UNIT 3

Microeconomics: Markets, Prices, and Business Competition

Chapter 7
Demand and Supply

Chapter 8
Business Organizations

Chapter 9
Competition and Monopolies

In this unit, read to FIND OUT . . .

- how your consumer decisions affect prices.
- what risks and expectations you'll have when starting a business.
- why competition among businesses is vital to the price you pay for goods and services.

A federal government agency regulates the radio station over which you listen to the ball game.

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Rawlings® currently holds a monopoly on manufacturing all baseballs for major league and minor league teams.
Some major league owners form partnerships to buy their teams.
A winning team often results in a shortage of game tickets.
The price of these tickets was determined by the interaction of demand and supply.
NEW YORK YANKEES

CONTENTS

CHAPTER 7

Demand and Supply

Why It's Important

Why do some CDs cost more than others? Why does the price of video rentals go down when another video store opens in the neighborhood? This chapter will explain the relationship between demand and supply—and how this relationship determines the prices you pay.

To learn more about how demand and supply affect price, view the **Economics & You** *Chapter 7 video lesson:* **Demand and Supply**

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Chapter Overview Visit the *Economics Today and Tomorrow* Web site at ett.glencoe.com and click on ***Chapter 7—Chapter Overviews*** to preview chapter information.

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SECTION 1

Demand

Cover Story

Business Week, February 15, 1999

The morning after the *Delia's* catalog arrives, the halls of Paxton High School in Jacksonville, Florida, are buzzing. That's when all the girls bring in their copies from home and compare notes. "Everyone loves *Delia's,*" says Emily Garfinkle, 15. "It's the big excitement."

If you've never heard of *Delia's,* chances are you don't know a girl between 12 and 17. The New York cataloger, with a database of 4 million names, has become one of the hottest names in retailing by selling downtown fashion to girls everywhere.

Reader's Guide

Terms to Know

- demand
- supply
- market
- voluntary exchange
- law of demand
- quantity demanded
- real income effect
- substitution effect
- utility
- marginal utility
- law of diminishing marginal utility

Reading Objectives

1. How does the principle of voluntary exchange operate in a market economy?
2. What does the law of demand state?
3. How do the real income effect, the substitution effect, and diminishing marginal utility relate to the law of demand?

The word *demand* has a special meaning in economics. *Delia's* catalog may be sent to 4 million people, but that doesn't mean 4 million people demand clothes from the retailer. Many girls may *want* to order items from the catalog. As you read this section, however, you'll learn that demand includes only those people who are willing *and* able to pay for a product or service.

The "Marketplace"

When you buy something, do you ever wonder why it sells at that particular price? Few individual consumers feel they have any influence over the price of an item. In a market economy,

A Local Market

A candy store located in your town or city is an example of a local market for buyers and sellers.

B National Market

Catalogs bring buyers and sellers together on a national scale—you can order chocolate from this catalog and have it shipped to you overnight.

FIGURE 7.1

Markets A market is any place where buyers and sellers come together. ***What is the basis of activity in a market economy?***

demand: *the amount of a good or service that consumers are able and willing to buy at various possible prices during a specified time period*

supply: *the amount of a good or service that producers are able and willing to sell at various prices during a specified time period*

market: *the process of freely exchanging goods and services between buyers and sellers*

voluntary exchange: *a transaction in which a buyer and a seller exercise their economic freedom by working out their own terms of exchange*

however, all consumers individually and collectively have a great influence on the price of all goods and services. To understand this, let's look first at how people in the marketplace decide what to buy and at what price. This is **demand.** Then we'll examine how the people who want to sell those things decide how much to sell and at what price. This is **supply.**

What is the marketplace? A **market** represents the freely chosen actions between buyers and sellers of goods and services. As **Figure 7.1** shows, a market for a particular item can be local, national, international, or a combination of these. In a market economy, individuals—whether as buyers or sellers—decide for themselves the answers to the WHAT?, HOW?, and FOR WHOM? economic questions you studied in Chapter 2.

Voluntary Exchange

The basis of activity in a market economy is the principle of **voluntary exchange.** A buyer and a

C International Market
The World Wide Web has helped create a massive international market. Chocolate lovers anywhere in the world can order chocolate in seconds from this Swiss manufacturer.

seller exercise their economic freedom by working toward satisfactory terms of an exchange. For example, the seller of an automobile sets a price based on his or her view of market conditions, and the buyer, through the act of buying, agrees to the product and the price. In order to make the exchange, both the buyer and the seller must believe they will be better off–richer or happier–after the exchange than before.

The supplier's problem of what to charge and the buyer's problem of how much to pay is solved voluntarily in the market exchange. Supply and demand analysis is a model of how buyers and sellers operate in the marketplace. Such analysis is a way of explaining cause and effect in relation to price.

The Law of Demand

Demand, in economic terms, represents all of the different quantities of a good or service that consumers will purchase at various prices. It includes both the willingness and the ability to pay. A person may say he or she wants a new CD. Until that person is both willing *and able* to buy it, however, no demand for CDs has been created by that individual.

The law of demand explains how people react to changing prices in terms of the quantities demanded of a good or service. There is an *inverse,* or opposite, relationship between quantity demanded and price. The **law of demand** states:

As price goes up, quantity demanded goes down.
As price goes down, quantity demanded goes up.

law of demand: *economic rule stating that the quantity demanded and price move in opposite directions*

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quantity demanded: *the amount of a good or service that a consumer is willing and able to purchase at a specific price*

Several factors explain the inverse relation between price and **quantity demanded,** or how much people will buy of any item at a particular price. These factors include real income, possible substitutes, and diminishing marginal utility.

CAREERS

Buyer

Job Description

- Determine which products a company will sell
- Buy the finished goods for resale to the public

Qualifications

- 4-year college degree in business
- Ability to accurately predict demand, or what will appeal to consumers

Salary: $37,560

Job Outlook: Average

—Occupational Outlook Handbook, 2002–03

Real Income Effect No one—not even the wealthiest person in the world—will ever be able to buy everything he or she might possibly want. People's incomes limit the amount they are able to spend. Individuals cannot keep buying the same quantity of a good if its price rises while their income stays the same. This concept is known as the **real income effect** on demand.

Suppose that you normally fill your car's gas tank twice a month, spending $15 each time. This means you spend $30 per month on gasoline. If the price of gasoline rises, you may have to spend $40 per month. If the price continues to rise while your income does not, eventually you will not be able to fill the gas tank twice per month because your *real income,* or purchasing power, has been reduced. In order to keep buying the same amount of gasoline, you would need to cut back on buying other things. The real income effect forces you to make a trade-off in your gasoline purchases. The same is true for every item you buy, particularly those you buy on a regular basis. See **Figure 7.2.**

real income effect: *economic rule stating that individuals cannot keep buying the same quantity of a product if its price rises while their income stays the same*

Substitution Effect Suppose there are two items that are not exactly the same but which satisfy basically the same need. Their cost is about the same. If the price of one falls, people will most likely buy it instead of the other, now higher-priced, good. If the price of one rises in relation to the price of the other, people will buy the now lower-priced good. This principle is called the **substitution effect.**

substitution effect: *economic rule stating that if two items satisfy the same need and the price of one rises, people will buy the other*

Suppose, for example, that you listen to both CDs and audiocassettes. If the price of audiocassettes drops dramatically, you will probably buy more cassettes and fewer CDs. Alternately, if the price of audiocassettes doubles, you will probably increase the number of CDs you buy in relation to cassettes. If the price of both CDs *and* audiocassettes increases, you may decide to purchase other music substitutes such as concert tickets or music videos.

Economic Connection to... *Literature*

Tom Sawyer Creates Demand

Author Mark Twain introduced a different twist on the meaning of *demand* in his story "The Glorious Whitewasher." Tom Sawyer is forced to whitewash his aunt's fence. To convince other boys to do the work, Tom pretends to find it enjoyable and to consider it a special privilege. The other boys end up paying Tom to let them whitewash the fence:

Tom said to himself that it was not such a hollow world, after all. He had discovered a great law of human action, without knowing it—namely, that in order to make a man or a boy covet [demand] *a thing, it is only necessary to make the thing difficult to attain.* ■

—From *The Adventures of Tom Sawyer,* 1876

Diminishing Marginal Utility Almost everything that people like, desire, use, or think they would like to use, gives satisfaction. The term that economists use for satisfaction is *utility.* **Utility** is defined as the power that a good or service has to satisfy a want. Based on utility, people decide what to buy and how much they are willing and able to pay. In deciding to make a purchase, they decide the amount of satisfaction, or use, they think they will get from a good or service.

utility: *the ability of any good or service to satisfy consumer wants*

Consider the utility that can be derived from buying a cold soft drink at a baseball game on a hot day. At $3 per cup, how many will you buy? Assuming that you have some

FIGURE 7.2

Real Income Effect If the price of gasoline rises but your income does not, you obviously cannot continue buying the same amount of gas AND everything else you normally purchase. The real income effect can work in the opposite direction, too. If you are already buying two fill-ups a month and the price of gasoline drops in half, your real income then increases. You will have more purchasing power and will probably increase your spending.

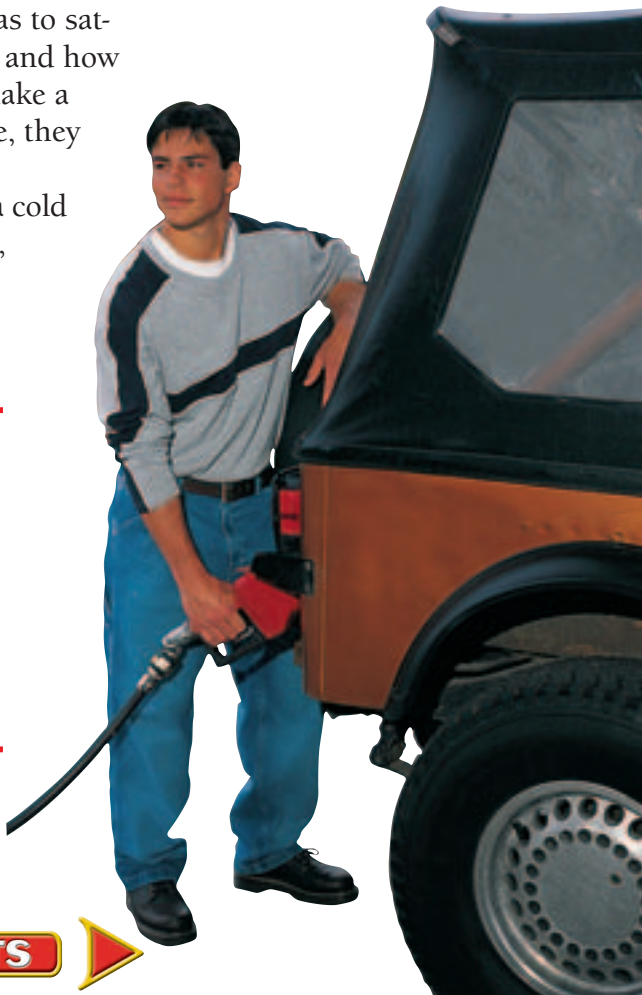


FIGURE 7.3

Diminishing Marginal Utility Regardless of how satisfying the first taste of an item is, satisfaction declines with additional consumption. Assume, for example, that at a price of $3.25 per hot dog, you have enough after buying three. Thus, the value you place on additional satisfaction from a fourth hot dog would be less than $3.25. According to what will give you the most satisfaction, you will save or spend the $3.25 on something else. Eventually you would receive no additional satisfaction, even if a vendor offered the product at zero price.

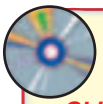
money, you will buy at least one. Will you buy a second one? A third one? A fifth one? That decision depends on the additional utility, or satisfaction, you expect to receive from each additional soft drink. Your *total* satisfaction will rise with each one bought. The amount of *additional* satisfaction, or **marginal utility,** will diminish, or lessen, with each additional cup, however. This example illustrates the **law of diminishing marginal utility.**

marginal utility: *an additional amount of satisfaction*

law of diminishing marginal utility: *rule stating that the additional satisfaction a consumer gets from purchasing one more unit of a product will lessen with each additional unit purchased*

At some point, you will stop buying soft drinks. Perhaps you don't want to wait in the concession line anymore. Perhaps your stomach cannot handle another soft drink. Just the thought of another cola makes you nauseated. At that point, the satisfaction that you receive from the soft drink is less than the value you place on the $3 that you must pay. As **Figure 7.3** shows, people stop buying an item when one event occurs—when the satisfaction from the next unit of the same item becomes less than the price they must pay for it.

What if the price drops? Suppose the owner of the ballpark decided to sell soft drinks for $2 each after the fifth inning. You might buy at least one additional soft drink. Why? If you look at the law of diminishing marginal utility again, the reason becomes clear. People will buy an item to the point at which the satisfaction from the last unit bought is equal to the price. At that point, people will stop buying. This concept explains part of the law of demand. As the price of an item decreases, people will generally buy more.



Practice and **assess** key skills with ***Skillbuilder Interactive Workbook, Level 2.***

SECTION 1 Assessment

Understanding Key Terms

1. **Define** demand, supply, market, voluntary exchange, law of demand, quantity demanded, real income effect, substitution effect, utility, marginal utility, law of diminishing marginal utility.

Reviewing Objectives

2. How does the principle of voluntary exchange operate in a market economy?
3. What is the law of demand?
4. **Graphic Organizer** Create a chart like the one in the next column to show how an increase and decrease in real income, the price of substitutes, and utility influence the quantity demanded for a given product or service.

Cause	Effect on Quantity Demanded

Applying Economic Concepts

5. **Diminishing Marginal Utility** Describe an instance in your own life when diminishing marginal utility caused you to decrease your quantity demanded of a product or service.

Critical Thinking Activity

6. **Making Predictions** Imagine that you sell popcorn at the local football stadium. Knowing about diminishing marginal utility, how would you price your popcorn after half-time?

BusinessWeek

SPOTLIGHT ON THE ECONOMY

How to Make a Mint

Check It Out! **In this chapter you learned how demand can increase as tastes and preferences change. In the following article, read to learn how one entrepreneur created a demand for mints as a "fashion accessory."**

Harley Cross broke pretty much every rule in the book that, if it were written, would be called *How Not to Start a Business*. He had very little business experience and no formal business education. When he needed help, he brought in a longtime friend who also had little experience in business. He ignored research that showed the market for his product was saturated. As a teenager, maybe he was too young to know better.

Today, 18 months after shipping his first order of smooth round peppermints encased in arty tins, Cross [now 20] says Hint Mint has racked up sales of more than $2.5 million....

When he came up with Hint Mint, he never intended to sell mints–just the name.... Cross found out names can't be trademarked if there's no product to go with them. So he decided to go ahead and create the product–"mint as fashion accessory." As someone who grew up in show business, he knew that "if it looks cool, you want it."

He had the name, he had the concept, but what about product development and, ahem, all the cold calling it would take to put the product in front of potential customers? Enter longtime friend Cooper Bates, a screenwriter and short-film director....

Which brings us ... to the chapter titled "Now Who Will Buy the Mints?"

Gina Casella, for one. Casella is product-development manager for Barnes & Noble cafes, where the $2.39 tin of Hint Mints can be found next to treats made by the likes of Godiva and Starbucks. "When we tested it, everyone liked the product," Casella says, adding, "It's very unique packaging ... it makes a statement when you pull out the tin."

Cross, who ended up putting everything he had saved from his 15-year acting career–roughly half a million dollars–into Hint Mint, says the company is profitable. He expects to recoup his money by the end of the year. He figures he'll sell the company for $15 million to $20 million in about two years, when he expects to have annual revenue of $6 million.

Think About It

1. **What makes Hint Mint different from other mints?**
2. **Based on the article, what elements must be considered when developing a new product?**

SECTION 2

The Demand Curve and Elasticity of Demand

Cover Story

The Economist, May 29, 2003

As demand goes up, [Mr. Stelios Haji-Ioannou] argues, so should prices. So people who buy early . . . get better deals. For example, charges at his Internet cafés rise as seats fill up. . . . Mr. Haji-Ioannou's model . . . milks the demand curve for every penny he can get. He can pocket the extra [from people] willing to pay to have just what they want when they want it.

Reader's Guide

Terms to Know

- demand schedule
- demand curve
- complementary good
- elasticity
- price elasticity of demand
- elastic demand
- inelastic demand

Reading Objectives

1. What does a demand curve show?
2. What are the determinants of demand?
3. How does the elasticity of demand affect the price of a given product?

In Section 1 you learned that quantity demanded is based on price. The case of the Internet café supports this. When demand is low, Mr. Haji-Ioannou lowers prices. Then, as more people come into the café to take advantage of the offer (increased demand), the owner can raise prices.

Graphing the Demand Curve

How can you learn to distinguish between quantity demanded and demand? And how do economists show these relationships

in a visual way? It is said that a picture is worth a thousand words. For much of economic analysis, the "picture" is a graph that shows the relationship between two statistics or concepts.

The law of demand can be graphed. As you learned in Section 1, the relationship between the quantity demanded and price is inverse—as the price goes up, the quantity demanded goes down. As the price goes down, the quantity demanded goes up.

Take a look at *Parts A, B,* and *C* of **Figure 7.4.** The series of three parts shows how the price of goods and services affects the quantity demanded at each price. *Part A* is a **demand schedule**—a table of prices and quantity demanded. The numbers show that as the price per CD decreases, the quantity demanded increases. For example, at a cost of $20 each, 100 million CDs will be demanded. When the cost decreases to $12 each, 900 million CDs will be demanded.

demand schedule: *table showing quantities demanded at different possible prices*

FIGURE 7.4 Graphing the Demand Curve

Demand Can Be Shown Visually Note how the three parts use a different format to show the same thing. Each shows the law of demand—as price falls, quantity demanded increases.

Also, note that in Parts B and C we refer to the quantity of CDs demanded *per year.* We could have said one day, one week, one month, or two years. The longer the time period, the more likely that factors *other than price* will affect the demand for a given product.

A Demand Schedule

Price per CD	Quantity demanded (in millions)	Points in Part B
$20	100	A
$19	200	B
$18	300	C
$17	400	D
$16	500	E
$15	600	F
$14	700	G
$13	800	H
$12	900	I
$11	1,000	J
$10	1,100	K

Part A Demand Schedule The numbers in the demand schedule above show that as the price per CD decreases, the quantity demanded increases. Note that at $16 each, a quantity of 500 million CDs will be demanded.

In *Part B,* the numbers from the schedule in *Part A* have been plotted onto a graph. The bottom (or horizontal) axis shows the quantity demanded. The side (or vertical) axis shows the price per CD. Each pair of price and quantity demanded numbers represents a point on the graph. These points are labeled A through K.

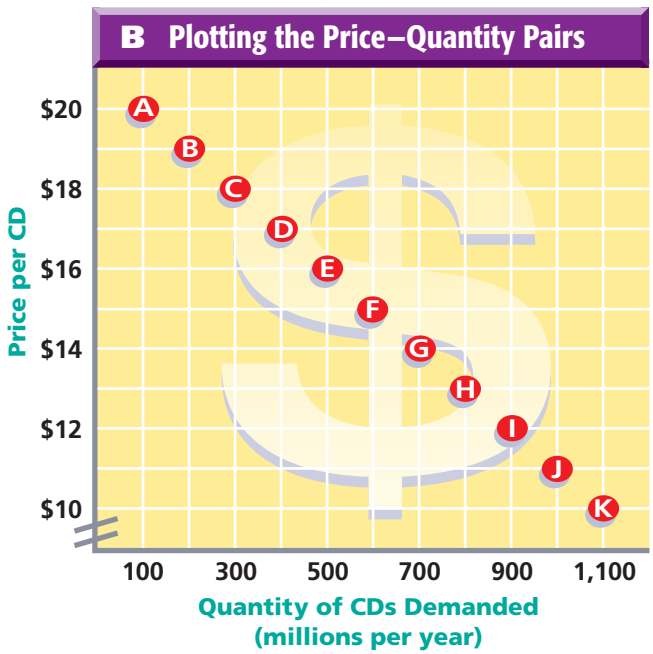
Now look at *Part C* of **Figure 7.4.** When the points from *Part B* are connected with a line, we end up with the **demand curve.** A demand curve shows the quantity demanded of a good or service at each possible price. Demand curves slope downward (fall from left to right). In *Part C* you can see the inverse relationship between price and quantity demanded.

ECONOMICS Online

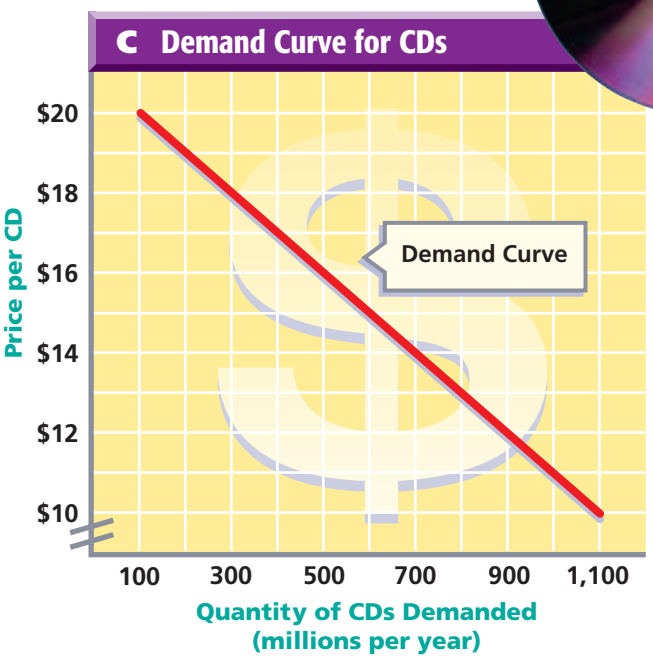
Student Web Activity Visit the *Economics Today and Tomorrow* Web site at ett.glencoe.com and click on ***Chapter 7—Student Web Activities*** to see how changes in population affect demand.

CLICK HERE

demand curve: *downward-sloping line that shows in graph form the quantities demanded at each possible price*



Part B Plotting Quantity Demanded Note how the price and quantity demanded numbers in the demand schedule (Part A) have been transferred to a graph in Part B above. Find letter E. It represents a number of CDs demanded (500 million) at a specific price ($16).



Part C Demand Curve The points in Part B have been connected with a line in Part C above. This line is the demand curve, which always falls from left to right. How many CDs will be demanded at a price of $12 each?

Quantity Demanded vs. Demand

Remember that quantity demanded is a specific point along the demand curve. A *change in quantity demanded* is caused by a change in the price of the good, and is shown as a movement along the demand curve. Sometimes, however, something other than price causes demand as a whole to increase or decrease. This is known as a *change in demand* and is shown as a *shift* of the entire demand curve to the left (decrease in demand) or right (increase in demand). If demand increases, people will buy more per year at all prices. If demand decreases, people will buy less per year at all prices. What causes a change in demand as a whole?

Global Economy

Demand for American TV Shows

Every year, hundreds of television-program buyers from around the world visit major studios in Los Angeles. What do they buy? *ER, Chicago Hope,* and *NYPD Blue* are hits in western European countries such as England, the Netherlands, and Germany. And people around the world can't seem to get enough of *Buffy the Vampire Slayer.*

Sci-fi is very big. *The X-Files* airs in 60 countries. In central Europe, "they want cars to be exploded 14 stories high," says Klaus Hallig, who buys for Poland, Hungary, the Czech Republic, Bulgaria, and Romania. He bought *Cannon, Bonanza, Miami Vice,* and the *A-Team,* as well as *Little House on the Prairie* and *Highway to Heaven.* ■

Determinants of Demand

Many factors can affect demand for a specific product. Among these factors are changes in population, changes in income, changes in people's tastes and preferences, the existence of substitutes, and the existence of complementary goods.

Changes in Population When population increases, opportunities to buy and sell increase. Naturally, the demand for most products increases. This means that the demand curve for, say, television sets, shifts to the right. At each price, more television sets will be demanded simply because the consumer population increases. Look at *Part A* of **Figure 7.5** on page 182.

Changes in Income The demand for most goods and services depends on income. Your demand for CDs would certainly decrease if your income dropped in half and you expected it to stay there. You would buy fewer CDs at all possible prices. The demand curve for CDs would shift to the left as shown in *Part B* of **Figure 7.5** on page 182. If your income went up, however, you might buy more CDs even if the price of CDs doubled. Buying more CDs at all possible prices would shift the demand curve to the right.

Changes in Tastes and Preferences One of the key factors that determine demand is people's tastes and preferences. *Tastes and preferences* refer to what people like and prefer to choose. When an item becomes a fad, more are sold at every possible price. The demand curve shifts to the right as shown in *Part C* of **Figure 7.5** on page 183.

Substitutes The existence of substitutes also affects demand. People often think of butter and margarine as substitutes. Suppose that the price of butter remains the same and the price of margarine falls. People will buy more margarine and less butter at all prices of butter. See *Part D* of **Figure 7.5** on page 183.

Complementary Goods When two goods are complementary products, the decrease in the price of one will increase the demand for it as well as its complementary good. Cameras and film are complementary goods. Suppose the price of film remains the same. If the price of cameras drops, people will probably buy more of them. They will also probably buy more film to use with the cameras. Therefore, a decrease in the price of cameras leads to an increase in the demand for its **complementary good,** film. As a result, the demand curve for film will shift to the right as shown in *Part E* of **Figure 7.5** on page 183.

complementary good: *a product often used with another product*

The Price Elasticity of Demand

The law of demand is straightforward: The higher the price charged, the lower the quantity demanded—and vice versa. If you sold DVDs, how could you use this information? You know that if you lower prices, consumers will buy more DVDs. By how much should you lower the cost, however? You cannot really answer this question unless you know how responsive consumers will be to a decrease in the price of DVDs. Economists call this price responsiveness **elasticity.** The measure of the **price elasticity of demand** is *how much* consumers respond to a given change in price.

elasticity: *economic concept dealing with consumers' responsiveness to an increase or decrease in price of a product*

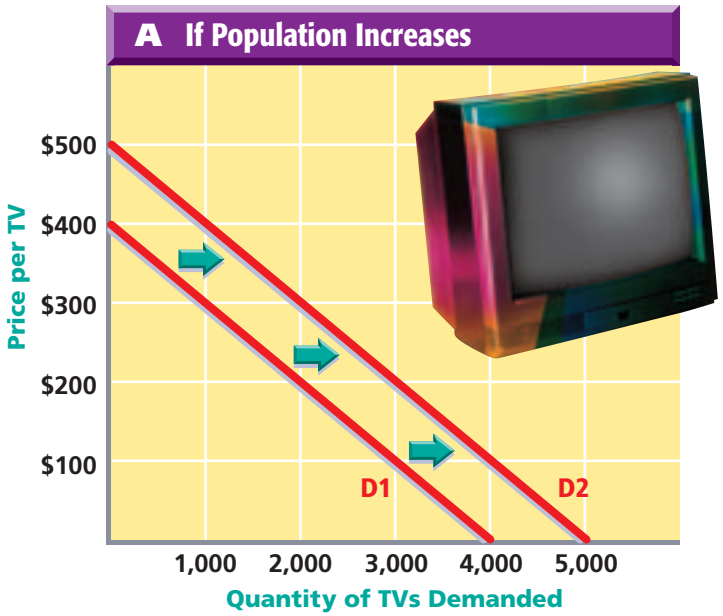
price elasticity of demand: *economic concept that deals with* how much *demand varies according to changes in price*

Elastic Demand For some goods, a rise or fall in price greatly affects the amount people are willing to buy. The demand for these goods is considered elastic—consumers can be flexible when buying or not buying these items. For example, one particular brand of coffee probably has a very

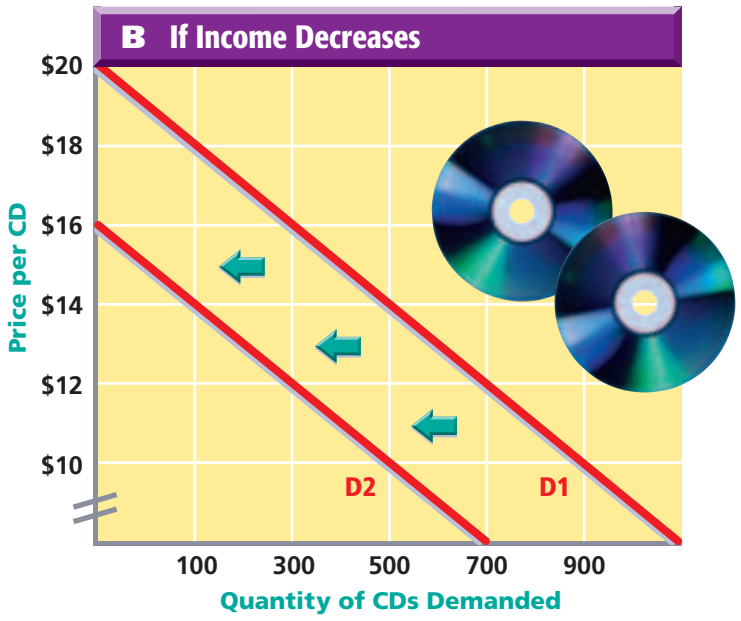
FIGURE 7.5 Determinants of Demand

Changes in Demand Many factors can affect demand for a specific product. When demand changes, the entire demand curve shifts to the left or the right.

Part A Change in Demand if Population Increases When population increases, opportunities to buy and sell increase. The demand curve labeled D1 represents demand for television sets before the population increased. The demand curve labeled D2 represents demand after the population increased.



Part B Change in Demand if Your Income Decreases The demand curve D1 represents CD demand before income decreased. The demand curve D2 represents CD demand after income decreased. If your income goes up, however, you may buy more CDs at all possible prices, which would shift the demand curve to the right.



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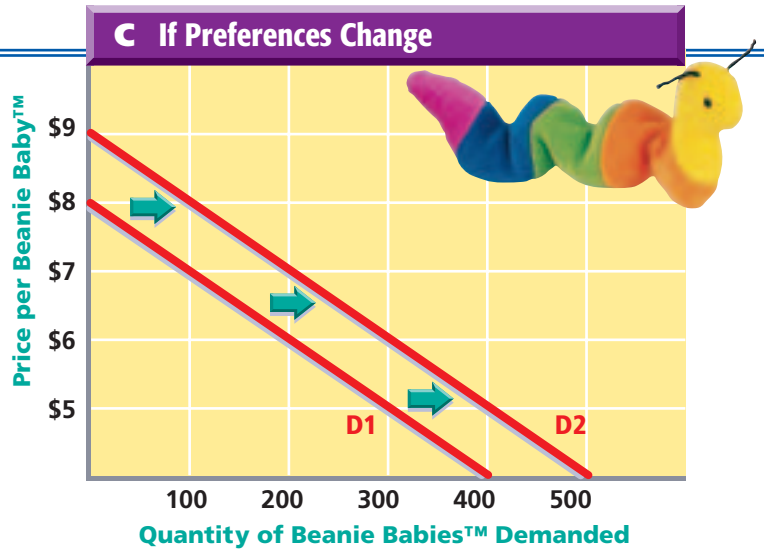
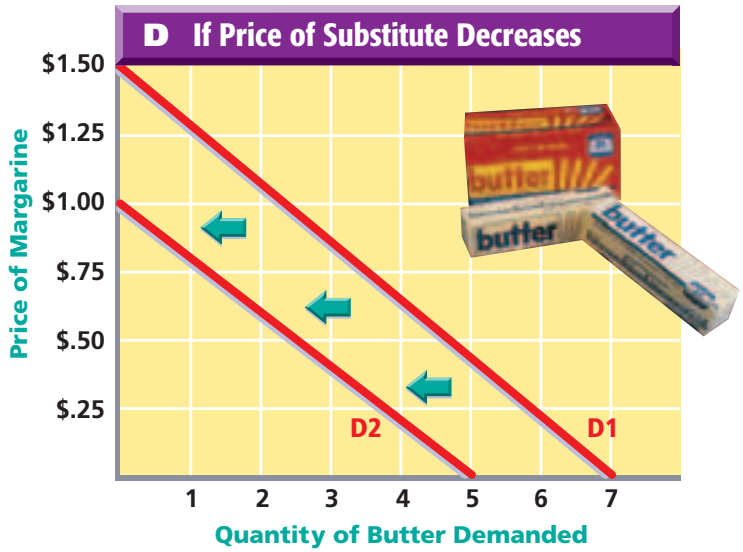
Part C Change in Demand if an Item Becomes a Fad When a product becomes a fad, more of it is demanded at all prices, and the entire demand curve shifts to the right. Notice how D1—representing demand for Beanie Babies™ before they became popular—becomes D2—demand after they became a fad.



Part D Change in Demand for Substitutes As the price of the substitute (margarine) decreases, the demand for the item under study (butter) also decreases. If, in contrast, the price of the substitute (margarine) increases, the demand for the item under study (butter) also increases.



Part E Change in Demand for Complementary Goods A decrease in the price of cameras leads to an increase in the demand for film, its complementary good. As a result, the demand curve for film will shift to the right. The opposite would happen if the price of cameras increased, thereby decreasing the demand for the complementary good, film.

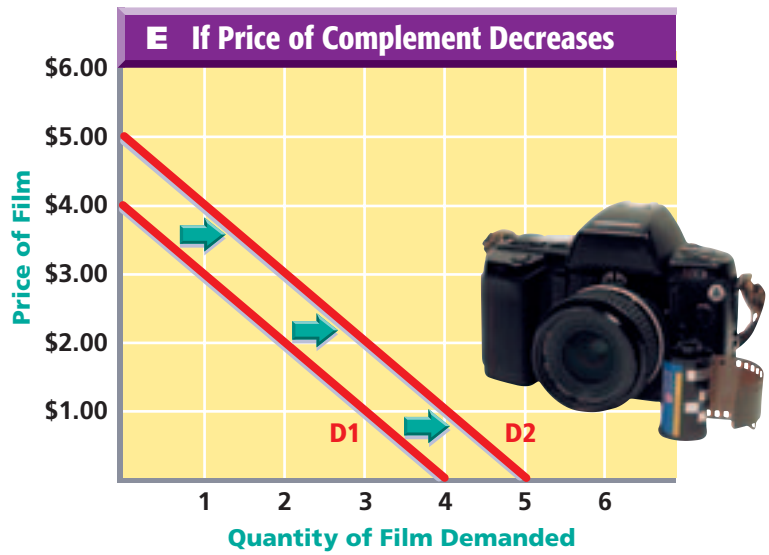
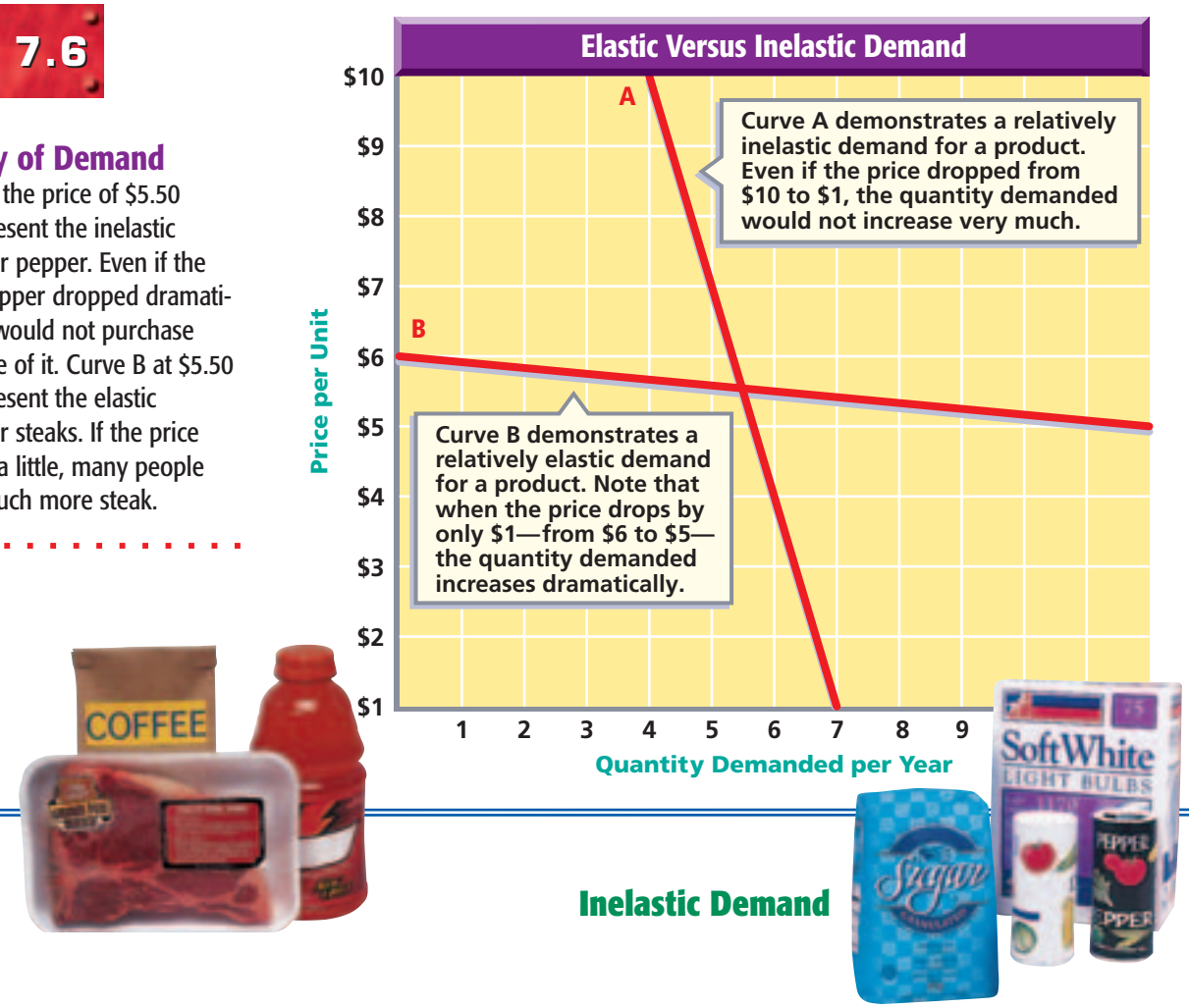


FIGURE 7.6

Elasticity of Demand

Curve A at the price of $5.50 could represent the inelastic demand for pepper. Even if the price of pepper dropped dramatically, you would not purchase much more of it. Curve B at $5.50 could represent the elastic demand for steaks. If the price drops just a little, many people will buy much more steak.



elastic demand: *situation in which the rise or fall in a product's price greatly affects the amount that people are willing to buy*

elastic demand. Consumers consider the many competing brands of coffee to be almost the same. A small rise in the price of one brand will probably cause many consumers to purchase the cheaper substitute brands.

Inelastic Demand If a price change does not result in a substantial change in the quantity demanded, that demand is considered inelastic—consumers are usually not flexible and will purchase some of the item no matter what it costs. Salt, pepper, sugar, and certain types of medicine normally have **inelastic demand.** By using two demand curves in one diagram—as shown in **Figure 7.6**—you can compare a relatively inelastic demand with a relatively elastic demand at a particular price.

inelastic demand: *situation in which a product's price change has little impact on the quantity demanded by consumers*

What Determines Price Elasticity of Demand? Why do some goods have elastic demand and others have inelastic demand?

At least three factors determine the price elasticity of demand for a particular item: the existence of substitutes; the percentage of a person's total budget devoted to the purchase of that good; and the time consumers are given to adjust to a change in price.

Clearly, the more substitutes that exist for a product, the more responsive consumers will be to a change in the price of that good. A diabetic needs insulin, which has virtually no substitutes. The price elasticity of demand for insulin, therefore, is very low–it is inelastic. The opposite is true for soft drinks. If the price of one goes up by very much, many consumers may switch to another.

The percentage of your total budget spent on an item will also determine whether its demand is elastic or inelastic. For example, the portion of a family's budget devoted to pepper is very small. Even if the price of pepper doubles, most people will keep buying about the same amount. The demand for pepper, then, is relatively inelastic. Housing demand, in contrast, is relatively elastic because it represents such a large proportion of a household's yearly budget.

Finally, people take time to adjust to price changes. If the price of electricity goes up tomorrow, your demand will be inelastic. The longer the time allowed to reduce the amount of electricity you use, however, the greater the price elasticity of demand.

Practice and **assess** key skills with ***Skillbuilder Interactive Workbook, Level 2.***

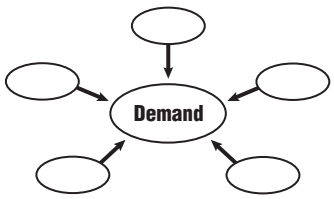
SECTION 2 Assessment

Understanding Key Terms

1. **Define** demand schedule, demand curve, complementary good, elasticity, price elasticity of demand, elastic demand, inelastic demand.

Reviewing Objectives

2. What does a demand curve show?
3. **Graphic Organizer** Create a diagram like the one below to show the determinants of demand.



4. How does the elasticity of demand affect the price for a given product?

Applying Economic Concepts

5. **Demand Elasticity** Provide an example of two products or services for which you have elastic demand and inelastic demand. Explain your choices.

Critical Thinking Activity

6. **Making Comparisons** Write a paragraph describing how demand and quantity demanded are similar, and how they are different. Use the examples you provided in question 5 to help make the comparison in your paragraph.

SECTION 3

The Law of Supply and the Supply Curve

Reader's Guide

Terms to Know

- law of supply
- quantity supplied
- supply schedule
- supply curve
- technology
- law of diminishing returns

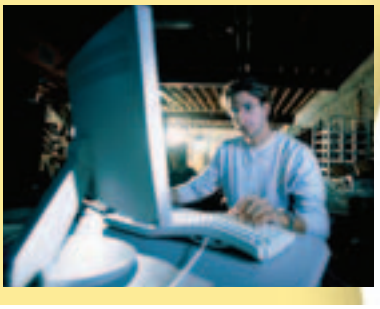
Reading Objectives

1. What is the law of supply?
2. How does the incentive of greater profits affect quantity supplied?
3. What do a supply schedule and supply curve show?
4. What are the four determinants of supply?

Cover Story

***Business Week*, May 14, 2003**

Jeff Bezos got Amazon.com going from the garage of a house . . . Bill Hewitt and Dave Packard started Hewlett-Packard in a garage . . . [In contrast] many Internet companies spent large amounts of their seed money on beautiful offices . . . [w]hich was fine until [they] needed money for something important, like keeping the business running.



As you've learned, consumers demand products and services at the lowest possible prices. In contrast, suppliers—like Amazon.com and Hewlett-Packard—exist to make a profit—hopefully, a big profit. As you read this section, you'll learn about the law of supply and how it is geared toward making profits.

The Law of Supply

To understand how prices are determined, you have to look at both demand and *supply*—the willingness and

ability of producers to provide goods and services at different prices in the marketplace. The **law of supply** states:

As the price rises for a good, the quantity supplied generally rises. As the price falls, the quantity supplied also falls.

law of supply: *economic rule stating that price and quantity supplied move in the same direction*

You may recall that with demand, price and quantity demanded move in opposite directions. With supply, a direct relationship exists between the price and **quantity supplied.** A direct relationship means that when prices rise, quantity supplied will rise, too. When prices fall, quantity supplied by sellers will also fall. Thus, a larger quantity will generally be supplied at higher prices than at lower prices. A smaller quantity will generally be supplied at lower prices than at higher prices.

quantity supplied: *the amount of a good or service that a producer is willing and able to supply at a specific price*

The Incentive of Greater Profits

The profit incentive is one of the factors that motivates people in a market economy. In the case of supply, the higher the price of a good, the greater the incentive is for a producer to produce more. The higher price not only returns higher profits, but it also must cover additional costs of producing more.

Suppose you own a company that produces and sells skateboards. **Figure 7.7** shows some of your costs of production. Imagine that the price you charge for your skateboards covers all of these costs and gives you a small profit. Under what circumstances would you be willing to produce more skateboards?

To take on the expense of expanding production, you would have to be able to charge a higher price for your skateboards. At a higher price per skateboard, you would be willing to supply—that is,

FIGURE 7.7

Production Costs As a skateboard manufacturer, you would have to consider all your costs of production, including the price of materials: decks, trucks, wheels, risers, bolts, and bearings. Don't forget to include the costs of the rent payments for the buildings in which the skateboards are produced. You also have employees to whom you must pay wages, as well as taxes and insurance. ***What motivates suppliers to take risks and go into business in the first place?***

produce and sell–more than you would at the current lower price. Even though each skateboard will cost more to produce–because of overtime payments to workers, additional machines, more repairs on machines, and so on–you could afford to pay the additional cost of increasing the quantity sold. This fact is the basis of the law of supply.

The Supply Curve

As with the law of demand, special tables and graphs can show the law of supply. Using the example of CD producers, we show a visual relationship between the price and the quantity supplied in **Figure 7.8.**

supply schedule: *table showing quantities supplied at different possible prices*

Part A is the **supply schedule,** or table, showing that as the price per CD increases, the quantity supplied increases. *Part B* of

FIGURE 7.8 Graphing the Supply Curve

Supply Can Be Shown Visually Note how the three parts use a different format to show the same thing. Each shows the law of supply–as price rises, quantity supplied increases.

A Supply Schedule for CDs

Price per CD	Quantity supplied (in millions)	Points in Part B
$10	100	L
$11	200	M
$12	300	N
$13	400	O
$14	500	P
$15	600	Q
$16	700	R
$17	800	S
$18	900	T
$19	1,000	U
$20	1,100	V

Part A Supply Schedule The numbers in the supply schedule above show that as the price per CD increases, the quantity supplied increases. At $16 each, a quantity of 700 million CDs will be supplied.

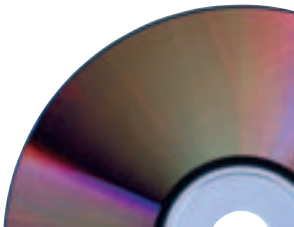


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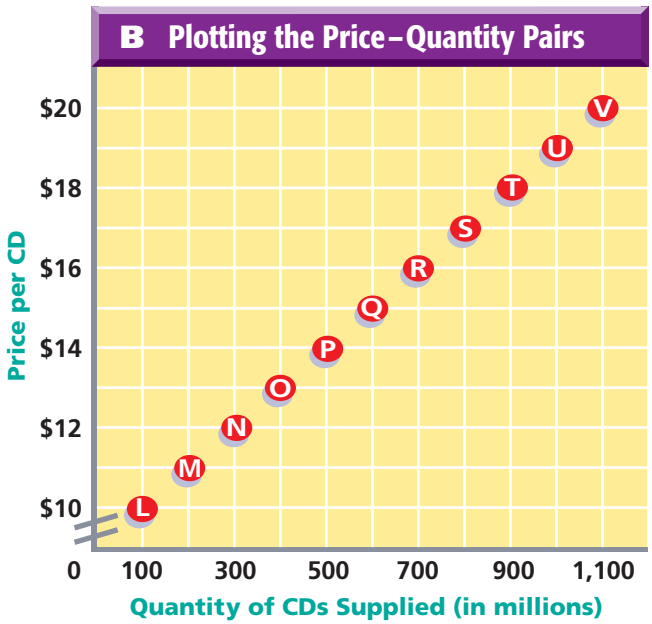
Figure 7.8 is a graph plotting the price and quantity supplied pairs from the supply schedule. Note that the bottom axis shows the quantity supplied. The side axis shows the price per CD. Each intersection of price and quantity supplied represents a point on the graph. We label these points L through V.

When we connect the points from *Part B* with a line, we end up with the **supply curve,** as shown in *Part C*. A supply curve shows the quantities supplied at each possible price. It slopes upward from left to right. You can see that the relationship between price and quantity supplied is direct—or moving in the same direction.

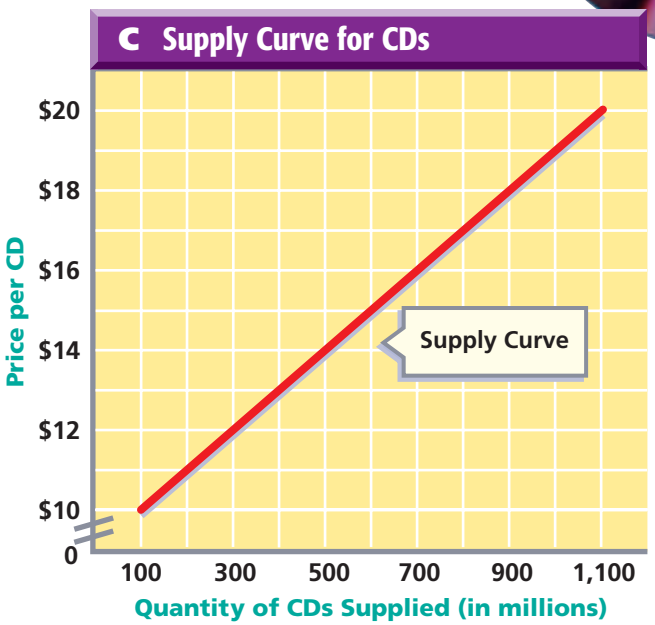
supply curve: *upward-sloping line that shows in graph form the quantities supplied at each possible price*

Quantity Supplied vs. Supply

Each point on a supply curve signifies that a producer will supply a certain quantity at each particular price. If the price increases



Part B Plotting Quantity Supplied Note how the price and quantity supplied numbers in the supply schedule (Part A) have been transferred to a graph in Part B above. Find letter R. It represents a number of CDs supplied (700 million) at a specific price ($16).



Part C Supply Curve The points in Part B have been connected with a line in Part C above. This line is the supply curve, which always rises from left to right. How many CDs will be supplied at a price of $14 each?

or decreases, the quantity supplied also increases or decreases. A *change in quantity supplied* is caused by a change in price and is shown as a movement along the supply curve.

Sometimes, however, producers will supply more goods or fewer goods at *every* possible price. This is shown as a movement of the entire supply curve and is known as a *change in supply.* A change in price does *not* cause this movement. What does cause the entire supply curve to shift to the right (increase in supply) or the left (decrease in supply)?

The Determinants of Supply

Four of the major determinants of *supply* (not *quantity supplied*) are the price of inputs, the number of firms in the industry, taxes, and technology.

Price of Inputs If the price of inputs—raw materials, wages, and so on—drops, a producer can supply more at a lower production cost. This causes the supply curve to shift to the right. This situation occurred, for example, when the price of memory chips fell during the 1980s and 1990s. More computers were supplied at any given price than before. See *Part A* of **Figure 7.9.** In contrast, if the cost of inputs increases, suppliers will offer fewer goods for sale at every possible price.

Number of Firms in the Industry As more firms enter an industry, greater quantities are supplied at every price, and the supply curve shifts to the right. Consider the number of video rentals. As more video rental stores pop up, the supply curve for video rentals shifts to the right. See *Part B* of **Figure 7.9.**

Taxes If the government imposes more taxes, businesses will not be willing to supply as much as before because the cost of production will rise. The supply curve for products will shift to the left, indicating a decrease in supply. For example, if taxes on silk increased, silk businesses would sell fewer quantities at each and every price. The supply curve would shift to the left, as shown in *Part C* of **Figure 7.9.**

Technology The use of science to develop new products and new methods for producing and distributing goods and services is called **technology.** Any improvement in technology will increase supply, as shown in *Part D.* Why? New technology usually reduces the cost of production. See **Figure 7.10** on page 192.

technology: *any use of land, labor, and capital that produces goods and services more efficiently*

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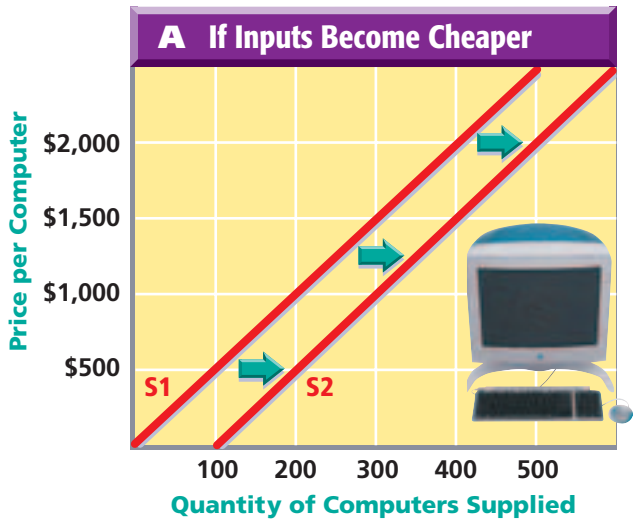
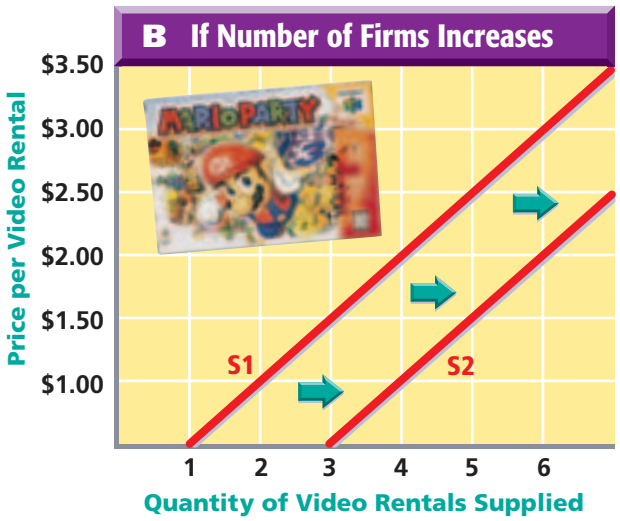
FIGURE 7.9 Determinants of Supply

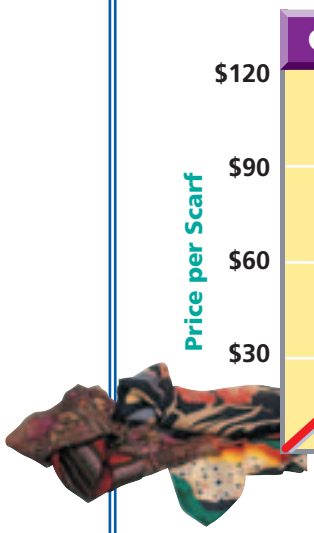
Changes in Supply Four major factors affect the supply for a specific product. When supply changes, the entire supply curve shifts to the left or the right.

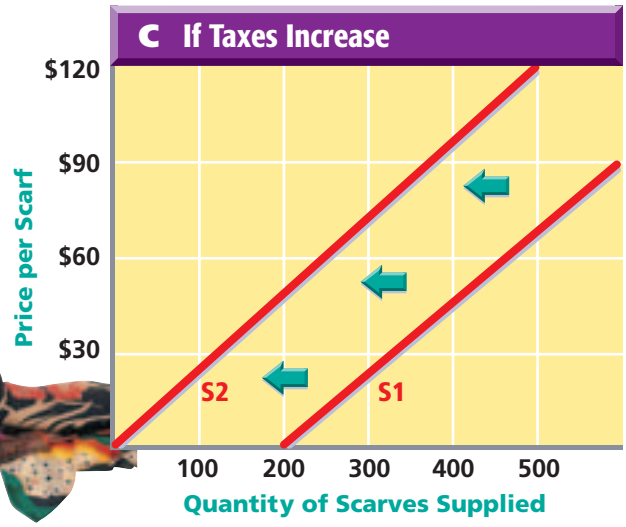


Part A Change in Supply if Price of Inputs Drops Line S1 shows the supply of computers *before* the price of memory chips fell. Line S2 shows the increased supply of computers *after* the price of memory chips fell.

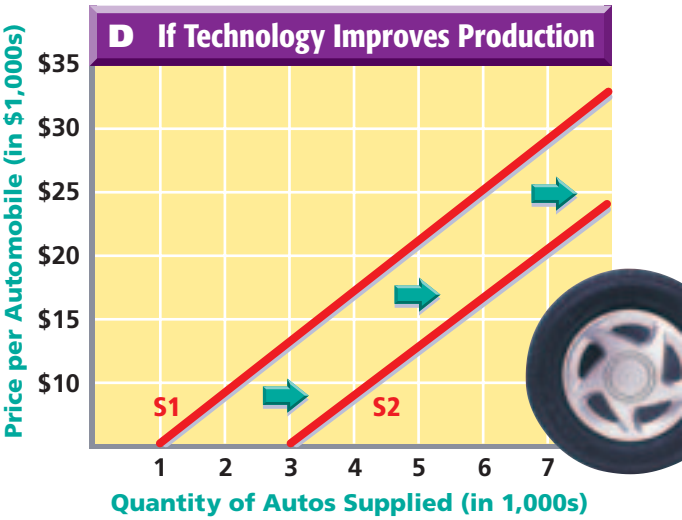


Part B Change in Supply if Number of Firms Increases Overall supply will increase if the number of firms in an industry grows. As profits from movie and game rentals increased, for example, the number of video stores supplying these items increased. With more video stores, the supply curve for video rentals increased from S1 to S2.





Part C Change in Supply if Taxes Increase Line S1 indicates the supply of silk scarves *before* the government raised taxes on this business. Line S2 equals the supply *after* the government raised taxes.



Part D Change in Supply if Technology Reduces Costs of Production Any improvement in technology will increase supply–or move the supply curve to the right from S1 to S2. Technology reduces the costs of production, allowing suppliers to make more goods for a lower cost.

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The Law of Diminishing Returns

law of diminishing returns: *economic rule that says as more units of a factor of production (such as labor) are added to other factors of production (such as equipment), after some point total output continues to increase but at a diminishing rate*

You want to expand production. Assume you have 10 machines and employ 10 workers. You hire an eleventh worker. CD production increases by 1,000 per week. When you hire the twelfth worker, CD production might increase by only 900 per week. There are not enough machines to go around, and perhaps workers are getting in each other's way.

This example illustrates the **law of diminishing returns.** According to this law, adding units of one factor of production to all the other factors of production increases total output. After a certain point, however, the extra output for each *additional* unit hired will begin to decrease.

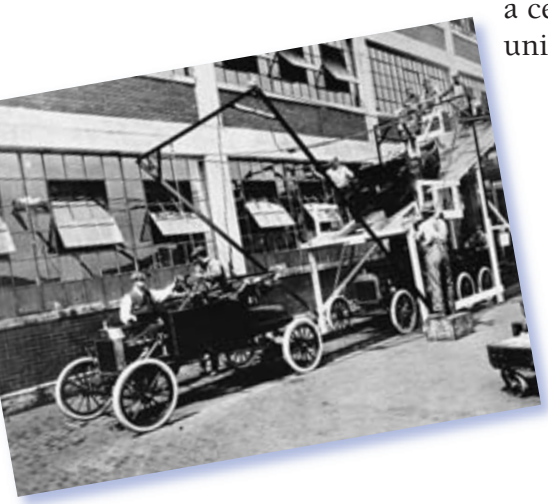


FIGURE 7.10

Technology In the early 1900s, improved technology for making automobiles drastically reduced the amount of time and other resources it took to make many new automobiles. Therefore, a larger supply of autos was offered for sale at every price.

Practice and **assess** key skills with *Skillbuilder Interactive Workbook, Level 2.*

SECTION 3 Assessment

Understanding Key Terms

1. **Define** law of supply, quantity supplied, supply schedule, supply curve, technology, law of diminishing returns.

Reviewing Objectives

2. What does the law of supply state?
3. How does the incentive of greater profits affect supply?
4. What do a supply schedule and a supply curve show?
5. **Graphic Organizer** Create a diagram like the one in the next column to explain the four determinants of supply.

Applying Economic Concepts

6. **Supply** List at least 10 costs of production if you were to produce and distribute baseball caps to local stores.

Critical Thinking Activity

7. **Synthesizing Information** Assume that you are a successful baseball cap maker. Draw a graph that shows the various prices and quantities supplied for your caps.

Understanding Cause and Effect

Understanding cause and effect involves considering why *an event occurred. A* cause *is the action or situation that produces an event. What happens as a result of a cause is an* effect.

- Identify two or more events or developments.
- Decide whether one event caused the other. Look for "clue words" such as *because, led to, brought about, produced, as a result of, so that, since,* and *therefore.*
- Look for logical relationships between events, such as "She overslept, and then she missed her bus."
- Identify the outcomes of events. Remember that some effects have more than one cause, and some causes lead to more than one effect. Also, an effect can become the cause of yet another effect.

LEARNING THE SKILL

To identify cause-and-effect relationships, follow the steps listed on the left.

PRACTICING THE SKILL

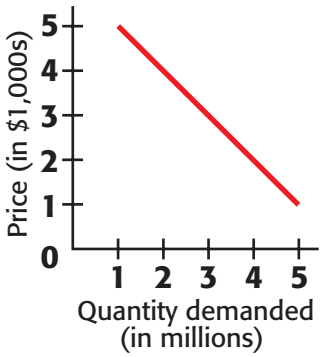
The classic cause-and-effect relationship in economics is between price and quantity demanded/quantity supplied. As the price for a good rises, the quantity demanded goes down and the quantity supplied rises.

1. Look at **Figure A.** What caused the big sale? What is the effect on consumers?
2. Look at the demand curve for DVD systems in **Figure B.** If the price is $5,000, how many will be demanded per year? If the price drops to $1,000, how many will be demanded per year?

Figure A

BIG SALE! PRICES SLASHED!
Huge inventory needs to be sold to make room for next year's model.

Figure B



Practice and **assess** key skills with *Skillbuilder Interactive Workbook, Level 2.*

APPLICATION ACTIVITY

In your local newspaper, read an article describing a current event. Determine at least one cause and one effect of that event.

SECTION 4

Putting Supply and Demand Together

READER'S GUIDE

Terms to Know

- equilibrium price
- shortage
- surplus
- price ceiling
- rationing
- black market
- price floor

Reading Objectives

1. How is the equilibrium price determined?
2. How do shifts in equilibrium price occur?
3. How do shortages and surpluses affect price?
4. How do price ceilings and price floors restrict the free exchange of prices?

COVER STORY

KIPLINGER'S PERSONAL FINANCE MAGAZINE, NOVEMBER 2000

Whatever toy becomes this season's Furby will probably be in skimpy supply, thanks to an industrywide shortage of the electronic guts so vital to today's playthings. So if you think your kids will be clamoring for any of the potential hot toys . . . , be sure to shop now (and find a sneaky hiding place until December). . . .

What do Furbys™, Beanie Babies™, Tickle Me Elmo™, and Cabbage Patch Kids™ all have in common? At one point in time, they all were in short supply—and usually right before the Christmas holiday season. As you will read, shortages occur when the quantity demanded is larger than the quantity supplied at the current price.

Equilibrium Price

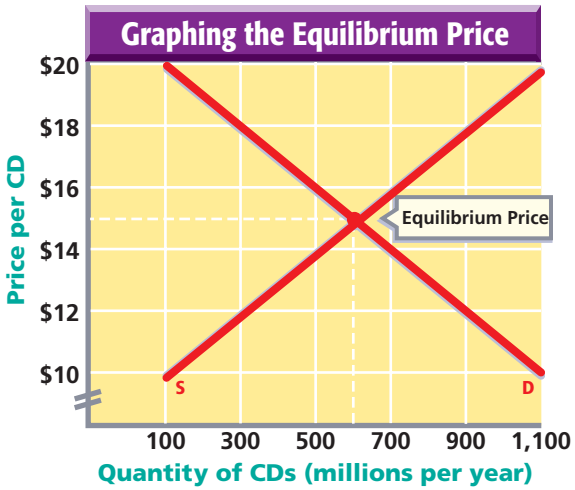
In the real world, demand and supply operate together. As the price of a good goes down, the quantity demanded rises and the quantity supplied falls. As the price goes up, the quantity demanded falls and the quantity supplied rises.

Is there a price at which the quantity demanded and the quantity supplied meet? Yes. This level is called the **equilibrium price.** At this price, the quantity supplied by sellers is the same as the

equilibrium price: *the price at which the amount producers are willing to supply is equal to the amount consumers are willing to buy*

FIGURE 7.11

Equilibrium Price In our example, how does the market reach an equilibrium price? We start on Day 1 with sellers thinking that the price for CDs will be $20. If you examine the supply schedule and curve, you see that suppliers will produce 1,100 units. However, buyers will purchase only 100 CDs. The 1,000 unit surplus is shown in column four of the demand and supply schedule as the difference between the quantity supplied and the quantity demanded at $20. To get rid of the surplus, sellers will lower the price. Say suppliers lower the price to $10. At that price, they are willing to supply 100 CDs. However, as the schedule shows, this price turns out to be too low because 100 are supplied and 1,100 are demanded–leaving a shortage of 1,000 CDs. The price tends to go up and down until it reaches equilibrium price. ***According to the schedule and the graph, what is the equilibrium price and quantity demanded?***



Market Demand and Supply Schedules

Quantity Demanded	Price	Quantity Supplied	Surplus/ Shortage
100	$20	1,100	1,000
200	$19	1,000	800
300	$18	900	600
400	$17	800	400
500	$16	700	200
600	$15	600	0
700	$14	500	−200
800	$13	400	−400
900	$12	300	−600
1,000	$11	200	−800
1,100	$10	100	−1,000

quantity demanded by buyers. One way to visualize equilibrium price is to put supply and demand curves on one graph, as shown in **Figure 7.11.** Where the two curves intersect is the equilibrium price.

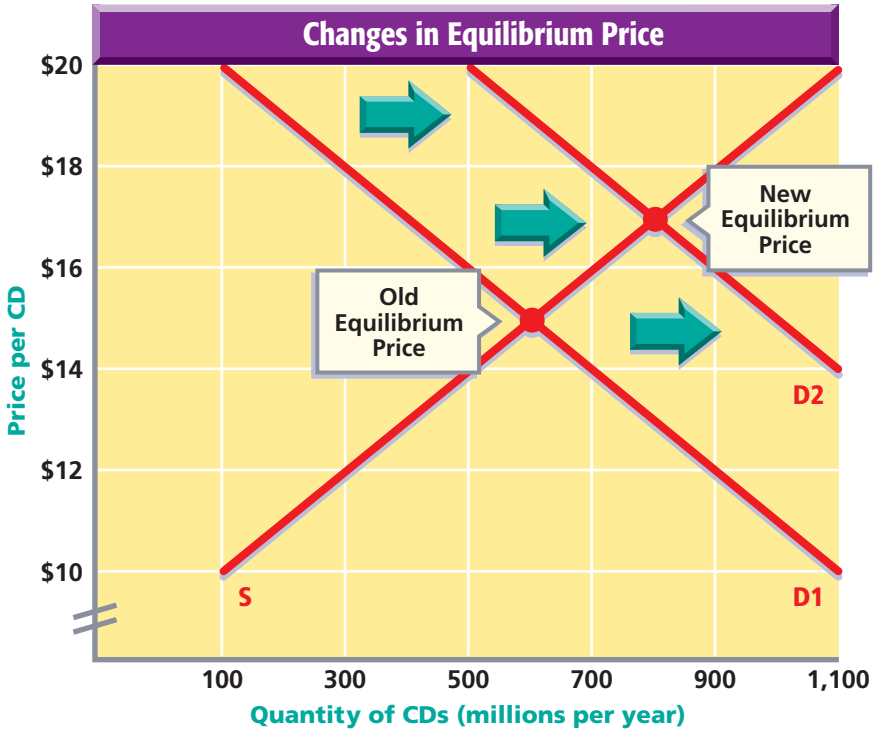
Shifts in Equilibrium Price

What happens when there is an increase in the demand for CDs? Assume that scientists prove that listening to more music increases life span. This discovery will cause the entire demand curve to shift outward to the right, as shown in **Figure 7.12** on page 196.

What about changes in supply? You can show these in a similar fashion. Assume that there is a major breakthrough in the technology of producing CDs. The supply curve shifts outward to the right. The new equilibrium price will fall, and both the *quantity supplied* and the *quantity demanded* will increase.

FIGURE 7.12

Change in Equilibrium Price
When the supply or demand curves shift, the equilibrium price also changes. Note that the old equilibrium price was $15. But now the new demand curve intersects the supply curve at a higher price–$17. ***What could happen if, instead, scientists proved that listening to music decreases life span?***



Prices Serve as Signals

In the United States and other countries with mainly free enterprise systems, prices serve as signals to producers and consumers. Rising prices signal producers to produce more and consumers to purchase less. Falling prices signal producers to produce less and consumers to purchase more.

shortage: *situation in which the quantity demanded is greater than the quantity supplied at the current price*

Shortages A **shortage** occurs when, at the current price, the quantity demanded is greater than the quantity supplied. If the market is left alone–without government regulations or other restrictions–shortages put pressure on prices to rise. At a higher price, consumers reduce their purchases, whereas suppliers increase the quantity they supply.

surplus: *situation in which quantity supplied is greater than quantity demanded at the current price*

Surpluses At prices above the equilibrium price, suppliers produce more than consumers want to purchase in the marketplace. Suppliers end up with **surpluses**–large inventories of goods–and this and other forces put pressure on the price to drop to the equilibrium price. If the price falls, suppliers have less incentive to supply as much as before, whereas consumers begin to purchase a greater quantity. The decrease in price toward the equilibrium price, therefore, eliminates the surplus.

Shortage of Games

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Market Forces One of the benefits of the market economy is that when it operates without restriction, it eliminates shortages and surpluses. Whenever shortages occur, the market ends up taking care of itself—the price goes up to eliminate the shortage. Whenever surpluses occur, the market again ends up taking care of itself—the price falls to eliminate the surplus. Let's take a look at what happens to the availability of goods and services when the government—not market forces—becomes involved in setting prices.

Price Controls

Why would the government get involved in setting prices? One reason is that in some instances it believes the market forces of supply and demand are unfair, and it is trying to protect consumers and suppliers. Another reason is that special interest groups use pressure on elected officials to protect certain industries.

Price Ceilings A **price ceiling** is a government-set maximum price that can be charged for goods and services. Imagine trying to bring a 12-foot tree into your house that has 8-foot ceilings. The ceiling prevents the top of the tree from going up. Similarly, a *price ceiling* prevents prices from going above a specified amount. For example, city officials might set a price ceiling on what landlords can charge for rent. As *Part A* of **Figure 7.13** on page 198 shows, when a price ceiling is set below the equilibrium price, a shortage occurs.

price ceiling: *a legal maximum price that may be charged for a particular good or service*

Effective price ceilings—and resulting shortages—often lead to nonmarket ways of distributing goods and services. The government may resort to **rationing,** or limiting, items that are in short supply. A policy of rationing is expensive, however. Taxpayers must pay the cost of printing ration coupons, setting up offices to distribute the coupons, and maintaining the bureaucracy involved in enforcing who gets how much of the rationed goods.

rationing: *the distribution of goods and services based on something other than price*

Shortages also may lead to a **black market,** in which illegally high prices are charged for items that are in short supply. As **Figure 7.14** on page 199 shows, items often sold on the black market include tickets to sporting events.

black market: *"underground" or illegal market in which goods are traded at prices above their legal maximum prices or in which illegal goods are sold*

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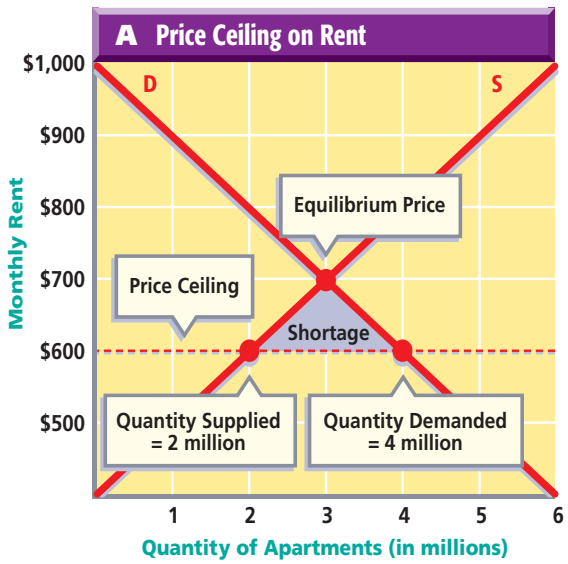
price floor: *a legal minimum price below which a good or service may not be sold*

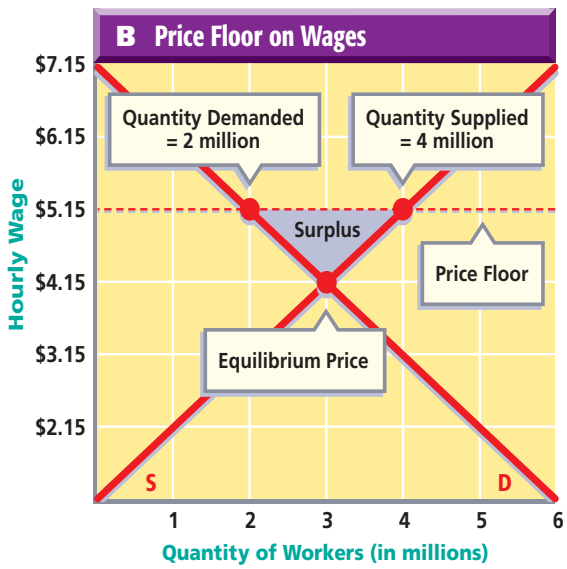
Price Floors A **price floor,** in contrast, is a government-set *minimum* price that can be charged for goods and services. Price floors—more common than price ceilings—prevent prices from dropping too low. When are low prices a problem? Assume that about 30 of your classmates all want jobs after school. The local fast-food restaurant can hire 30 students at $4.15 an hour, but the government has set a minimum wage—a price floor—of $5.15 an hour. Some of you will get hired, and you'll happily earn $5.15 an hour. Not all of you will get hired at that wage, however, which leads to a surplus of unemployed workers as shown in *Part B* of **Figure 7.13.** If the market were left on its own, the equilibrium price of $4.15 per hour would have all of you employed.

Besides affecting the minimum wage, price floors have been used to support agricultural prices. If the nation's farmers have a bumper crop of wheat, for example, the country has a huge surplus of wheat. The market, if left alone, would take care of the

FIGURE 7.13 Price Ceilings and Price Floors



Part A Price Ceiling More people would like to rent at the government-controlled price, but apartment owners are unwilling to build more rental units if they cannot charge higher rent. This results in a shortage of apartments to rent.



Part B Price Floor The fast-food restaurant business wants to hire students at $4.15 an hour, but the government has set a minimum wage—a price floor—of $5.15 an hour. ***What is the surplus of workers with a price floor of $5.15 per hourly wage?***

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FIGURE 7.14

Black Market Scalpers selling high-priced, limited tickets–such as these tickets to a World Cup Soccer match–are part of the black market. ***How do price ceilings on tickets to sporting events lead to shortages?***

surplus by having the price drop. As prices decrease, remember, quantity supplied decreases and quantity demanded increases. But the nation's farmers might not earn enough to make a profit or even pay their bills if the price drops too much. So the government sometimes sets a price floor for wheat, which stops the price per bushel from dropping below a certain level. The farmers know this, so instead of reducing their acreage of wheat–which would reduce the surplus–they keep producing more wheat.

Practice and **assess** key skills with ***Skillbuilder Interactive Workbook, Level 2.***

SECTION 4 Assessment

Understanding Key Terms

1. **Define** equilibrium price, shortage, surplus, price ceiling, rationing, black market, price floor.

Reviewing Objectives

2. How is the equilibrium price determined?
3. How do shifts in equilibrium price occur?
4. **Graphic Organizer** Create a diagram like the one below to show how shortages and surpluses affect prices.

5. How do price ceilings and price floors restrict the free exchange of prices?

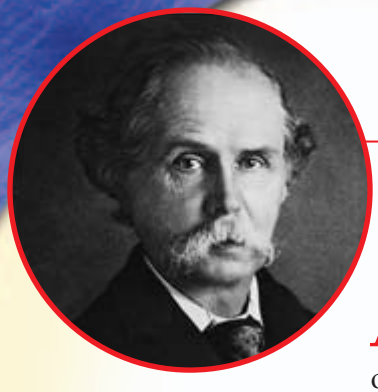
Applying Economic Concepts

6. **Shortages** Explain how a shortage of professional sports tickets determines the general price of those tickets.

Critical Thinking Activity

7. **Understanding Cause and Effect** Draw a series of three graphs.
   - The first graph should show an equilibrium price for sunglasses.
   - The second graph should show the shift that would occur if research proved wearing sunglasses increased I.Q.
   - The third graph should show the shift that would occur if research proved that wearing sunglasses caused acne. *For help in using graphs, see page xv in the Economic Handbook.*

People & Perspectives



Alfred Marshall

ECONOMIST (1842–1924)

- **Began career as a mathematician**
- **Chaired political economy at Cambridge University, England**
- **Developed supply and demand analysis**
- **Published *Principles of Economics* (1890) and *Elements of Economics* (1892)**

Alfred Marshall is known for introducing the concept of supply and demand analysis to economics. The following excerpt from *Elements of Economics* explains the concept of equilibrium:

"*The simplest case of balance, or equilibrium, between desire and effort is found when a person satisfies one of his wants by his own direct work. When a boy picks blackberries for his own eating, the action of picking may itself be pleasurable for a while. . . .*

Equilibrium is reached, when at last his eagerness to play and his disinclination for the work of picking counterbalance the desire for eating. The satisfaction which he can get from picking fruit has arrived at its maximum. . . ."

Marshall also explained how equilibrium is established in a local market. Buyers and sellers, having perfect knowledge of the market, freely compete for their own best interests. In so doing they arrive at a price that exactly equates supply and demand.

"*. . . [A price may be] called the true equilibrium price: because if it were fixed on at the beginning, and adhered to throughout, it would exactly equate demand and supply. (i.e. the amount which buyers were willing to purchase at that price would be just equal to that for which sellers were willing to take that price). . . .*

In our typical market then we assume that the forces of demand and supply have free play; that there is no combination among dealers on either side; but each acts for himself, and there is much free competition; that is, buyers generally compete freely with buyers, and sellers compete freely with sellers."

Checking for Understanding

1. **What does Marshall mean by "equilibrium between desire and effort"?**
2. **What is an equilibrium price?**

CHAPTER 7 Summary

Chapter Overview Visit the *Economics Today and Tomorrow* Web site at ett.glencoe.com and click on ***Chapter 7—Chapter Overviews*** to review chapter information.

SECTION 1 Demand

- **Demand** represents a consumer's willingness and ability to pay.
- The **law of demand** states as price goes up, **quantity demanded** goes down. As price goes down, quantity demanded goes up.
- Factors explaining the inverse relationship between quantity demanded and price include the **real income effect,** the **substitution effect,** and **diminishing marginal utility**—or how one's additional satisfaction for a product lessens with each additional purchase of it.

SECTION 2 The Demand Curve and Elasticity of Demand

- The downward-sloping **demand curve** signifies that as the price falls, the quantity demanded increases.
- Changes in population, income, tastes and preferences, and the existence of substitutes, or **complementary goods,** affect demand.
- The **price elasticity of demand** is a measure of *how much* consumers respond to a price change.
- If a small change in price causes a large change in quantity demanded, the demand for that good is said to be **elastic.**
- If a price change does not result in much of a change in the quantity demanded, that demand is considered **inelastic.**

SECTION 3 The Law of Supply and the Supply Curve

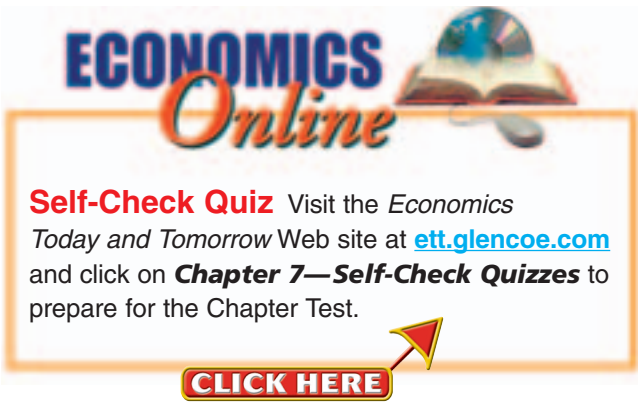
- The **law of supply** states as the price rises for a good, the **quantity supplied** also rises. As the price falls, the quantity supplied falls.
- The upward-sloping **supply curve** shows this direct relationship between quantity supplied and price.
- Four factors determine supply in a market economy. These include the price of inputs, the number of firms in the industry, taxes, and **technology.**

SECTION 4 Putting Supply and Demand Together

- In free enterprise systems, prices serve as signals to producers and consumers.
- The point at which the quantity demanded and the quantity supplied meet is called the **equilibrium price.**
- A **shortage** causes prices to rise, signaling producers to produce more and consumers to purchase less.
- A **surplus** causes prices to drop, signaling producers to produce less and consumers to purchase more.
- A **price ceiling,** which prevents prices from going above a specified amount, often leads to shortages and **black market** activities.
- A **price floor** prevents prices such as a minimum wage from dropping too low.

CHAPTER 7

Assessment and Activities



Identifying Key Terms

Write a short paragraph about demand using all of the following terms.

- law of demand
- quantity demanded
- law of diminishing marginal utility
- real income effect
- substitution effect
- demand curve
- price elasticity of demand

Write a short paragraph about supply using all of the following terms.

- law of supply
- law of diminishing returns
- supply curve
- shortage
- equilibrium price
- surplus

Recalling Facts and Ideas

Section 1

1. What is the basis of most activity in a market economy?
2. What generally happens to quantity demanded when the price of a good goes up (and other prices stay the same)?
3. When the price of a good changes, what effects tend to create the law of demand?

Section 2

4. How do we show in a graph an increase in the demand for a good?
5. What is the distinction between elastic and inelastic demand?
6. If income and population increase, what tends to happen to demand curves?

Section 3

7. Do suppliers tend to produce less or more when the price goes up? Why?
8. What would an increase in taxes do to the position of the supply curve?

Section 4

9. If the price of a product is above its equilibrium price, what is the result?
10. If the price of a product is below its equilibrium price, what is the result?

Thinking Critically

1. **Making Generalizations** To what extent do you think the law of demand applies in the world around you? Are there any goods or services that you think do not follow the law of demand? Explain.
2. **Making Comparisons** If you had to guess the relative price elasticities of demand for CDs compared to that of insulin needed by diabetics, what would you state?

3. **Making Predictions** Technology has decreased the cost of producing goods and services. Create a chart like the one below and list four goods or services that you think will be changed by technology in your lifetime. Explain how you think each change will affect your life.

Technological Change	Effect on My Life
1.	
2.	
3.	
4.	

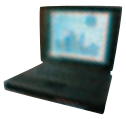
Applying Economic Concepts

Supply and Demand Some prices change in our economy very seldom, whereas others change all the time, even daily. Make a list of products whose prices change slowly, if at all. Make another list of products whose prices you think change quickly.

Cooperative Learning Project

Working in groups of four, each group will interview a local merchant. Ask the following questions and others you think are relevant: What determines the prices you charge? What determines when you change prices? Are there any costs to you of changing prices (such as reprinting price lists)? One person in each group should write a summary of the interview. Then compare these summaries.

Technology Activity

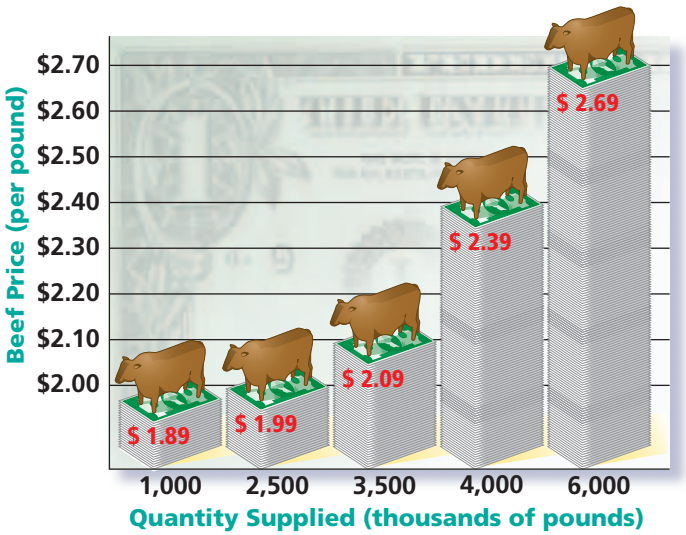


Using a Spreadsheet Interview 10 students in the school, asking the following questions: (a) What three purchases have you made recently? (b) Do any of these purchases represent a change in your buying habits? (c) Was the change caused by a change in income, a change in tastes and preferences, or a change in the price of substitutes or complements? Summarize the information you obtained by placing it in a spreadsheet.

Reviewing Skills

Understanding Cause and Effect Look at the graph below, then answer the questions that follow.

1. How many pounds of beef are supplied at $1.89 per pound?
2. How many pounds are supplied at $2.69 per pound?
3. What can you infer as the cause-and-effect relationship here?



Analyzing the Global Economy

Clip articles from newspapers or magazines that show the laws of supply and/or demand operating in other parts of the world. Possibilities would be weather damages to crops and economic conditions affecting housing starts, and so on.

Global Economy

Demand for Oil Americans demand oil for many purposes, but mostly as a fuel for their automobiles. According to the Department of Energy, as of 2002 about 193 million vehicles were burning an estimated 122 billion gallons of gasoline a year. Domestic supplies meet about half of the demand for oil. The map below shows where we get the rest.

On average, a barrel holding 42 gallons of crude oil produces 21 gallons of gasoline.

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Thinking Globally

1. Which region of the world is the largest source for American oil imports?

2. What percentage of American oil imports do Canada and Mexico provide?

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