

SUMMARY

- Economists use the model of supply and demand to analyze competitive markets. In a competitive market, there are many buyers and sellers, each of whom has little or no influence on the market price.
- The demand curve shows how the quantity of a good demanded depends on the price. According to the law of demand, as the price of a good falls, the quantity demanded rises. Therefore, the demand curve slopes downward.
- In addition to price, other determinants of how much consumers want to buy include income, the prices of substitutes and complements, tastes, expectations, and the number of buyers. If one of these factors changes, the demand curve shifts.
- The supply curve shows how the quantity of a good supplied depends on the price. According to the law of supply, as the price of a good rises, the quantity supplied rises. Therefore, the supply curve slopes upward.
- In addition to price, other determinants of how much producers want to sell include input prices, technology, expectations, and the number of sellers. If one of these factors changes, the supply curve shifts.
- The intersection of the supply and demand curves determines the market equilibrium. At the equilibrium price, the quantity demanded equals the quantity supplied.
- The behavior of buyers and sellers naturally drives markets toward their equilibrium. When the market price is above the equilibrium price, there is a surplus of the good, which causes the market price to fall. When the market price is below the equilibrium price, there is a shortage, which causes the market price to rise.
- To analyze how any event influences a market, we use the supply-and-demand diagram to examine how the event affects the equilibrium price and quantity. To do this, we follow three steps. First, we decide whether the event shifts the supply curve or the demand curve (or both). Second, we decide in which direction the curve shifts. Third, we compare the new equilibrium with the initial equilibrium.
- In market economies, prices are the signals that guide economic decisions and thereby allocate scarce resources. For every good in the economy, the price ensures that supply and demand are in balance. The equilibrium price then determines how much of the good buyers choose to consume and how much sellers choose to produce.

KEY CONCEPTS

market, <i>p.</i> 66	inferior good, <i>p.</i> 70	equilibrium, <i>p.</i> 77
competitive market, <i>p.</i> 66	substitutes, <i>p.</i> 70	equilibrium price, <i>p.</i> 77
quantity demanded, <i>p.</i> 67	complements, <i>p.</i> 70	equilibrium quantity, <i>p.</i> 77
law of demand, <i>p.</i> 67	quantity supplied, <i>p.</i> 73	surplus, <i>p.</i> 77
demand schedule, <i>p.</i> 67	law of supply, <i>p.</i> 73	shortage, <i>p.</i> 78
demand curve, <i>p.</i> 68	supply schedule, <i>p.</i> 73	law of supply and demand, <i>p.</i> 79
normal good, <i>p.</i> 70	supply curve, <i>p.</i> 73	

QUESTIONS FOR REVIEW

1. What is a competitive market? Briefly describe a type of market that is not perfectly competitive.
2. What are the demand schedule and the demand curve, and how are they related? Why does the demand curve slope downward?

3. Does a change in consumers' tastes lead to a movement along the demand curve or a shift in the demand curve? Does a change in price lead to a movement along the demand curve or a shift in the demand curve?
4. Susan's income increases. As a result, she eats fewer lunches at the school cafeteria. Are lunches at the school cafeteria normal or inferior goods? What happens to her demand for cafeteria lunches as a result of her increase in income?
5. What are the supply schedule and the supply curve, and how are they related? Why does the supply curve slope upward?
6. Does a change in producers' technology lead to a movement along the supply curve or a shift in the supply curve? Does a change in price lead to a movement along the supply curve or a shift in the supply curve?
7. Define the equilibrium of a market. Describe the forces that move a market toward its equilibrium.
8. Beer and pizza are complements because they are often enjoyed together. When the price of beer rises, what happens to the supply, demand, quantity supplied, quantity demanded, and the price in the market for pizza?
9. Describe the role of prices in market economies.

PROBLEMS AND APPLICATIONS

1. Explain each of the following statements using supply-and-demand diagrams.
 - a. "When a cold snap hits Florida, the price of orange juice rises in supermarkets throughout the country."
 - b. "When the weather turns warm in New England every summer, the price of hotel rooms in Caribbean resorts plummets."
 - c. "When a war breaks out in the Middle East, the price of gasoline rises, and the price of a used Cadillac falls."
2. For each of the following events, describe in words what happens to the supply, demand, quantity supplied, and quantity demanded in the market for new cars.
 - a. The United Auto Workers get a large raise.
 - b. A new robotic technology is introduced in the factory.
 - c. The government subsidizes bus tickets resulting in a large reduction in the cost of a bus ticket.
 - d. Real incomes grow and new cars are a normal good.
3. Consider the market for minivans. For each of the events listed here, identify which of the determinants of demand or supply are affected. Also indicate whether demand or supply increases or decreases. Then draw a diagram to show the effect on the price and quantity of minivans.
 - a. People decide to have more children.
 - b. A strike by steelworkers raises steel prices.
 - c. Engineers develop new automated machinery for the production of minivans.
 - d. The price of sports utility vehicles rises.
 - e. A stock-market crash lowers people's wealth.
4. Consider the markets for DVDs, TV screens, and tickets at movie theaters.
 - a. For each pair, identify whether they are complements or substitutes:
 - DVDs and TV screens
 - DVDs and movie tickets
 - TV screens and movie tickets
 - b. Suppose a technological advance reduces the cost of manufacturing TV screens. Draw a diagram to show what happens in the market for TV screens.
 - c. Draw two more diagrams to show how the change in the market for TV screens affects the markets for DVDs and movie tickets.
5. Over the past 30 years, technological advances have reduced the cost of computer chips. How do you think this has affected the market for computers? For computer software? For typewriters?
6. Using supply-and-demand diagrams, show the effect of the following events on the market for sweatshirts.
 - a. A hurricane in South Carolina damages the cotton crop.
 - b. The price of leather jackets falls.
 - c. All colleges require morning exercise in appropriate attire.
 - d. New knitting machines are invented.
7. A survey shows an increase in drug use by young people. In the ensuing debate, two hypotheses are proposed:
 - Reduced police efforts have increased the availability of drugs on the street.
 - Cutbacks in education efforts have decreased awareness of the dangers of drug addiction.

- a Use supply-and-demand diagrams to show how each of these hypotheses could lead to an increase in quantity of drugs consumed.
 - b How could information on what has happened to the price of drugs help us to distinguish between these explanations?
8. What happens in the market for personal computers if the price of computer chips falls and the price of retail (after market) software increases?
 9. Ketchup is a complement (as well as a condiment) for hot dogs. If the price of hot dogs rises, what happens to the market for ketchup? For tomatoes? For tomato juice? For orange juice?
 10. The market for pizza has the following demand and supply schedules:

Price	Quantity Demanded	Quantity Supplied
\$4	135 pizzas	26 pizzas
5	104	53
6	81	81
7	68	98
8	53	110
9	39	121

- a. Graph the demand and supply curves. What is the equilibrium price and quantity in this market?
 - b. If the actual price in this market were *above* the equilibrium price, what would drive the market toward the equilibrium?
 - c. If the actual price in this market were *below* the equilibrium price, what would drive the market toward the equilibrium?
11. Consider the following events: Scientists reveal that consumption of oranges decreases the risk of diabetes, and at the same time, farmers use a new fertilizer that makes orange trees more productive. Illustrate and explain what effect these changes have on the equilibrium price and quantity of oranges.
 12. Because bagels and cream cheese are often eaten together, they are complements.
 - a. We observe that both the equilibrium price of cream cheese and the equilibrium quantity of bagels have risen. What could be responsible for this pattern—a fall in the price of flour or a fall in the price of milk? Illustrate and explain your answer.
 - b. Suppose instead that the equilibrium price of cream cheese has risen but the equilibrium

quantity of bagels has fallen. What could be responsible for this pattern—a rise in the price of flour or a rise in the price of milk? Illustrate and explain your answer.

13. Suppose that the price of basketball tickets at your college is determined by market forces. Currently, the demand and supply schedules are as follows:

Price	Quantity Demanded	Quantity Supplied
\$ 4	10,000 tickets	8,000 tickets
8	8,000	8,000
12	6,000	8,000
16	4,000	8,000
20	2,000	8,000

- a. Draw the demand and supply curves. What is unusual about this supply curve? Why might this be true?
- b. What are the equilibrium price and quantity of tickets?
- c. Your college plans to increase total enrollment next year by 5,000 students. The additional students will have the following demand schedule:

Price	Quantity Demanded
\$ 4	4,000 tickets
8	3,000
12	2,000
16	1,000
20	0

Now add the old demand schedule and the demand schedule for the new students to calculate the new demand schedule for the entire college. What will be the new equilibrium price and quantity?

14. Market research has revealed the following information about the market for chocolate bars: The demand schedule can be represented by the equation $Q^D = 1,600 - 300P$, where Q^D is the quantity demanded and P is the price. The supply schedule can be represented by the equation $Q^S = 1,400 + 700P$, where Q^S is the quantity supplied. Calculate the equilibrium price and quantity in the market for chocolate bars.

For further information on topics in this chapter, additional problems, applications, examples, online quizzes, and more, please visit our website at www.cengage.com/international.