

# Chapter

# 7

# Market Structures

If a single firm produced all computer software, life might be easier because all software would be compatible. So why has the government tried to prevent one company from dominating the software market? When there are only one or two firms in a market, consumers have fewer choices, and prices are likely to be higher.

In this chapter you will read about four different types of markets, or market structures. The four structures differ mainly in the number of firms that compete within them.

## Economics Journal

Write down the names of three major companies: one with very little competition, one with one or two important competitors, and one with many competitors. Which situation do you think describes most markets?

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# Section 1

# Perfect Competition

## Preview

### Objectives

After studying this section you will be able to:

1. **Describe** the four conditions that are in place in a perfectly competitive market.
2. **List** two common barriers that prevent firms from entering a market.
3. **Describe** prices and output in a perfectly competitive market.

### Section Focus

Perfect competition exists when a market has many buyers and sellers of the same good. Few markets are perfectly competitive because barriers keep companies from entering or leaving the market easily.

### Key Terms

**perfect competition**  
**commodity**  
**barrier to entry**  
**imperfect competition**  
**start-up costs**

The simplest market structure is known as **perfect competition**. It is also called pure competition. A perfectly competitive market is one with a large number of firms all producing essentially the same product. Pure competition assumes that the market is in equilibrium and that all firms sell the same product for the same price. However, each firm produces so little of the product compared to the total supply that no single firm can hope to influence prices. The only decision such producers can make is how much to produce, given their production costs and the market price.

## Four Conditions for Perfect Competition

While very few industries meet all of the conditions for perfect competition, some come close. Examples include the markets for many farm products and the stocks traded on the New York Stock Exchange. Both of these examples fulfill four strict requirements for a perfectly competitive market:

1. Many buyers and sellers participate in the market.
2. Sellers offer identical products.
3. Buyers and sellers are well informed about products.
4. Sellers are able to enter and exit the market freely.

### Many Buyers and Sellers

Perfectly competitive markets require many participants on both the buying and the selling sides. No individual can be powerful enough to buy or sell enough goods to influence the total market quantity or the market price. Everyone in the market must accept the market price as given.

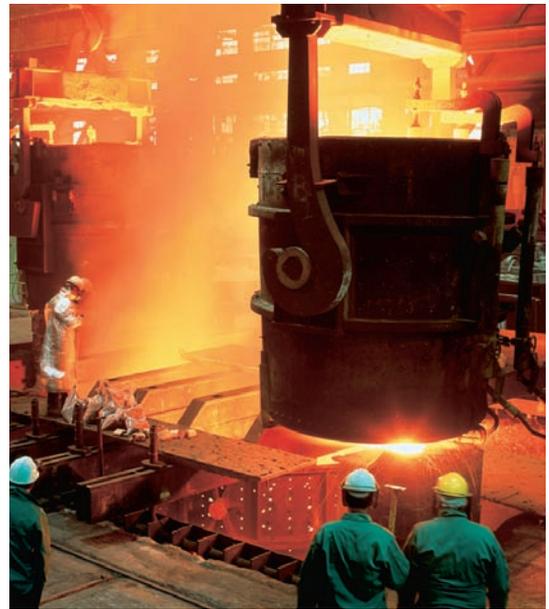
As we saw in Chapter 6, supply and demand interact to determine both price and output. If a market has many independent buyers and sellers, it is not very likely that large enough groups of either buyers or sellers will work together to bargain for better prices. Instead, the market determines price without any influence from individual suppliers or consumers.

**perfect competition**  
*a market structure in which a large number of firms all produce the same product*

▼ **The market for tomatoes comes close to perfect competition because a large number of firms sell tomatoes, and one tomato is very much like another.**



► A pushcart business is easy and inexpensive to begin, while a steel mill requires a large building and costly machinery.



**commodity** a product that is the same no matter who produces it, such as petroleum, notebook paper, or milk

### Identical Products

In a perfectly competitive market, there are no differences between the products sold by different suppliers. This is the second condition for perfect competition. If a rancher needs to buy corn to feed his cattle, he will not care which farmer grew the corn, as long as every farm is willing to deliver the corn he needs for the same price. If an investor buys a share of a company's stock, she will not care which particular share she is buying.

A product that is considered the same regardless of who makes or sells it is called a **commodity**. Examples of commodities include low-grade gasoline, notebook paper, and milk. Identical products are key to perfect competition for one reason: the buyer will not pay extra for one particular

company's goods. The buyer will always choose the supplier with the lowest price.

### Informed Buyers and Sellers

The third condition for a perfectly competitive market is that buyers and sellers know enough about the market to find the best deal they can get. Under conditions of perfect competition, the market provides the buyer with full information about the features of the product and its price. For the market to work effectively, both buyers and sellers have clear incentives to gather as much information as possible.

In most markets, a buyer's willingness to find information about prices and availability represents a trade-off. The time spent gathering information must be worth the amount of money that will be saved. For example, most buyers would not search the Internet or visit a dozen convenience stores to save five cents on a pack of chewing gum.

### Free Market Entry and Exit

The final condition of perfectly competitive markets is that firms must be able to enter them when they can make money and leave them when they can't earn enough to stay in business. For example, when the first pioneering companies began earning a lot of money selling frozen dinners, several competitors jumped into the market with



## Global Connection

**Informed Buyers** The French government ensures that travelers will have complete information about the market for hotel rooms and restaurant meals. While hotels in the United States usually advertise only special discounts, every hotel in France must post in its lobby a list of rates for single and double rooms, with and without a sink, shower, or full bathroom. Restaurants must go further and post a long list of prices for dozens of items, leaving spaces blank if some common items are not on the menu.

their own products. Later, the firms withdrew from the market those dinners that consumers didn't buy.

Studies show that markets with more firms, and thus more competition, have lower prices. When one firm can keep others out of the market, it can sell its product at a higher price.

## Barriers to Entry

Factors that make it difficult for new firms to enter a market are called **barriers to entry**. Barriers to entry can lead to **imperfect competition**. Common barriers to entry include start-up costs and technology.

### Start-Up Costs

Entrepreneurs need to invest money in a new firm long before they can start earning income. Before a new sandwich shop can open, the owner needs to rent a store, buy a refrigerator, freezer, and oven, and print menus. The expenses that a new business must pay before the first product reaches the customer are called **start-up costs**.

When the start-up costs in a market are high, entrepreneurs are less likely to enter that market. As a result, markets that involve high start-up costs are less likely to be perfectly competitive markets. For example, the costs of starting up a sandwich shop are much lower than those involved in starting up a lumber mill or a giant supermarket. So, an entrepreneur with a small income is much more likely to try her luck with a sandwich shop.

Use of the Internet reduced start-up costs in many markets, including books and music. However, many entrepreneurs discovered that a Web page did not attract and hold customers as easily as a shop window. The high costs of advertising, shipping, and discounting goods pushed many out of business. With a few exceptions, the Internet-based companies that have succeeded paid substantial start-up costs.

### Technology

When a school group needs to raise money, its members could sell goods like

flowers, cookies, or candy. Some technically skilled students could offer to fix cars or bicycles. Very few student groups would be able to create and sell a new word-processing program.

Some markets require a high degree of technological know-how. A carpenter, pharmacist, or electrician can spend years in training before he or she has learned all the important skills. As a result, new entrepreneurs cannot easily enter these markets without a lot of preparation and study. Barriers of technology and know-how can keep a market from becoming perfectly competitive.

## Price and Output

One of the primary characteristics of perfectly competitive markets is that they are efficient. Competition within these markets keeps both prices and production costs low. Firms must use all inputs—land,

**barrier to entry** any factor that makes it difficult for a new firm to enter a market

**imperfect competition** a market structure that does not meet the conditions of perfect competition

**start-up costs** the expenses a firm must pay before it can begin to produce and sell goods

Figure 7.1 Perfect Competition

Number of firms: Many



Variety of goods: None



Barriers to entry: None

Control over prices: None



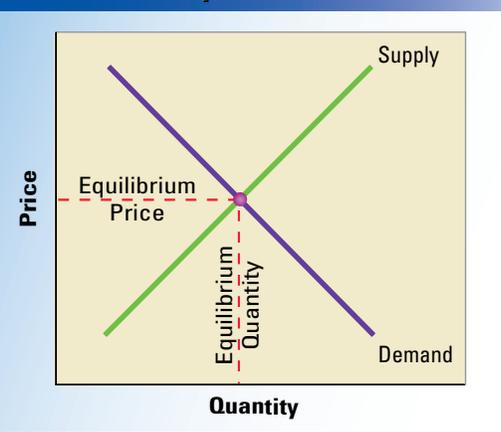
A perfectly competitive market must include a large number of suppliers selling the same good.  
**Competition** What prevents any one firm from raising its prices?



In a perfectly competitive market, price and output reach their equilibrium levels.

**Competition** What factors allow a perfectly competitive market to reach equilibrium?

**Figure 7.2 Market Equilibrium in Perfect Competition**



labor, organizational skills, machinery and equipment—to their best advantage. As a result, the prices that consumers pay and the revenue that suppliers receive accurately reflect how much the market values the resources that have gone into the product. In a perfectly competitive market, prices correctly represent the opportunity costs of each product.

Prices in a perfectly competitive market are the lowest sustainable prices possible. Because many sellers compete to offer their commodities to buyers, intense competition forces prices down to the point where the prices just cover the most-efficient sellers' costs of doing business. As you read in Chapter 6, this equilibrium is usually the most efficient state a market can achieve.

We saw in Chapter 5 that producers earn their highest profits when they produce enough that their cost to produce one more unit exactly equals the market price of the unit. Since no supplier can influence prices in perfectly competitive markets, producers will make their output decisions based on their most efficient use of available land, labor, capital, and management skills.

In the long run, output will reach the point where each supplying firm just covers all of its costs, including paying the firm's owners enough to make the business worthwhile.

## Section 1 Assessment

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### Key Terms and Main Ideas

1. Describe characteristics and give examples of **perfect competition** (pure competition).
2. How do **start-up costs** discourage entrepreneurs from entering a market?
3. What are two examples of **barriers to entry** in the magazine market?
4. Why must perfectly competitive markets always deal in **commodities**?

### Applying Economic Concepts

5. **Decision Making** Which of these markets come close to perfect competition? (a) televisions (b) bottled water (c) pizza (d) school buses (e) white socks (f) baseballs (g) paper clips

6. **Try This** Suppose that you and your friends plan to open a new convenience store. Brainstorm a list of ten expenses that would be your start-up costs. Next, use the Sunday newspapers and the Internet to estimate how much each item on your list will cost. How much do you estimate you will spend before the store can open?
7. **Critical Thinking** Other than technology and start-up costs, what are two specific examples of barriers that could prevent a company or individual from entering a market?

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# Skills for LIFE

## Analyzing Political Cartoons

**P**olitical cartoons express the cartoonist's opinion on a recent issue or current event. The artist's purpose is to sway the opinions of the reader. To achieve this goal, cartoonists often use humor and exaggeration. When analyzing a political cartoon, be sure to examine all the images and words to help you fully understand the artist's intent. Use the following steps to analyze the cartoon below.

### 1. Identify the symbols in the cartoon.

Symbolism plays a major role in helping political cartoons convey their messages. For example, Uncle Sam is often used as a symbol for the federal government of the United States.

(a) What company's symbol is depicted in this cartoon? (b) Who is the old man?

### 2. Analyze the meaning of the cartoon.

(a) What industry is being represented in this cartoon? (b) Why would the artist use Alexander Graham Bell? (c) What is Mr. Bell reading? Why is that relevant to this cartoon?

### 3. Draw conclusions about the cartoonist's intent.

(a) What point is the artist trying to make about AT&T's telephone rates? (b) Does the artist believe the telephone industry has perfect competition? (c) Are you swayed by the cartoonist's opinion?

### Additional Practice

Create your own political cartoon based on a current economic event or issue. Include symbolism, humor, and exaggeration in your cartoon.



## Section 2

# Monopoly

### Preview

#### Objectives

After studying this section you will be able to:

1. **Describe** characteristics and give examples of monopoly.
2. **Describe** how monopolies are formed, including government monopolies.
3. **Explain** how a firm with a monopoly sets output and price, and why companies practice price discrimination.

#### Section Focus

A firm has a monopoly when it controls an entire market. Because a monopolist controls the price of its product, a monopoly produces less and charges higher prices than would a perfectly competitive firm.

#### Key Terms

**monopoly**  
**economies of scale**  
**natural monopoly**  
**government monopoly**  
**patent**  
**franchise**  
**license**  
**price discrimination**  
**market power**

**monopoly** *a market dominated by a single seller*

▼ **One company, DeBeers of South Africa, has almost total control over the world's diamond supply.**

**Y**ou've gone to the emergency room with a high fever and a sharp pain in your leg. The doctor diagnoses a rare infection and writes a prescription for ten pills of a new medication that the government approved just last year. The doctor tells you that without this medication, your recovery will be slow.

At the pharmacy, you find that the medicine costs \$97.35, or nearly ten dollars a pill! The pharmacist tells you that only one company has the right to produce the medicine, and it charges a high price because its scientists worked for years to develop the medication. You feel that you have no choice, so you hand over the cash.

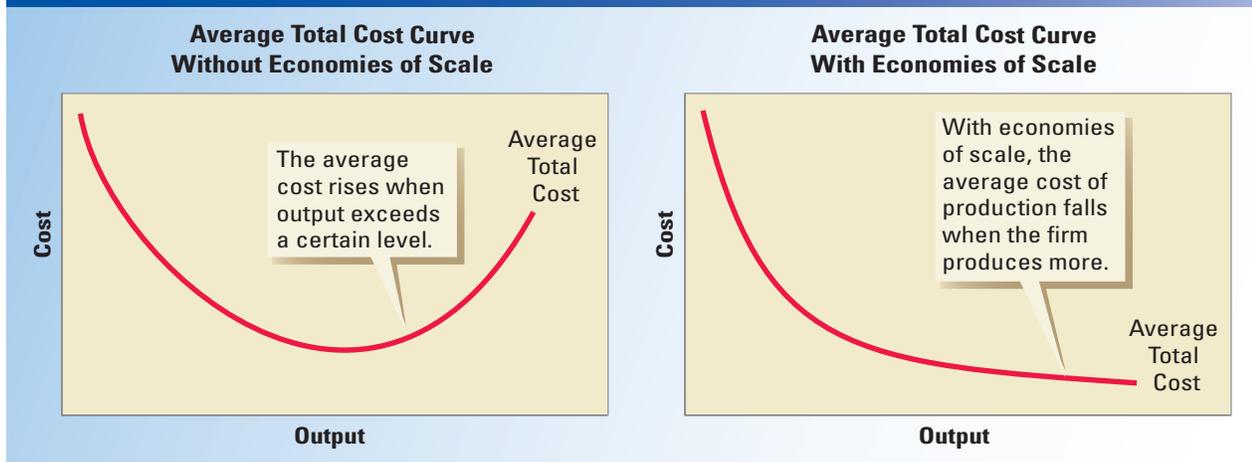
The market for prescription medicines is one of many markets in which monopolies can develop. In this section you will read about different types of monopolies and how they form.

### Describing Monopoly

A **monopoly** forms when barriers prevent firms from entering a market that has a single supplier. While a perfectly competitive market has many buyers and sellers, monopoly markets have only one seller, but any number of buyers. In fact, barriers to entry are the principal condition that allows monopolies to exist.

While you can probably think of several companies that look and act like monopolies, economists use a strict set of requirements to define a monopoly. If we define the good or service provided by a company broadly enough, we can usually find substitute goods from a different source. For example, you might think that a convenience store on a highway in the middle of the desert has a monopoly. However, you could have carried more water in the car, or, if you had enough money, you might have flown across the desert instead of paying high prices for food and water during the car trip.

**Figure 7.3 Effect of Economies of Scale**



With economies of scale, production costs continue to fall as output increases.  
**Markets and Prices** Describe the cost curve for a firm without economies of scale.

The problem with monopolies is that they can take advantage of their market power and charge high prices. Given the law of demand, this means that the quantity of goods sold is lower than in a market with more than one seller. For this reason, the United States has outlawed some monopolistic practices, as you will read in Section 4.

## Forming a Monopoly

All monopolies have one trait in common: a single seller in a market. However, different market conditions can create different types of monopolies.

## Economies of Scale

If a firm's start-up costs are high, and its average costs fall for each additional unit it produces, then it enjoys what economists call **economies of scale**. Economies of scale are characteristics that cause a producer's average cost to drop as production rises.

The graph on the left in Figure 7.3 above shows an average total cost curve for a firm without economies of scale. Follow the curve from left to right. As output increases from zero, the average cost of each good drops, and the curve initially slopes

downward. This is because large, initial, fixed costs, like the cost of the factory and machinery, can be spread out among more and more goods as production rises. If the factory cost \$1,000 to build and each unit of output costs \$10 to make, producing one unit will cost \$1,010, but producing two units will cost \$1,020, or only \$510 each. However, if the industry has limited economies of scale, output will eventually rise to a level at which the limited scale economies are exhausted, and the cost of making each unit will rise. The average cost of producing each good increases as output increases, and the curve slopes upward to match the rising cost per unit.

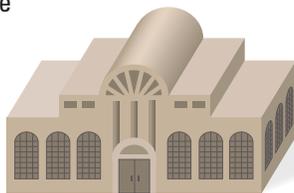
A factory in an industry with economies of scale never reaches this second stage of rising costs per unit. As production increases, the firm becomes more efficient, even at a level of output high enough to supply the entire market. The graph on the right in Figure 7.3 above shows how cost and output are related in economies of scale. Follow the curve from left to right. As output increases, the cost per unit falls, and continues to fall.

A good example is a hydroelectric plant, which generates electricity from a dam on a river. A large dam is expensive to build.

**economies of scale**  
*factors that cause a producer's average cost per unit to fall as output rises*

## Figure 7.4 Monopoly

Number of firms:  
One



Variety of goods:  
None



Barriers to entry:  
Complete



Control over prices:  
Complete



In a monopoly, one company controls the market.  
**Markets and Prices** Why is public water a monopoly?

**natural monopoly** a market that runs most efficiently when one large firm supplies all of the output

However, once the dam is built, the plant can produce energy at a very low additional cost simply by letting water flow through the dam. The average cost of the first unit of electricity produced is very high because the cost of the dam is so high. As output increases, the fixed costs of the dam can be spread over more units of electricity, so the average cost drops. In a market with economies of scale, bigger is better. An industry that enjoys economies of scale can easily become a natural monopoly.

## Natural Monopolies

A **natural monopoly** is a market that runs most efficiently when one large firm provides all of the output. If a second firm enters the market, competition will drive down the market price charged to customers and decrease the quantity each firm can sell. One or both of the firms will not be able to cover their costs and will go out of business.

Public water provides a good example of a natural monopoly. In a competitive market, different water companies would dig reservoirs and set up overlapping networks of pipes and pumping stations to deliver water to the same town. Companies would use more land and water than necessary. Each company would have to pay for all of the unneeded pipes and would serve customers no better than a single network.

In cases like this, the government often steps in to allow just one firm in each geographic area to provide these necessary services. The government action ensures that we don't waste resources building additional plants when only one is needed. In return for monopoly status, a firm with a natural monopoly agrees to let government control the prices it can charge and what services it must provide.

## Technology and Change

Sometimes the development of a new technology can destroy a natural monopoly. A new innovation can cut fixed costs and make small companies as efficient as one large firm.

► Before cellular phones became popular, telephone service was a natural monopoly because no one wanted to build more than one network of wires.



When telephone calls were carried by thick copper wires, local telephone service was considered a natural monopoly. No one wanted to build more than one network of wires to connect thousands of homes and businesses. In the 1980s and 1990s, consumers began using cellular phones, which were portable and could carry phone calls via radio waves rather than through wires. Cellular technology reduced the barriers to entry in the local telephone market. Now that cellular phone companies can link to thousands or millions of customers with a few, well-placed towers, they don't need to invest in an expensive infrastructure of cables and telephone poles. Cellular phone companies are becoming as efficient as traditional wire-based phone services.



## Government Monopolies

In the case of a natural monopoly, the government allows the monopoly to form and then regulates it. In other cases, however, government actions themselves can create barriers to entry in markets and thereby create monopolies. A **government monopoly** is a monopoly created by the government.

## Technological Monopolies

One way that the government can give a company monopoly power is by issuing a **patent**. A patent gives a company exclusive rights to sell a new good or service for a specific period of time. Suppose that Leland Pharmaceuticals developed a new asthma medication called BreatheDeep that helped people with asthma develop stronger lungs. If Leland's researchers could prove to the government that they had invented BreatheDeep, the Food and Drug Administration would grant Leland a patent. This patent would give Leland the exclusive right to sell BreatheDeep for twenty years.

Why would the government want to give a company monopoly power? Patents guarantee that companies can profit from their own research without competition. For this reason, patents encourage firms to research and develop new products that benefit society as a whole, even though the research and development costs may be very high. The market power that comes with the patent allows firms to set prices that maximize their opportunity to make a profit.

## Franchises and Licenses

A **franchise** is a contract issued by a local authority that gives a single firm the right to sell its goods within an exclusive market. For example, the National Park Service picks a single firm to sell food and other goods at national parks, such as Yellowstone, Yosemite, and the Everglades. Your school may have contracted with one soft-drink company to install and stock vending machines. The franchise may include a condition that no other soft drinks will be sold in the building. Governments, parks, and schools use franchises to keep small markets under control.

On a larger scale, governments can issue a **license** granting firms the right to operate a business. Examples of scarce resources that require licensing include radio and television broadcast frequencies

▲ A national park can give one company a franchise for, or monopoly over, food service within the park.

**government monopoly** a monopoly created by the government

**patent** a license that gives the inventor of a new product the exclusive right to sell it for a certain period of time

**franchise** the right to sell a good or service within an exclusive market

**license** a government-issued right to operate a business

### FAST FACT

Many villages in India and Bangladesh have never had phone service, even though most of the population lives in the countryside. Stretching a cable to every village was too expensive and inefficient, even for a **natural monopoly**. Using a cellular network, Grameen Telecom now plans to bring pay phones to 68,000 villages in Bangladesh and serve 100 million new customers.

and land. The Federal Communications Commission issues licenses for individual radio and television stations. Some cities select a single firm to own and manage all of their public parking lots.

### Industrial Organizations

In rare cases, the government allows the companies in an industry to restrict the number of firms in a market. For example, the United States government lets Major League Baseball and other sports leagues restrict the number and location of their teams. The government allows team owners of the major professional sports leagues to choose new cities for their teams and does not charge them with violating the laws that prevent competitors from working together.

Major League Baseball has an exemption from these laws, which are known as antitrust laws, because they were originally passed to break up an illegal form of

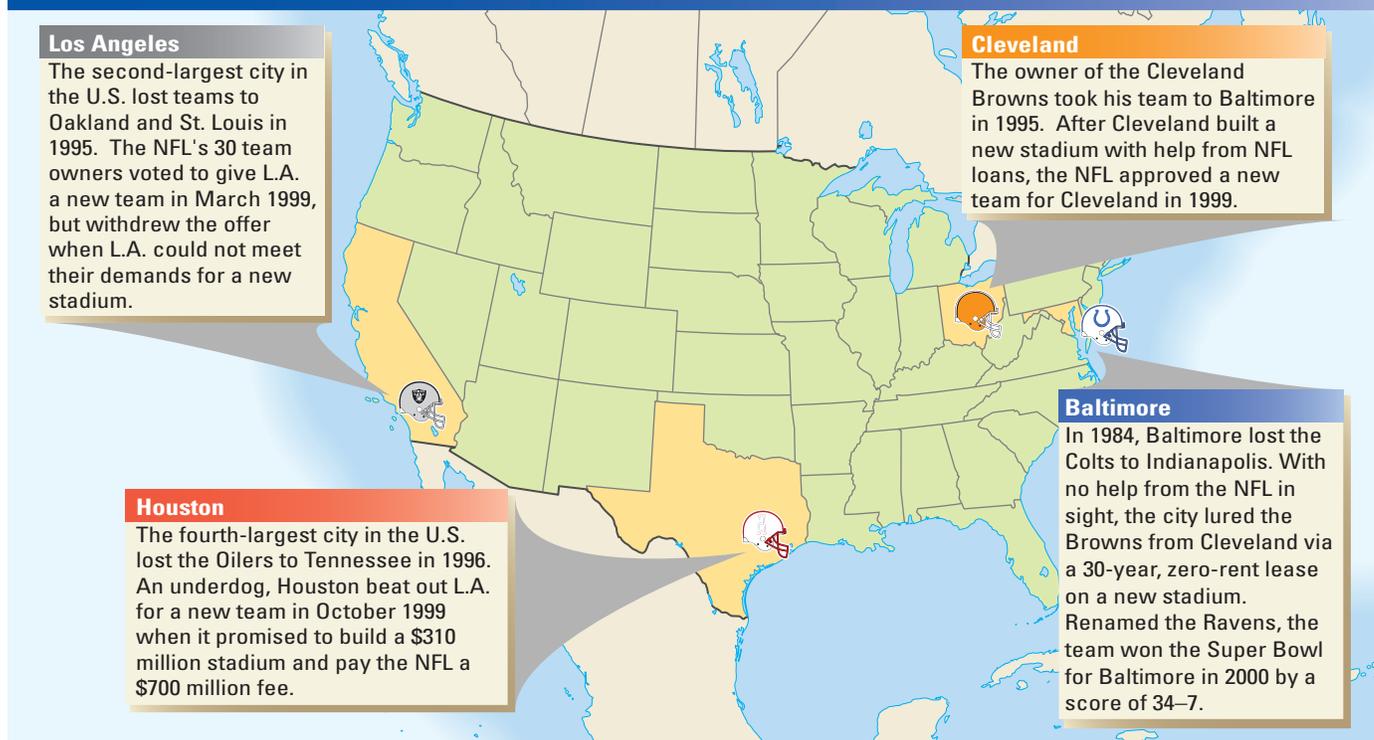
monopoly known as a trust. Other sports leagues do not have an official exemption, but the government treats them as it treats baseball. The restrictions that the leagues impose help keep team play orderly and stable by preventing other cities from starting their own major league teams and crowding the schedule.

The problem with this type of monopoly is that team owners may charge high prices for tickets. In addition, if you're a sports fan in a city without a major league team, you're out of luck.

### Output Decisions

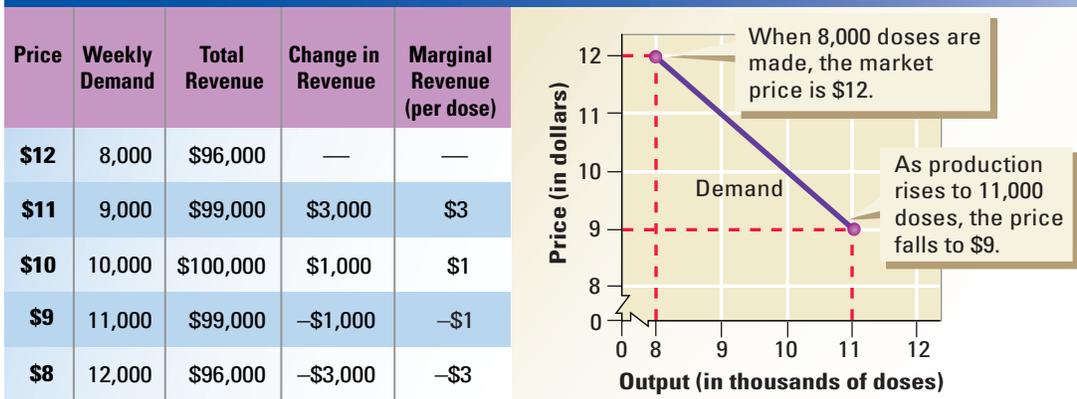
If you had severe asthma, which can be fatal, what would BreatheDeep be worth to you? You would probably want the medicine no matter how much it cost. So Leland, the company that invented and patented the drug, could charge a very high price for its new medication. In fact, they

Figure 7.5 Monopoly Decisions in the National Football League



The owners of professional football teams have a monopoly over membership in the National Football League. Cities have to apply to the NFL for a new team or pay top dollar for an existing team.  
**Supply and Demand Why do team owners limit the number of teams?**

**Figure 7.6 Demand Schedule for BreatheDeep**



By increasing output, a monopolist lowers the price of the good. Above a certain level of output, revenue also begins to decrease.  
**Markets and Prices** Why does revenue fall when production increases from 10,000 doses to 11,000 doses?

could charge enough to earn well above what it cost to research and manufacture the drug. The resulting profits would give the company a reason, or incentive, for inventing the new medication in the first place. But could Leland sell as much medication as it wanted to at whatever price it chose?

Even a monopolist faces a limited choice—it can choose either output or price, but not both. The monopolist looks at the big picture and tries to maximize profits. This usually means that, compared to a perfectly competitive market for the same good, the monopolist produces fewer goods at a higher price.

### The Monopolist’s Dilemma

The law of demand states that buyers will demand more of a good at lower prices and less at higher prices. Figure 7.6 shows a possible demand curve for BreatheDeep, with prices in dollars on the vertical axis and doses on the horizontal axis. Many people with life-threatening asthma will pay whatever the medicine costs. But some people with milder asthma will choose a cheaper, weaker medicine if the price rises too high.

Trace the demand curve from left to right. At \$12 per dose, consumers might demand 8,000 doses of BreatheDeep each

week. But at \$9 per dose, as many as 11,000 doses will sell. The law of demand means that when the monopolist increases the price, it will sell less, and when it lowers the price, it will sell more. Another way to interpret this graph is that if a monopolist produces more, the price of the good will fall, and if it produces less, the price will rise.

### Falling Marginal Revenue

Remember from Chapter 5 that to maximize profits, a seller should set its marginal revenue, or the amount it earns from the last unit sold, equal to its marginal cost, or the extra cost from producing that unit. This same rule applies to a firm with a monopoly. The key difference is that in a perfectly competitive market, marginal revenue is always the same as price, and each firm receives the same price no matter how much it produces. Neither assumption is true in a monopoly.

To understand how this happens, consider the demand schedule for BreatheDeep in Figure 7.6. When BreatheDeep is sold at \$12 a dose, consumers buy 8,000 doses, providing \$96,000 in revenue. If Leland lowers the price to \$11 a dose, 9,000 doses will be bought for a total revenue of \$99,000. The

sale of 1,000 more doses brought Leland \$3,000 in new revenue.

In Chapter 5, you read that marginal revenue in most markets is equal to price. In this monopoly, the marginal revenue at a market price of \$11 is roughly \$3 a dose, far below the price. This is because the lower market price affects both the 1,000 new doses sold and the 8,000 doses people buy for \$11 each instead of \$12.

Now suppose that Leland lowers the price of BreatheDeep from \$11 to \$10 a dose. 10,000 doses will be bought, giving a total revenue of \$100,000. This time, the sale of 1,000 more doses brought only \$1,000 in additional revenue. \$10,000 in revenue from 1,000 new sales barely exceeds the \$9,000 fall in revenue from the 9,000 doses which are sold for \$10, not \$11. The market price is \$10 a dose, but the marginal revenue has fallen to a mere \$1 for each dose of BreatheDeep sold.

As you've seen, when a firm has some control over price—and can cut the price to sell more—marginal revenue is *less* than price. In contrast, in a perfectly competitive market, the price would not drop at all as output increased, so marginal revenue would remain the same as price. The firm's total revenue would increase at a steady rate with production.

The table in Figure 7.6 lists marginal revenues for several different prices. Note that marginal revenue actually becomes

negative when the quantity demanded is greater than 10,000 doses a week.

### Setting a Price

Leland will choose a level of output that yields the highest profits. As you read in Chapter 6, this is the point at which marginal revenue is equal to marginal cost.

In Figure 7.6 we have plotted the demand for BreatheDeep at market prices of \$8, \$9, \$10, \$11, and \$12 a dose. According to Figure 7.6, output at these prices will be 12,000, 11,000, 10,000, 9,000, and 8,000 doses, respectively. These points form the market demand curve for BreatheDeep shown in purple.

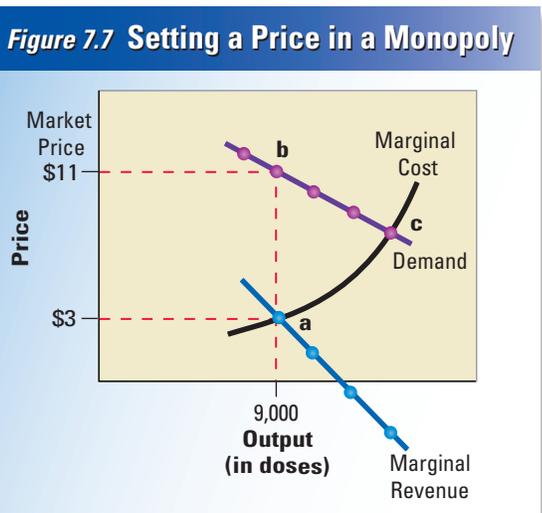
Then, based on this data, we plotted Leland's marginal revenue at these levels of output. These points form the marginal revenue curve shown in blue in Figure 7.7. The marginal revenue curve is at the bottom of the graph because a monopolist's marginal revenue is lower than the market price.

Marginal cost equals marginal revenue at point a in Figure 7.7. This is the most profitable level of output. The monopolist produces 9,000 units, the quantity at which marginal revenue and marginal cost are both \$3. According to the market demand curve, the market price is \$11 when 9,000 units are sold (point b). Therefore, the monopolist will set the price of each dose at \$11 or set production at 9,000 units.

Figure 7.7 also shows how price and output would be different if dozens of firms sold BreatheDeep and the market were perfectly competitive. In a perfectly competitive market, marginal revenue is always equal to market price, so the marginal revenue curve would be the same as the purple demand curve. Firms will set output where marginal revenue is equal to marginal cost, shown at point c. As you can see, a perfectly competitive market for BreatheDeep would have more units sold *and* a lower market price than a monopoly.

### Profits

How much profit does a monopolist earn? The cost of producing 9,000 doses is \$3 per



A monopolist sets output at a point (a) where marginal revenue is equal to marginal cost.

**Markets and Prices**  
How does this affect output and price compared to a perfectly competitive market?



dose. Each dose is sold for \$11. The monopolist will earn \$8 of profit per dose. Total profit is \$72,000, or \$8 per dose for 9,000 doses.

## Price Discrimination

The previous example assumed that the monopolist must charge the same price to all consumers. But in some cases, the monopolist may be able to divide consumers into two or more groups and charge a different price to each group. This practice is known as **price discrimination**.

Price discrimination is based on the idea that each customer has his or her own maximum price he or she will pay for a good. If a monopolist sets the good's price at the highest maximum price of all the buyers in the market, the monopolist will only sell to the one customer willing to pay that much. If the monopolist sets a low price, the monopolist will gain a lot of customers, but the monopolist will lose the profits it could have made from the customers who bought at the low price but were willing to pay more.

Although price discrimination is a feature of monopoly, it can be practiced by any company with **market power**. Market power is the ability to control prices and total market output. As you will read in the next section, many companies have some market power without having a true monopoly. Market power and price discrimination

may be found in any market structure except for perfect competition.

### Targeted Discounts

In the monopolist's ideal world, the firm could charge each customer the maximum that he or she is willing to pay, and no less. However, this is impractical, so companies divide consumers into large groups and design pricing policies for each group. One common form of price discrimination identifies some customers who are not willing to pay the regular price and offers those customers a discount. Price discrimination can also mean that a company finds the customers who need the good the most, and charges them more for that good. Here are some examples of price discrimination.

1. *Discounted airline fares* Airlines offer discounts to travelers who buy tickets several weeks in advance or are willing to spend a Saturday night at their destinations. Business travelers would prefer not to stay over on a Saturday night, but these tickets are appealing to vacationers who wouldn't otherwise pay to fly and don't mind the restrictions.
2. *Manufacturers' rebate offers* At times, manufacturers of refrigerators, cars, televisions, and other items will refund a small part of the purchase price to buyers who fill out a form and mail it back. People who take the time to fulfill the rebate requirements are likely more

▲ **Price discrimination can take the form of discounts for senior citizens, children, and students.**

**price discrimination** division of customers into groups based on how much they will pay for a good

**market power** the ability of a company to change prices and output like a monopolist

price-conscious than those who don't, and may be unwilling to pay full price.

3. *Senior citizen or student discounts* Many senior citizens or students have lower incomes than people who work full time. Zoos, theaters, and restaurants often offer discounts to senior citizens and students because they are unlikely to be able to pay full price for what some consider luxuries.
4. *Children fly or stay free promotions* Families with young children spend more of their income on food, clothing, and school expenses. As a result, they have less to spend on vacations. Once again, firms would rather have their business and earn lower profits than earn no profits at all, so they offer discounts for families with children.

### Limits of Price Discrimination

For price discrimination to work, a market must meet three conditions. Firms that use price discrimination must have some market power, customers must be divided into distinct groups, and buyers must not be in a position in which they can easily resell the good or service.

1. *Some market power* Price-discriminating firms must have some control over prices. For this reason, price

discrimination is rare in highly competitive markets.

2. *Distinct customer groups* The price-discriminating firm must be able to divide customers into distinct groups based on their sensitivity to price. In other words, monopolists must be able to guess the demand curves of different groups, one of which is more elastic, or price-sensitive, than the others.
3. *Difficult resale* If one set of customers could buy the product at the lower price and then resell the product for a profit, the firm could not enforce its price discrimination. Because consumer goods like shoes, groceries, and clothes are easily resold, price discrimination works best in marketing services that are consumed on the spot. Examples include theme park admissions and restaurant meals. Airlines can offer senior discounts because the company can ask for identification and proof of age before letting the customer board.

Although most forms of price discrimination are perfectly legal, sometimes firms use price discrimination to drive other firms out of business. This illegal form of the practice is called predatory pricing, and you will read more about it in Section 4.

## Section 2 Assessment

### Key Terms and Main Ideas

1. What can a firm with **market power** do?
2. Why does government usually approve of **natural monopolies**?
3. What are three different forms of **price discrimination**?
4. Define the term **economies of scale** in your own words.

### Applying Economic Concepts

5. *Try This* Look through a recent newspaper for advertisements and coupons. List five examples of price discrimination.
6. *Decision Making* Suppose that you are the mayor of your town, and a local butcher asks you to **franchise** his

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shop as the only approved butcher shop in town. List a reason for and a reason against granting his request.

7. *Critical Thinking* Do you believe that public education is a natural monopoly? Why or why not?

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# Profile

## Bill Gates (b. 1955)



*When Bill Gates was 12 years old, the school he attended in Seattle, Washington, bought a computer terminal that was connected to a large computer at a local company. He immediately became hooked on computers and their potential uses. Today, as the Chief Executive Officer and Chairman of Microsoft, the world's largest software company, Gates says his goal is "to have a computer on every desk and in every home, all running Microsoft software."*

### A Young Entrepreneur

While still a teenager, Gates and some friends developed a computer program to analyze and graph traffic data. In marketing the completed system to city governments, Gates and his friends rang up \$20,000 in sales before customers realized they were dealing with students. The company soon folded, but Gates never lost his entrepreneurial spirit.

### Growing a Company

In 1975, longtime friend Paul Allen learned that a company in New Mexico was manufacturing a kit to build a small computer. Allen convinced 19-year-old Gates to leave Harvard University and form a company to produce an operating system for this first personal computer, or PC. They named their venture Microsoft.

Five years later, Microsoft landed the contract to develop the operating system for computer giant IBM's new PCs. By 1983, 40 percent of all personal computers were running on Microsoft's operating system.

In the late 1980s, Gates launched Windows, a new, PC-compatible operating system that used graphics and a mouse to perform computer functions. Microsoft's market share for operating systems jumped

to 70 percent. Windows also allowed Gates to capture the market for software such as word processing programs, because competitors' products still depended on Microsoft's old, less user-friendly operating system. Those competitors began to complain that Microsoft had a monopoly.

### Defending Microsoft

In 1997, the U.S. government claimed that by linking Microsoft's Internet browser to its operating system, Microsoft was unfairly using Windows' huge market share against rival browser companies. Gates angrily denied the charge. "Any operating system without a browser is going to be . . . out of business," he said. "Shall we improve our product or go out of business?"

Some former associates have another view. "He doesn't look for win-win situations with others," one says, "but for ways to make others lose. Success is defined as flattening the competition." Gates rejects such assessments. However, even today, surrounded by the success that being the world's richest person represents, he maintains his competitive edge. Having settled Microsoft's dispute with the federal government, Gates must focus on the changing technological environment ahead.

### CHECK FOR UNDERSTANDING

- 1. Source Reading** Identify and explain the steps by which Microsoft used its operating systems to gain what critics called a monopoly of the entire computer software industry.
- 2. Critical Thinking** Gates claims that his competitive practices improve the industry. His critics claim that they damage it. With which side do you agree, and why?
- 3. Decision Making** How important do you think competitiveness is in building a successful company? Why?

# Section 3

# Monopolistic Competition and Oligopoly

## Preview

### Objectives

After studying this section you will be able to:

1. **Describe** characteristics and give examples of monopolistic competition.
2. **Explain** how firms compete without lowering prices.
3. **Understand** how firms in a monopolistically competitive market set output.
4. **Describe** characteristics and give examples of oligopoly.

### Section Focus

Monopolistic competition is similar to perfect competition, except that companies sell slightly different goods. Oligopoly, which is closer to monopoly, describes a market with only a few large producers.

### Key Terms

**monopolistic competition**  
**differentiation**  
**nonprice competition**  
**oligopoly**  
**price war**  
**collusion**  
**price fixing**  
**cartel**

**monopolistic competition** *a market structure in which many companies sell products that are similar but not identical*

So far, you have studied the two extremes of the range of market structures: perfect competition and monopoly. Very few markets fall into either of these categories. Instead, most fall into two additional categories that economists call monopolistic competition and oligopoly.

## Monopolistic Competition

In **monopolistic competition**, many companies compete in an open market to sell products that are similar but not identical. Each firm holds a monopoly over its own particular product. You can think of monopolistic competition as a modified version of perfect

competition with minor differences in products.

The differences between perfect competition and monopolistic competition arise because monopolistically competitive firms sell goods that are similar enough to be substituted for one another but are not identical. Monopolistic competition does not involve identical commodities. An example of a monopolistically competitive market is the market for jeans. All jeans can be described as denim pants, but in the shops, buyers can choose from a variety of colors, brand names, styles, and sizes.

Unlike perfect competition, monopolistic competition is a fact of everyday life. You

► The market for denim jeans is monopolistically competitive because jeans can vary by size, color, style, and designer.



and your friends probably buy from monopolistically competitive firms several times a week. Common examples include bagel shops, ice cream stands, gas stations, and retail stores.

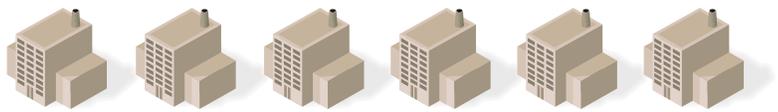
## Four Conditions of Monopolistic Competition

Monopolistic competition develops from four conditions. As you read about the types of markets that favor monopolistic competition, note how similar they are to the rules that define perfect competition.

- Many firms** As a rule, monopolistically competitive markets are not marked by economies of scale or high start-up costs. Because firms can start selling goods and earning money after a small initial investment, new firms spring up quickly to join the market.
- Few artificial barriers to entry** Firms in a monopolistically competitive market do not face the high barriers to entry discussed in Section 1. Patents do not protect anyone from competition, either because they have expired or because each firm sells a product that is distinct enough to fall outside the zone of patent protection. Just like a perfectly competitive market, a monopolistically competitive market includes so many competing firms that producers cannot work together to keep out new competitors.
- Slight control over price** Firms in a monopolistically competitive market structure have some freedom to raise or lower their prices because each firm's goods are a little different from everyone else's, and some people are willing to pay more for the difference. However, unlike a monopoly, a monopolistically competitive firm has only limited control over price. This is because consumers will substitute a rival's product if the price rises too high. For example, many customers will choose a can of brand-name cola over a generic cola even if it costs a quarter more per can. If the

**Figure 7.8 Monopolistic Competition**

Number of firms: Many



Variety of goods: Some



Barriers to entry:  
Low



Control over prices:  
Little



Many firms provide a variety of goods in a monopolistically competitive market.

**Competition** Why do firms in monopolistic competition have some control over prices?

brand-name cola cost \$5 more per can, however, most people would buy the cheaper cola or drink something else.

- Differentiated products** Firms have some control over their selling price because they can differentiate, or distinguish, their goods from the other products in the market. The main difference between perfect competition and monopolistic competition is that **differentiation** enables a monopolistically competitive seller to profit from the differences between his or her products and competitors' products.

## Nonprice Competition

Firms try not to compete on price alone. The alternative is **nonprice competition**, or competition through ways other than lower prices. Nonprice competition takes several different forms.

- Physical characteristics** The simplest way for a firm to distinguish its products is to offer a new size, color, shape,

**differentiation** making a product different from other similar products

**nonprice competition** a way to attract customers through style, service, or location, but not a lower price

texture, or taste. Running shoes, pens, cars, and toothpaste are good examples of products that can be easily differentiated by their physical characteristics. A pen is always a writing tool that uses ink, but many people will pay extra for a pen that looks or writes differently. Similarly, you can probably describe a “car” in only a few words, but factories around the world manufacture thousands of car models to fit a range of personalities, jobs, families, and incomes.

2. *Location* Real estate agents say that the three most important factors when buying property are “location, location, location.” Some goods can be differentiated by *where* they are sold. Gas stations, movie theaters, and grocery stores succeed or fail based on their locations. A convenience store in the middle of a desert differentiates its product simply by selling it hundreds of miles away from the nearest competitor. Such a location allows the seller to charge a lot more for a quart of water.
3. *Service level* Some sellers can charge higher prices because they offer their customers a high level of service. Conventional restaurants and fast-food restaurants both offer meals to customers. However, conventional restaurants provide servers who bring the food to your table, whereas fast-food restaurants offer a more barebones, do-it-yourself atmosphere. Conventional

restaurants and fast-food chains sell many of the same food items, but fast-food chains sell their meals for less. Customers at conventional restaurants pay more for the service and the relaxing atmosphere.

4. *Advertising, image, or status* Some firms use advertising to create apparent differences between their own offerings and other products in the marketplace. These product differences are often more a matter of perception than reality. For example, a designer can apply his or her name to a plain white T-shirt and charge a higher price, even if the quality of fabric and stitching is no different than what generic T-shirts offer. Customers who pay extra for a designer T-shirt do so because the image and status that go with the designer’s name are worth the extra money to them.

## Price, Output, and Profits

When economists look at price, output, and profits under monopolistic competition, they find the market looks very much as it would under perfect competition.

### Prices

Prices under monopolistic competition will be higher than they would be in perfect competition, because firms have some power to raise prices. However, the number of firms and ease of entry prevent companies

▼ A gas station built in the right location can charge more for gasoline.



from raising prices as high as they would if they were a true monopoly. As you have read, if a monopolistically competitive firm raised prices too high, most customers would ignore any differences and buy the cheaper product. Because customers can choose among many substitute products, monopolistically competitive firms face more elastic demand curves than true monopolists do.

### Output

The law of demand says that output and price are negatively related. As one rises, the other falls. Because monopolistically competitive firms sell their products at higher prices than do perfectly competitive firms, but at lower prices than a monopoly, total output under monopolistic competition falls somewhere between that of monopoly and that of perfect competition.

### Profit

Like perfectly competitive firms, monopolistically competitive firms earn just enough to cover all of their costs, including salaries for the workers. If a monopolistically competitive firm started to earn profits well above its costs, two market trends would work to take those profits away.

First, fierce competition would encourage rivals to think of new ways to differentiate their products and lure customers back. If one company hires a basketball star to promote its soft drink, a rival might hire a popular singer, while another rival could invest in an advertising blitz on television. The rivalries among firms prevent any one firm from earning excessive profits for long.

Secondly, new firms will enter the market with slightly different products that cost a lot less than the market leaders. If the original good costs too much, consumers will switch to these substitutes. You've seen this happen when a brand-name line of clothing, video games, or stuffed animals becomes popular. Competitors quickly flood the market with cheap imitations for people who can't afford the original or don't know or care about the difference.

**Figure 7.9 Oligopoly**

Number of firms:  
A few



Variety of goods:  
Some



Barriers to entry:  
High



Control over prices:  
Some



In an oligopoly, a few large firms dominate a market. **Competition** Why are high barriers to entry an important part of oligopoly?

While monopolistically competitive firms can earn profits in the short run, they have to work hard to keep their product distinct to stay ahead of their rivals. Often, they don't succeed.

### Production Costs and Variety

Some economists note that firms in monopolistic competition may not be able to produce their goods at the lowest possible average cost. Monopolistically competitive markets have many firms, each producing too little output to minimize costs and use resources efficiently. On the other hand, consumers in these markets enjoy a wide variety of goods to choose from.

## Oligopoly

**Oligopoly** describes a market dominated by a few large, profitable firms. Oligopoly looks like an imperfect form of monopoly. Economists usually call an industry an oligopoly if the four largest firms produce at least 70 to 80 percent of the output.

**oligopoly** a market structure in which a few large firms dominate a market



Markets can be grouped into four basic structures: perfect competition, monopolistic competition, oligopoly, and monopoly.

**Competition**

**How does a monopolistic competition differ from monopoly?**

**Figure 7.10 Comparison of Market Structures**

	Perfect Competition	Monopolistic Competition	Oligopoly	Monopoly
<b>Number of firms</b>	Many	Many	A few dominate	One
<b>Variety of goods</b>	None	Some	Some	None
<b>Control over prices</b>	None	Little	Some	Complete
<b>Barriers to entry</b>	None	Low	High	Complete
<b>Examples</b>	Wheat, shares of stock	Jeans, books	Cars, movie studios	Public water

Acting on their own or as a team, the biggest firms in an oligopoly may well set prices higher and output lower than in a perfectly competitive market. Examples of oligopolies in the United States include the markets for air travel, breakfast cereals, and household appliances.

**Barriers to Entry**

An oligopoly can form when significant barriers to entry keep new companies from entering the market to compete with existing firms. Sometimes these barriers are created by a system of government licenses or patents.

In other cases, the economic realities of the market lead to an oligopoly. High start-up costs, such as expensive machinery or a large advertising campaign, can scare firms away from the market. Many small airlines have had trouble competing with larger, better-financed rivals because airplanes are very expensive to buy and maintain. The biggest airlines compound the problem because they often own the most desirable gates at the airport, and already enjoy name recognition and the trust of the consumer. As another example, the two big cola manufacturers have invested so much money in their brand names and sales

networks over the last century that few companies think they can successfully challenge their grip on the market.

Some oligopolies occur because of economies of scale. As you have read, when a firm experiences economies of scale, the average cost of production decreases as output increases. In a monopoly market, only one company can produce enough goods to earn a profit. In an oligopoly, perhaps three or four companies can reach a profitable level of output before the market becomes too crowded and revenue falls below costs.

**Cooperation and Collusion**

Oligopoly presents a big challenge to government, because oligopolistic firms often *seem* to work together to form a monopoly, even when they are not actually doing so. Many government regulations try to make oligopolistic firms act more like competitive firms. When determined oligopolists work together illegally to set prices and bar competing firms from the market, they can become as damaging to the consumer as a monopoly.

The three practices that concern government the most are price leadership, collusion, and cartels. While these three practices represent ways that firms in an oligopoly can try to control a market, they don't always work. Each tactic includes an incentive for firms to cheat and undo any benefits.

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*In the News* Read more about oligopoly in "Bottom of the Food Chain," an article in The Wall Street Journal Classroom Edition.

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Sometimes the market leader in an oligopoly can start a round of price increases and cuts by making its plans clear to other firms. Price leaders can set prices and output for entire industries as long as other member firms go along with the leader's policy. But disagreements among member firms can spark a **price war**, when competitors cut their prices very low to win business. A price war is harmful to producers but good for consumers.

**Collusion** refers to an agreement among members of an oligopoly to set prices and production levels. One outcome of collusion is called **price fixing**, an agreement among firms to sell at the same or very similar prices. Collusive agreements set prices and output at the levels that would be chosen by a monopolist. Collusion is illegal in the United States, but the lure of monopolistic profits can tempt businesses to make such agreements despite the illegality and risks.

Collusion is not, however, the only reason for identical pricing in oligopolistic industries. Such pricing may actually result from intense competition, especially if advertising is vigorous and new lines of products are being introduced.



◀ A computer manufacturer can distinguish its computers with bright colors or a sleek design.

### Cartels

Stronger than a collusive agreement, a **cartel** is an agreement by a formal organization of producers to coordinate prices and production. Although other countries and international organizations permit them, cartels are illegal in the United States. Cartels can only survive if every member keeps to its agreed output levels and no more. Otherwise, prices will fall, and firms will lose profits. However, each member has a strong incentive to cheat and produce more than its quota. If every cartel member cheats, too much product reaches the market, and prices fall. Cartels can also collapse if some producers are left out of the group and decide to lower their prices below the cartel's levels. Therefore, cartels usually do not last very long.

**price war** a series of competitive price cuts that lowers the market price below the cost of production

**collusion** an agreement among firms to divide the market, set prices, or limit production

**price fixing** an agreement among firms to charge one price for the same good

**cartel** a formal organization of producers that agree to coordinate prices and production

## Section 3 Assessment

### Key Terms and Main Ideas

1. What are the four conditions of **monopolistic competition**?
2. How do economists determine whether a market is an **oligopoly**?
3. Give three examples of **nonprice competition**.
4. How would **price fixing** and **collusion** help producers?

### Applying Economic Concepts

5. **Using the Databank** The map on page 545 indicates which countries are members of OPEC, a cartel made up of oil-exporting countries. In the 1970s, OPEC successfully raised oil prices by cutting production. Based on what you have read in this section, explain how this situation illustrates (a) how cartels operate (b) why cartels can be dangerous.

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6. **Decision Making** Would you describe the following markets as monopolistic competition or oligopoly? (a) refrigerators (b) video game systems (c) gourmet ice cream (d) sunscreen (e) cable sports channels
7. **Critical Thinking** Which of the four forms of nonprice competition described on pp. 167–168 would you emphasize for the following products? Explain your reasoning. (a) a new brand of bottled water (b) in-home computer repair (c) protein bars

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## Section 4

# Regulation and Deregulation

### Preview

#### Objectives

After studying this section you will be able to:

1. **Understand** how firms use market power.
2. **List** three market practices that the government regulates or bans to protect competition.
3. **Define** deregulation, and list its effects on several industries.

#### Section Focus

The federal government sometimes steps into markets to promote competition and the lower prices it brings. In recent years, the government has also deregulated several markets to promote competition.

#### Key Terms

**predatory pricing**  
**antitrust laws**  
**trust**  
**merger**  
**deregulation**

It's 1946. The soldiers have come home from World War II, the cities are booming, and you're a city planner who needs to get people to work each morning. You can build wide roads and parking lots and encourage people to buy cars, you can invest in a fleet of buses, or you can expand the streetcar lines and train tracks that already criss-cross the town center. Ideally, you will choose the most efficient system.

However, you never get to decide. A company called National City Lines (NCL) buys your city's streetcar network and decides to raise fares and shut down several lines. Service gets so bad that commuters stay away, and NCL soon shuts down the system. It's now 1966, and your streetcars are gone. Since the roads are too crowded for more cars, you must buy buses.

In the newspaper, you read that National City Lines was secretly funded by companies that make tires, automobiles, and gasoline—the same companies that now offer to sell you 200 new buses.

This really happened in cities like Los Angeles and Baltimore, where National City Lines turned a mass transit oligopoly into a monopoly by buying up its rivals. National City Lines then used its monopoly to close down the streetcar lines. Although some experts argue that the streetcars might have died out anyway, many critics blame National City Lines for the end result. No one can know what might have happened in a competitive market.

If you think what National City Lines did was unfair, the federal government agrees. In this section, you will read about anticompetitive practices and the tools the government uses to stop them.

### Market Power

As you have read, monopoly and oligopoly can sometimes be bad for the consumer and the economy as a whole. Markets dominated by a few large firms tend to have higher prices and lower output than markets with many sellers. Before we look at antitrust policies, let's think about how a firm might try to increase its market power.

▼ After World War II, National City Lines used its mass transit monopoly to shut down streetcar lines.



To control prices and output like a monopoly, the leading firms in the market can form a cartel, merge with one another, or set the market price below their costs for the short term to drive competitors out of business. The last practice is known as **predatory pricing**. Economists are skeptical about most claims of predatory pricing because the predator loses money each time it drives an endless series of rivals out of business.

## Government and Competition

The federal government has a number of policies that keep firms from controlling the price and supply of important goods. If a firm controls a large share of a market, the Federal Trade Commission and the Department of Justice's Antitrust Division will watch that firm closely to ensure that it does not unfairly force out its competitors. These government policies are known as **antitrust laws** because a **trust** is a business combination similar to a cartel.

In 1890, Congress passed the Sherman Antitrust Act, which outlawed mergers and monopolies that limit trade between states. This and other laws gave the government the power to regulate industry, to stop firms from forming cartels or monopolies, and to break up existing monopolies. Over the years, Congress passed new laws to outlaw other anticompetitive practices.

Despite the antitrust laws, companies have used many strategies to gain control over their markets. Some firms require a customer who buys one product to buy other products from the same company, whether or not the customer wants them. For example, a tennis shoe manufacturer can demand that a chain buy and resell its brand-name shirts, windbreakers, and watches if it wants to sell its shoes. Another tactic, the one employed by National City Lines, is to buy out competitors.

### Regulating Business Practices

The government has the power to regulate all of these practices if they give too much power to a company that already has few



◀ **Public outrage with powerful trusts in the late 1800s led Congress to pass antitrust legislation.**

competitors. Microsoft sells operating systems, software that tells a computer how to run. In 1997, the Department of Justice accused Microsoft of using a monopoly in operating systems to control the market for a program known as a browser. A browser allows people to access Web sites.

Microsoft insisted that computer manufacturers that sold its operating system also include its browser. The government accused Microsoft of predatory pricing because the company gave away its browser for free, which would ruin the other browser company, Netscape. Microsoft's power in one market gave it a big—and possibly unfair—advantage in related markets.

Microsoft argued that the browser was part of its operating system and could not be sold separately. Microsoft's defenders said that companies *do* compete with Microsoft, and people buy Microsoft software because they like it. In November 1999, a federal judge ruled against Microsoft. Microsoft appealed, and in 2001, President Bush settled the case. According to the settlement, Microsoft could link its browser to its operating system but could not force computer manufacturers to provide only Microsoft software on new computers.

**predatory pricing**  
*selling a product below cost to drive competitors out of the market*

**antitrust laws** *laws that encourage competition in the marketplace*

**trust** *like a cartel, an illegal grouping of companies that discourages competition*

Figure 7.11 Key Events in Federal Antitrust Policy



1900

**1901** Theodore Roosevelt becomes President and begins enforcing the 1890 Sherman Antitrust Act, which outlaws mergers and monopolies that restrain trade between states

1915

**1914** Clayton Antitrust Act outlaws practices that limit competition or lead to monopoly

1925

**1936** Robinson-Patman Act defines and outlaws several forms of price discrimination

1940

▲ Over the past century, the federal government has acted often to promote competition in American industry.

### Breaking Up Monopolies

The government used antitrust legislation to break up existing monopolies such as the American Tobacco Company and John D. Rockefeller's Standard Oil Trust in 1911. In 1982, the government broke American Telephone and Telegraph (AT&T) into seven regional phone companies, including BellSouth, USWest, and PacificBell. Because the government treated local telephone service as a natural monopoly, AT&T legally controlled all the cables and networks that linked telephones in homes and businesses. The government stepped in only when AT&T used its legal monopoly in local phone service to take control of other markets for long-distance phone calls and communications equipment. Today, there are many firms in the market for long-distance service and the market is more competitive. Although thousands of workers lost their jobs, consumers benefit from lower prices and better technology.

### Blocking Mergers

In addition to breaking up monopolistic companies, the government has the power to prevent the rise of monopolies. The government does this by blocking company **mergers** that might reduce competition

and lead to higher prices. A merger occurs when a company joins with another company or companies to form a single firm. Government regulators also follow the effects of past mergers to check that they did not lead to unfair market control. You read in Section 1 that prices often fall when the number of firms in a market increases. The reverse is also true. Prices often rise when the number of firms in an industry falls.

The government tries to predict the effects of a merger on prices and service when it decides whether or not to approve a merger. Recently, the Department of Justice has looked at data collected by scanners at supermarket check-out lines to see how prices vary when two competitors join forces. In 1997, the Justice Department examined the proposed merger of two companies that sell office supplies. Their studies showed that one company charged less in cities where the other company also had stores. Using this data, the Federal Trade Commission (FTC) convinced the courts that the merger would hurt competition and force customers to pay higher prices. In the end, the Department of Justice did not allow the two companies to merge.

*merger combination of two or more companies into a single firm*



**1974** Department of Justice sues to end AT&T's monopoly over local phone service



**2001**  
Department of Justice settles its lawsuit with Microsoft

**1955**

**1950** Celler-Kefauver Act allows government to stop mergers that could hurt competition

**1970**



**1985**

**1982**  
AT&T agrees to break up its local phone service into several companies

**2000**

### Preserving Incentives

While some mergers hurt the consumer by reducing competition, others can actually leave the consumer better off. In these cases, corporate mergers will lower overall average costs and lead to lower prices, more reliable products or service, and a more efficient industry. The government must act carefully to make the right decision. In 1997, the Justice Department and the FTC released new guidelines for proposed mergers. Now, companies that want to merge have the chance to prove that the merger would lower costs and consumer prices or lead to a better product.

### Deregulation

In the late 1970s and 1980s, Congress passed laws to deregulate several industries. **Deregulation** means that the government no longer decides what role each company can play in a market and how much it can charge its customers. Over several years, the government deregulated the airline, trucking, banking, railroad, natural gas, and television broadcasting industries. Depending on the degree of deregulation, the government's action allowed—or forced—firms in these industries to

compete more in markets by eliminating many entry barriers and price controls.

While deregulation weakens government control, antitrust laws strengthen it. Yet the government uses both of these tools, deregulation and antitrust laws, for the same purpose: to promote competition.

Many critics say that government efforts to regulate industries have created inefficiencies. In some cases, the economic facts that created the need for regulation in the first place have changed. For example, in Section 1 you read how the invention of cellular phones challenged the natural monopoly of local phone service and opened the market to new companies. The trucking industry was also regulated as a natural monopoly from the early 1900s until 1978. By then, many had decided that the government was regulating industries that were not natural monopolies at all.

### Judging Deregulation

Deregulation has met with mixed success. In most cases, many new firms entered the

**deregulation** *the removal of some government controls over a market*

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*In the News* Read more about deregulation in "Wal-Mart Pays at the Pump," an article in The Wall Street Journal Classroom Edition.

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▲ Many people blamed companies such as Enron for an electricity shortage that affected California in 2000 after deregulation. Other states have deregulated their electricity markets with no difficulties.

deregulated industries right away. Competition certainly increased in the airline, trucking, and banking industries. Typically, years of wild growth were followed by the disappearance of some firms. This weeding out of weaker players is considered healthy for the economy, but it can be hard on workers in the short term.

In the 1990s, several states deregulated their electricity markets to allow private, competing companies to produce and sell

energy to homeowners. In some markets, energy prices fell, but elsewhere, customers paid more. California experienced a massive energy crisis in 2000 that forced the state government to pay extraordinarily high rates for electricity. Many attributed this crisis to companies like Enron that may have used the state deregulation rules to create an electricity shortage.

### Airlines: A Complicated Deregulation

Many new airlines started operating after President Carter deregulated the industry in 1978, but some eventually failed or were acquired. Freed from regulatory restriction, many of the large airlines competed aggressively for the busiest routes. For most travelers, the increased competition created lower prices. Another result is that many busy airports now have one dominant airline, and in some cases fares are actually higher than before deregulation.

In the early 2000s, changing conditions transformed the airlines. Over-expansion and sharply rising labor costs squeezed profits. The terrorist hijackings on September 11, 2001, followed by an economic downturn, caused many people to stop flying. Revenues plunged while costs of security and insurance rose. Although the federal government provided some aid, the future of the airline industry is uncertain as several major carriers struggle against bankruptcy.

## Section 4 Assessment

### Key Terms and Main Ideas

1. What is the purpose of **antitrust laws**?
2. Under what conditions will the government approve a **merger**?
3. How does **predatory pricing** hurt competition?
4. How did **deregulation** change the banking and air travel industries?

### Applying Economic Concepts

5. **Decision Making** Why did government once regulate the banking, trucking, and airline industries?
6. **Try This** Use the library to find an editorial from 1911 in support of the breakup of Standard Oil, and compare it

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to a recent editorial that criticizes Microsoft. Which arguments are the same? Which are different?

7. **Critical Thinking** Why does the government believe it has the right to intervene in markets to promote competition? Is this consistent with the idea of *laissez faire* and free markets?

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## Regulating Cable Television

Cable television systems offer more than 100 channels featuring continuous news, sports, weather, business reports, and coverage of local activities. This growth in popularity, however, has led to a need for regulation.

**The FCC** The Federal Communication Commission (FCC) oversees the cable industry. During the 1950s, the FCC maintained a “hands-off” policy. In the 1960s, however, the FCC began to impose regulations. Responding to complaints from over-the-air broadcasters that cable stations were refusing to carry local stations, the FCC ruled that every cable system had to carry the programs of all local stations as well as those of their own.

By the 1970s, the FCC began to impose more regulations. The agency mandated that cable systems provide at least 20 channels in major markets, provide public access channels, and obtain public approval of changes in their rates.

**Deregulation** In the 1980s, the FCC ruled that rates for cable services would be deregulated. This led to skyrocketing cable rates and poor service in certain parts of the country. This resulted in a move in the 1990s to regulate the industry once more.

The Cable Television Consumer Protection Act of 1992 allowed competition in the cable industry for the first time. It was hoped that competition would cause cable rates to stabilize or even decrease, while service would improve.

Today, cable television has grown so popular that cable networks now challenge and often surpass the popularity of the original broadcast giants ABC, CBS, and NBC. How much further will cable television grow? No one is sure. What seems certain, however, is that with growth will come further regulation.

### Applying Economic Ideas

1. Should government regulate the cable television industry? Why or why not?
2. The table at the right shows the number of cable subscribers from 1970 to 2000. What do you think accounts for the increase in subscribers in the 1980s and 1990s?



▲ Many cable channels run specialized programming, such as all home improvement shows or all sports.

**Cable TV Subscribers, 1970–2000**

Year	Number of Subscribers
1970	4,500,000
1975	9,800,000
1980	16,000,000
1985	32,000,000
1990	50,000,000
1995	58,000,000
2000	70,000,000 (est.)

Source: *Statistical Abstract of the United States*

# Chapter 7 Assessment

## Chapter Summary

A summary of major ideas in Chapter 7 appears below. See also the **Guide to the Essentials of Economics**, which provides additional review and test practice of key concepts in Chapter 7.

### Section 1 Perfect Competition (pp. 151–154)

**Perfect competition** describes a market with many well-informed buyers and sellers, identical goods, and no **barriers to entry** to stop companies from joining the market. Perfect competition is only found in markets that deal in **commodities**, or goods that are identical no matter who produces or sells them. These markets are efficient at setting output and prices at a level that is beneficial to all.

### Section 2 Monopoly (pp. 156–164)

A firm is a monopolist when it is the only seller in a market. A **natural monopoly** is an industry that works best when only one firm serves the entire market. Government can create a monopoly by issuing a **patent, franchise, or a license**. A monopolist can set prices or output. Firms use **price discrimination** to divide consumers into groups based on their ability to pay, and then offer a different price to each group.

### Section 3 Monopolistic Competition and Oligopoly (pp. 166–171)

Most markets fall somewhere between perfect competition and monopoly. **Monopolistic competition** is similar to perfect competition, except that companies sell slightly different goods and have a little power to set prices. Closer to monopoly, **oligopoly** describes a market dominated by a few large producers. Firms in an oligopoly can practice **collusion** or form a **cartel** to set prices like a monopoly.

### Section 4 Regulation and Deregulation (pp. 172–176)

Firms in an oligopoly can merge to try to gain monopoly power. Because monopoly power can lead to inefficient markets, the federal government has passed laws to promote competition and break up monopolies. In the late 1970s and 1980s, government gave up power to regulate several markets. **Deregulation** has led to lower prices in most deregulated markets.

## Key Terms

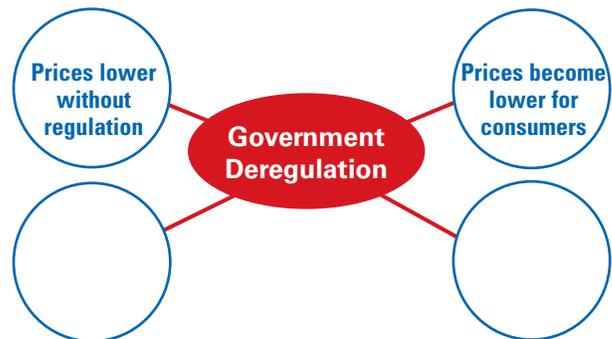
Complete each sentence by choosing the correct answer from the list of terms below. You will not use all of the terms.

perfect competition	natural monopoly
oligopoly	economies of scale
patent	price fixing
commodities	deregulation
price discrimination	collusion

1. \_\_\_\_ is when a monopolist divides consumers into groups and charges different prices for the same good.
2. A market with many firms producing the same good is in \_\_\_\_.
3. Economists define \_\_\_\_ as a market structure with a few large firms, each of which has some market power.
4. \_\_\_\_ are products that are identical no matter who produces them.
5. A(n) \_\_\_\_ grants the right to sell an invention without competition.
6. A(n) \_\_\_\_ may exist in markets where it is most efficient for only one large firm to provide a product.
7. Economists use the term \_\_\_\_ to describe agreements among firms to set prices and production levels.

## 8. Using Graphic Organizers

On a separate sheet of paper, copy the multi-flow map below. Organize information on government deregulation by completing the map with causes for deregulation on the left and possible effects on the right. You may add more causes or effects.



## Reviewing Main Ideas

9. How does the buying and selling of stock fit the model for perfect competition?
10. Compare and contrast the characteristics of natural monopolies and monopolies created by government.
11. What four conditions are necessary for a market to be considered monopolistically competitive?
12. How does the United States government intervene in the economy in regard to monopolies and competition?

## Critical Thinking

13. **Making Comparisons** How do prices, output, and profits differ between monopolies and monopolistically competitive firms? Are there similarities?
14. **Synthesizing Information** What are the trade-offs between free enterprise and government intervention associated with the United States' antitrust policies?
15. **Analyzing Information** Using the reference to the hydroelectric plant found in Section 2 as an example of economies of scale, think of three examples of industries that benefit from economies of scale.

## Problem-Solving Activity

16. Assume that you are the owner of the only music store in town because your town limits the number of shops. The town now wants to repeal that law and allow more music stores to open. Describe what actions you could take as a business owner once the law is repealed.

### Economics Journal



**Brainstorming** Reread your Economics Journal entry for Chapter 7. Write a paragraph for each of the three companies you listed, explaining what market structure each company competes in and how you came to this decision.

## Skills for Life

**Analyzing Political Cartoons** Review the steps shown on page 155; then answer the following questions using the cartoon below.

17. Identify the symbols in the cartoon. (a) What is symbolized by the oil pump? (b) What is symbolized by the man's living room?
18. Analyze the intent of the cartoon. (a) Describe the proposed solution to the energy crisis as illustrated in the cartoon. (b) Describe this solution as it might be applied to the entire state of California.
19. Draw conclusions about the cartoonist's intent. (a) Does the artist believe his solution is a good solution? (b) Were you swayed or convinced of the cartoonist's opinion in this case?



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As a final review, take the Economics Chapter 7 Self-Test and receive immediate feedback on your answers. The test consists of 20 multiple-choice questions designed to test your understanding of the chapter content.

# THE WALL STREET JOURNAL.

## CLASSROOM EDITION

### DEBATING CURRENT ISSUES: *Oil and Energy Dependence*

The U.S. relies on some of the world's most volatile countries to supply a raw material that is critical to its economy and lifestyle. Despite an increasingly energy-efficient economy, the U.S. remains hooked on imported oil.

In this debate from *The Wall Street Journal Classroom Edition*, Erich Pica, a senior policy analyst with the environmental group Friends of the Earth, and John Felmy and Edward Porter of the American Petroleum Institute present two approaches to reducing oil imports and promoting energy independence in the U.S.

#### **YES** *Should oil prices be raised to promote energy independence?*

BY ERICH PICA

The price of oil should be increased as part of a price increase on all fossil fuels. Our nation has a problem, and it is not simply a dependence on foreign oil. It is our dependence on oil. The U.S. consumes 25% of the world's oil supply, and has only 3% of its resources. Unless we fundamentally shift our oil consumption patterns, we will remain dependent on foreign oil.

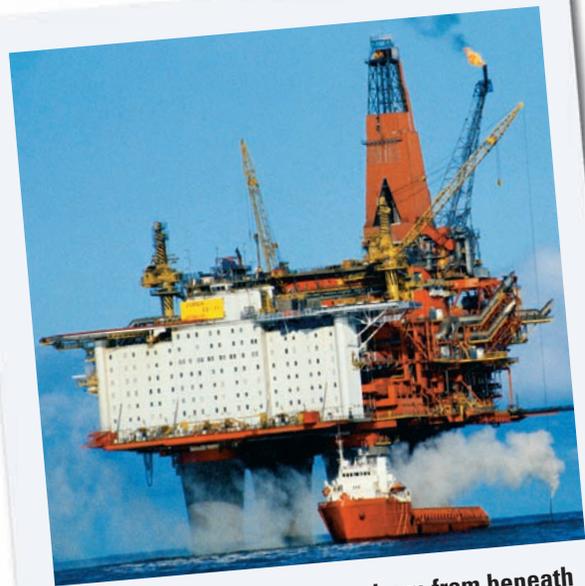
Friends of the Earth, a nonprofit environmental organization, believes that the best way to help solve our dependency problems is with a carbon tax, or a fee on all fossil fuels, including oil. Such a tax would be an efficient way to encourage businesses and individuals to conserve fuel and develop nonfossil-fuel energy sources. And a carbon tax would also fix many of the economic distortions currently not factored into the price of oil.

For example, current oil prices do not reflect the impact of air pollution from our passenger vehicles, which contributes to unhealthy levels of smog that harm human health. And they don't reflect the environmental impact of oil drilling, which damages public lands and coastal areas. Nor do they reflect the growing military and foreign-policy costs of defending oil interests in the Middle East and other turbulent regions.

Using the true cost of oil would raise prices, but it would provide the incentive for consumers to reduce

consumption and turn to innovative, clean sources of energy. Ultimately, using less oil is the only way to reduce our dependence on foreign supplies.

A carbon tax is a potential silver bullet that could solve our dependence on oil. Yet, unfortunately, it remains a taboo topic for political leaders. Elected officials and their allies in the oil industry are creating false choices between dependence on foreign oil and reducing the cost of domestic production, knowing that as long as we consume at current rates, our dependency will remain.



Massive oil rigs extract petroleum from beneath the ocean floor. Does the market price of gasoline reflect all the costs of its use?

## **NO** *Should oil prices be raised to promote energy independence?*

BY JOHN FELMY AND EDWARD PORTER

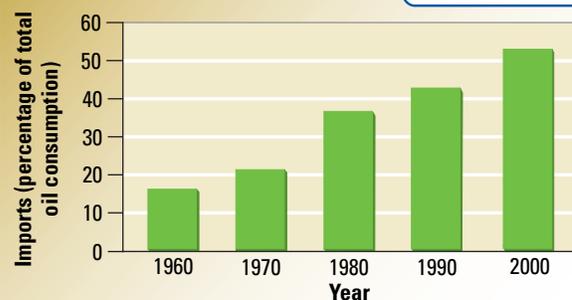
The notion that we should raise the price of oil is an old idea that resurfaces frequently, especially as the level of U.S. imports increases. But it is an idea based on incorrect assumptions that oil consumption is inherently harmful, its use can be reduced dramatically without cost to the economy, and that by boosting prices we might enjoy a net gain to the environment and reduce dependence on foreign supplies.

These notions are simply implausible. Energy is a productive input into economic activity, and oil is the pre-eminent form used in transportation. If we raise its price, we reduce its use and lose the added value of all economic activity associated with that use. Throughout the last century, there are no examples of sustained growth occurring without increasing energy, and no examples of economic development without increased transportation. Energy, and in particular oil, are essential to sustained economic growth worldwide. And, because of spectacular advances in technology in the production and use of oil, old trade-offs between energy use and the environment often have been reduced or eliminated.

The real problem is not the price of oil or the level of U.S. imports, but the secure supply of energy to a growing world economy in a manner consistent with the highest environmental standards. Although over 180 billion barrels of oil have been produced in the U.S. since 1859, it is estimated that there are over 140

### United States Oil Imports

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Source: Energy Information Administration

**More than half the oil consumed in the U.S. is produced in other countries.**

billion barrels left. But the U.S. is not the main player in this market, as oil is now produced by about one hundred countries worldwide. In fact, it is competition among this diverse group of suppliers that is the most effective way to secure both moderate prices and the oil needed to sustain future economic growth.

The policy failures of the past five decades have all shared a common theme—they have sought to defeat the global market by manipulation of price. All past attempts to do so have failed. Given the degree of globalization in the world economy, they are even more likely to fail today. The only effect of raising oil prices in the U.S. today would be to put U.S. firms at a competitive disadvantage in the global market.

What is now needed is responsible development of our domestic resources along with a vigorous commitment to freedom of trade and investment worldwide, not a return to failed policies of the past.

### DEBATING THE ISSUE

1. In addition to the price of oil, what does Erich Pica say are the costs of U.S. dependence on oil?
2. According to John Felmy and Edward Porter, why have oil pricing policies failed in the past?
3. **Critical Thinking** Do you agree that raising oil prices would put U.S. firms at a competitive disadvantage in the global market?
4. **Reading Graphs** What share of U.S. oil consumption was imported in 1970? What share was imported in 2000?

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