

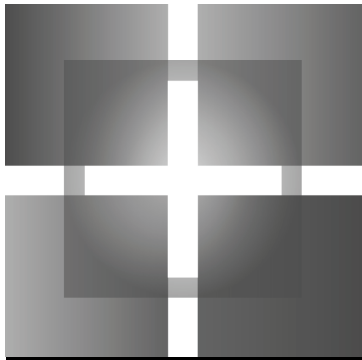
# SOLUTIONS MANUAL



## *Essential foundations of* **ECONOMICS**

Fourth Edition

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# The U.S. and Global Economies

## Chapter

# 2

### ANSWERS TO CHECKPOINTS

#### ■ CHECKPOINT 2.1 What, How, and For Whom?

1. What is the distinction between consumption goods and services and capital goods? Which one of them brings an increase in productive resources?

Consumption goods and services are items that are bought by individuals and used to provide personal enjoyment. They contribute to a person's standard of living. Capital goods are goods that are bought by businesses to help produce additional goods and services. Capital goods and services increase capital, which is a productive resource.

2. Describe how the quality of the U.S. labor force, as measured by the level of education, changed during the last few decades.

During the last few decades the U.S. labor force has become more highly educated. Four decades ago about 50 percent of the labor force had completed high school. Today, more than 80 percent of the population of the United States has completed high school and more than 25 percent have a college or university degree. This increase in education has contributed to our nation's human capital.

3. If everyone in the United States were to consume an equal quantity of goods and services, what percentage of total income would the poorest 20 percent of households have to receive from higher-income groups? What percentage would the second poorest 20 percent have to receive?

If everyone were to consume an equal quantity of goods and services, the poorest 20 percent of individuals would need to receive about 17 percent of total income from the higher-income groups. The second poorest 20 percent would need to receive about 11 percent of total income.

4. **Compare the percentage of total U.S. income that labor earns with the percentage earned by all the other factors of production combined.**

Labor earns by far the largest share of the nation's total income, about 64 percent. The other factors of product earn only 36 percent of the nation's total income.

### ■ CHECKPOINT 2.2 Circular Flows

1. **What are the choices made by households and firms that determine what, how, and for whom goods and services are produced? Where, in the circular flow model, do those choices appear?**

Households choose the quantities of land, labor, capital, and entrepreneurship services to provide to firms. Households decide what goods and services they will buy. Firms choose the quantities of services of the factors of production to hire and the quantities of goods and services to produce. Households decide what to buy in goods markets and what quantities of the services of factors of production to provide in factor markets. Firms decide the quantities of services of factors of production to hire in factor markets and the quantity of goods and services to produce in goods markets.

2. **How do the actions of governments modify what, how, and for whom goods and services are produced? Where, in the circular flow model, do those choices appear?**

Governments modify the answers to the “what,” “how,” and “for whom” questions by their interactions with firms and households. In the goods market, governments decide what goods to buy, thereby affecting the “what” question. Governments also tax firms and households and give firms and households transfer payments. These directly effect the “for whom” question because taxes decrease the payer's ability to buy goods and services while transfers enhance the recipient's buying power. The taxes and transfer payments also affect households' and firms' decisions about what services of the factors of production to provide and what services to buy, so these taxes and transfer payments also affect the “how” question.

### ■ CHECKPOINT 2.3 The Global Economy

1. **Describe how inequality around the world has changed over the past few decades.**

Inequality around the world has decreased over the past few decades. Extreme poverty has fallen, largely because of income growth in China and India, the two largest nations in the world and the two nations that were the source of much of the extreme poverty of a few decades ago.

## ANSWERS TO CHAPTER CHECKPOINT

### ■ Problems

1. Which of the following items are *not* consumption goods and services and why?
  - **A chocolate bar**  
A chocolate bar is a consumption good.
  - **A ski lift**  
A ski lift is not a consumption good. It is capital that produces a service for skiers.
  - **A golf ball**  
A golf ball is a consumption good.
2. Which of the following items are *not* capital goods and why?
  - **An auto assembly line**  
An auto assembly line is a capital good.
  - **A shopping mall**  
A shopping mall is a capital good.
  - **A golf ball**  
A golf ball is not a capital good. It is a consumption good.
3. Which of the following items are *not* factors of production and why?
  - **Vans used by a baker to deliver bread**  
Vans used to deliver bread are capital, so they are factors of production.
  - **1,000 shares of Amazon.com stock**  
1,000 shares of Amazon.com stock are not a factor of production. The shares represent partial ownership of Amazon.com and therefore are financial capital.
  - **Undiscovered oil**  
Undiscovered oil is not a factor of production because it is not used to produce goods or services. Once it is discovered, it will become a factor of production.
4. On a graph of the circular flow model, indicate in which real or money flow the following belong:
  - **You pay your tuition.**  
In Figure 2.1 (on the next page), the dark arrows represent monetary flows and the grey arrows represent flows of goods and services and factors. If you go to a private school, your tuition is a monetary flow from households to the goods market, labeled  $a$  in the figure. If you go to a state run school, your tuition is a monetary flow from households to the government, labeled  $a'$  in the figure.

- **The University of Texas buys some Dell computers.**

The purchase of computers by the state-run University of Texas represents a monetary flow from the government to the goods market, labeled *b* in the figure.

- **A student works at Kinko's.**

The student working at Kinko's is a factor of production, so the flow is a flow of the services of factor of production from households to the factor markets, labeled *c* in the figure.

- **Donald Trump rents a Manhattan building to a hotel.**

Donald Trump's building in Manhattan is a factor of production, so the flow is the services from this factor of production from households to the factor markets, labeled *d* in the figure.

- **You pay your income tax.**

Your income tax payment is a monetary flow from households to the government and is labeled *e* in the figure.

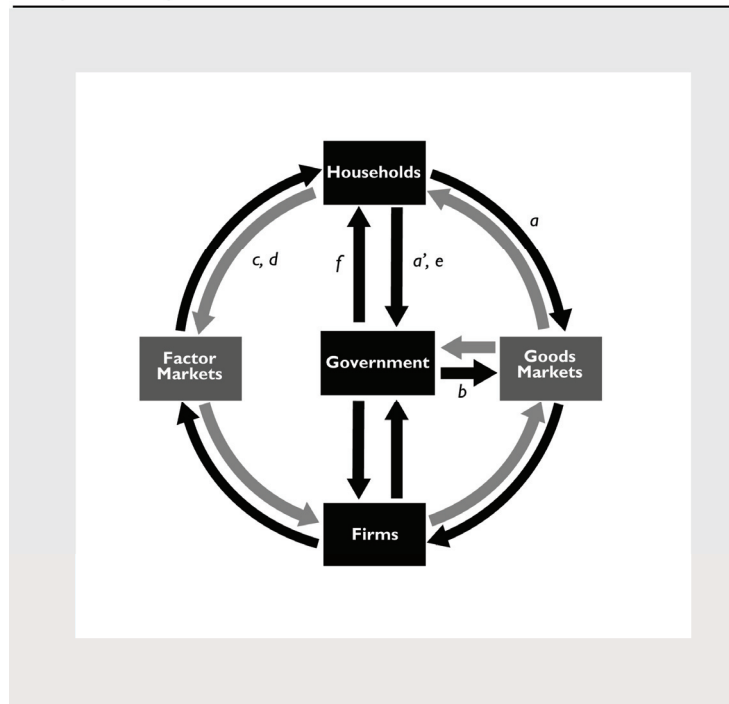
- **Raffael receives unemployment benefits.**

Raffael's unemployment benefits are a monetary flow from the government to households and is labeled *f* in the figure.

5. **Review the sources of government revenue and determine who pays most of the taxes: workers, businesses, or consumers. Do the same groups that pay most of the federal taxes also pay most of the state and local taxes?**

The largest sources of federal government revenue are personal income taxes and social security taxes, both of which are paid mainly by workers. The largest source of state and local government tax revenue is sales tax, which is paid by consumers. So, in one sense, most of the federal tax is paid by one group and most of the state and local tax is paid by another

**FIGURE 2.1**  
Chapter Checkpoint Problem 4



group. But both workers and consumers are members of households. So, the largest source of revenue for both federal as well as state and local governments is households: households pay the federal government when they work and pay the state and local governments when they buy goods and services.

### **Why Is Income Inequality in America So Pronounced? Consider Education**

**The most commonly cited culprits for the income inequality in America – outsourcing, immigration, and the gains of the super-rich—are diversions from the main issue. Instead, the problem is largely one of (a lack of) education.**

**The extent of outsourcing ... is not yet high enough to have much effect ... Immigration [accounts for] only 10 percent of the change in the wages of unskilled workers, relative to the skilled, since 1950. ...Improvements in technology have raised the gains for those with enough skills to handle complex jobs. The resulting inequalities are bid back down only as more people receive more education and move up the wage ladder.**

**By Tyler Cowen, *The New York Times*, May 17, 2007**

**Use this information to answer Problems 6, 7, and 8.**

- 6. If outsourcing were to have a big effect on the personal distribution of income in Figure 2.3, how would the distribution have changed?**

Outsourcing would decrease the flow of income paid for the services of labor because wage rates would fall and perhaps employment, also, would decrease. So the fraction of income going to labor would decrease and the fraction going to the other factors would increase.

- 7. Some immigrants to the United States are unskilled workers from Mexico and some are skilled workers from countries such as India and China. How would each of these types of immigrants influence the personal distribution of income in Figure 2.3.**

The unskilled workers would probably decrease the fraction of income going to the poorest 20 percent because these immigrants are paid lower wages relative to other workers. The skilled workers likely would increase the fraction of income going to the higher income groups because these immigrants are paid higher wages relative to other workers.

- 8. If in the future new technology enables unskilled workers to earn higher wages, how would the personal distribution of income in Figure 2.3 change?**

The new technology would increase the share of the total income going to unskilled workers. These workers are generally among the lower-paid groups of workers, so this technology would make the personal distribution of income more equal.

## ■ Exercises

1. Which of the following items are *not* consumption goods and services and why?
  - **An interstate highway**  
An interstate highway is not a consumption good. It is part of the nation's capital that is used to produce goods and services.
  - **An airplane**  
An airplane is not a consumption good. It is capital that produces transportation services.
  - **A stealth bomber**  
A stealth bomber is not a consumption good. It is capital that produces defense services.
2. Which of the following items are *not* capital goods and why?
  - **An interstate highway**  
An interstate highway is a capital good.
  - **An oil tanker**  
An oil tanker is a capital good.
  - **A construction worker**  
A construction worker is not a capital good. A construction worker is a factor of production.
3. Which of the following items are *not* factors of production and why?
  - **A garbage truck**  
A garbage truck is a piece of capital and a factor of production.
  - **A pack of bubble gum**  
A pack of bubble gum is not a factor of production. It is a consumption good.
  - **The President of the United States**  
The President of the United States is a worker and so is a factor of production.
4. On a graph of the circular flow model, indicate in which real or money flow the following belong:
  - **General Motors pays its workers wages.**  
General Motors wage payment is a monetary flow that is a payment for use of the services of a factor of production and so flows out of the factor market to households (it flowed into the factor market from General Motors, a firm). The flow to households is labeled *a* in the figure in Figure 2.2 (On the next page).
  - **IBM pays a dividend to its stockholders.**  
IBM's dividend payment is a monetary flow that is a payment for use

of the services of a factor of production and so flows out of the factor market to households (it flowed into the factor market from IBM, a firm). The flow to households is labeled *b* in the figure.

- **You buy your groceries.**

Your purchase of groceries represents a monetary flow from households to the goods market, labeled *c* in the figure.

- **Chrysler buys robots.**

The robots are factors of production, so the flow is the services from these factors of production from the factor markets to firms, labeled *d* in the figure.

- **Southwest rents some aircraft.**

The aircraft are factors of production, so the flow is the services from these factors of production from the factor markets to firms, labeled *e* in the figure.

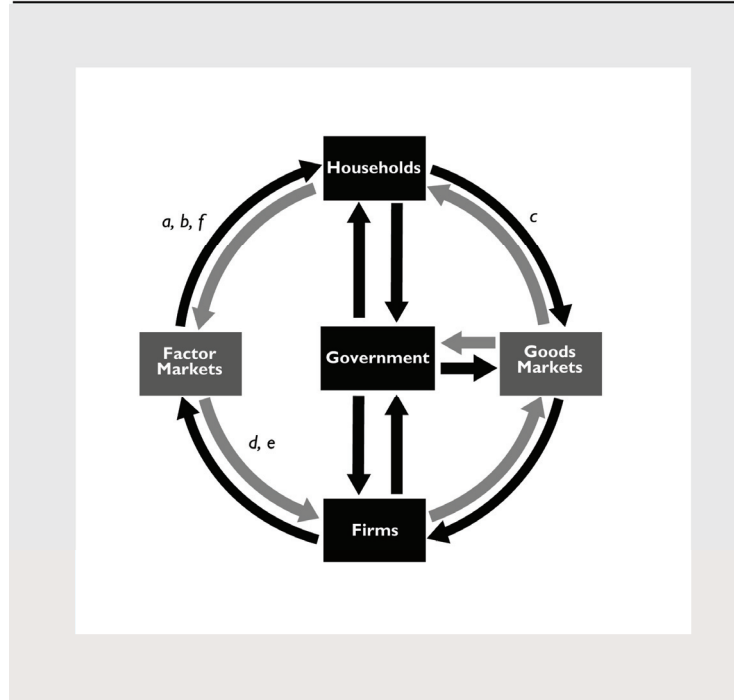
- **Nike pays Tiger Woods for promoting its golf ball.**

Tiger Woods is a factor of production, so the flow is a monetary flow from the factor markets to households in exchange for Mr. Woods' services of promoting the golf balls. The flow is labeled *f* in the figure.

5. **Compare the scale of agricultural production in the advanced and developing economies. In which is the percentage higher? In which is the total amount produced greater? In which is the cost of production lower?**

Agricultural is a small part of total production in advanced economies, less than 2 percent of total production. It is a much larger part in developing economies, an average of 14 percent. Even though advanced economies devote only a small part of their total production to agricultural, they still produce about one third of the world's total production. The remaining two thirds is produced in the developing nations. Advanced economies have access to the most modern, high-tech production meth-

**FIGURE 2.2**  
Chapter Checkpoint Exercise 4





ods, but even so the cost of producing agricultural products is generally lower in developing economies.

6. **Think about the trends in what and how goods and services are produced in the U.S. and global economies. Which jobs will grow fastest in the future? What will happen to the quality of labor over the next decade?**

During the next decade we can expect jobs in the medical care field to increase. This prediction is based on the expectation that as our population ages, we will spend even more on health care. In the next decades as technology advances, we will see more jobs that require a highly skilled labor force. In addition, we will probably see more and more people providing services instead of producing goods.

The quality of labor will continue to increase. The quantity of human capital will continue to grow as technology expands and as the delivery of education changes (i.e. more distance-based learning that provides more people greater access to education).

#### **China's Prosperity Brings Income Gap**

**China has the largest gap between rich and poor in Asia, together with Nepal, following a decade in which income distribution in the region has become ever more skewed in favor of the rich, according to a new study by the Asian Development Bank [ADB].**

**"It is not so much a case of the rich getting richer and the poor getting poorer, but that the rich are getting richer faster than the poor,"** said Ifzal Ali, the ADB's chief economist at a press conference in Beijing.

**"Countries which don't have high income inequality can have high non-income inequality,"** he said.

**China's exceptionally high economic growth rates mean that even though its income distribution is more unequal than India, its poorest citizens have much greater spending power than its neighbor. ...**

*Financial Times, August 9, 2007*

Use this information to answer Exercises 7 and 8.

7. **Explain how the income distribution in China can be getting more unequal even though the poorest 20 percent of getting richer.**

The distribution of income in China can be getting more unequal even when the poorest 20 percent are getting richer if the richest 20 percent are getting richer even faster. In this case the fraction of the nation's total income received by the poorest 20 percent will fall. According to the article, this outcome is occurring in China.

8. **Suggest some non-income sources of economic wellbeing and provide reasons why the inequality of income and "non-income" might differ.**

Non-income refers to other positive attributes of life, such as personal freedom or health care. The distribution of these attributes can easily dif-

fer from that of personal income. For instance, if the government provides health care to its citizens outside of markets, then health care can be distributed more equally than income. Or if the government provides either a little or a lot of freedom of speech or religion to everyone, then these attributes also would be distributed more equally than personal income. These other, non-income attributes can have an impact on people's well-being.

## ■ Critical Thinking and Web Activities

1. You saw in the chapter opener (page 33) that Scott and Raffael, like many other Americans, lost their manufacturing jobs and found new service jobs. Why is the United States becoming a service-producing economy? You also saw that Chown Chong Chin and her husband, like many other Chinese, left their farm jobs to get manufacturing jobs. Why is China becoming a manufacturing economy?

America is becoming a service-producing economy because as our nation grows, people are demanding more and more services. Firms are responding to the increased demand for services by producing more services. China is becoming a manufacturing economy because China can produce manufactured goods less expensively than they can be produced in other countries, such as the United States.

**Reflecting on these trends, do you think that we should be concerned that most of our clothing, electronic goods, and other manufactured goods come from abroad? Organize your answer around the following four points:**

- a. **Who in the United States benefits from the availability of cheap foreign-produced clothing, electronic goods, and other manufactured goods? Who in the United States bears the cost of cheap foreign-produced goods?**

The people who gain from cheap foreign imports are U.S. consumers. Instead of having to buy high-priced U.S. products, U.S. consumers can buy less expensive imported goods and services. In addition, people who have jobs in industries that use cheap imports gain.

The main losers from cheap foreign imports are owners of U.S. companies that produce goods and services that compete with the foreign imports. Workers who are employed by U.S. firms that are forced to close because they cannot compete with the foreign inputs also lose because they lose their jobs.

- b. Who in the rest of the world benefits from the United States buying foreign-produced goods? Who in the rest of the world bears the cost of the United States buying cheap foreign-produced goods?**

The gainers in the rest of the world are the producers of the imported goods and services. The producers sell more goods and services so they gain from exporting to the United States. In addition, workers employed by these companies gain.

Losers in the rest of the world are the people who otherwise would have consumed the goods and services that are imported into the United States.

- 2. Use the information in the chapter opener (page 33) about Scott Clark and Raffael in the Richmond area and Chown Chong Chin and her husband in China to answer the following questions.**

- a. What opportunity costs have these people borne? What benefits have they received?**

The opportunity costs Mr. Clark and Raffael in Richmond have borne is the opportunity cost of lower consumption because of lower income from having lost a relatively high-paying job and being able to replace it only with a relatively lower-paying job. Mr. Clark also has the opportunity cost of working more hours than before. Ms. Chin has incurred the opportunity cost of living without her family. Presumably she also works more hours according to a strict time clock in the factory than when she was on her family farm.

At least while initially unemployed, the people in Richmond have received a benefit in the form of more time spent at “leisure,” that is, more time spent not working. Ms. Chin has received a benefit in the form of a higher income.

- b. Is there anything that the U.S. government might have done to improve the lives of Scott and Raffael?**

The U.S. government could have offered more re-training for people without jobs. The U.S. government might have offered more generous unemployment benefits so that these people could search for a better job for a longer period of time. The U.S. government could have taken the role as the “employer of last resort,” that is, the government could have employed these people.

- c. Is there anything that the Chinese government might do to improve the lives of Chown Chong Chin and her husband?**

The Chinese government could require that Ms. Chin’s employer boost her wage and/or decrease her hours of work.

- 3. “Income is unequally distributed, but because wages account for 64 percent of total income, any redistribution from the rich to the poor means**

**taking from wage earners to give to others.” What is wrong with the reasoning in this statement?**

The statement errs because the relatively few very high income people earn the majority of their income from the capital market. So redistribution can take place from the high-income people whose income is primarily interest income to low-income people. Plus there are some extremely high wage earners, so while redistributing income from these workers would mean taking from some wage earners to give to others, it also means taking from the rich to give to the poor.

- 4. You’ve seen that all levels of government get only a small part of their revenues from taxing corporations. Why do you think corporations pay a small share of taxes? Would it be better if corporations paid more taxes and people paid less? Explain your answer.**

Corporations pay a small share of taxes in large part because business profits are a relatively small share of the nation’s total income. In addition, businesses have effectively lobbied the government to cut their taxes. The suggestion that it would be better if businesses paid more taxes and individuals paid less is a normative suggestion and so depends on value judgments. It is interesting to note that taxing businesses might lead to job losses. And, businesses are owned by individuals. So, taxing businesses more means taxing their individual owners more, so it is not possible to avoid taxing individuals—the decision ultimately is which individuals to tax.

- 5. How can it be that the distribution of income has become more unequal within most countries, yet the global distribution of income has become more equal? What problems remain despite the lessening of inequality at the global level?**

The distribution of income within nations is much more equal than the distribution across nations. As a result, even though the distribution within individual nations becomes less equal, because the average incomes within nations has become more equal, the distribution of income across nations has become more equal. The major problem facing the world at a global level is the failure of incomes within Africa to grow since 1970. In Africa, the number of workers who earn less than \$2 per day increased by 227 million. Today about 66 percent of the world’s poor live in Africa.

6. **Review the special “20th Century Statistics” section of the 1999 *Statistical Abstract of the United States* and find the table that describes trends in transportation. Describe the trends in air travel and road travel. How might the events of September 11, 2001, have influenced these trends?**

Since 1940 the trend in air travel has been strongly positive. In 1940, scheduled airlines carried passengers 3.2 million miles. In 1998, scheduled airlines carried passengers 614.2 million miles. The trend in road travel is also positive: the number of vehicle miles has risen from 100 million in 1900 to 458,000 million in 1950 to 2,560 billion in 1997.

The events of September 11 increased the price of air travel because airlines will need to pay for increased security. In addition, heightened security concerns make air travel less convenient and less secure. So the price of air travel increased and the quantity of miles flown will fell and grew more slowly from what it otherwise would have been. For road travel, the events of September 11 lead more people to travel by car than would otherwise have been the case. So the growth in the number of vehicle miles increased.

7. **Visit the regional income pages of the Bureau of Economic Analysis at the U.S. Department of Commerce. Obtain data on per capita personal income for the states as a percentage of U.S. per capita personal income. Which state has the highest per capita income and which has the lowest? Where in the ranking does your state stand? Can you think of reasons for the ranking that you’ve found?**

Though the ranking might change, in 2006 of the 50 states Connecticut had the highest per capita personal income, \$49,852 or 137 percent of U.S. average per capita income. And in 2006, Mississippi had the lowest per capita personal income, \$26,535 or 73 percent of U.S. average per capita income.

Your state’s ranking will depend on your state.

Your students’ reasons for the ranking will depend on your state. They might point to the presence or absence of manufacturing or farming, the nearby presence of cities with well-paying jobs, and possibly the cost of living.

**ADDITIONAL EXERCISES FOR ASSIGNMENT****■ Questions****■ Checkpoint 2.1 What, How, and For Whom?**

1. Identify each of the goods or services below as belonging to one of the following categories: consumption good (service), capital good (service), government good (service) or export good (service).
  - 1a. Restaurant meals
  - 1b. Video rentals
  - 1c. Computer produced in the United States and purchased by a German company.
  - 1d. Nuclear submarine
  - 1e. Oil rig
  - 1f. Haircut
  - 1g. Factory
  - 1h. Courthouse
2. Identify the payments that are made to each of the four factors of production.
3. Comment on the following assertion: "If the trends in schooling continue, at some point in the future, everyone will have a college degree and no one will be available to work as a janitor or garbage collector." Critically evaluate this statement.

**■ Checkpoint 2.2 Circular Flows**

4. In the goods market, households and firms both have a role to play. In the factor markets these roles are reversed. Why does the reversal occur?

**■ Checkpoint 2.3 The Global Economy**

5. Classify the following countries as advanced or developing countries: Australia, Chile, China, France, India, Indonesia, Hong Kong, Mexico, Nigeria, and Peru.
6. Think about the trends in what and how goods and services are produced in the U.S. and global economies. Do you think that at some future time, there will be no jobs in the United States and all the jobs will be in developing economies? Explain your answers

**■ Answers****■ Checkpoint 2.1 What, How, and For Whom?**

- 1a. consumption good
- 1b. consumption service
- 1c. export good
- 1d. government good

- 1e. capital good
- 1f. consumption service
- 1g. capital good
- 1h. government good
- 2. Wages are paid to labor, rent to land, interest to capital, and entrepreneurs receive a profit or incur a loss.
- 3. This statement exaggerates and is untrue. If the trend continued unabated at the current rate, it would be well into 2100 before 100 percent of the population had college degrees. But the trend will not continue because many individuals do not have the necessary talents to graduate from college. And even if everyone possessed a college degree, if the pay offered as a janitor or garbage collector is sufficiently high, college graduates will accept these jobs.

### ■ Checkpoint 2.2 Circular Flows

- 4. Households are the buyers in the goods market and firms are the sellers. In this market, households pay firms money in exchange for goods and services. In the factor markets, the roles are reversed. Households are the sellers of labor, land, capital, and entrepreneurship and firms are the buyers. In this market, firms pay households money in exchange for the factors of production.

### ■ Checkpoint 2.3 The Global Economy

- 5. The advanced economies include Australia, France, and Hong Kong. The developing economies include Chile, China, India, Indonesia, Mexico, Nigeria, and Peru.
- 6. We would not expect all jobs to move from the United States to other nations. Relative to the rest of the world, workers in the United States will remain highly skilled, and likely will increase their average skills even more. These highly skilled workers will be needed to produce goods and services that must be produced using skilled rather than unskilled labor.