Chapter 2 introduces fundamental concepts about how households, firms, markets, and government are linked together. A circular flow model is presented to show how goods and services and expenditures flow from and to households, firms, and the government.

1. **Describe what, how, and for whom goods and services are produced in the United States.**

The production of goods and services, the “what” question, is divided into four broad categories defined in terms of the ultimate buyer: individuals (consumption goods and services), businesses (capital goods), governments (government goods and services), and other countries (export goods and services). The “how” of production involves the factors of production: land, labor, capital, and entrepreneurship. Goods and services are sold to those who have income, so the personal distribution of income is one way of showing who ends up with our national output. The functional distribution of income shows how much is paid to the owners of each type of productive resource. The largest share of national income goes to labor, so workers get the largest share of our nation’s goods and services.

2. **Use the circular flow model to provide a picture of how households, firms, and government interact.**

The circular flow model shows that households provide the services from the factors of production, and firms hire these services in factor markets. The circular flow also shows that households purchase goods and services, and firms sell goods and services in goods markets. The decisions made by households and firms (and the government) in these markets determine the answers to the “what,” “how,” and “for whom” questions. The federal government provides public goods and services, and makes social security and other benefit payments. In the circular flow, the government purchases goods and services in goods markets. It makes transfers to firms and households and also taxes them. The federal government’s largest expenditure is Social Security benefits and its largest source of tax revenue is personal income taxes.

3. **Describe what, how, and for whom goods and services are produced in the global economy.**

Countries are divided into advanced economies, the richest 29 countries, and emerging market and developing economies. The advanced economies produce 51 percent of the world’s total output, with 20 percent produced in the United States. Two third’s of the world’s oil reserves and two fifths of the natural gas reserves are in the Middle East. The share of agriculture in the advanced economies is much smaller than in the other countries but the advanced economies still produce one third of the world’s food. The advanced economies have much more human capital and physical capital than the developing countries. Inequality of incomes across the entire world has decreased during the past twenty years, primarily because incomes in China and India have grown rapidly.
CHECKPOINT 2.1

Describe what, how, and for whom goods and services are produced in the United States.

Quick Review

- **Consumption goods and services** Goods and services that are bought by individuals and used to provide personal enjoyment and contribute to a person’s standard of living.
- **Capital goods** Goods that are bought by businesses to increase their productive resources.
- **Government goods and services** Goods and services that are bought by governments.
- **Exports** Goods and services produced in the United States and sold in other countries.

Additional Practice Problems 2.1

1. Tell whether the following goods and services are consumption goods and services, capital goods, government goods and services, or exports.
   a. A taco at Taco Bell purchased for lunch by Shaniq.
   b. An HP printer manufactured in Idaho purchased by Maria in Peru.
   c. A new grill purchased by Taco Bell.
   d. A tour down the Colorado river from Rimrock Adventures purchased by the Miller family.
   e. CamelBak drinking packs purchased by the U.S. Marine Corp.
   f. CamelBak drinking packs purchased by Rimrock Adventures for use by their customers during tours.
   g. A CamelBak drinking pack purchased by Anne for use while mountain biking.
   h. A CamelBak drinking pack purchased by Sebastian, a German racing in the Tour de France.

2. How much labor is there in the United States? What determines the quantity of labor?

Solutions to Additional Practice Problems 2.1

1a. Shaniq's taco is a consumption good.
1b. Maria’s printer is an export good.
1c. The new grill is a capital good.
1d. The tour is a consumption service.
1e. The drinking pack purchased by the Marines is a government good because it is purchased by the government.
1f. The drinking pack purchased by Rimrock Adventures is a capital good because it is purchased by a business.
1g. The drinking pack purchased by Anne is a consumption good.
1h. The drinking pack purchased by Sebastian is an export good.

2. In the United States, in 2007 about 152 million people had jobs or were available for work and they provided about 270 billion hours of labor a year. The quantity of labor depends on the size of the population, the percentage of the population that takes jobs, and on social relationships that influence things such as how many women take paid work. An increase in the proportion of women who have taken paid work has increased the quantity of labor in the United States over the past 50 years.

Self Test 2.1

Fill in the blanks

Goods and services that are bought by individuals and used to provide personal enjoyment and to contribute to a person’s standard of living are ____ (consumption; capital; export) goods. Goods that are bought by businesses to increase their productive resources are ____ (consumption; capital; export) goods. Goods that are produced in the United States and sold in other countries are ____ (consumption; capital; export) goods. Of the four large groups of goods and services in the United States, ____ (consumption goods and services; capital goods; government goods and services; export goods and services) have the largest share of total production. Productive resources are called ____ and are grouped into four categories: ____.
____, ____ , and ____. In 2006, ____ (labor; capital) received 64 percent of total income. The distribution of income among households is called the ____ (functional; personal) distribution of income.

**True or false**
1. Consumption goods and services include a slice of pizza purchased to eat at home.
2. A gold mine is included in the “land” category of productive resources.
3. Michael Dell, the person who founded and manages Dell computers, is an example of an entrepreneur.
4. In the United States, the factor of production that earns the most income is labor.
5. In the United States, the richest 20 percent of individuals earn approximately 30 percent of total income.

**Multiple choice**
1. When the total U.S. production of goods and services is divided into consumption goods and services, capital goods, government goods and services, and export goods and services, the largest component is
   a. consumption goods and services.
   b. capital goods.
   c. government goods and services.
   d. export goods and services.
   e. capital goods and government goods and services tie for the largest component.
2. An example of a capital good is
   a. a fiber optic cable TV system.
   b. an insurance policy.
   c. a hair cut.
   d. an iPod.
   e. a slice of pizza.
3. Goods and services produced in the United States and sold in other countries are called
   a. consumption goods and services.
   b. capital goods.
   c. government goods and services.
   d. export goods and services.
   e. import goods and services.
4. Which of the following correctly lists the categories of factors of production?
   a. machines, buildings, land, and money
   b. hardware, software, land, and money
   c. capital, money, and labor
   d. owners, workers, and consumers.
   e. land, labor, capital, and entrepreneurship
5. Human capital is
   a. solely the innate ability we are born with.
   b. the money humans have saved.
   c. the knowledge humans accumulate through education and experience.
   d. machinery that needs human supervision.
   e. any type of machinery.
6. Wages are paid to ____ and interest is paid to ____.
   a. entrepreneurs; capital
   b. labor; capital
   c. labor; land
   d. entrepreneurs; land
   e. labor; entrepreneurs
7. Dividing the nation’s income among the factors of production, the largest percentage is paid to
   a. labor.
   b. land.
   c. capital.
   d. entrepreneurship.
   e. labor and capital, with each receiving about 41 percent of the total income.
8. The personal distribution of income shows
   a. that labor receives the largest percentage of total income.
   b. how profit accounts for the largest fraction of total income.
   c. that the richest 20 percent of people earn 23 percent of total income.
   d. that interest accounts for most of the income of the richest 20 percent of people.
   e. that the poorest 20 percent of people earn less than 4 percent of total income.

**Short answer and numeric questions**
1. Is an automobile a consumption good or a capital good?
2. Compare the incomes earned by the poorest and richest 20 percent of individuals.
CHECKPOINT 2.2

1. Use the circular flow model to provide a picture of how households, firms, and governments interact.

Quick Review
- Circular flow model: A model of the economy, illustrated in Figure 2.1, that shows the circular flow of expenditures and incomes that result from firms’, households’, and governments’ choices.

FIGURE 2.1

Additional Practice Problem 2.2
1. Describe where the following money flows fit in the circular flow.
   a. Shaniq pays for a taco at Taco Bell.
   b. Sam receives his monthly Social Security payment.
   c. Jennifer gets a $10,000 end of the year bonus from Bank of America, where she works.
   d. Exxon pays landowners in Texas $20,000 for the oil under their land.
   e. Bill pays property tax of $6,000.

2. In the circular flow, what is the relationship between the flow of expenditures into the goods markets (from households and the government) and the flow of revenues out of the goods markets to firms?

Solutions to Additional Practice Problems 2.2
1a. Shaniq’s payment is an expenditure on a good that flows from households through the goods market to Taco Bell, a firm.
1b. Sam’s check is a transfer payment from the government to households.
1c. Jennifer’s payment is wages flowing from a firm, Bank of America, through the factor market to households.
1d. Exxon’s payment is rent flowing from a firm, Exxon, through the factor market to households.
1e. Bill’s payment is a tax flowing from households to government.

2. The flow of expenditures into the goods markets—the funds that households and the government spend on the goods and services they purchase—equals the flow of revenue out of the goods markets.

Self Test 2.2

Fill in the blanks
The ____ model shows the flows of expenditure and incomes. An arrangement that brings buyers and sellers together is a ____ (firm; household; market). A market in which goods and services are bought and sold is a ____ (goods; factor) market and a market in which the services of the factors of production are bought and sold is a ____ (goods; factor) market. In 2006, as a percentage of the total value of the goods and services produced in the United States, the federal government spent about ____ (20; 13) percent while state and local governments spent about ____ (20; 13) percent. A large part of what the federal government spends is ____ (social security payments; personal income taxes). The two components that account for most of the federal government’s tax revenue are ____. The largest part of the expenditures of state and local governments is spending on ____ (education; highways).
True or false
1. Firms own the factors of production.
2. A market is any arrangement where buyers and sellers meet face-to-face.
3. Factors of production flow from households to firms through goods markets.
4. Rent, wages, interest, and profit are the payments made by firms to households through factor markets.
5. Social security payments are made by state and local governments.
6. The largest part of the expenditures of state and local government is on education.

Multiple choice
1. Within the circular flow model, economists define households as
   a. families with at least 2 children.
   b. families living in their own houses.
   c. individuals or groups living together.
   d. married or engaged couples.
   e. individuals or groups within the same legally defined family.
2. A market is defined as
   a. the physical place where goods are sold.
   b. the physical place where goods and services are sold.
   c. any arrangement that brings buyers and sellers together.
   d. a place where money is exchanged for goods.
   e. another name for a store such as a grocery store.
3. In the circular flow model,
   a. only firms sell in markets.
   b. only households buy from markets.
   c. some firms only sell and some firms only buy.
   d. the money used to buy goods and the goods themselves travel in the same direction.
   e. both firms and households buy or sell in different markets.
4. ___ choose the quantities of goods and services to produce, while ___ choose the quantities of goods and services to buy.
   a. Households; firms
   b. Firms; households and the government
   c. The government; firms
   d. Firms; only households
   e. Households; the government
5. A circular flow model shows the interrelationship between the ___ market and the ___ markets.
   a. household; goods
   b. household; factor
   c. business; household
   d. expenditure; income
   e. goods; factor
6. In the circular flow model, the expenditures on goods and services flow in the
   a. same direction as goods and services in all cases.
   b. same direction as goods and services only if they both flow through the goods market.
   c. same direction as goods and services only if they both flow through the factor market.
   d. opposite direction as goods and services.
   e. same direction as factor markets.
7. Of the following, the smallest expenditure category of the federal government is
   a. national defense and homeland security.
   b. Social Security.
   c. Social Security benefits.
   d. Medicare and Medicaid.
   e. interest on the national debt.
8. Of the following, the largest source of revenue for the federal government is
   a. personal income taxes.
   b. sales taxes.
   c. corporate income taxes.
   d. property taxes.
   e. lottery revenue.
Complete the graph

1. Figure 2.2 ignores the government and shows the flows into and out of households. Label the flows and identify who they come from and who they go to.

2. Figure 2.3 ignores the government and shows the flows into and out of firms. Label the flows and identify who they come from and who they go to.

3. Figure 2.4 now includes the government and shows the money flows into and out of firms. Label the money flows.

Short answer and numeric questions

1. Ignoring taxes and transfer payments, what funds flow into firms and what funds flow out of them?

2. In the circular flow model, what are the sources of expenditures on goods and services?

3. Is it possible for something to affect households and not firms? To affect firms and not households? Explain your answers.

4. The circular flow reveals that which two groups interact to determine what will be the payments to the factors of production?

5. In 2006, which spent more, the federal government or state and local governments?

CHECKPOINT 2.3

Describe what, how, and for whom goods and services are produced in the global economy.

Quick Review

- **Advanced economies** The 29 countries (or areas) that have the highest living standards.
- **Emerging markets and Developing economies** Emerging markets are the 28 countries in Europe and Asia that were until the early 1990s part of the Soviet Union or its satellites and are changing the way they organize their economies. Developing economies are the 118 countries in Africa, the Middle East, Europe, and Central and South America that have not yet achieved a high standard of living for their people.

Additional Practice Problems 2.3

1. What percentage of the world’s population live in developing economies? In places such as China, India, and Africa, what was the average income per day?

2. What percentage of the world’s population live in advanced economies? In countries such as the United States, Canada, and Japan, what was the average income per day?
3. How does production within the advanced economies, the emerging market economies, and the developing economies compare?

4. How is it possible that income inequality within most countries has increased in recent years yet income inequality across the whole world has decreased in recent years?

**Solutions to Additional Practice Problems 2.3**

1. The world’s population is about 6.6 billion. More than 5 billion of the people live in developing economies. So, approximately 80 percent of the world’s population lives in developing economies. Average daily income in China is $24, in India is $10, and in Africa is $8. Because these are the average, many people live on less than these amounts.

2. About 1 billion people, or 15 percent of the world’s population live in the 28 advanced economies. The average income per day in the United States was $124, in Canada was $102, and in Japan was $90.

3. Of the world’s total production, the advanced economies produce 51 percent (20 percent is produced in the United States). The emerging market economies produce 7 percent of the world’s production and the developing economies produce the remainder, 42 percent.

4. While income inequality within nations has been increasing, the difference in incomes among different nations has been decreasing. In particular, both China and India have seen rapid growth in income. The growth in income for these two poor but populous nations has decreased income inequality in the world as a whole.

**Self Test 2.3**

**Fill in the blanks**

Most of the world’s population lives in the ____ (advanced economies; emerging market economies; developing economies). The lowest average income is in the ____ (advanced economies; emerging market economies; developing economies). Advanced economies produce about ____ (24; 51; 72) percent of the world’s total production and the United States, alone, produces about ____ (6; 20; 33) percent of the world’s total production. About ____ (33; 50; 67) percent of the world’s proven oil reserves are located in ____ (North America; the Middle East). As a fraction of total output, agricultural is a ____ (larger; smaller) part of the economy in developing economies than in advanced economies. Factories in advanced economies are much ____ (less; more) capital intensive than in developing economies. During the past 20 years, the distribution of income in the world economy has become ____ (more; less) equal.

**True or False**

1. About 50 percent of the world’s population lives in the advanced economies.

2. Mexico is an emerging market economy.

3. Taken as a group, the 118 developing economy nations produce a larger percentage of total world production than do the 29 advanced economy nations.

4. Most of the world’s energy reserves are in North America.

5. Workers in the advanced economies have much more human capital than workers in the developing economies.

6. Income inequality within most nations has increased over the past years.

**Multiple choice**

1. The world population is approximately ____ people.
   a. 6.6 million
   b. 2 trillion
   c. 6.6 billion
   d. 1.4 trillion
   e. 660 million

2. The percentage of the world’s population that lives in the advanced economies is
   a. more than 51 percent.
   b. between 41 percent and 50 percent.
   c. between 31 percent and 40 percent.
   d. between 20 percent and 30 percent.
   e. less than 20 percent.
3. Which of following groups of countries are all advanced economies?
   a. Australia, Brazil, and the United States
   b. Hong Kong, Japan, France, and the United Kingdom
   c. Italy, the United States, China, and Russia
   d. Singapore, Russia, France, and Chad
   e. Mexico, Canada, Germany, and Egypt

4. The emerging market economies are
   a. the largest grouping including the nations of China and India.
   b. in transition from state-owned production to free markets.
   c. most of the nations of Western Europe.
   d. the nations that are currently agricultural in nature.
   e. the nations with the highest standards of living.

5. As a percentage of total world production, production in the 29 advanced economies is about ____ percent of total world production and in the 118 developing economies is about ____ percent of total world production.
   a. 51; 42
   b. 23; 62
   c. 59; 12
   d. 30; 46
   e. 19; 73

6. Agricultural is about ____ percent of total production within advanced economies and the advanced economies produce about ____ percent of the world’s food.
   a. 2; 33
   b. 12; 12
   c. 28; 63
   d. 4; 12
   e. 8; 20

7. Compared to the developing economies, the advanced economies have ____ human capital and ____ physical capital.
   a. more; more
   b. more; less
   c. the same; the same
   d. less; more
   e. less; less

8. Among the United States, Canada, Russia, India, and the United Kingdom, the country with the highest average income per person and the highest living standard is
   a. the United States.
   b. Russia.
   c. India.
   d. Canada.
   e. the United Kingdom.

Short answer and numeric questions
1. What are the groups the International Monetary Fund uses to classify countries? Describe each group. Which group has the largest number of countries? The largest number of people?
2. As a fraction of total production, how does agricultural production within the advanced economies compare to agricultural production within the developing economies? Why are the advanced economies able to produce about one third of the world’s food?
3. How does the amount of human capital in the advanced economies compare to that in the developing economies?
4. How does the distribution of income within the United States compare to the distribution of income in the world economy?
SELF TEST ANSWERS

■ CHECKPOINT 2.1

Fill in the blanks
Goods and services that are bought by individuals and used to provide personal enjoyment and to contribute to a person’s standard of living are consumption goods. Goods that are bought by businesses to increase their productive resources are capital goods. Goods that are produced in the United States and sold in other countries are export goods. Of the four large groups of goods and services in the United States, consumption goods and services have the largest share of total production. Productive resources are called factors of production and are grouped into four categories: labor, land, capital, and entrepreneurship. In 2006, labor received 64 percent of total income. The distribution of income among households is called the personal distribution of income.

True or false
1. True; page 34
2. True; page 36
3. True; page 39
4. True; page 40
5. False; page 40

Multiple choice
1. a; page 34
2. a; page 34
3. d; page 34
4. e; page 36
5. c; page 37
6. b; page 39
7. a; page 40
8. e; page 40

Short answer and numeric questions
1. An automobile might be either a consumption or a capital good. It is a consumption good if it is purchased by a household. It is a capital good if it is purchased by a business for use within the business; page 34.

2. The richest 20 percent of households earn about 50 percent of the total U.S. income. The poorest 20 percent of individuals have an average income of about $11,000 and earn about 3 percent of the total U.S. income; page 40.

■ CHECKPOINT 2.2

Fill in the blanks
The circular flow model shows the flows of expenditures and incomes. An arrangement that brings buyers and sellers together is a market. A market in which goods and services are bought and sold is a goods market and a market in which the services of the factors of production are bought and sold is a factor market. In 2006, as a percentage of the total value of the goods and services produced in the United States, the federal government spent about 20 percent while state and local governments spent about 13 percent. A large part of what the federal government spends is social security payments. The two components that account for most of the federal government’s tax revenue are personal income taxes and Social Security taxes. The largest part of the expenditures of state and local governments is spending on education.

True or false
1. False; page 42
2. False; pages 42-43
3. False; pages 42-43
4. True; pages 42-43
5. False; page 44
6. True; page 47

Multiple choice
1. c; page 42
2. c; page 42
3. e; pages 42-43
4. b; pages 42-43
5. e; pages 42-43
6. d; page 43
7. e; page 46
8. a; page 46
Complete the graph

**FIGURE 2.5**

1. Figure 2.5 labels the flows. Rent, wages, interest, and profits (or losses) flow from the factor markets while the services from land, labor, capital, and entrepreneurship flow to the factor markets. In addition, expenditures on goods and services flow to the goods market, and goods and services flow from the goods market; page 43.

**FIGURE 2.6**

2. Figure 2.6 labels the flows. Revenue from the sale of goods and services, which are the expenditures on goods and services, flow to firms from the goods market and payments of rent, wages, interest, and profit (or loss) flow from firms into the factor market. The services from land, labor, capital, and entrepreneurship flow to firms from the factor markets, and goods and services flow from firms into the goods markets; page 43.

3. Figure 2.7 labels the money flows into and out of firms. The difference between this figure and Figure 2.6 is the addition of transfers and taxes; page 45.

**FIGURE 2.7**

**Short answer and numeric questions**

1. Funds that flow into firms are households’ expenditures and government purchases of goods and services. Funds that flow out of firms are payments for rent, wages, interest, and profit (or loss) to households in exchange for the factors of production; pages 43, 45.

2. The circular flow identifies two sources of expenditures on goods and services, expenditures by households and expenditures by the government; page 45.

3. The circular flow shows that at the macroeconomic level it is impossible for something to influence only firms or only households. An influence that changes households’ buying behavior in goods markets affects firms because they sell to households in goods markets; page 43.

4. Payments to the factors of production are determined by the interaction of households, who own and provide the services from the factors of production, and firms, who employ the services from these factors; page 43.

5. In 2006, the federal government spent $2.9 trillion and state and local governments spent $1.6 trillion. The federal government spent significantly more than state and local governments; page 46.

**CHECKPOINT 2.3**

**Fill in the blanks**

Most of the world’s population lives in the developing economies. The lowest average income is in the developing economies. Ad-
Advanced economies produce about 51 percent of the world’s total production and the United States, alone, produces about 20 percent of the world’s total production. About 67 percent of the world’s proven oil reserves are located in the Middle East. As a fraction of total output, agricultural is a larger part of the economy in developing economies than in advanced economies. Factories in advanced economies are much more capital intensive than in developing economies. During the past 20 years, the distribution of income in the world economy has become more equal.

**True or false**
1. False; page 49
2. False; page 49
3. False; page 50
4. False; page 51
5. True; page 53
6. True; page 55

**Multiple choice**
1. c; page 49
2. e; page 49
3. b; page 49
4. b; page 49
5. a; page 50
6. a; page 52
7. a; page 53
8. a; page 55

**Short answer and numeric questions**
1. The groups are the advanced economies and the emerging market and developing economies. Advanced economies have the highest standard of living. Emerging market and developing economies have yet to achieve a high standard of living. The emerging market economies are changing their economies from government management and state-ownership of capital to market-based economies similar to that in the United States. There are more nations, 118, and more people, almost 5 billion, in developing economies; page 49.

2. Agriculture accounts for about 1.8 percent of total production in advanced economies and about 14 percent of total production within developing economies. Even though advanced economies have a much smaller fraction of their total production devoted to food, because the farms within these nations are large, efficient, and well-equipped with capital and because farmers within these nations are paid by their governments to produce food, the advanced economies produce about one third of the world’s food; page 52.

3. The human capital possessed by workers in the advanced economies is much larger than that in the developing economies. People in the advanced economies have vastly more education, more on-the-job training, and, in general, better health than in the developing economies; page 53.

4. The distribution of income within the United States is more equal than the distribution of income in the world economy. In the United States, the poorest 20 percent of households receive about 3 percent of the total income and the richest 20 percent of households receive about 50 percent of total income. In the world economy, the poorest 20 percent of households receive about 2 percent of total income and the richest 20 percent receive about 70 percent of total income; page 54.