bid down, the price in Paris would have to be bid up, or the exchange rate would have to fall.

Of course, in the real world, national economies are not nearly as integrated as this theory assumes. Transportation costs do matter; there are many varieties of goods; markets for goods and services do not work as quickly, smoothly, and rationally as was assumed; and exchange rates are often “managed” (see section 4.5 below). Any of these factors can mean that converting monetary figures from one country to another using the prevailing exchange rates may be misleading. If the price of a gold chain in New York is higher than in Paris, this might, for example, reflect the fact that the general cost of living in New York is higher.

Sometimes you will see comparisons of international income levels expressed “in PPP terms.” Rather than simply using going exchange rates to convert all the various income levels into a common currency, purchasing power parity adjustments try to take into account the fact that the cost of living varies among countries. The “Big Mac Index” published each year by The Economist magazine is a somewhat lighthearted attempt to determine how much goods prices and exchange rates vary from PPP predictions, by comparing the prices (converted into dollars using market exchange rates) of a MacDonald’s hamburger across various countries. More sophisticated analysis uses a larger “basket” of goods to make such comparisons and estimate appropriate PPP adjustments.

**purchasing power parity (PPP) adjustments:** adjustments to international income statistics to take account of differences in the cost of living across countries

### 4.2 Foreign Exchange Markets

What makes exchange rates go up and down? Currencies are traded off against each other all over the world, as people offer to sell and buy. The supply-and-demand model explained in Chapter 4 can be helpful here, once we realize that an exchange rate is really just another kind of price.

An idealized foreign exchange market in which United States dollars are traded for European euros is illustrated in Figure 13.5. The quantity of dollars traded is given on the horizontal axis, and the “price” of a dollar is given on the vertical axis, in terms of the number of euros it takes to buy one.
When currencies are traded against each other on a market, the “price” is the exchange rate, that is, the number of units of the other currency that are required to buy a unit of the currency in question.

In a well-behaved foreign exchange market, the supply curve of dollars is largely determined by domestic residents, who decide how many dollars they are willing to offer. While the actual trading is usually done by professional currency traders and banks, underlying the supply of dollars on the international foreign exchange market is the desire of domestic residents for foreign-produced goods and services and for foreign assets. Since these must be paid for in the currency of the country from which they will be purchased, dollars must be traded in the foreign exchange market. The more euros United States residents can get for their dollars, the cheaper European items are to them, and the more they will want to buy from Europe rather than from domestic producers. Thus, the higher the exchange rate, the more dollars they will offer on the market. The supply curve slopes upwards.

The demand curve for dollars is largely determined by foreign residents, who may want to buy goods and services from the United States, or to invest in United States bonds or businesses. To make these purchases, they must acquire dollars. The more euros they have to pay to get a dollar, the more likely they are to go elsewhere than the United States for what they want, and the lower will be the quantity of dollars they demand. So the demand curve slopes downward. Market equilibrium is established at point E.

Even in this simple representation, however, we must mention another reason that many traders buy and sell currency, and that is speculation. As discussed in Chapter 4, sometimes people buy something not because they need it (for example, in this case, for facilitating a trade in real items), but because they are betting that its price will go up or down in the future. Speculative buying and selling of currencies often plays a large role in foreign exchange markets.

When the exchange rate falls, we say a currency has depreciated. Suppose, for example, a European technology firm comes out with a new music-listening device that
everyone wants to buy. In their desire to get euros to buy the good, people in the United States will offer more dollars on the foreign exchange market, shifting the supply curve to the right. Excess supply will, as in any other market, cause the price to fall, as shown in Figure 13.6. Commentators may say that the dollar is now “weaker” against the euro. (Conversely, of course, the euro is now “stronger” against the dollar.)

On the other hand, if demand for United States products or assets rises, this will lead to an appreciation of the dollar. For example, if investors become eager to buy United States real estate, the demand curve for dollars will shift outwards and the dollar will appreciate, that is, gain in value.

![Diagram of foreign exchange market](image)

**Figure 13.6 A Supply Shift in a Foreign Exchange Market**

*When people become more eager to sell a currency, this causes it to lose value, that is, to depreciate.*

When a currency *depreciates*, it becomes less valuable. This might occur if, for example, peoples’ desire for imports causes them to offer more of their own currency on the foreign exchange market. When a currency *appreciates*, it becomes more valuable. This might occur if, for example, increased demand for a country’s exports causes an increase in demand, abroad, for its currency.

The story is a bit more complicated when different levels of inflation in different countries are taken into account. What matters to people is the **real exchange rate** between currencies. A country with high inflation, for example, will generally experience a steady depreciation of its nominal exchange rate against the currencies of lower-inflation countries, even without any changes in demand for its items. Foreigners will only be willing to purchase the country’s products at the higher prices resulting from inflation if they can get also more currency units per unit of foreign exchange they offer, so that the real price remains the same.

**real exchange rate**: the exchange rate between two currencies, adjusted for inflation in both countries
4.3 Financial Flows and the Balance of Payments

The flows of payments into and out of a country are summed up in its balance of payments (BOP) account, as shown in Table 13.3 for the United States in 2005. The top part of the table tallies the current account, which tracks flows arising from trade in goods and services, earnings, and transfers.

Various kinds of transactions lead to payments flowing into this country (and to a demand for dollars in the foreign exchange market). Obviously, when we export goods, we get payments in return. So the first entry under “Current account transactions leading to inflows of payments” is the $895 billion the United States earned from exports. Exports of services (such as travel, financial, or intellectual property) also bring in inflows, as do profits, wage incomes, and interest payments earned abroad by U.S. residents. All told, inflows into the United States from exports and incomes totaled $1.75 trillion in 2005.

### balance of payments (BOP) account: the national account that tracks inflows and outflows arising from international trade, earnings, transfers, and transactions in assets

### current account (in the BOP account): the national account that tracks inflows and outflows arising from international trade, earnings, and transfers

<table>
<thead>
<tr>
<th>Balance of Payments</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balance on Current account</strong></td>
<td></td>
</tr>
<tr>
<td>Inflows:</td>
<td>1,750</td>
</tr>
<tr>
<td>Payments for Exports of Goods</td>
<td>895</td>
</tr>
<tr>
<td>Payments for Exports of Services</td>
<td>381</td>
</tr>
<tr>
<td>Income Receipts</td>
<td>475</td>
</tr>
<tr>
<td>Outflows:</td>
<td>-2,541</td>
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<tr>
<td>Payments for Imports of Goods</td>
<td>-1,677</td>
</tr>
<tr>
<td>Payments for Imports of Services</td>
<td>-315</td>
</tr>
<tr>
<td>Income Payments</td>
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<tr>
<td>Net transfers</td>
<td>-86</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Balance on Financial account</th>
<th>785</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outflows (e.g., U.S. lending abroad, or FDI abroad)</td>
<td>-427</td>
</tr>
<tr>
<td>Inflows (e.g., U.S. borrowing from abroad, or FDI in the U.S.)</td>
<td>1,212</td>
</tr>
</tbody>
</table>

| Statistical discrepancy (and "capital account") | 6 |

Source: U.S. BEA, U.S. International Transactions Accounts Data, Table 1, updated 6/18/2006., with rearrangements and simplifications by authors.

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5 The financial account used to be called “the capital account,” and you may still hear that term in use. In contemporary BOP accounts, there is a quite small item called “the capital account” that has been absorbed into the statistical discrepancy for simplicity.
Other transactions lead to payments going abroad (and to a supply of dollars to the foreign exchange market). When we import goods and services, we need to make payments to foreign residents. Foreign residents can earn profits, wages, and interest from the U.S. The BOP account also includes a line for net transfers abroad, such as monies paid out in government foreign aid programs. All told, outflows of payments from the United States due to these transactions totaled over $2.5 trillion in 2005.

The balance on the current account is measured as inflows minus outflows. Since outflows exceeded inflows on the current account in 2005, the United States ran a current account deficit. When a country imports more than it exports of goods and services, it runs a trade deficit (as was discussed in Chapter 10). As you can see in Table 13.3, imports of goods exceeded exports by a very large amount. Since income flows and transfers were relatively balanced, it was the trade deficit that largely accounts for the current account deficit of $792 billion. In fact, as you can see in Figure 13.7, the United States has had trade deficits fairly steadily since about 1980, with the gap between imports and exports widening to about 5.5% of GDP in recent years.

How can a country steadily import more than it exports? If you, personally, want to buy something that costs more than you have the income to pay for, you might take out a loan or perhaps sell something you own such as your bicycle or your car. Likewise, countries can finance a trade deficit by borrowing or selling assets. These are the sorts of transactions listed in the financial account.
financial account (in the BOP account): the account that tracks flows arising from international transactions in assets

To the extent the United States lends abroad (for example, when the government extends loans to other countries, foreigners borrow from U.S. banks, or people in the U.S. buy foreign bonds), financial capital outflows are generated. This terminology may be confusing. Think about financial flows as going in the direction of the country that ends up with “the cash” or the power to purchase goods, and away from the country that “buys something.” In the case of a loan, the borrower gets “the cash,” while the creditor “buys” a bond or other security representing a promise to repay; thus a loan is an outflow to the lender. Similarly, if a U.S. firm buys all or part of a business in another country—what is called foreign direct investment (FDI)—it is the people abroad who end up with “the cash,” while the U.S. company gets the interest in the business. This is also counted as an outflow. From Table 13.3, we can see that the United States had $427 billion in financial outflows during 2005.

foreign direct investment (FDI): investment in a business in a foreign country

A country gets financial inflows when it borrows from foreigners, or when foreigners invest in businesses here. In the case of the United States, a great many people abroad buy United States government bonds, since they are considered a very secure investment. For similar reasons, many also put funds into bank accounts here. These are both capital inflows—the sellers of the U.S. securities or the U.S. banks get “the cash.” Likewise, if a foreign multinational buys an interest in a United States publishing company, that is a capital inflow. In 2005, the United States received over $1.2 trillion in capital inflows.

The balance on the financial account is measured as inflows minus outflows. The United States, hence, ran a $785 billion financial account surplus in 2005. It was this willingness of foreigners to buy United States securities (and other assets), that financed the deficit in the current account. Many commentators worry that the United States is putting itself in a vulnerable position by relying on borrowing to “spend beyond its means” on imports. Notice that present-day financial inflows create the obligation to pay future income outflows: Interest on U.S. government bonds sold abroad, and profits made by firms located in the U.S. that are now foreign-owned, are part of “income payments” in the outflows section of the current account.

The last item in Table 13.3 represents a statistical discrepancy (that is, an inability of the BEA to make the accounts exactly balance, given problems in the quality of the data) and some small items we will not get into here. Allowing for this discrepancy, the balance in the current account and the balance in the financial account have to add to zero. A surplus in one account has to be matched by a deficit in the other.
4.4 Monetary Policy in an Open Economy

In Chapter 11 we discussed monetary policy in a closed economy. In an open economy, it turns out, monetary policy is more effective in changing aggregate demand, because it works through two channels rather than only one.

Suppose the Fed believes the United States economy needs a boost, and lowers interest rates in an attempt to stimulate aggregate demand. As we saw in Chapter 11, the decrease in interest rates should tend to encourage investment spending. But in an open economy, the fall in interest rates should also increase net exports, another component of aggregate demand. Recall from Chapter 10 that $AD = C + II + G + NX$, where $NX = X - IM$.

This is because the fall in United States interest rates should tend to drive away some foreign financial capital. If interest rates here fall, people abroad will be less inclined to buy U.S. government bonds or put their money in United States bank accounts. As they choose to send their financial capital elsewhere, this decreases the demand for United States dollars. This would be portrayed as a leftward shift of the demand curve in a market such as pictured in Figure 13.5. A decrease in the demand for dollars will cause the dollar to depreciate.

A depreciation in the dollar means that a dollar now buys fewer units of foreign exchange, which will discourage spending on imports. Meanwhile, the fact that a dollar can be purchased for fewer units of foreign exchange means that U.S. exports become “cheap” to foreign buyers. Exports should increase. Because it is demand for U.S-produced goods and services, less imports, that enters into aggregate demand, aggregate demand rises. Thus both an increase in exports and a decrease in imports will tend to raise aggregate demand.

The openness of the economy can be thought of as adding an extra loop to the chain of causation discussed in Chapter 11, as illustrated below:

![Diagram of causation](image-url)
4.5 Managed versus Flexible Foreign Exchange

So far, we have assumed that exchange rates are determined by market forces, as modeled in Figure 13.5. In a **flexible or floating exchange rate system**, countries let their exchange rates be directed by the forces of supply and demand. But this is not always the case.

**flexible (floating) exchange rate system**: a system in which exchange rates are determined by the forces of supply and demand

Flexible exchange rates can create significant uncertainties in an economy. A manufacturer may negotiate the future delivery of an imported component, for example, only to find that exchange rate changes make it much more expensive than expected to complete the deal. Foreign exchange markets are also very susceptible to wild swings from speculation. A mere rumor of political upheaval in a country, for example, can sometimes create a rush of capital outflows as people try to move their financial assets into foreign banks, causing a precipitous drop in the exchange rate. Or an inability to obtain short-term foreign loans may put an economy into crisis—and send its exchange rate swinging—even if over a longer period the economy would be considered financially sound. It can be hard to maintain normal economic activities when exchange rates fluctuate wildly.

So creating a more rational and predictable environment for foreign trade is one reason why many countries have tried to control the value of their currencies. The strictest kind of control is a **fixed exchange rate system**. In this case, a group of countries commits to keeping their currencies trading at fixed ratios over time. Starting in 1944, many countries including the United States had fixed exchange rates under what was known as the Bretton Woods system.

**fixed exchange rate system**: a system in which currencies are traded at fixed ratios

The exchange rates in such a system do not, however, all usually stay firmly fixed over the long term. In a fixed rate system, governments retain the power to alter their exchange rates from time to time. When a government lowers the level at which it fixes its exchange rate, this is called a **devaluation**, and when it raises it, that is called a **revaluation**. But too many changes undermine the system, and when key currencies such as the dollar come under too much selling pressure a fixed exchange rate system can break up. This is what happened to the Bretton Woods system in 1972.

Since the break-up of the Bretton Woods system, some countries have moved to “floating” while others have tried to exert some management over their currencies by trying to maintain certain target exchange rates, by “pegging” their currency to some particular foreign currency, or by letting it “float” but only within certain bounds.

**devaluation**: lowering an exchange rate within a fixed exchange rate system
revaluation: raising an exchange rate within a fixed exchange rate system

How does a country keep its exchange rate fixed, or at least within bounds? There are two main tools a government can use. One way is to impose capital controls. For example, a country that wants to limit foreign exchange trading may require that importers apply for licenses to deal in foreign exchange, or impose quotas on how much they can get. By only allowing highly regulated transactions, it can control the prices at which exchange transactions are made. The other technique is foreign exchange market intervention.

foreign exchange market intervention: an action by central banks which buy or sell foreign exchange reserves in order to keep exchange rates at desired levels

To see how intervention works, consider Figure 13.8. Suppose the government would like to keep the exchange rate of its domestic currency at (or above) the level $e^*$, but market pressures are represented by the curves $S_{market}$ and $D_{market}$. At the exchange rate $e^*$, there is an excess supply of domestic currency, and so there is pressure on the exchange rate to fall. The central bank must artificially create more demand for the domestic currency, as shown by demand curve $D_{with\ intervention}$. It does this by going into the market and exchanging foreign currency for domestic currency—essentially “soaking up” the surplus domestic currency. The problem is that the central bank can only do this as long as it has sufficient reserves on hand of foreign exchange. If it runs out of foreign exchange, it will no longer be able to support the currency, and will be forced to devalue.

Figure 13.8 Foreign Exchange Intervention
In order to keep the exchange rate at the target level $e^*$, the central bank has to buy up the surplus of domestic currency, using in payment its reserves of foreign exchange.
Is devaluation a bad thing? The answer to this question is complex. Devaluation is generally thought to be good for exporters, since it makes the country’s goods cheaper abroad. But it also means that people in the country will find that imports are now more expensive. And sometimes devaluation is taken as a sign of instability or poor policy in a country, or leads to international runs of speculation or competitive devaluation. Many economists have become cautious about too-easily recommending devaluation as a cure for international imbalances.

On the other hand, a country can keep its exchange rate lower than market forces would dictate by supplying lots of its domestic currency on the market and amassing large amounts of foreign reserves. Recently, China has used this tactic, keeping the value of its Yuan artificially low in order to stimulate exports. China has, in the process, become a large holder of United States dollars, as well as other currencies. China has been under pressure from many countries to revalue the Yuan (see Economics in the News).

**Economics in the News: China’s Trade Surplus Sets Another Record**


HONG KONG, Sept. 11 — China’s trade surplus with the world ballooned last month to $18.8 billion as exports soared, setting a fourth consecutive monthly record, according to preliminary customs figures released on Monday.

The surplus gives fresh ammunition to requests by American and European officials that China intervene less in currency trading to hold down the value of its currency, the Yuan. Letting market forces set the Yuan’s value could lead to faster appreciation of the currency, making Chinese exports less competitive and making imported foreign goods more competitive in China.

*Draw a graph illustrating Chinese intervention in the market for Yuan. What would happen if the government stops intervening?*

One complication with fixed exchange rates is that they make it impossible for a country to conduct independent monetary policy. The reason is that if the central bank is intervening on money markets to buy and sell its currency for foreign exchange reasons, this will necessarily affect its domestic money supply, and vice versa. A country can choose to set its exchange rate or its interest rate, but not both. If it chooses to keep its exchange rate fixed relative to some other currency, the interest rates in the two countries will tend to move together.

The adoption of the euro by a number of countries of the European Union is a dramatic recent example of fixed exchange rates—taken a step further. In 1999 eleven member countries established fixed exchange rates between their national currencies and the euro—although, at that time, the euro was just an accounting notation. Then, in 2002, euro banknotes and coins were put into circulation and national currencies were
withdrawn. The countries that have adopted the euro have given up having separate monetary policies, putting the European Central Bank in control of monetary policy-making for the group as a whole.

4.6 International Financial Institutions

The Bretton Woods system of fixed exchange rates was only one of the international financial institutions established in the 1940s. Also established during this period were the **World Bank**, established to promote economic development through loans and programs aimed at poorer countries, and the **International Monetary Fund** (IMF), established to oversee international financial arrangements. Although fixed exchange rates have been abandoned, the World Bank and the IMF continue—with considerable controversy—to play significant roles in international affairs.

**World Bank**: an international agency charged with promoting economic development, through loans and other programs

**International Monetary Fund (IMF)**: an international agency charged with overseeing international finance, including exchange rates, international payments, and balance of payments issues

The IMF was charged with overseeing exchange rates, international payments, and balance of payments issues, and with giving advice to countries about their financial affairs. IMF has a complicated governance structure based on voting shares allocated to member countries, but in fact its policy-making has historically been dominated by the United States and Europe. The appointed members of its Executive Board represent the United States, United Kingdom, Germany, France, and Japan. The IMF recently restructured its voting system to give China, South Korea, Turkey and Mexico slightly larger shares. Both the World Bank and IMF have their central offices in Washington DC.

When a country is in financial trouble—for example, when it is unable to pay the interest it owes on its foreign debts, or is experiencing wild swings in its exchange rate, the IMF (in conjunction with the World Bank, if the country is poor) often advises the government on how to remedy the problem. The IMF has tended to encourage poor and medium-income countries with debt problems to remove their barriers to trade and capital flows, arguing that such liberalization promotes economic growth. The countries are also advised to minimize the size of their government and its expenditures, as a way to reduce the need for borrowing. They are told to keep their inflation rates down, and are often advised about their exchange rate policies as well. The policy prescriptions of trade liberalization, privatization, deregulation, and small government became known as the "Washington Consensus" during the 1980s and 1990s. The policies have also become the source of much controversy, as many economists have come to believe that rigid, "one-size-fits-all" application of such policies often works against, rather than for, human welfare and international stability (see Economics in Context).
In December of 2001 the Argentina government announced a moratorium on payments on its $155 billion of public foreign debt. This default—the largest by a sovereign nation in history—rocked the international financial world. Was there more that the IMF could have done to prevent this? Or might IMF advice have been part of the reason the default occurred?

In 1991 Argentina had pegged its currency to the United States dollar, as a way of bringing hyperinflation to a halt. The IMF, believing that this would lead to more discipline in Argentine policy-making, approved the peg. But with the dollar strong against the currencies of Europe and Brazil, Argentina's major trading partners, the peg made Argentina's exports expensive. This discouraged Argentine industry and encouraged the purchase of imports. Trade deficits resulted, financed by borrowing from abroad. Unemployment rose.

The IMF advised the Argentine government to address its financial issues by cutting back on government expenditures and privatizing its social security program. The nation's leaders compiled, even though the country’s economy was in a downturn. The IMF encouraged Argentina to institute free trade policies, though major markets in the United States and Europe remained closed to its exports. Meanwhile, financial crises in Asia, Mexico, and Brazil made investors more nervous about lending to middle-income countries. The fact that the Argentine economy was visibly struggling caused foreign lenders to demand higher interest rates to compensate them for the risk of default. This in turn made the debt even harder to bear, in a vicious circle.

In December 2001, the situation reached a crisis. With official unemployment nearing 20 percent, people demonstrated in the street and the government was brought down. Unable to make its debt payments, the interim government announced the default. The Argentine economy continued in a downward slide well into 2002.

Some commentators have blamed the default on corruption and mismanagement by the Argentine government, and suggested that the crisis might have been avoided if the government had cut its expenditures even more. By IMF logic, small governments and open capital markets should attract a steady supply of foreign lending at attractive interest rates. Others, observing that the government budget deficit was actually of a quite reasonable size (less than three percent of GDP), believe that the inappropriate IMF advice is at least as much to blame. Basic principles of macroeconomics say that a government should raise—not lower—spending during a recession, but the IMF policies went in the opposite direction, pushing the economy into a downward spiral. According to this view, given IMF advice, default was only a matter of time.

How does this story illustrate the ways in which international openness and international institutions complicate the making of macroeconomic fiscal and monetary policy? Do you think the IMF gave the correct advice?

While the lending power of the IMF gives it considerable say in the affairs of many countries—for better or worse—the powers of any international organization are limited, especially with regard to the countries that are larger and more powerful. The international financial scene would probably be much more stable—for example, the Japanese crisis and deflation discussed in Chapter 11 would not have occurred—if all countries had well-designed, transparent and responsible banking systems. But these cannot be forced on a country from the outside. Many commentators worry about the undervalued Chinese Yuan, but there is currently no international institution with the power to force China to change its policies. The volume of foreign debt being taken on by the United States likewise has many commentators worried. If foreigners become less willing to lend to the United States, a deep international and domestic crisis could result.

Currently, many are calling for reforms in the international financial system, and perhaps for new international institutions. Dissatisfaction over the IMF prescriptions for liberalization have caused some changes within the organization itself. But some argue that these changes are not enough, and more radical changes are necessary. Increased regulation of international banking, substantial reforms and increased transparency in multinational corporate governance, restrictions on short-term capital flows, a “Tobin Tax” on speculative transactions in foreign exchange (see Chapter 4), and establishment of an international bankruptcy court, are among the suggestions for new international institutions.

Discussion Questions

1. To check your understanding of international linkages, consider the following hypothetical scenario. Suppose that people overseas become less interested in buying United States government bonds (perhaps because they start to think of them as less secure). What would be the effect on:
   a. the BOP financial account?
   b. the supply and/or demand for United States dollars?
   c. the value of the United States dollar?
   d. the BOP current account?
2. Have international trade or financial imbalances, or actions of the IMF, been in the news lately? What is the nature of current controversies?

Review Questions

1. What are seven ways in which economies are connected internationally?
2. List four policies related to international trade.
3. List two policies related to international capital transactions.
4. Briefly describe the recent history of U.S. and world trade, and list the United State's most major trading partners.
5. Describe the Ricardian model of trade.
6. What is meant by the "principle of comparative advantage"?
7. What is the theory of "factor-price equalization"?
8. What are some international organizations and agreements dealing with trade relations?
9. List six reasons why nations often limit trade.
10. What is "protectionism," and why do countries often engage in it?
11. How does the notion of "dynamic comparative advantage" explain some countries' adoption of "infant industry" policies?
12. What are three things that can cause shifts in the terms of trade?
13. How can international openness cause a "race to the bottom"?
14. Give some examples of recent controversies in trade policy.
15. What is the theory of "purchasing power parity"?
16. Who creates the supply of a currency on the foreign exchange market? Who creates the demand?
17. Draw a carefully-labeled graph illustrating a depreciation of the dollar against the euro.
18. What are the two accounts in the Balance of Payment Account, and what do they reflect?
19. What has happened to the United States trade deficit in recent years?
20. How and why is an imbalance (surplus or deficit) in the current account related to an imbalance in the capital account?
21. Does having an open economy make monetary policy stronger or weaker? Why?
22. Distinguish between floating and fixed exchange rate systems.
23. How and why might a central bank "intervene" on a foreign exchange market?
24. What three international institutions dealing with finance were created in the 1940s? Which two remain?
25. What is the "Washington Consensus"?
26. What are some changes that have been suggested for the international financial system?

**Exercises**

1. Singapore is a natural-resource-poor country that has built its economy on the basis of massive imports of commodities and raw materials, and similarly massive exports of refined and manufactured goods and services. In Singapore, exports are 178% of GDP! But how can a country export more than its GDP? (Hint: Review the definition of GDP and the conventions of national income accounting from Chapter 5, if necessary.)

2. Classify each of the following as a trade flow, income flow, or asset transaction
   (a) a U.S. software company sells its products to European consumers
   (b) a Saudi investor buys European real estate
   (c) a U.S. retailer imports Chinese-made appliances
   (d) a worker in the U.K. sends some of her wages back to her family in India
   (e) a Mexican manufacturer pays interest on a loan taken from a Canadian bank

3. Hereland and Thereland are two small (fictional) countries. Each currently produces both milk and corn, and they do not trade. If Hereland puts all its resources toward milk, it can produce 2 tanker truckloads, while if it puts all its resources toward corn
production, it can produce 8 tons. Thereland can produce either 2 loads of milk or 2 tons of corn. (Both can also produce any combination on a straight line in between.)

a. Draw and label production possibilities frontiers for Hereland and Thereland.
b. Suppose Hereland’s citizens would like 1 truckload of milk and 6 tons of corn. Can Hereland produce this?
c. Suppose Thereland’s citizens would like 1 load of milk and 2 tons of corn. Can Thereland produce this?
d. What is the slope of Hereland’s production possibilities frontier? Fill in the blank: “For each truckload of milk Hereland makes, it must give up making ___ tons of corn.”
e. What is the slope of Thereland’s production possibilities frontier? Fill in the blank: “For each truckload of milk Thereland makes, it must give up making ___ tons of corn.”
f. Which country has a comparative advantage in producing milk?
g. Create a table like Table 13.1, showing how Hereland and Thereland could enter into a trading relationship in order to meet their citizen’s consumption desires.
h. Suppose you are an analyst working for the government of Hereland. Write a few sentences, based on the above analysis, advising your boss about whether to undertake trade negotiations with Hereland.
i. Would your advice change if you know that unemployment in Hereland is high, and that retraining corn farmers to be dairy farmers, or vice versa, is very difficult to do?
j. Would your advice change if Thereland insists in trade negotiations that 1 truckload of milk be exchanged for exactly 4 tons of corn?

4. Continuing the Ricardian story from Section 3.1 of this chapter, suppose that England were, after a while, to put a tariff on imports of Portuguese wine. Since we only have wine and cloth in this story, we will have to (somewhat unrealistically) express this tax in terms of units of goods rather than units of currencies. Say that England demands that Portugal “pay a tariff of 40 units of cloth” if it wants to sell 100 units of wine. Or, in other words, England now says that it will give Portugal only 60 units of cloth instead of 100, in exchange for 100 units of wine.
a. With production unchanged, what would exchange and consumption be like under these modified terms of trade? (Create a table like Table 13.1.)
b. Does England benefit from instituting this tariff?
c. Would Portugal voluntarily agree to continue trading, with these changed terms of trade? (Assume Portugal has no power to change the terms of trade—it can only accept England’s deal or go back to consuming within its own production possibility frontier.)
d. Because trade is voluntary, does that mean it is fair? Discuss.

5. Suppose that, due to rising interest rates in the United States, the Japanese increase their purchases of United States securities.
a. Illustrate in a carefully labeled supply and demand diagram how this would affect the foreign exchange market and the exchange rate expressed in terms of yen per dollar.
b. Is this an appreciation or depreciation of the dollar?
c. Would we say that the yen is now “stronger”? Or “weaker”? 
d. If the fall in interest rates was due to a deliberate Fed policy, does this international connection make such policy more, or less, effective? Explain in a few sentences.
6. Determine, for each of the following, whether it would appear in the *current account* or *financial account* section of the United States Balance of Payments Accounts, and whether it would represent an *inflow* or an *outflow*.

a. Payments are received for U.S.-made airplanes sold to Thailand.
b. A resident of Nigeria buys a U.S. government savings bond.
c. A U.S. company invests in a branch in Australia.
d. A Japanese company takes home its profits earned in the U.S.
e. The U.S. government pays interest to a bondholder in Canada.

8. Match each concept in Column A with a definition or example in Column B.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. tariff</td>
<td>i. makes international incomes comparable, by accounting for differences in the cost of living</td>
</tr>
<tr>
<td>b. current account</td>
<td>ii. a rise in the value of a currency, caused by market pressures</td>
</tr>
<tr>
<td>c. appreciation</td>
<td>iii. an organization charged with facilitating international trade</td>
</tr>
<tr>
<td>d. purchasing power parity adjustment</td>
<td>iv. investing in a foreign business</td>
</tr>
<tr>
<td>e. dumping</td>
<td>v. tracks flows arising from trade, earnings, and transfers</td>
</tr>
<tr>
<td>f. quota</td>
<td>vi. a tax put on an internationally traded item</td>
</tr>
<tr>
<td>g. dynamic comparative advantage</td>
<td>vii. changes in the opportunity cost of production over time</td>
</tr>
<tr>
<td>h. WTO</td>
<td>viii. a rise in the value of a currency, under a fixed exchange rate system</td>
</tr>
<tr>
<td>i. IMF</td>
<td>ix. an organization charged with overseeing international finance</td>
</tr>
<tr>
<td>j. comparative advantage</td>
<td>x. an industry that needs protection until it is able to compete</td>
</tr>
<tr>
<td>k. revaluation</td>
<td>xi. selling goods abroad at below the cost of production</td>
</tr>
<tr>
<td>l. FDI</td>
<td>xii. putting a quantity limit on imports or exports</td>
</tr>
<tr>
<td>m. infant industry</td>
<td>xiii. putting a tariff on orange juice imports to help Florida orange growers</td>
</tr>
<tr>
<td>n. protectionism</td>
<td>xiv. a country is relatively more efficient in the production of some good(s)</td>
</tr>
</tbody>
</table>