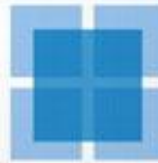


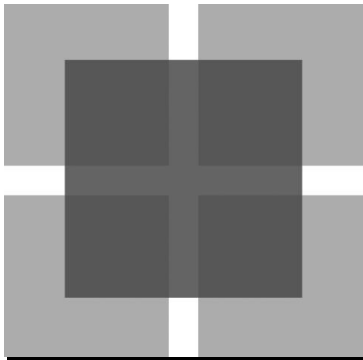
SOLUTIONS MANUAL

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Foundations of
Microeconomics
Seventh Edition





The U.S. and Global Economies

Chapter 2

ANSWERS TO CHAPTER CHECKPOINT

■ Study Plan Problems and Applications

1. Explain which of the following items are *not* consumption goods and services:
 - **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. Explain which of the following items are *not* capital goods:
 - **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. Explain which of the following items are *not* factors of production:
 - **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 in the Arctic Ocean**
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. **Which factor of production earns the highest percentage of total U.S. income? Define that factor of production. What is the income earned by this factor of production called?**

Labor earns by far the largest percentage of total U.S. income, 69 percent of total income in 2011. Labor consists of the work time and the work effort that people devote to producing goods and services. The income earned by labor is a wage.

5. **With more job training and more scholarships to poor American students, which special factor of production is likely to grow faster than in the past?**

As more people go to school and/or receive job training, the nation's human capital will grow more rapidly. Human capital is the knowledge and skills people obtain from education, on-the-job training, and work experience. With more job training and more scholarships, human capital will grow more rapidly.

6. **Define the factor of production called capital. Give three examples of capital, different from those in the chapter. Distinguish between the factor of production capital and financial capital.**

Capital is the tools, instruments, machines, buildings, and other items that have been produced in the past and that businesses now use to produce goods and services. Capital includes railroad engines and cars, servers, and ATMs. The factor of production "capital" is the actual good itself; "financial capital," such as stocks and bonds, are the funds that provide businesses with their financial resources which can be used to acquire capital goods.

7. **A Job Creation through Entrepreneurship Act, debated in the House of Representatives in 2009, would award grants to small business owners, some of which would be aimed at women, Native Americans, and veterans. The Act would provide \$189 million in 2010 and \$531 million between 2010 and 2014. Explain how you would expect this Act to influence *what, how, and for whom* goods and services are produced in the United States.**

The answer to the *what* question would change because more of the goods and services produced by the groups receiving the grants—small business owners, particularly women, Native Americans, and veterans—would be produced. If these groups of producers produced their goods and services using different technologies than the rest of the producers, then the question of *how* goods and services would change. *For whom* goods and services are produced would change because the producers receiving the

subsidies would have larger profits and therefore be able to buy more of the goods and services produced.

8. Indicate on a graph of the circular flow model, the real and/or money flow in which the following items belong:

- **You buy a coffee at Starbucks.**

In Figure 2.1 the dark arrows represent money flows and the grey arrows represent flows of goods and services and factors of production. If you buy a coffee at Starbucks, your expenditure is a money flow from households to the goods market, labeled *a* in the figure.

- **The government buys some computers.**

The purchase of computers by the government represents a flow of computers from the goods market to the government, labeled *b* in the figure.

- **A student works at Kinko.**

The student working at Kinko 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.

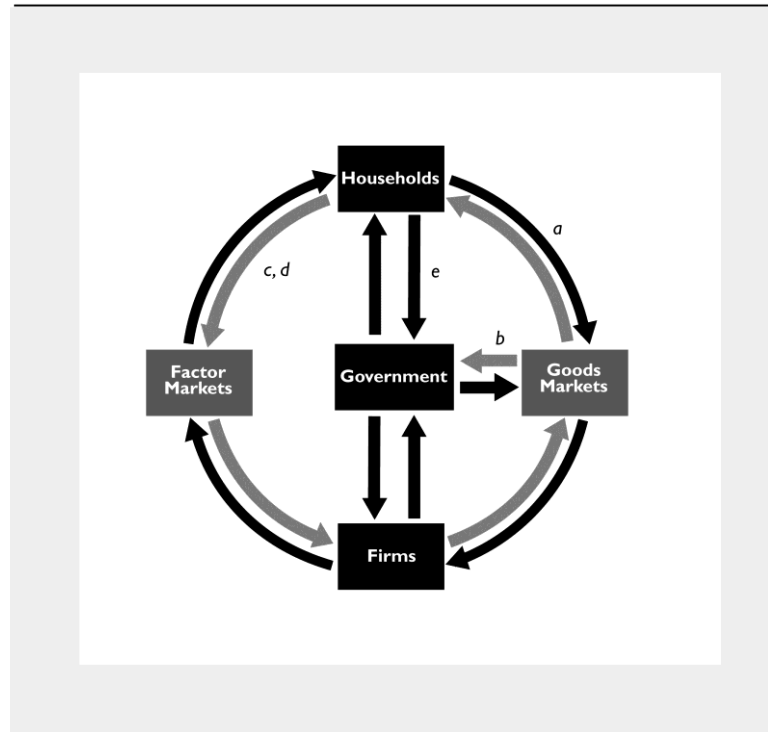
- **Donald Trump rents a Manhattan building to a hotel.**

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 money flow from households to the government and is labeled *e* in the figure.

FIGURE 2.1
Chapter Checkpoint Study Plan Problem 8



9. **For-profit colleges may face aid cuts**

The Obama administration proposes a new rule: Federal aid to for-profit colleges will be cut if students in vocational programs graduate without a degree. Millions of low-income students are borrowing heavily to attend colleges and too many of them are dropping out, and failing to get a job.

Source: *USA Today*, June 2, 2011

How do you think the personal distribution of income would change if all graduates could obtain a well-paying job that uses their knowledge gained in college?

The personal distribution of income would become more equal. As it is now, students who graduate from colleges with worthless degrees have little human capital and have low incomes. If these students had acquired more human capital and a worthwhile degree, their incomes would be higher. When the incomes rise of initially low-income people, the personal distribution of income becomes more equal.

10. **Read *Eye on the Dreamliner* on p. 41 and then answer the following questions:**

- **How many firms are involved in the production of the Dreamliner and how many are identified in the figure on p. 41?**

Over 400 firms are involved in the production of the Dreamliner. Only 15 of them are identified in the figure.

- **Is the Dreamliner a capital good or a consumption good? Explain why?**

The Dreamliner is a capital good because it will be used to produce services (airline travel) throughout many future years.

- **State the factors of production that make the Dreamliner and provide an example of each.**

All the factors of production—land, labor, capital, and entrepreneurship—are used to make the Dreamliner. The copper used for wiring is an example of the land used; the engineer who helped design the landing gear is an example of labor; the huge cranes that lift the various pieces of the Dreamliner to assemble them is an example of capital; and the creative and imaginative input of Boeing’s top managers who organize the resources used to produce the Dreamliner exemplify entrepreneurship.

- **Explain how the production of the Dreamliner influences *what, how, and for whom*, goods and services are produced.**

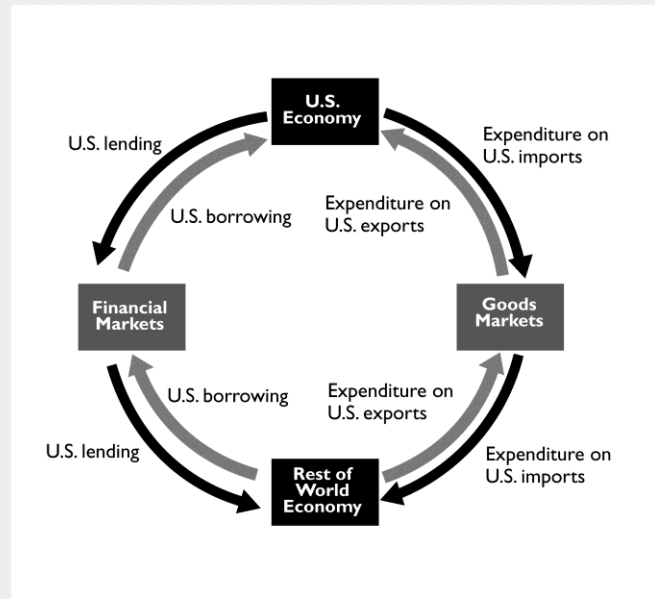
Dreamliner influences “what” goods and services are produced by creating a demand for components manufactured around the world. It influences “how: goods are produced because Boeing and the other

400 firms all determine the best way to produce each particular part of the Dreamliner. It influences “for whom” because factors of production employed to make the Dreamliner receive income from this production, thereby increasing the quantity of goods and services they can purchase.

- Use a graph to show where in the circular flow model of the global economy the flows of the components listed on p. 41 appear and where the sales of Dreamliners appear.

Except for the components built in the United States, spending on the other components appear in the flow of expenditure on U.S. imports. Sales of Dreamliners appear in the flow of expenditure on U.S. exports.

FIGURE 2.2
Chapter Checkpoint Study Plan Problem 10



■ Instructor Assignable Problems and Applications

1. Boeing's Dreamliner has had a rocky start.

- **Why doesn't Boeing manufacture all the components of the Dreamliner at its own factory in the United States?**

Boeing wants to manufacture the Dreamliner at the lowest possible cost. It would be more expensive for Boeing to manufacture Dreamliners at its own factory in the United States because Boeing does not have the expertise possessed by its subcontractors and because the wages Boeing pays U.S. workers exceed the wages its subcontractors pays their workers.

- **Describe some of the changes in *what, how, and for whom*, that would occur if Boeing manufactured all the components of the Dreamliner at its own factories in the United States.**

If Boeing manufactured all the components of the Dreamliner at its own factories in the United States, more components would be produced in the United States and more capital would have been used in their production.

U.S. workers and investors would have received higher incomes but the Dreamliner would cost more to produce so Boeing would have earned a lower profit.

- **State some of the tradeoffs that Boeing faces in making the Dreamliner.**

Boeing faced a huge number of tradeoffs. For example, when designing the plane, Boeing's engineers had to make decisions about fuel economy and passenger load. Increasing the passenger load decreased fuel economy, so the engineers traded passenger load for fuel economy. Another example revolves around the construction of the Dreamliner. Boeing could have constructed the plane using just a few companies but instead it used over 400. Boeing was trading off the simplicity of dealing with just a handful of companies for the increased specialization by dealing with many specialized companies.

- **Why might Boeing's decisions in making the Dreamliner be in the social interest?**

Building the Dreamliner itself advances the social interest because it increases the quantity of comfortable, rapid transportation. The amount of high-quality transportation available in the economy increases, which benefits society. The decisions in making the Dreamliner advance the social interest because they were designed to make the Dreamliner at low cost and thereby avoid wasting resources.

2. The global economy has three cell-phone users for every fixed line user. Two in every three cell-phone users lives in a developing nation and the

growth rate is fastest in Africa. In 2000, 1 African in 50 had a cell phone; in 2009, it was 14 in 50. Describe the changes in *what, how, and for whom* telecommunication services are produced in the global economy.

What: As the number of cell phone users increases, the global economy has been producing more cell phone telecommunication services. More cell phones are produced, fewer land phones are produced, and presumably more cell phone frequencies are used.

How: More telecommunication services are being produced using cell phones rather than fixed-line phones.

For whom: While the amount of telecommunication services has been rising throughout the world, it definitely has been increasing rapidly in Africa. So more telecommunication services are being produced for residents of Africa as well as for residents in the rest of the world.

3. **Which of the entries in the list are consumption goods and services? Explain your choice.**

A pack of bubble gum and a movie are consumption goods. They are purchased by consumers.

4. **Which of the entries in the list are capital goods? Explain your choice.**

An airplane, a garbage truck, and an ATM are capital goods. All provide services to produce other goods and services. The interstate highway and the stealth bomber also are capital goods. They also provide services (transportation and defense) that help produce other goods and services.

5. **Which of the entries in the list are factors of production? Explain your choice.**

An interstate highway, an airplane, a school teacher, a stealth bomber, a garbage truck, the President of the United States, a strawberry field, and an ATM are factors of production. A school teacher and the President are labor; an interstate highway, an airplane, a stealth bomber, a garbage truck, and an ATM are capital; and, a strawberry field is land.

6. **In the African nation of Senegal, to enroll in school a child needs a Birth Certificate that costs \$25. This price is several weeks' income for many families. Explain how this requirement is likely to affect the growth of human capital in Senegal.**

Human capital growth depends, in part, on the extent of schooling: More schooling means more human capital. Because of Senegal's hefty fee for a

List

An interstate highway
 An airplane
 A school teacher
 A stealth bomber
 A garbage truck
 A pack of bubble gum
 President of the United States
 A strawberry field
 A movie
 An ATM

required Birth Certificate, fewer children will enroll in school, thereby decreasing Senegal's human capital growth.

7. China's prosperity brings income gap

The Asian Development Bank [ADB] reports that China has the largest gap between the rich and the poor in Asia. Ifzal Ali, the ADB's chief economist, claims it is not that the rich are getting richer and the poor are getting poorer, but that the rich are getting richer faster than the poor.

Source: *Financial Times*, August 9, 2007

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

The distribution of income in China can be getting more unequal even when the poorest 20 percent are getting richer because the richest 20 percent are getting richer even faster. Because the rich are getting richer faster, the fraction of the nation's total income received by the poorest 20 percent falls, which makes the personal distribution of income more unequal.

8. 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?

Agriculture is a small part of total production in advanced economies. It is a much larger part in developing economies. Even though advanced economies devote only a small part of their total production to agriculture, they still produce about one third of the world's total production of food. The remaining two thirds is produced in the developing nations.

9. On a graph of the circular flow model, indicate in which real or money flow each entry in the list belongs.

- **General Motors' pays its workers wages.**

General Motors wage payment is a money 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). In Figure 2.3 the dark arrows represent money flows and the grey arrows represent flows of

goods and services and factors. The flow of wage payments to households is labeled *a* in the figure in Figure 2.3.

- **IBM pays a dividend to its stockholders.**

IBM's dividend payment is a money 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 money flow from households to the goods market, labeled *c* in the figure.

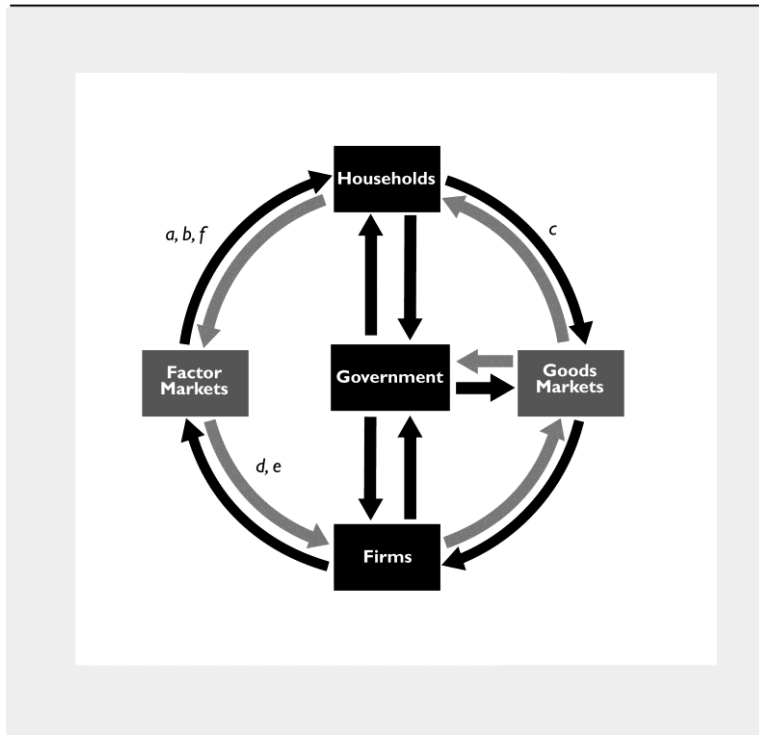
- **Chrysler buys robots.**

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

FIGURE 2.3
Chapter Checkpoint Assignable Problem 9



these factors of production from the factor markets to firms, labeled e in the figure.

- **Nike pays Roger Federer for promoting its sports shoes.**

Roger Federer is a factor of production, so the flow is a money flow from the factor markets to households in exchange for Mr. Federer's services of promoting the sports shoes. The flow is labeled f in the figure.

Use the following information to work Problems 10 and 11.

Poor India makes millionaires at fastest pace

India, with the world's largest population of poor people, also paradoxically created millionaires at the fastest pace in the world. Millionaires increased by 22.7 percent to 123,000. In contrast, the number of Indians living on less than a dollar a day is 350 million and those living on less than \$2 a day is 700 million. In other words, there are 7,000 very poor Indians for every millionaire.

Source: *The Times of India*, June 25, 2008

10. How is the personal distribution of income in India changing?

If the number of millionaires is growing more rapidly than the number of other income groups, it will be the case that the personal distribution of income in India is becoming less equally distributed.

11. Why might incomes of \$1 a day and \$2 a day underestimate the value of the goods and services that these households actually consume?

The people living on \$1 and \$2 a day probably grow a lot of their food and produce a lot of their clothing and shelter. If these goods and services are not taken into account, their share of goods and services is understated. Including them raises the value of the goods and services these households actually consume.

■ Multiple Choice Quiz

1. Which of the following classifications is correct?
 - A. City streets are consumption goods because they wear out with use.
 - B. Stocks are capital goods because when people buy and sell them they make a profit.
 - C. The coffee maker in the coffee shop at an airport is a consumption good because people buy the coffee it produces.
 - D. White House security is a government service because it is paid for by the government..

Answer: D Answer D is correct.

2. Which of the following statements about U.S. production is correct?
 - A. Construction accounts for a larger percentage of total production than does manufacturing.
 - B. Real estate services account for 12.6 percent of the value of total production, larger than any other item of services or goods.
 - C. Consumption goods and services represent 85 percent of U.S. production by value and that percentage doesn't fluctuate much.
 - D. The manufacture of goods represents more than 50 percent of total production.

Answer: C Answer C is correct as the data on page 32 show.

3. Which of the following items is *not* a factor of production?
 - A. An oil rig in the Gulf of Mexico
 - B. A ski jump in Utah
 - C. A bank loan to a farmer
 - D. An orange grove in Florida

Answer: C Answer C is not a factor of production because it is financial capital; see page 35.

4. What is human capital?
 - A. Immigrant labor
 - B. Someone who operates heavy equipment
 - C. Your professor's knowledge of the economy
 - D. A car assembly line robot

Answer: C Answer C uses the definition of human capital on page 35.

5. Which of the following statements is correct?
- A. Labor earns wages and entrepreneurship earns bonuses.
 - B. Land earns interest and capital earns rent.
 - C. Entrepreneurship earns interest and capital earns profit.
 - D. Capital earns interest and labor earns wages.

Answer: D Page 37 shows that answer D is correct.

6. How are goods and services produced in the global economy?
- A. Developing countries use less human capital but just as much physical capital as advanced economies.
 - B. Emerging economies use more capital-intensive technology than do developing economies.
 - C. Human capital in all economies is similar.
 - D. Advanced economies use less capital than developing economies.

Answer: B Developing countries have less capital than emerging economies.

7. In the circular flow model, which of the following items is a real flow?
- A. The flow of government expenditures to firms for the goods bought
 - B. The flow of income from firms to households for the services of the factors of production hired
 - C. The flow of U.S. borrowing from the rest of the world
 - D. The flow of labor services from households to firms

Answer: D Answer D is a real flow because it is a labor service.