“An investment in knowledge always pays the best interest.”

—Benjamin Franklin
We live in a global economy. Precision ice hockey equipment is designed in Sweden, financed in Canada, and assembled in Cleveland, Ohio. An advertising campaign is conceived in Great Britain, and footage for it is shot in Canada, dubbed in London, and edited in New York. A sports car is financed in Japan, designed in Italy, and assembled in Indiana, Mexico, and France using advanced electronic components invented in New Jersey and fabricated in Japan. A jet plane is designed in the state of Washington and in Japan and assembled in Seattle, with tail cones from Canada, special tail sections from China and Italy, and engines from England.

As Americans deal more and more with people in other nations, they may learn things about other people that they either did not know before or did not stop to think about. This chapter considers an increasingly important activity of people in a global economy: trade.
The following events occurred one day in November.

12:04 P.M. Samantha Lawrence is packing for a trip to Paris. Tomorrow, at 5:30 p.m., she will leave from JFK Airport in New York. She will spend five days in Paris, then go to England, where she will spend two days in London, one day in Oxford, and then take a train to Scotland, where she will spend four days in Edinburgh and one day in Glasgow. Although the dollar has been falling in value relative to the euro and the pound, she is still going on her trip.

- What does the value of the dollar have to do with a trip overseas?

1:23 P.M. Carla Rodriguez is a reporter for a local TV station. She is currently in the office of Vernon Milson, who owns a small business in New Mexico. Carla Rodriguez asks, “Is your business expected to increase its sales this year?” Milson looks at her and says, “A lot depends on whether the administration in Washington imposes tariffs on our foreign competitors.”

- How will imposing tariffs on his foreign competitors affect Milson’s business?

3:04 P.M. In Jacob’s family, each person has certain duties and responsibilities. His mother and father share responsibilities for the family finances, shopping, and preparing meals. His younger sister takes care of the family pets. Jacob’s job is to take out the trash, keep his room clean, and mow the lawn. Right now, he is mowing the lawn. As he mows, he thinks, “I wonder why it is always my job to mow the lawn.”

- Why do family members often specialize in performing certain tasks?

5:45 P.M. Marianne is watching a news report on offshore outsourcing (or offshoring) in America. The reporter is telling the story of Adam Evans who worked 10 years for a local company. Yesterday, it seems, he was fired from his job. The reporter ends her report by saying, “That’s just one more job that leaves our shores and goes to China.”

- What is offshoring, and is it something U.S. residents should worry about?
Why Do People in Different Countries Trade with Each Other?

We have international trade for the same reason we have domestic trade (trade within a country). Individuals trade to make themselves better off. Frank and Nate, who live in Fargo, North Dakota, trade because both value something the other has more than they value something of their own. For example, perhaps Frank trades $10 for Nate’s book. On an international scale, Elaine in the United States trades with Cho in China because Cho has something that Elaine wants and Elaine has something that Cho wants.

Obviously, different countries have different terrains, climates, and resources. It follows that some countries will be able to produce some goods that other countries cannot produce or can produce only at extremely high cost. For example, Hong Kong has no oil, and Saudi Arabia has a large supply of oil. Bananas do not grow easily in the United States, but they flourish in Honduras. Americans could grow bananas if they used hothouses, but it is cheaper for them to buy bananas from Honduras than to produce bananas themselves.

Sometimes we forget how many goods we use each day are purchased from people living in other countries. Our alarm clock might be produced in Belgium, our shoes in China, our watch in Switzerland. Take a look sometime at all the goods you use each day. How many are produced in foreign countries?

What Are Exports and Imports?

Exports are goods that are produced in the domestic country and sold to residents of a foreign country. For example, if residents of the United States (the domestic country) produce and sell computers to people in France, Germany, and Mexico, then computers are a U.S. export. In April 2005, the value of U.S. exports was $106.4 billion, which means that U.S. residents produced and sold $106.4 billion worth of U.S. goods and services to people in other countries—in just one month. Major U.S. exports include automobiles, computers, aircraft, corn, wheat, soy-
beans, scientific instruments, coal, machinery, and plastic materials.

**Imports** are goods produced in foreign countries and purchased by residents of the domestic country. For example, if residents of the United States (the domestic country) buy coffee from Colombia, then coffee is a U.S. import. In April 2005, the value of U.S. imports was $163.4 billion; U.S. residents, again, in just one month, bought $163.4 billion worth of goods and services from people in other countries. Major U.S. imports include petroleum, clothing, iron, steel, office machines, footwear, fish, coffee, and diamonds.

Exhibit 15-1 shows the value of exports and the value of imports for the period from 1980 to 2005. Exhibit 15-2 on the next page shows the number of imported cars in each year during the same period.

**EXHIBIT 15-1**
Value of U.S. Exports and Imports, 1980–2005

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<tr>
<th>Year</th>
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<td>1980</td>
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<td>2005</td>
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QUESTION: I noticed that the value of exports in April 2005 was less than the value of imports. In other words, Americans bought more from people in other countries than the people in other countries bought from Americans. Does it happen this way in most months?

ANSWER: Yes, in the recent history of the United States, during most months, Americans buy more from people in other countries than people in other countries buy from Americans.

**Balance of Trade**

A country’s **balance of trade** is the difference between the value of its exports and the value of its imports.

\[
\text{Balance of trade} = \text{Value of exports} - \text{Value of imports}
\]

For example, if the value of a country’s exports is, say, $300 billion (for the year) and the value of its imports is $200 billion, then the country has a positive balance of trade ($100 billion) or is said to have a **trade surplus**. If the value of a country’s exports is $100 billion and the value of its imports is $210 billion, then the country has a negative balance of trade (–$110 billion) or is said to have a **trade deficit**.

**A Student Asks**

**QUESTION:** What is the recent trade history of the United States? Has it mostly had a trade surplus or trade deficit?

**ANSWER:** From 1946 through 1970, the United States had a trade surplus.
Beginning in 1971 (and with the exception of 1973 and 1975) it has had a trade deficit. If you would like to check the status of U.S. exports and imports for the latest month and year, you can go to the U.S. Census Bureau (Foreign Trade Statistics) at www.emcp.net/exports_imports. As an aside, you may be interested in knowing which countries the United States trades with often and in a large way. These countries include Canada, Germany, Mexico, Japan, United Kingdom, and China. If you would like to find the trade balance between the United States and any country in particular, you can go to www.emcp.net/tradebalance and simply click on the relevant country. For example, in April 2005, the United States sold $3.4 billion worth of goods to China and bought $18.1 billion worth of goods from China. In other words, for that month, the United States had a trade deficit of -$14.7 billion with China.

**Absolute and Comparative Advantage**

Suppose that using the same quantity of resources as Japan, the United States can produce either of the following two combinations of food and clothing:

- Combination A: 150 units of food and 0 units of clothing
- Combination B: 100 units of food and 25 units of clothing

Suppose that Japan, using the same quantity of resources as the United States, can produce either of the following two combinations of food and clothing:

- Combination C: 30 units of food and 120 units of clothing
- Combination D: 0 units of food and 180 units of clothing

When a country can produce more of a good than another country using the same quantity of resources, it is said to have an absolute advantage in the production of that good. In our example, the United States has an absolute advantage in producing food, because the maximum amount of food it can produce (150 units) is greater than the maximum amount of food Japan can produce (30 units). Japan, in contrast, has an absolute advantage in producing clothing, because the maximum amount of clothing it can produce (180 units) is greater than the maximum amount of clothing the United States can produce (25 units).

Suppose that in year 1, Japan and the United States do not trade with each other. Instead, each nation decides to produce some quantity of each good and consume it. The United States produces and consumes combination B (100 units of food and 25 units of clothing), and Japan produces and consumes combination C (30 units of food and 120 units of clothing).

In year 2, things change. Each country decides to specialize in the production of one good and then trade some of it for the other good. Which good—clothing or food—should the United States specialize in producing? Which good should Japan specialize in producing?

In general, a country should specialize in the production of the good in which it has a comparative advantage—the good it can produce at a lower opportunity cost.

**Determining Opportunity Cost**

Recall from Chapter 1 that the opportunity cost of producing a good is what is given up to produce that good. For example, if Julio gives up the opportunity to...
produce three towels if he produces a blanket, then the opportunity cost of the blanket is three towels.

What is the opportunity cost of producing food for the United States? What is the cost for Japan? We know that the United States can produce either combination A (150 units of food and 0 units of clothing) or combination B (100 units of food and 25 units of clothing). Suppose it is producing combination B. What are the benefits and costs of deciding to produce combination A instead? By producing combination A, the country will make itself better off by 50 additional units of food, but it will have to give up 25 units of clothing to do so. In other words, for every 1 extra unit of food, it will have to give up ½ unit of clothing. In economic terms, for the United States, the opportunity cost of 1 unit of food is ½ unit of clothing.

The process is similar for Japan. We know that Japan can produce either combination C (30 units of food and 120 units of clothing) or combination D (0 units of food and 180 units of clothing). Suppose it is producing combination D. What are the benefits and costs of deciding to produce combination C instead? By producing combination C, Japan will make itself better off by 30 additional units of food, but it will have to give up 60 units of clothing to do so. In other words, for every 1 extra unit of food, it will have to give up 2 units of clothing. In economic terms, for Japan, the opportunity cost of 1 unit of food is 2 units of clothing. Thus the opportunity cost of producing 1 unit of food (F) is ½ unit of clothing (C) for the United States and 2 units of clothing for Japan:

<table>
<thead>
<tr>
<th>Opportunity cost of 1 unit of food</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States: 1F = ½C</td>
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<tr>
<td>Japan: 1F = 2C</td>
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</tbody>
</table>

We conclude that the United States can produce food more cheaply than Japan. In other words, the United States has a comparative advantage in food production. Food, then, is what the United States should specialize in producing.

EXAMPLE: Country A can produce either (1) 40X and 20Y or (2) 80X and 0Y. Country B can produce either (1) 20X and 20Y or (2) 40X and 0Y. What is the opportunity cost of producing 1X for both countries, A and B? To find it for country A, we realize that when it goes from producing 40X to 80X, it ends up not producing 20Y. So, country A gets 40 more X at the cost of 20 fewer Y. In other words, for every 2 more X it gets, it gives up 1Y. Or, to state it differently, for every 1 more X it gets, it gives up ½Y. In short, the opportunity cost of 1X is ½Y.

Now let’s look at things for country B. When it goes from producing 20X to 40X it gives up producing 20Y. In other words, to
produce 20 more X, it must forfeit 20Y, or for every 1 more X it has to give up 1Y. In short, the opportunity cost of 1X is 1Y.

Who is the low-cost producer of X, country A or B? It is country A, because it gives up less ($\frac{1}{2}$Y) to produce 1 more X.

**Benefits of Specialization and Trade**

Suppose we look at two countries, Japan and the United States. Currently, we assume that each country can produce some food and some clothing. Here are the combinations of the two goods that each country can produce.

<table>
<thead>
<tr>
<th>United States</th>
<th>Japan</th>
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<tbody>
<tr>
<td>A: 150 food, 0 clothing</td>
<td>C: 30 food, 120 clothing</td>
</tr>
<tr>
<td>B: 100 food, 25 clothing</td>
<td>D: 0 food, 180 clothing</td>
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</table>

Now let’s consider two cases for both the United States and Japan. In the first case, Exhibit 15-3(a) on the next page, neither Japan nor the United States specializes in...
Countries can have more of each good if they specialize in the production of the good for which they have a comparative advantage. They can then trade some of that good for other goods.

The Benefits of Specialization and Trade

(a) No specialization and no trade
Without specialization and trade, countries have only what they produce.

(b) Specialization and trade
With specialization, each country can produce more of the good for which it has a comparative advantage.

With specialization and trade, each country can have more of all goods.

In the second case, in Exhibit 15-3(b), each country specializes in the production of the good in which it has a comparative advantage, and then it trades some of that good for the other good. The United States produces combination A (150 units of food and 0 units of clothing), and Japan produces combination D (0 units of food and 180 units of clothing).

Then the countries decide that the United States will trade 40 units of food to Japan in return for 40 units of clothing.
Countries trade
40F for 40C

After trade, the United States ends up with 110 units of food and 40 units of clothing. Japan, in turn, ends up with 40 units of food and 140 units of clothing.

Specialization and trade
United States: 110F + 40C
Japan: 40F + 140C

In which case are Japan and the United States better off? The answer is the second case in which they specialize and then trade. In the first case (no specialization and no trade), the United States ended up with 100 units of food and 25 units of clothing, whereas in the second case, it ended up with 110 units of food and 40 units of clothing. In other words, through specialization and trade, the United States ended up with more of both food and clothing.

Benefits to United States of specialization and trade
10 more units of F
15 more units of C

The same is true for Japan. In the first case, it had 30 units of food and 120 units of clothing, whereas it ended up with 40 units of food and 140 units of clothing in the second case, through specialization and trade.

Benefits to Japan of specialization and trade
10 more units of F
20 more units of C

Thus, if countries specialize in the production of the goods in which they have a comparative advantage and then trade some of these goods for other goods, they can make themselves better off.

Would this country still be better off trading with other countries?

ANSWER: Yes. Instead of thinking of this example on a country basis, let’s think of it on an individual basis. Suppose a person is a brain surgeon. She is a very good brain surgeon, but then she is good at almost everything she does. For example, not only is she a good brain surgeon, but she’s also good at changing the oil in her car, washing her clothes, cleaning her house, mowing the lawn, fixing the faucet in the bathroom, and so on. Does it follow that because she is, say, better than most plumbers when it comes to fixing bathroom faucets, that she should fix her own bathroom faucet instead of calling a plumber? Not at all. Most likely she can benefit from calling a plumber and devoting her time to brain surgery instead of fixing the faucet. Our point is a simple one. Even if you find a person who is better at doing everything than everyone else, still this person is made better off by doing the one thing he or she is the best at doing, and purchasing the services of other people to do other things.

The same thing is true for a country. Even if one country could produce everything better than other countries, still it would benefit this country to do what it does best, and then trade with other countries.

QUESTION: I have another question about trade. Isn’t it the case that if we (in the United States) don’t produce as many different goods as we can, we will simply be shipping jobs out of the country? For example, although it might be costly to produce bananas in the United States, some Americans would be working in the banana industry in the United States if we produced bananas. Now no one works in the banana industry in the United States, but people in Honduras are working in the banana industry. Isn’t it better for Americans to keep the jobs at home?
ANSWER: First, you shouldn’t assume that if Americans are not working in the banana industry that they are not working at all. Americans not working in the banana industry might be working in some other industry. Second, it is not so much a matter of “keeping the jobs at home,” as it is making sure Americans are doing the jobs they are best at doing. It may be relatively costly for Americans to work at producing bananas, but relatively cheap—in opportunity cost terms—for Americans to work at producing computer software, cars, or movies.

Even without international trade, the composition of jobs in the United States changes. For example, in 1929, 22 percent of the workforce was made up of farmers. That percentage was down to 16.2 percent in 1945, and today it is about 2.4 percent.

No doubt someone in the 1940s, complaining about the declining employment of farmers in the United States, said something like, “We can’t have people leaving the ranks of the farmers; it will be the end of America.” But it wasn’t the end of America. Agricultural production in the United States boomed at the same time as the number of farmers decreased (in both absolute and relative terms) in America. Many of the people who would have been farmers turned out instead to be teachers, doctors, accountants, engineers, plumbers, construction workers, taxi drivers, and so on.

Our point is a simple one: even without any international trade, the composition of the labor force will change over time. At one time in the United States, no one was working in the computer software industry because there were no computers. Today, thousands are employed in this industry.

Outsourcing and Offshoring

A controversial issue has come to America: outsourcing and offshoring. Before examining this issue, let’s make sure you know the difference between these two terms.

Understanding the Difference

Suppose a company called “Adams Software” is located in Greensboro, North Carolina. Let’s say the company has 100 employees. One day the president of the company decides to hire some people in, say, Seattle, Washington, to do some work for the company. Because the president is hiring some workers who are not formal employees of the company in Greensboro, he is said to be outsourcing jobs. In short, outsourcing is the term used to describe work done for a company by either another company or by people other than the original company’s employees.

Recall from Chapter 2 that when a company outsources certain work to individuals in another country, it is said to be engaged in offshore outsourcing or offshoring. For example, if Dell, Inc., in Texas, hires people in India to answer customers’ calls, then Dell is offshoring.

Sometimes people use the word outsourcing when the correct word to use is offshoring. For example, it is not uncommon to hear a person say, “Yes, many U.S. companies are outsourcing jobs to India and China.” Once again, if we are talking about individuals being hired in another country (a country other than the United States), the correct word is offshoring.

Jobs Are Lost

It is not uncommon for Americans to be concerned about offshoring. Think of an extreme case. A person in Montana goes to college to learn software engineering. After having studied four or five years in college, she gets her degree and is ready to work. Then, just as she goes into the job market, she finds out that many of the companies she is seeking employment with are hiring software engineers in, say, India. Why? Because software engineers in India earn
lower salaries than software engineers in the United States.

It is easy to see why our software engineer from Montana might be disheartened by what has happened. Here she went to college, thinking that a job would be awaiting her when she graduated, but many of the jobs were “shipped” overseas.

Will these kinds of things happen in a free global economy? Yes they will. In fact, they have happened. Is this a personal tragedy for some people, such as our software engineer from Montana? No doubt it is. What happens to the software engineer is not the full story, though. There is more to tell.

Some Benefits

First, offshoring is not something that only happens in the United States. Yes, U.S. companies can and do hire individuals who live in other countries. It’s also the case, however, that foreign companies hire individuals who work in the United States. In short, offshoring is a two-way street.

Second, offshoring often benefits consumers. How so? U.S. companies outsource certain work activities only if it is less costly for them to hire foreign labor than U.S. labor (assuming the quality of the labor in the two countries is the same). In other words, the motivation behind offshoring is the attempt to lower costs (and thus raise profits). As we know from an earlier chapter, lower costs shift the supply curve (of the good) to the right. Do you remember what happens if the supply curve shifts to the right? The price of the good will fall. In other words, consumers will end up paying lower prices.

Opportunity Costs Play a Role

Offshoring is nothing more than those persons producing things that they can produce at a lower cost than other people. It is simply comparative advantage at work.

Looking at it this way sheds some light on the case of the Montana software engineer. When we last discussed her situation, the job she was seeking had been offshored to India. The reason: Indian software engineers earn less than American software engineers.

But couldn’t the software engineer from Montana have offered to work for the same wage that the Indian software engineer agreed to work for? Let’s say this wage was $600 a week. The answer, of course, is yes. So why didn’t she offer to do this? Why didn’t she simply say that if the Indian software engineer is willing to work for $600 a week, then so is she?

The reason is because she must have had a better alternative open to her than working for $600 a week. If she didn’t, then she would have offered to work for the same wage as the Indian software engineer. In other words, here is her priority list:
These software engineers in Bangalore, India, work for an Indian software company that has about 300 clients around the world, including U.S. companies Bank of America and Citigroup. Because Bank of America and Citigroup have chosen to offshore these jobs, it doesn’t necessarily follow that U.S. software engineers have no jobs at all. Explain.

Top choice:
Work as a software engineer for $1,000 a week

Second choice:
Work at job X for $700 a week

Third choice:
Work as a software engineer for $600 a week (which is the same wage an Indian software engineer is receiving)

She initially goes after her top choice and learns that it is no longer open to her. She doesn’t go for her third choice, though, because she has a second choice that is better.

In other words, our software engineer from Montana doesn’t choose to work at the same wage as the Indian software engineer because her opportunity costs are greater than his. We are not suggesting that offshoring does not hurt her. Her hurt comes in the form of earning $700 a week instead of $1,000 a week. It’s just that now we understand her options are not between (1) working for $1,000 a week and (2) not working. Her options are between (1) working for $1,000 a week and (2) working for $700 a week. In other words, her options are not as black-and-white or as extreme as we perhaps initially thought.

One final point to consider is that even though offshoring lowers our Montana software engineer’s income by $300 a week, it lowers the U.S. company’s costs by $400 a week (per software engineer hired in India instead of the United States). In other words, costs of the company fall by more than income falls. And, as we said earlier, if the company operates in a competitive environment—where prices tend to fall to a level just sufficient enough to cover costs—then we can expect a decline in prices to follow.

A Student Asks

QUESTION: I think part of this story is unrealistic. You say that if the software engineer from Montana wanted to work for $600, she could have told the U.S. company offshoring jobs to India. Then she would have worked at $600 a week. But I have never heard of a person going into a company and offering to work for the same wage as a person in India, or China, or any other country. Isn’t this unrealistic?

ANSWER: In a way, you are right. Very few, if any, people will send the following e-mail to the president of a company that is offshoring jobs.

Dear President:
I know you have been offshoring jobs to India because you can hire labor in India at a lower wage than you can hire labor here in the United States. I also know that the wage isn’t the only thing that matters to you—productivity matters too. So it must be the case that Indian labor is as productive as U.S. labor—but just costs less. I can see why you are doing what you are doing. If I were in your shoes, and had to answer to the stockholders, I would probably do the same thing.

So here’s the deal: I will work for the same wage you are paying the software engineers in India. Here is my phone number and e-mail address.

I hope to hear from you soon.

Signed,
Software engineer from Montana

But even though e-mails like this one are rarely sent, if the message in the letter is the same message on the minds of enough American software engineers, you can be sure the president of the company is going to hear it. He or she might not
The Costs of Offshoring Are Easier to See than the Benefits

Our economic discussion of offshoring mentions some benefits and costs to offshoring. One huge cost came to the software engineer who ended up earning $700 a week instead of $1,000 a week. Some benefits came in the form of lower prices for consumers. In addition, we learned that offshoring is a two-way street.

The biggest practical problem with offshoring is that the costs are much easier to see than the benefits. For this reason, many people come away thinking that offshoring is nothing but costs.

Think of yourself watching the TV news one night. A news reporter tells you the story of our software engineer from Montana who went to college and then couldn’t get a job as a software engineer earning $1,000 a week because so many U.S. companies decided to hire Indian software engineers instead. The news report makes the picture easy to see. The software engineer from Montana on your screen is a real person—just like you. If you are an empathic sort of person, you can feel some of the pain and heartbreak that she must be going through.

What you don’t see at that moment on television, or perhaps read about in the newspaper the next day, is that just as U.S. companies offshore jobs to India, some foreign companies offshore jobs to the United States. In other words, you don’t see the American who is working for a foreign company. His or her story is rarely told on the TV news.

You also don’t see the lower prices that often result from offshoring. As far as you know, prices just keep going up and up and up. So where are the lower prices that offshoring is creating for American buyers? The problem here is that two things are
happening at the same time, which make it difficult to see what is happening to prices because of offshoring. The first thing that is happening is that the Fed, which we discussed in an earlier chapter, is busy raising the money supply (most months). The increased money supply is putting upward pressure on prices. At the same time, offshoring is putting downward pressure on prices. The problem, however, is that net prices keep rising because the money supply effect pushing prices upward is stronger than the offshoring effect pushing prices downward. It is as if the money supply raises the price of a good $3 at the same time that offshoring lowers the price $1. What will be the end result? It’s going to rise by $2. (Think of a person throwing buckets of water on a fire. The fire still flames, but not by as much as it would if no water had been thrown on the water.)

If all we can really see are the costs of offshoring, then it is likely that many Americans will rally against it. They might vote for politicians who speak out against it, they might march in the street against U.S. companies that practice it. Would their behavior be different if they saw the whole picture instead of only the cost side of the picture?

If your job were on the line, you would be more anti-offshoring than you seem to be. Isn’t it easy for someone to talk about the benefits (to others) of offshoring if he or she is not the one losing a job?

QUESTION: I think that if your job were on the line, you would be more anti-offshoring than you seem to be. Isn’t it easy for someone to talk about the benefits (to others) of offshoring if he or she is not the one losing a job?

ANSWER: You bring up an interesting point. I think I might be less likely to bring up the benefits of offshoring if I were the person losing a job. It doesn’t mean the benefits of offshoring are not there, however. Remember, no economist is telling you that offshoring is all benefits or all costs; the economist is simply telling you that the situation involves both costs and benefits. An economist then usually goes on to say that the costs are often more visible than the benefits, such that the benefits are often ignored in our daily conversations while the costs are not. At the end of the day, you have every right to be either “for” or “against” offshoring. We are simply outlining the benefits and costs of offshoring so that you can make an informed choice.

**SECTION 1 ASSESSMENT**

**Defining Terms**

1. Define:
   a. exports
   b. imports
   c. balance of trade
   d. absolute advantage
   e. comparative advantage
   f. specialize

2. Suppose the United States can produce either 90 apples and 20 oranges or 80 apples and 30 oranges. What is the opportunity cost of producing 1 apple?

3. Suppose Japan can produce either 100 cars and 30 television sets or 80 cars and 60 television sets. What is the opportunity cost of producing 1 television set?

4. What does it mean to say that country A has a comparative advantage in the production of computers?

5. Jones is an attorney, and Smith is a gardener. Jones, however, is better at gardening than Smith is at gardening.

**Critical Thinking**

6. How would you go about computing the opportunity cost (in dollars) of studying for a test?
Trade Restrictions: Tariffs and Quotas

Tariffs and quotas are the two major types of trade restrictions. A **tariff** is a tax on imports. For example, currently some Americans buy cars made in Japan, which are considered imports. Let’s say each car sells for $22,000. Now suppose the U.S. government places a $1,000 tariff on each car, raising the price of a Japanese car from $22,000 to $23,000. As a result, Americans will buy fewer Japanese cars. (Remember the law of demand: As price rises, quantity demanded falls.)

A **quota** is a legal limit on the amount of a good that may be imported. Suppose Japan is sending 300,000 cars into the United States each year. The U.S. government decides to set a quota, or legal limit, on Japanese cars at 200,000 cars per year. In short, the U.S. government says it is legal for Japan to send 200,000 cars each year to the United States, but not one car more.

The effect of the quota is to raise the price of Japanese cars. With a smaller supply of Japanese cars and with demand for Japanese cars constant, the price of Japanese cars will rise. (Recall that when the supply of a good falls and the demand for the good remains the same, the price of the good rises.) In effect, then, both tariffs and quotas raise the price of the imported good to the U.S. consumer.

The U.S. Government and Producer Interests

If tariffs and quotas result in higher prices for U.S. consumers, why does the government impose them? Government is sometimes more responsive to producer interests than consumer interests. In other words, government may be more responsive to U.S. car manufacturers than to U.S. car consumers. To see why, suppose 100 U.S. producers produce good X and 20 million U.S. consumers consume good X. The producers want to protect themselves from foreign competition, so they lobby for, and receive, tariffs on foreign goods that compete with what they sell. As a result, consumers end up paying higher prices. We’ll say that consumers end up paying $40 million more, and producers end up receiving $40 million.

**Focus Questions**
- What is a tariff?
- What is a quota?
- How do tariffs and quotas affect price?
- Why does the government impose tariffs and quotas if they are harmful to U.S. consumers?
- What impact did tariffs have on the Great Depression?
- What are the arguments for and against trade restrictions?

**Key Terms**
- **tariff**: A tax on imports.
- **dumping**: Selling goods at prices lower than the cost of production.
more, for good X than they would have if the tariffs had not been imposed. If we equally divide the additional $40 million received among the 100 producers, we find that each producer receives $400,000 more as a result of tariffs. If we equally divide the additional $40 million paid among the 20 million consumers, we find that each customer pays $2 more as a result of tariffs. A producer is likely to think, “I should lobby for tariffs, because if I am effective, I will receive $400,000 more.” A consumer is likely to think, “Why should I lobby against tariffs? If I am effective, I will save myself only $2. It is not worth my lobbying to save $2.” In short, the benefits of tariffs are concentrated on relatively few producers, and the costs of tariffs are spread over relatively many consumers. This situation makes each producer’s gain relatively large compared with each consumer’s loss. Producers will probably lobby government to obtain the relatively large gains from tariffs, but consumers will not lobby government to avoid paying the small additional amount added by tariffs.

Politicians, who generally respond to the most vocal interests, hear from those people who want the tariffs but not from those people who are against them. Politicians may thus mistakenly assume that consumers’ silence means that they accept the tariff policy, when in fact they may not. They may simply not find it worthwhile to do anything to fight the policy.

**QUESTION:** Can you give me an example of producer interests getting the tariffs they seek?

**ANSWER:** In 2002, the federal government placed tariffs on imported steel. The steel tariffs were in response to what the domestic (U.S.) steel industry was asking for at the time. As a result of the tariffs, consumers ended up paying more for such goods as cars. A USA Today article stated the following about the tariffs: “The tariffs will undoubtedly be passed on to consumers, but the [Bush] administration did not estimate by how much. Critics say the action will raise prices to consumers on items ranging from cars, houses, and appliances. One critical study suggested the average family of four would spend up to $283 more a year.” In late 2003, the tariffs on steel that were imposed in 2002 were ended.

**A Student Asks**

**QUESTION:** Don’t tariffs sometimes save American jobs, though? Didn’t the steel tariffs save some American jobs?

**ANSWER:** Yes, it is possible for tariffs to save some American jobs, but the question for an economist is: At what cost? For example, the Institute for International Economics estimated that the steel tariffs saved 1,700 jobs in the steel industry, but at the cost to consumers (in the form of higher prices) of $800,000 per job. In other words, U.S. consumers ended up paying $800,000 in higher prices for every one job they saved.
in the steel industry. Or look at it this way. The average job saved in the steel industry was a job that paid $50,000 to $55,000 a year. In short, tariffs ended up causing American consumers to pay $800,000 in higher prices in order to save a $50,000–$55,000 job.

One of the lessons we introduced in the first chapter of this book is that economists want to look at the entire picture, not only part of it. Tariffs can save jobs, which is certainly part of the picture of tariffs. But another part is that tariffs drive up prices for consumers. Tariffs can also make it more expensive for other American producers to produce goods. For example, even though tariffs on steel might have helped the U.S. steel industry, they certainly hurt the U.S. car industry (because car producers buy steel). It is important, when discussing tariffs and quotas, to make sure to identify all of their effects.

Tariffs and the Great Depression

In January 1929, many members of Congress became disturbed over the increase in imports into the United States. Willis Hawley, the chairman of the House Ways and Means Committee, introduced a bill in Congress to deal with this apparent problem. It came to be known as the Smoot-Hawley Tariff Act, which proposed substantially higher tariffs on many imported goods. It was thought with higher tariffs on imported goods, Americans would buy fewer imports and more goods produced in the United States. This outcome, some thought, would be good for the country.

Although the Smoot-Hawley Tariff Act was not signed into law until June 17, 1930, its passage was likely, and many people in the country suspected it would become law long before it did. Some people thought it would be bad for business in the United States. They thought that other countries would retaliate with their own high tariffs (which they did), and that global trade would diminish, thus hurting the U.S. economy. (If other countries imposed high tariffs on U.S. goods, then Americans would not be able to sell as much abroad.)

Some economists blame the sharp decline in the stock market in 1929—which some say dates the beginning of the greatest economic decline in the nation’s history, the Great Depression—on the foregone conclusion that Congress would pass, and the president would sign, the Smoot-Hawley Tariff Act. Many economists today believe that the act not only served as one of the catalysts of the Great Depression but also made the Great Depression last longer than it would have otherwise.

Arguments for Trade Restrictions

Do tariffs and quotas exist only because government is sometimes more responsive to producer interests than consumer interests? Not at all; they exist for other reasons, too.

The National-Defense Argument

It is often argued that certain industries—such as aircraft, petroleum, chemicals, and weapons—are necessary to the national defense and therefore deserve to be protected from foreign competition. For example, suppose the United States has a comparative advantage in manufacturing electricity-generating equipment. Why might a country that produces oil place a tariff or quota on imported oil?
A person walks into a hospital to have a magnetic resonance imaging (MRI) test. In an MRI test, the area of the body being studied is positioned inside a strong magnetic field. The MRI detects changes in the normal structure and characteristics of organs or other tissues. These changes may indicate diseases caused by trauma, infection, inflammation, or tumors.

The information from an MRI scan is often saved and stored on a computer. Then it is sent electronically to someone who studies the scan and reports on what he or she sees. The person who examines the MRI scan can be anywhere in the world. Often the person is located in another country.

What happens with MRI scans today might happen with your five-page essays or homework assignments in the future. The teacher in high school spends most of the day teaching and discussing the material—economics, history, mathematics. Homework assignments, essays, tests, and all other assignments are scanned into a computer and then electronically sent to graders in India, Ireland, or even Russia. The only proviso is that the grader has to know the material the student is being tested on and reads and writes English. (By the way, this same process is effectively what happens when you write the essay for the SAT. Your essay is scanned into a computer and sent to a grader who can live anywhere in the United States. Well, if your essay can be sent to anyone in the United States, it can also be sent to anyone in the world.)

It may just be cheaper to grade this way than to have your teacher take out time to grade your work. Of course, if you had a problem with your grader in India or Ireland, your teacher in your high school would be the one to speak with. He or she could change the grade if need be.

The computer and the Internet combine to make some things possible that weren’t possible before, such as separating teaching from grading—because the computer and the Internet effectively overcome the hurdle of location. The teacher doesn’t have to be the same person as the grader when the grader can get your work in the time it takes to scan and send a document.

In the future, you might just see a greater specialization of tasks than ever experienced before. Instead of a teacher being a teacher and a grader and a recorder of grades, a teacher may just teach. Others will grade, and still others will record grades, and so on.

What work activities are unlikely to be offshored? Is it more likely that an accountant’s work will be offshored or a medical physician’s work?

advantage in the production of wheat, and China has a comparative advantage in the production of weapons. Should the United States specialize in the production of wheat and then trade wheat to China in exchange for weapons? Many Americans would answer no; they maintain it is too dangerous to leave weapons production to another country, whether that country is China, France, or Canada.

The national-defense argument may have some validity, but even valid arguments may be overused or abused. Industries that are not necessary to the national defense may still argue for trade restrictions placed on imported goods. For example, in the past, the national-defense argument has been used by some firms in the following industries: pens, pottery, peanuts, candles, thumbtacks, tuna fishing, and pencils. It is difficult
to believe that these goods are necessary to the national defense.

**The Infant-Industry Argument**

Alexander Hamilton, the first U.S. secretary of the Treasury, argued that “infant,” or new, industries often need to be protected from older, more established foreign competitors until the new industries are mature enough to compete on an equal basis. Today, some persons voice the same argument. The infant-industry argument is clearly an argument for only temporary protection from foreign producers. Critics charge, however, that once an industry is protected from foreign competition, removing the protection is almost impossible. The once-infant industry will continue to argue that it is not yet old enough to go it alone.

**The Antidumping Argument**

**Dumping** is selling goods in foreign countries at prices below their costs and below the prices charged in the domestic (home) market. For example, if Germany sells a German-made car in the United States for a price below the cost to produce the car and at a price below what it sells the car for in Germany, then Germany is said to be dumping cars in the United States. Critics of dumping say that dumpers (in our example, Germany) seek only to get into a market, drive out U.S. competitors, and then raise prices. However, some economists point out that such a strategy is not likely to work. Once the dumpers have driven out their competition and raised prices, their competition is likely to return. The dumpers, in turn, will have obtained only a string of losses (by selling below cost) for their efforts. Second, opponents of the antidumping argument point out that U.S. consumers benefit from dumping by paying lower prices.

**The Low-Foreign-Wages Argument**

Some people argue that U.S. producers can’t compete with foreign producers because U.S. producers pay high wages to their workers, and foreign producers pay low wages to their workers. The U.S. producers insist that free trade must be restricted, or they will be ruined.

What the argument overlooks is the reason U.S. wages are high and foreign wages are low: productivity. High wages and high productivity usually go together, as do low wages and low productivity. Suppose a U.S. worker who receives $20 per hour produces 100 units of good X per hour; the cost per unit is 20 cents. A foreign worker who receives $2 per hour produces 5 units of good X per hour. The cost per unit is 40 cents—twice as high as for the U.S. worker. In short, a country’s high-wage disadvantage may be offset by its productivity advantage. (See Exhibit 15-4 for the hourly compensation paid to production workers in different countries.)

![EXHIBIT 15-4 Hourly Compensation for Production Workers, Selected Countries](chart)

<table>
<thead>
<tr>
<th>Country</th>
<th>Hourly compensation for production workers (in dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>$ 20.05</td>
</tr>
<tr>
<td>Austria</td>
<td>25.38</td>
</tr>
<tr>
<td>Belgium</td>
<td>27.73</td>
</tr>
<tr>
<td>Canada</td>
<td>19.28</td>
</tr>
<tr>
<td>Denmark</td>
<td>32.18</td>
</tr>
<tr>
<td>Finland</td>
<td>27.17</td>
</tr>
<tr>
<td>France</td>
<td>21.13</td>
</tr>
<tr>
<td>Germany</td>
<td>29.91</td>
</tr>
<tr>
<td>Ireland</td>
<td>19.14</td>
</tr>
<tr>
<td>Italy</td>
<td>18.35</td>
</tr>
<tr>
<td>Japan</td>
<td>20.09</td>
</tr>
<tr>
<td>Korea, South</td>
<td>10.28</td>
</tr>
<tr>
<td>Mexico</td>
<td>2.48</td>
</tr>
<tr>
<td>Netherlands</td>
<td>26.84</td>
</tr>
<tr>
<td>New Zealand</td>
<td>11.13</td>
</tr>
<tr>
<td>Norway</td>
<td>31.55</td>
</tr>
<tr>
<td>Portugal</td>
<td>6.23</td>
</tr>
<tr>
<td>Singapore</td>
<td>7.41</td>
</tr>
<tr>
<td>Spain</td>
<td>14.96</td>
</tr>
<tr>
<td>Sweden</td>
<td>25.18</td>
</tr>
<tr>
<td>Switzerland</td>
<td>27.87</td>
</tr>
<tr>
<td>Taiwan</td>
<td>5.84</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>20.37</td>
</tr>
<tr>
<td>United States</td>
<td>21.97</td>
</tr>
</tbody>
</table>

Look at it this way. If firms always sought out the lowest cost labor in the world (and didn’t account for the productivity of the labor), then almost nothing would be produced in countries such as the United States, Belgium, and Australia.

The Tit-for-Tat Argument

Some people argue that if a foreign country uses tariffs or quotas against U.S. goods, the United States ought to apply equal tariffs and quotas against that foreign country, in the hope that the foreign country will lower or eliminate its trade restrictions. According to this tit-for-tat argument, we should do to them as they do to us.

Critics of this type of policy argue that a tit-for-tat strategy has the potential to escalate into a full-blown trade war. For example, suppose China places a tariff on American-made radios. The United States retaliates by placing a tariff on Chinese-made radios. China then reacts by placing a tariff on American-made clothes, the United States retaliates by placing a tariff on Chinese-made clothes, and so on. At some point, it might be difficult to figure out who started what.

A Student Asks

QUESTION: Doesn’t the United States need to be concerned with what other countries do? After all, if other countries impose tariffs on U.S.-made goods, doesn’t the United States have to retaliate? If other countries dump goods in the United States, doesn’t the United States have to retaliate in some way? It’s sort of like having someone hit you in the face, and you just say “hit me some more.” Don’t you have to defend yourself?

ANSWER: If you look at it in terms of the United States as an individual and other countries are individuals too, then you get the conclusion you have reached. Take tariffs for example. If China imposes tariffs on the United States, you say that the United States should retaliate and impose tariffs on China. Certainly the United States can do that, but it isn’t only hurting Chinese producers when it does that. It is also hurting American consumers. Simply put, if the United States retaliates against other countries for the tariffs they have imposed, American consumers get hurt in the crossfire.

Consider what happens if Japan dumps some goods in the United States (sells at a price below cost). That action might hurt U.S. producers (that compete with Japan), but it helps U.S. consumers because they are the ones who pay the low prices. So dumping is not really like getting a slap in our collective face. It is a slap in the face to our producers, but it is a pat on the back as far as our consumers go.

What we are trying to point out is that this whole issue of international trade and trade restrictions is not quite as black-and-white as it might first appear.

EXAMPLE: Suppose Kelly is a domestic producer of good X. Currently, the United States imposes a high tariff on good X if it is produced in any foreign country. Kelly benefits from the tariff because the tariff simply makes any foreign-produced good X less...
competitive with the good X that Kelly produces. Now suppose one day that a study shows that American consumers are annually paying an extra $400,000 to increase Kelly’s profits from $10 a year to $100,000 a year. This news is broadcast all over the television and radio news, and finally the Congress of the United States decides to consider eliminating the tariffs on good X. Kelly may know that the country, as a whole, benefits more from eliminating the tariff than keeping it, but Kelly certainly doesn’t benefit more. Kelly may lobby to keep the tariff, even though more Americans are hurt by it than are helped by it.

International Economic Integration

One of the hallmarks of a global economy is economic integration, the combining of nations to form either a common market or a free trade area. In a common market, the member nations trade without restrictions, and all share the same trade barriers with the outside world. For example, suppose countries A, B, C, D, E, and F formed a common market. They would eliminate all trade barriers among themselves (free trade would exist), but they would have common trade barriers with all other nations. Thus, any tariffs placed on country Z’s goods would apply in all member countries.

A major common market is the European Union (EU), which consists of 25 countries (as of this writing; two more countries are expected to join in 2007). Currently, the euro is a common currency in 12 of the 25 countries of the EU.

In a free trade area, in contrast to a common market, trade barriers among the member countries are eliminated, and each country is allowed to set its own trade rules with the rest of the world. For example, if both country G and country D are part of a free trade area, country G might place tariffs on country Z’s goods (country Z is not a member of the free trade area), while country D does not.

A major free trade area created by the North American Free Trade Agreement (NAFTA) includes Canada, Mexico, and the United States. NAFTA took effect in 1994. In 2005, the U.S. Congress passed the Central American-Dominican Republic Free Trade Agreement (CAFTA-DR). The CAFTA-DR is a free trade agreement between the countries of the United States, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and the Dominican Republic. As of this writing, CAFTA-DR is not in effect. It will be as soon as the legislatures of Costa Rica, the Dominican Republic, and Nicaragua approve it. Once approved and implemented, it will reduce barriers to trade between the signing countries.

International Organizations

Many economists predict that countries are likely to join in common markets and free trade areas in the near future. Increasingly, countries of the world are finding that it is in their best interests to lower trade barriers between themselves and their neighbors.

The World Trade Organization (WTO) provides a forum for its member countries (148 countries in mid-2005) to discuss and negotiate trade issues. It also provides a system for adjudicating trade disputes. For example, suppose the United States claimed that the Canadian government was preventing U.S. producers from openly selling their goods in Canada. The WTO would look at the matter, consult trade experts, and then decide the issue. A country that is found engaging in unfair trade can either desist from this practice or face appropriate retaliation from the injured party.
Two other prominent international organizations are the World Bank and the International Monetary Fund (IMF). The World Bank, officially known as the International Bank for Reconstruction and Development (IBRD), is the biggest development bank in the world. Its primary function is to lend money to the world’s poor and less-developed countries. The money for lending comes from rich member countries, such as the United States, and from selling bonds and lending the money raised through bond sales. The World Bank usually makes loans for economic development projects that are expected to produce a return sufficient to pay back the loan.

The IMF is an international organization that, among other things, provides economic advice and temporary funds to nations with economic difficulties. It has been referred to as a “doctor called in at the last minute.” When a country is in economic difficulty, the IMF might submit a list of economic reforms for it to follow, such as cutting excessive government spending to reduce budget deficits or decreasing the growth rate of the money supply. The IMF often lends funds to a country in economic trouble on the condition that its economic advice is followed.

A country’s acceptance of IMF reforms is usually a signal to other international organizations, such as the World Bank, that the country is serious about getting its economic house in order. The World Bank may then provide long-term funding.

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**Defining Terms**

1. Define:
   a. tariff
   b. dumping

**Reviewing Facts and Concepts**

2. What effect does a tariff have on the price of imported goods?

3. First state, and then evaluate, the infant–industry argument for trade restrictions.

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**Critical Thinking**

4. First state, and then evaluate, the tit-for-tat argument for trade restrictions.

5. Consider a policy that effectively transfers $100 million from group A to group B. Suppose that group A is made up of 50 million people. Is the policy more likely to be passed and implemented if the number of people that make up group B is 50 million or 500,000? Explain your answer.

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**Applying Economic Concepts**

6. How might domestic producers of a good abuse the antidumping argument for restricted trade?
Focus Questions
- What is an exchange rate?
- What does it mean to say that a currency appreciates in value?
- What does it mean to say that a currency depreciates in value?

Key Terms
- exchange rate
- flexible exchange rate system
- fixed exchange rate system
- depreciation
- appreciation

What Is an Exchange Rate?

The exchange rate is the price of one nation's currency in terms of another nation's currency. Suppose you take a trip to Italy. To buy goods and services, you will need to have the currency used in Italy, the basic unit of which is the euro. (The monetary symbol for the euro, €, simply looks like a C with two lines through the middle.) Therefore, you will need to exchange your dollars for euros.

Suppose you want to exchange $200 for euros. How many euros you will get depends on the exchange rate, which may be determined in two ways: by the forces of supply and demand under a flexible exchange rate system or by government under a fixed exchange rate system. Suppose the exchange rate is currently $1 for €0.80. For every $1 you have, you will get €0.80 in exchange, so you will receive $80 in exchange for $100. (Exhibit 15-5 on the next page shows the value of the U.S. dollar in terms of eight foreign currencies on October 28, 2005.)

Example: Just as people buy goods (like a chair or a TV set), people can buy foreign money too. Americans can buy euros, pesos, yen, and so on. When Americans buy, say, euros, they have to pay some price. The dollar price they have to pay for a euro is called the exchange rate. Suppose an American is in Italy and sees an item for sale. Its price: €100 (100 euros). The American asks himself how much this is in dollars. If the exchange rate is, say, $1 = €0.80, he knows that for every $1 he has he will get €0.80 in exchange. To get 100 euros, then, the American will have to pay $125.

QUESTION: How did €100 turn out to be $125? Will you go over the calculation?

ANSWER: Keep in mind that any exchange rate can be expressed two ways, not just one. For example, here is one way to express the dollar-euro exchange rate: $1 = €0.80.

This expresses the exchange rate between dollars and euros in terms of one dollar. Instead, suppose we want to express the exchange rate between dollars and euros in terms of one euro: we
We identified the current exchange rate.

1. Each step.

Let's rework the previous example, showing

2. Multiply the number of units in the

3. Figure out how much of your money it

Find the current exchange rate.

1. We need to identify how much of our money (U.S. money) it takes to buy 1 unit of the foreign money. In other words, we need to know how many dollars and cents it takes to buy 1 euro. We can figure this out from the exchange rate identified in #1. We currently know that $1 buys €0.80, but we don't know how many dollars and cents it takes to buy 1 euro. To find out, we simply divide $1 by the number of euros it takes to buy $1: $1/0.80 = $1.25. In other words, it takes $1.25 to buy 1 euro.

3. We now multiply the number of units in the price of the foreign good (100) times our answer in #2 ($1.25), and we get $125.

Consider another problem. Suppose someone from Italy comes to the United States and wants to buy an American good priced at $200. If the exchange rate is $1 = €0.80, how may euros does the person have to give up to buy a $200 item? Let's calculate things from the perspective of the Italian. In other words, we will put ourselves in the shoes of the Italian.

1. We know the exchange rate is $1 = €0.80.
2. We know how much it takes of our currency ("our currency" this time is the euro because we are the Italian) to buy $1. It takes €0.80.
3. We multiply the number of units in the price of the American good (200) times our answer in #2 ($0.80). This gives us €160.

Note: These calculations are not hard, it's just that you are unaccustomed to making them. Going between currencies is a little like translating from one language into another. First you have to listen to the foreign language, understand what is being said, and then find the words in your native language that correspond to the foreign words. Just as it takes some time to learn how to translate a language, it takes some time to learn how to go from one currency to another. Go over the examples a few more times to get the hang of it.

**Appreciation and Depreciation**

Suppose that on Tuesday the exchange rate between euros and dollars is $1 for €0.80. By Saturday, the exchange rate has changed to $1 for €0.70. On Saturday, then,
In an earlier chapter, we explained why goods that can be easily transported from one location to another usually sell for the same price in all locations. For example, if a candy bar can be moved from Atlanta to Wichita, then we would expect the candy bar to sell for the same price in both locations. Why? Because if the candy bar is priced higher in Wichita than Atlanta, people will move candy bars from Atlanta (where the price is relatively low) to Wichita to fetch the higher price. In other words, the supply of candy bars will rise in Wichita and fall in Atlanta. These changes in supply in the two locations affect the price of the candy bars in the two locations. In Wichita the price will fall and in Atlanta the price will rise. This price movement will stop when the price of a candy bar is the same in both cities.

Now consider a good that is sold all over the world, McDonald’s Big Mac. Suppose the exchange rate between the dollar and yen is $1 = ¥100. If a Big Mac sells for $3 in New York City and ¥400 in Tokyo, then the exchange rate is $1 = ¥133.33. At this exchange rate, a Big Mac in New York City is $3 and ¥400 in Tokyo. Given the exchange rate, is a Big Mac selling for the same price in the two cities? The answer is no. In New York, it is $3, but in Tokyo it is ¥4 (the price in Tokyo is ¥400 and $1 = ¥100).

Stated differently, in New York $1 buys one-third of a Big Mac, but in Tokyo $1 buys only one-fourth of a Big Mac.

Will Big Macs be shipped from New York to Tokyo to fetch the higher price? No, the exchange rate is likely to adjust in such a way so that the price of a Big Mac is the same in both cities.

Now ask yourself what the exchange rate has to be between the dollar and yen before the Big Mac is the same price in New York and Tokyo. Here are three different exchange rates. Pick the correct one.

(a) $1 = ¥133.33
(b) $1 = ¥150.00
(c) $1 = ¥89.00

The answer is (a), $1 = ¥133.33. At this exchange rate, a Big Mac in New York City and ¥400 in Tokyo. Given the exchange rate, is a Big Mac selling for the same price in the two? The answer is yes. In New York, it is $3, but in Tokyo it is ¥4 (the price in Tokyo is ¥400 and $1 = ¥100).

Stated differently, in New York $1 buys one-third of a Big Mac, but in Tokyo $1 buys only one-fourth of a Big Mac.

The purchasing power parity theory in economics predicts that the exchange rate between two currencies will adjust so that the end, $1 buys the same amount of a given good in all places around the world. In other words, if the exchange rate is initially $1 = ¥100 when a Big Mac is $3 in New York and ¥400 in Tokyo, it will change to become $1 = ¥133.33. In other words, the dollar will soon appreciate relative to the yen.

The Economist, a well-known economics magazine, publishes what it calls the “Big Mac index” each year. It shows what exchange rates currently are and it shows what a Big Mac costs in different countries (just as we did here). Then it predicts which currencies will appreciate and depreciate based on this information. The Economist does not always predict accurately, but it does so in many cases.

In other words, if you want to predict whether the euro, pound, or peso is going to appreciate or depreciate in the next few months, looking at exchange rates in terms of the price of Big Mac will be a useful source of information.

Suppose a Big Mac costs $3 in New York City and 4.25 Swiss francs in Zurich. Also, suppose $1 = 1.25 francs. Based on our discussion, do you expect the franc to appreciate or depreciate? Explain your answer.
a dollar buys fewer euros than it did on Tuesday. When this situation happens, economis-
sts say that the dollar has depreciated relative to the euro. \textbf{Depreciation} is a
decrease in the value of one currency relative to other currencies. A currency has depreci-
ated if it buys less of another currency.

\textbf{Appreciation} is the opposite—an increase in the value of one currency relative to other
 currencies. A currency has appreciated if it buys more of another currency. For example,
if the exchange rate goes from $1 for €0.80 to $1 for €0.90, the dollar buys more euros and
therefore has appreciated in value.

\textbf{EXAMPLE:} Suppose the exchange rate between the U.S. dollar and the Mexican
peso is $1 = 10 pesos on Wednesday. So, if you have $1 you can get 10 pesos in
exchange for it. Suppose two days later, on Friday, the exchange rate is $1 = 9 pesos; if
you have $1 you can get 9 pesos for it. The dollar got more pesos in exchange for it on
Wednesday than on Friday. We would say, then, that the dollar depreciated between
Wednesday and Friday.

\textbf{If the Dollar Depreciates, Foreign Goods Are More Expensive}

Suppose you and a friend take a trip to Mexico City this summer. In Mexico City,
you come across a jacket that you want to buy. The price tag reads 1,000 pesos; what is
the price in dollars? To find out, you need to know the current exchange rate between
the dollar and the peso. Suppose it is $1 = 10 pesos; for every dollar you give up, you get 10
pesos in return. In other words, you will pay $100 (which is the same as 1,000 pesos) to
buy the jacket. You decide to buy the jacket. Here are the steps to the calculation: (1) the
exchange rate is $1 = 10 pesos; (2) if we divide $1 by 10, we learn how much we have
to pay for 1 peso, which is 10 cents; (3) we multiply 10 cents times 1,000 pesos, which
equals $100.

A week passes, and you and your friend are still in Mexico City. Your friend likes
your jacket so much that he decides to buy one, too. You and your friend return to the
store and find the exact jacket for sale, still for 1,000 pesos. You tell your friend that he will have to pay $100 for the jacket. However, you are wrong, because the dollar-peso exchange rate changed since last week. Now it is $1 = 8 pesos. In other words, the dollar has depreciated relative to the peso, because this week each dollar buys fewer pesos than it did last week.

What will the jacket cost in dollars this week? The answer is $125. Here are the steps to the calculation: (1) we know the exchange rate is $1 = 8 pesos; (2) if we divide $1 by 8, we learn how much we pay to pay for 1 peso, which is 12.5 cents; (3) we multiply 12.5 cents times 1,000 pesos and get $125. Your friend says that he was willing to buy the jacket for $100, but that he is not willing to pay $125 for the jacket. The economic concept illustrated by this example is simply that when one’s domestic currency depreciates (as the dollar did in the example), it becomes more expensive to buy foreign-produced goods.

Dollar depreciates → Foreign goods become more expensive

The flip side of this concept is that when one’s domestic currency appreciates, it becomes cheaper to buy foreign-produced goods. Suppose the dollar-peso exchange rate changed to $1 = 12 pesos. Now a jacket with a price tag of 1,000 pesos would cost $83.33.

Dollar appreciates → Foreign goods become cheaper

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**Defining Terms**

1. Define:
   a. exchange rate
   b. flexible exchange rate system
   c. depreciation
   d. appreciation

**Reviewing Facts and Concepts**

2. If the exchange rate is $1 = ¥129 (yen) and the price of a Japanese good is ¥7,740, what is the equivalent dollar price?

3. If the exchange rate is $1 = £0.6612 (pounds) and the price of a U.S. good is $764, what is the equivalent pound price?

4. Steve, an American in London, wants to buy a British-made sweater. The current price of the sweater is £40. Would Steve be better off if the exchange rate is $1 = £0.87 or $1 = £0.77? Explain your answer.

**Critical Thinking**

5. Are more Americans likely to travel to Mexico when the peso has appreciated relative to the dollar or when the peso has depreciated relative to the dollar? Explain your answer.
When it comes to some jobs, location matters. When it comes to other jobs, location does not matter. Let’s look at some examples of both situations. Understanding the difference may help you choose a career with greater job security.

**Location Matters**

If you are sick, and need a doctor, you prefer to have a doctor close to you. If you live in Salem, Virginia, you will probably want a doctor who works in Salem, Virginia, not in Bangkok, 8,914 miles away.

If you need a plumber, you will probably want a plumber close by, not one on the other side of the world. If you want to go out to eat, you will most likely go to a restaurant near where you live, not one on the other side of the world.

When it comes to some services, you want the provider to be near you. So if you are at point X, you want your provider to be near point X too.

**Location Doesn’t Matter**

When it comes to buying a book, it may not matter to you where the book seller resides, as long as you can get the book fairly quickly. When it comes to someone answering your technical computer questions, it may not matter where the technician lives. As long as the technician speaks your language, listens well, and gives clear and concise instructions, you probably don’t care where he or she is located.

**Offshoring/Outsourcing**

When a provider’s (supplier’s, worker’s) location is important to you, you can be fairly sure that the kind of job the provider performs will not be offshored to another country. When a provider’s location is not important to you, the probability of the provider’s job being offshored rises.

In 2004, *Forbes* magazine ran a story titled “Ten Professions Not Likely to Be Outsourced.” Here is the list:

1. **Chief Executive Officer (of a company).** In 2002, 553,000 chief executive officers in the United States headed various companies. That number was expected to rise to 645,000 in 2012. Although many CEOs earn million-dollar salaries, the median salary in 2002 was $126,000. Why won’t the jobs of CEOs be offshored? Essentially because they are at the head of the company.

2. **Physician and Surgeon.** In 2002, physicians and surgeons numbered 583,000, with an increase to 697,000 expected by 2012. The median pay in 2002 was $138,000. (Within the medical field, salaries vary widely. For example, orthopedic surgeons may earn $200,000–$300,000 more than a psychiatrist.) Why won’t such jobs be offshored? It is hard to perform surgery at a distance of greater than a few feet.

3. **Pilot, Co-Pilot, and Flight Engineer.** In 2002, for the 79,000 pilots, co-pilots, and flight engineers the median annual salary was $109,000. Why won’t these jobs be offshored? Because you need someone in the cockpit to fly the plane.

4. **Lawyer.** In 2002, 695,000 lawyers earned a median annual salary of $90,000. In 2012, the number of lawyers is predicted to

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Does location matter in these occupations?
increase to 813,000. Today, many aspects of the legal profession can be outsourced or offshored (research, transcription, document preparation), but the actual practice of the law, and trying a case in front of a judge, is something that cannot be outsourced or offshored.

5. Computer and Information Systems Manager. In 2002, 284,000 individuals were employed in this profession. By 2012, that number is expected to be 387,000. The 2002 median annual salary was $85,000. It is true that software development has been offshored (to some extent), but the people who make strategic decisions and oversee the day-to-day operations are staying put in order to be of assistance to higher-level executives when making key company decisions.

6. Sales Manager. Total employment of 343,000 in 2002 was predicted to increase to 448,000 in 2012. The 2002 median annual salary was $75,000. Many companies need a sales staff and an on-site person to manage them. Often, customers in one country like to deal with salespeople in the same country, who have a familiarity with the language, customs, business practices, and so on.

7. Pharmacist. The current number of pharmacists employed (230,000 in 2002) is expected to rise to 299,000 by 2012. The 2002 median annual salary was $77,000. Although you can today buy drugs from other countries, it is unlikely that the U.S. government will allow too much drug importation. In addition, in many cases the role of the pharmacist is becoming increasingly consultative—people like to ask him or her about their new medicine and its interactions with other medicines, about suggestions concerning various health issues, and so on.

8. Chiropractor. Total employment in 2002 was 49,000; in 2012, it is expected to be 60,000. The 2002 median annual salary was $65,000. It is difficult to get someone in another country to fix your back if you are thousands of miles away.

9. Physician’s Assistant. In 2002, 63,000 physician’s assistants were employed. This number is predicted to rise to 94,000 by 2012. The 2002 median annual salary was $65,000. Because physician’s assistants function like quasi-doctors, they need to be near the patient. Performing physical exams is difficult at a distance.

10. Education Administrator, Elementary and Secondary School. In 2002, education administrators numbered 217,000; in 2012, the number is predicted to be 262,000. The 2002 median annual salary was $71,000. Although some electronic learning (e-learning) is occurring at the college level, not much is found at the elementary and secondary school level. Especially for the lower grades of education, it seems critically important to have live teachers teaching. These teachers will continue to report to on-site education administrators.

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My Personal Economics Action Plan

Here are some things you may want to consider and guidelines you might want to put into practice.

✔ 1. In an increasingly global economy, offshoring is likely to be more prominent in the future than it has been in the past.
   I will do research to identify the white-collar occupations least likely to be offshored and to determine which of these occupations most interest me.

✔ 2. Keep in mind that the *Forbes* article only considered white-collar jobs where offshoring was unlikely. Numerous kinds of blue-collar jobs are not likely to be offshored either.
   I will do research to identify the blue-collar occupations least likely to be offshored and which appeal to me most.
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Chapter 15 International Trade and Economic Development

Section 4

Economic Development

Focus Questions
- What is a less-developed country?
- Why are some countries rich and others poor?
- What is the vicious circle of poverty?
- Why are savings accounts important to economic development?
- What are a few factors that aid economic growth and development?

Key Terms
- developed country
- less-developed country
- population growth rate

How Countries Are Classified

The layperson often talks about “rich” countries and “poor” countries. For example, the United States is often said to be a rich country; Ethiopia is said to be a poor country.

Economists talk about rich and poor countries, too, although they do not always use the terms rich versus poor. More often, they talk about developed countries (DCs) or more-developed countries (MDCs) versus less-developed countries (LDCs) A developed country is a country that has a relatively high GDP per capita; a less-developed country is a country with a relatively low GDP or GNP per capita. The United States is a developed country, whereas Haiti and Ethiopia are less-developed countries.

Obstacles to Economic Development

Why are some countries poor while others are rich? Here are some factors to consider.

Rapid Population Growth

The population growth rate is typically higher in less-developed countries than in developed countries. The population growth rate in developed countries has been about 0.5 to 1 percent, compared with about 2 to 3 percent for less-developed countries.

The population growth rate is equal to the birthrate minus the death rate.

Population growth rate = Birthrate − Death rate

If in country X the birthrate is 3 percent in a given year and the death rate is 2 percent, the population growth rate is 1 percent.

What caused the relatively high population growth rate in the less-developed countries? First, the birthrate tends to be higher than in developed nations. In countries where financial assistance such as pensions and Social Security do not exist and where the economy revolves around agriculture, children are often seen as essential labor and as security for parents in their old age. In this setting, people tend to have more children.

Second, in the past few decades, the death rate has fallen in the less-developed coun-
tries, largely because of medical advances. The combination of higher birthrates and declining death rates explains why the population grows more rapidly in less-developed nations than in developed nations.

Is a faster population growth rate always an obstacle to economic development? The fact that many of the countries with the fastest-growing populations are relatively poorer on a per capita basis than those countries with the slowest-growing populations is not proof that rapid population growth causes poverty. Many of the developed countries today witnessed faster population growth rates when they were developing than the less-developed countries do today.

**Low Savings Rate** A farmer with a tractor (which is a capital good) is likely to be more productive than one without a tractor, all other things being equal. Now consider a farmer who cannot afford to buy a tractor. This farmer may decide to borrow the money from a bank. The bank gets the money it lends from the people who have savings accounts at the bank. Savings, then, are important to economic growth and development. If savings rate is low, banks will not have much money to lend, and capital goods such as tractors (which increase productivity) will not be produced and purchased.

Some economists argue that the less-developed countries have low savings rates because the people living in them are so poor that they cannot save. In short, they earn only enough income to buy the necessities of life—shelter and food—leaving no “extra income” left over to save. This situation is called the *vicious circle of poverty*: less-developed countries are poor because they cannot save and buy capital goods, but they cannot save and buy capital goods because they are poor.

Other economists argue, though, that being poor is not a barrier to economic development. They say that many nations that are rich today, such as the United States, were poor in the past but still managed to become economically developed.

**Cultural Differences** Some less-developed countries may have cultures that retard economic growth and development. For example, some cultures are reluctant to depart from the status quo (the existing state of affairs). People may think that things should stay the way they always have been; they view change as dangerous and risky. In such countries, it is not uncommon for people’s upward economic and social mobility to depend on who their parents were rather than on who they themselves are or what they do. Also, in some cultures the people are fatalistic by Western standards. They believe that a person’s good or bad fortune in life depends more on fate or the spirits than on how hard the person works, how much he or she learns, or how hard he or she strives to succeed.

**Political Instability and Government Seizure of Private Property** Individuals sometimes do not invest in businesses in less-developed countries because they are afraid either that the current government leaders will be thrown out of office or that the government will seize their private property. People are not likely to invest their money in places where the risk of losing it is high.

**High Tax Rates** Some economists argue that high tax rates affect economic development. Economist Alvin Rabushka studied the tax structures of 54 less-developed countries between 1960 and 1982 and categorized each
country as a high-, low-, or medium-tax-rate nation. Rabushka found that Hong Kong, with the lowest tax rates, had the highest growth rate in per capita income during the period under study. Generally, low-tax countries had an average growth rate in per capita income of 3.7 percent, and high-tax countries had a per capita income growth rate of 0.7 percent.

**Factors That Aid Growth and Development**

Can a poor country follow a certain recipe in order to become a rich country? Some economists believe so. They argue that poor countries can become rich countries if they do certain things. Here are some factors that economists emphasize.

**Free Trade** Countries can hinder or promote international trade. For example, they hinder it when they impose tariffs or quotas on imports. They promote it when they eliminate tariffs, quotas, or anything else that prevents the free flow of resources and goods between countries. Free trade promotes the production of goods and services in a country and therefore spurs growth and development in two ways. Free trade allows residents of a country to buy inputs from the cheapest supplier, no matter where in the world it is located. Free trade also opens up a world market to domestic firms.

**Low Taxation** Generally, a country with relatively low taxes provides a greater incentive to workers to work and more incentive to investors to invest than does a country with relatively high taxes. As discussed earlier in the chapter, low-tax countries had an average growth rate in per capita income that was substantially higher than the average growth rate in per capita income of high-tax countries.

**Absence of Restrictions on Foreign Investment** Some countries prevent foreigners from investing in their countries. For example, country X may pass a law stating that no one from any other country can invest there. Such restrictions on foreign investment often hamper economic growth and development. Allowing foreigners to invest in a country, to start or expand businesses, promotes growth and development.

**Absence of Controls on Bank Lending Activity** Banks channel funds from those who save to those who want to invest and produce. In some countries, government tells banks to whom they can and cannot lend. For example, banks may not be able to lend to automobile manufacturers but be permitted to lend to steel manufacturers. Such restrictions may arise because the government in the country is trying to promote a particular industry.

Controls of this type often hinder growth and development. Banks have a monetary incentive to search out those individuals, firms, and industries that can repay any loans received. Often, these individuals, firms, and industries are the ones likely to be
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Controls of this type often hinder growth and development. Banks have a monetary incentive to search out those individuals, firms, and industries that can repay any loans received. Often, these individuals, firms, and industries are the ones likely to be the most successful at producing goods and services and at generating employment.

Absence of Wage and Price Controls

The free market determines equilibrium prices and wages. When government “overrides” the market and imposes controls on prices and wages, production usually suffers. Suppose the market wage for workers in a particular industry is $10 an hour, and the market price for the good produced in the industry is $40. At current wages and prices, firms are earning just enough profit to continue in business. Now suppose government says that these firms have to pay a minimum of $12 an hour to their workers and that...

The United States usually exports more agricultural products than it imports, but it usually imports more manufactured goods than it exports. If you want to find the balance of trade for manufactured goods and for agricultural products, you can go to www.emcp.net/balanceoftrade and click on “U.S. Trade in Goods.” At this site you can also find the top 50 purchasers of U.S. exports and the top 50 suppliers (to the United States) of imports. In 2004, the top three purchasers of U.S. exports were (in order) Canada, Mexico, and Japan. The top three suppliers of imports (to the United States) were Canada, China, and Mexico.

Defining Terms

1. Define
   a. developed country
   b. less-developed country
   c. population growth rate

Reviewing Facts and Concepts

2. Why might people in less-developed countries have more children than people in developed countries?
3. What are some of the benefits of free trade to a less-developed country?

Critical Thinking

4. In country A, the government does not protect private property, taxes are high, and quotas and tariffs are imposed on imported goods. In country B, the government does protect private property, taxes are low, and free trade is practiced. In which country do you expect economic growth and development to be stronger? Explain your answer.

Applying Economic Concepts

5. In this section we defined a poor or less-developed country as a country with a low per capita GDP. Does it follow that the people in a country with a low per capita GDP are not as happy as the people in a country with a high per capita GDP? Explain your answer.
Chapter Summary

Be sure you know and remember the following key points from the chapter sections.

Section 1
- Exports are goods that are produced in the domestic country and sold to residents of a foreign country.
- Imports are goods produced in foreign countries and purchased by residents of the domestic country.
- A country’s balance of trade is the difference between the value of its exports and imports.
- Countries specialize in production of goods in which they have comparative advantage.

Section 2
- Tariffs and quotas are the two major types of trade restrictions.
- A tariff is a tax on imports; a quota is a limit on the amount of a good that may be imported.

Section 3
- The exchange rate is the price of one nation’s currency in terms of another nation’s currency.
- Depreciation is a decrease in the value of one currency relative to other currencies.
- Appreciation is an increase in the value of one currency relative to other currencies, meaning it buys more of another currency.

Section 4
- A developed country is one with a relatively high GDP per capita; a less-developed country is one with a relatively low GDP or GNP per capita.
- Obstacles to economic development include rapid population growth, low savings rate, cultural beliefs, political instability and seizure of property, and high tax rates.
- Factors that aid development include free trade, low taxation, few restrictions on foreign investment or control on bank lending, absence of wage and price controls, easy business licensing procedures, and protection of private property.

Economics Vocabulary

To reinforce your knowledge of the key terms in this chapter, fill in the following blanks on a separate piece of paper with the appropriate word or phrase.

1. A(n) ________ is a tax on imports.
2. A legal limit on the amount of a good that may be imported (into a country) is called a(n) ________.
3. Country A has a(n) ________ in the production of a good if it can produce the good at lower opportunity cost than country B.
4. The ________ is the difference between the value of exports and the value of imports.
5. ________ refers to the sale of goods abroad at prices below their costs and below the price charged in the domestic market.
6. ________ refers to the situation in which a country can produce more of a good than another country can produce with the same quantity of resources.
7. ________ refers to an increase in the value of one currency relative to other currencies.
8. If one dollar buys two pesos, it is called the ________ between dollars and pesos.
9. ________ refers to a decrease in the value of one currency relative to other currencies.
10. A ________ is a country with a low per capita GDP.
11. The birthrate minus the death rate equals the ________.

Understanding the Main Ideas

Write answers to the following questions to review the main ideas in this chapter.

1. If exchange rates under a flexible exchange rate system are determined by the forces of supply and demand, will an increase in the demand for pesos cause the peso to appreciate or depreciate? Explain your answer.
2. The United States can produce either combination A (100 units of food and 0 units of clothing) or combination B (80 units of food and 20 units of clothing). Japan can produce combination C (80 units of food and 0 units of clothing)
or combination D (75 units of food and 10 units of clothing). Which country has a comparative advantage in the production of food? Which country has a comparative advantage in the production of clothing?

3. State the low-foreign-wages argument for trade restrictions.
4. What does it mean to say that the United States has a comparative advantage in the production of computers?
5. After a tariff is imposed on imported cars, would you expect consumers to buy more or fewer imported cars, all other things remaining the same? Explain your answer.
6. If the pound appreciates relative to the U.S. dollar, the dollar must depreciate relative to the pound. Do you agree or disagree? Explain your answer.
7. What do critics of the low-foreign-wages argument for trade restrictions say?
8. If the value of U.S. exports is $103 billion and the value of U.S. imports is $210 million, what does the balance of trade equal?
9. State the national-defense argument for trade restrictions.
10. Describe a culture that would foster economic development. Describe a culture that would hinder economic development.
11. Is a fast-growing population necessarily an obstacle to economic development? Explain your answer.

Doing the Math

Do the calculations necessary to solve the following problems.

1. If the price of an Irish sweater is €30 and the dollar-euro exchange rate is $1 = €0.70, what does the sweater cost in dollars?
2. If the price of a U.S. car is $20,000 and the dollar-yen exchange rate is $1 = ¥129, what does the car cost in yen?
3. If the United States can produce either 20 units of clothing and 40 units of food or 60 units of clothing and 0 units of food, what is the opportunity cost of producing 1 unit of food?
4. If Brazil can produce either 100 units of clothing and 0 units of food or 30 units of clothing and 50 units of food, what is the opportunity cost of producing 1 unit of clothing?

Solving Economic Problems

Use your thinking skills and the information you learned in this chapter to find solutions to the following problems.

1. Application. Suppose the United States buys 1 million cars from Japan each year. If the dollar depreciates relative to the yen, will Americans buy more or fewer than 1 million cars from Japan? Explain your answer.
2. Analysis. Suppose that U.S. imports currently equal U.S. exports. Explain how a fall in the value of the dollar in comparison to other currencies can affect the current U.S. balance of trade.
3. Cause and Effect. Over a six-month period you notice that the dollar appreciates in value compared to other currencies and that the U.S. balance of trade goes from zero to −$30 billion. You suspect some relationship exists between the change in the value of the dollar and the U.S. balance of trade. Did the change in the value of the dollar cause the change in the balance of trade or did the change in the balance of trade cause the change in the value of the dollar? Explain your answer.
4. Writing. Suppose the people in Houston buy more goods from the people in Los Angeles than vice versa. This is not news. Write a one-page paper that answers this question: Why is a city-to-city trade balance not news but a country-to-country trade balance is?