Why It Matters

Sometimes you can negotiate the price you pay for a good. You are about to buy a car, for example. The sticker price is $25,000. You offer the car dealer $23,000. He comes back with $24,500. You say $24,200 and the dealer accepts your offer.

Sometimes you can’t negotiate the price you pay. You want to buy a shirt at a store in the mall. The price is $30. You don’t say to the clothing salesperson, “I’ll pay $25 for the shirt.” Instead, you pay $30.

The lesson here is that not all goods are sold in the identical type of market. In some markets, you negotiate price; in others, you don’t. Some markets are competitive; others are not. Knowledge of the material in this chapter will help you better understand why markets function in different ways.
The following events occurred one day in July.

**9:22 A.M.** Barry walks around the car lot looking at new cars. A car salesperson approaches him and asks if he can be of any help. “I’m just looking around,” Barry says. “Did you have any specific model in mind?” the car salesperson asks. “Not really,” Barry says. The car salesperson walks and talks with Barry as he looks at the different cars on the lot. At one point, the car salesperson nonchalantly asks Barry what he does for a living.

- Why did the car salesperson ask Barry what he does for a living?

**10:04 A.M.** Melissa loves to read. She is currently in her local bookstore looking at the newest fiction. Melissa reads the first few pages of a book by one of her favorite authors. She then closes the book and checks the price—$29.99. She wonders whether she should buy it. On the one hand, she really wants the book. On the other hand, it’s expensive and she knows that she could wait until the book comes out in paperback. It would be much more affordable then.

- Why do book publishers publish the exact same book in hardcover and in paperback, but come out with the hardcover edition months before the paperback edition?

**7:34 P.M.** Ethan is at Petco Park in San Diego watching the San Diego Padres play the Milwaukee Brewers. He is thinking about going to the concession stand and buying a hamburger, some peanuts, and a soft drink. The price of the hamburger is $6.50, a bag of peanuts is $5.00, and a soft drink is $3.75. The total price for the three items is $15.25. “That is a lot of money,” Ethan thinks to himself. “I don’t know why food is so expensive at a baseball game.”

- Why is food so expensive at a baseball park?

**9:59 P.M.** George is getting ready to take his medicine. He heard a news report on television earlier this evening saying that the company that produces his medicine actually sells the medicine for much less in foreign countries than it does in the United States. He pays $95 for a month’s supply, but understands that if he lived in India he could buy the same medicine for the equivalent of $30.

- Why does George, in the United States, pay more for the same medicine that a person in India buys for much less?
Four Types of Markets

The more than 25 million businesses in the United States include car companies, bookstores, clothing stores, grocery stores, hair salons, restaurants, and more. Not every one of the 25 million businesses operates in the same kind of market.

Economists talk about the different types of market structures. Market structures are defined by their characteristics, such as the number of sellers in the market, the product that sellers produce and sell, and how easy or difficult it is for new firms to enter the market.

You will learn about four types of markets—perfectly competitive, monopolistic, monopolistic competitive, and oligopolistic—in this chapter.

For now, think of each of the four kinds of markets the way you might think of four different rooms in a house. Each room is similar to and different from every other room. All rooms have floors and ceilings, but not all rooms are painted the same color, or are the same size.

It’s the same with markets. They have some things in common (they all have buyers and sellers), and a few things that differ. Let’s begin by discussing our first market, the perfectly competitive market.

Focus Questions
- What are the characteristics of a perfectly competitive market?
- What are some examples of perfectly competitive markets?
- What does it mean to say that a firm has no control over price?
- What role does profit play in a perfectly competitive market?

Key Terms
market structure
perfectly competitive market
price taker

A Perfectly Competitive Market

The setting in which a seller finds itself. Market structures are defined by their characteristics, such as the number of sellers in the market, the product that sellers produce and sell, and how easy or difficult it is for new firms to enter the market.

For now, think of each of the four kinds of markets the way you might think of four different rooms in a house. Each room is similar to and different from every other room. All rooms have floors and ceilings, but not all rooms are painted the same color, or are the same size.

It’s the same with markets. They have some things in common (they all have buyers and sellers), and a few things that differ. Let’s begin by discussing our first market, the perfectly competitive market.

QUESTION: For me, as a buyer, almost all markets seem the same. For example, I can’t tell much difference between the market for books and the market for skateboards. In both markets, if I want to buy something, I pay the price that is charged. What are economists looking at to distinguish one market from another?

ANSWER: What you implied about markets—they all seem the same—can be said about other things too. Someone might say that he can’t tell much difference between two shirts. But, on a closer look, one shirt might be cotton and the other flannel, or one might be a short-sleeve shirt and the other a long-sleeve shirt. It is the same with markets: the closer you look at them, the more differences you can find. Economists look
at a variety of things to distinguish between markets, such as how many sellers there are in a market (many, a few, only one), how many buyers in a market, and whether sellers sell the same good or a slightly differentiated good. You will see more of the differences as you progress through this chapter.

Characteristics of a Perfectly Competitive Market

Economists categorize markets according to their characteristics. Here are four characteristics of a perfectly competitive market.

1. The market has many buyers and many sellers.
2. All firms sell identical goods.
3. Buyers and sellers have relevant information about prices, product quality, sources of supply, and so on.
4. Firms have easy entry into and exit out of the market.

Example: Jones is a wheat farmer, or a producer and seller of wheat. Does Jones sell his wheat in a perfectly competitive market? In other words, is the wheat market a “perfectly competitive market”? To answer this question we have to determine whether the wheat market has the four characteristics that any perfectly competitive market has. First, does it have many buyers and many sellers of wheat? The answer is yes; so the first characteristic holds for the wheat market. Second, do all wheat sellers sell the same wheat? For a given type of wheat, the answer is yes. It would be impossible, for example, to tell Jones’s wheat from any other farmer’s wheat. So, the second characteristic of a perfectly competitive market holds. Third, do buyers and sellers of wheat possess information on the quality of wheat, prices of wheat, and so on. The answer is yes. For example, wheat farmers often get up in the morning and check the daily wheat report. They know what price wheat is selling for on that given day. So, the third characteristic of a perfectly competitive market holds. Fourth, is entry into and out of the wheat market easy? In other words, is it easy for Jones to leave the farming business if he wants to, and would it be easy for others (if they wanted to) to get into the farming business. The answer is yes. Nothing prevents Jones from deciding to no longer be a farmer and nothing prevents you or anyone else from being a wheat farmer. If an accountant at an accounting firm wants to quit his job tomorrow, buy some land in Kansas, and start wheat farming, she is free to do just that. You might say it is expensive to get into farming, so doesn’t that make it hard to get into farming? It may be expensive, but what economists mean when they say that there is “easy entry and exit” is that no entity prevents the entry into or exit from a market. For example, government doesn’t prevent individuals from going into farming if they want. So, the fourth characteristic of a perfectly competitive market is met. We can conclude then the wheat market is a perfectly competitive market.
Sellers in a Perfectly Competitive Market Are Price Takers

Because of the four characteristics of a perfectly competitive market, sellers in this market end up being price takers. It is similar to saying that a person who exercises daily, eats healthfully, and always gets enough sleep will end up being healthier than if the person didn’t do these things. Certain things follow from certain characteristics. When it comes to the perfectly competitive market, its characteristics determine that a seller in this market will be a price taker. A price taker is a seller that can only sell his or her goods at the equilibrium price (think back to Chapter 6 where we explained how the equilibrium price came to exist). In other words, suppose Jones, the farmer, is a price taker. What does this mean for him? It means that he gets up in the morning, turns on the radio or television, and finds out what today’s equilibrium price for wheat is. If it is, say, $5 a bushel, Jones will have to sell his wheat at this price and no other price.

Now consider another price taker, this time in a market other than the wheat market. Consider Brown, who owns 1,000 shares of Disney stock. One day Brown decides to sell her stock (just like Jones might have decided to sell his wheat). Brown goes online and checks the current (equilibrium) price of Disney stock. If it is $27.80, then this is the price Brown must “take” if she wants to sell her stock. She won’t be able to sell her stock for even one penny more.

Can Price Takers Sell for Less than the Equilibrium Price?

So we learned that if Jones, the farmer, and Brown, the stock seller, want to sell what they own (wheat and stock) they will have to sell at the equilibrium price in their respective markets, and not at one penny more. What happens if they want to sell for one penny less? If the equilibrium price of Disney stock is $27.80, can’t Brown sell her stock at $27.50 (for 30 cents less)? Yes, she can. No buyer is going to turn down a lower price. The point is that Brown has no reason to offer to sell her stock at a price lower than the equilibrium price. After all, she can sell all her stock at the equilibrium price of $27.80. So, two points are true for every price taker:

1. He or she cannot sell for a price higher than equilibrium price.
2. He or she will not sell for a price lower than equilibrium price.
Must a Perfectly Competitive Market Possess All Four Characteristics?

Recall that a perfectly competitive market has four characteristics. Is a real-world market still a perfectly competitive market if it doesn’t perfectly match these four characteristics? For example, suppose a market has characteristics 1, 2, and 4 (you may want to look back to refresh your memory on the four characteristics of a perfectly competitive market), but only slightly satisfies characteristic 3. Does it follow that because this market doesn’t satisfy all four characteristics 100 percent that it isn’t a perfectly competitive market? The answer is no.

Think about this old saying: If it looks like a duck and quacks like a duck, it is probably a duck. The same thing holds for markets too. If a seller is a price taker—that is, if he or she can only sell at the equilibrium price—then for all practical purposes this seller is operating in a perfectly competitive market. Rephrasing the duck saying, we get: If a seller is a price taker, then it is operating in a perfectly competitive market.

What Does a Perfectly Competitive Firm Do?

As we said in the previous chapter, every firm has to answer certain questions. Two questions we identified are:

1. How much of our product do we produce?
2. What price do we charge for our product?

How does a perfectly competitive firm answer the first question of how much to produce? It answers it the way any firm

EXAMPLE: Market A is a perfectly competitive market. Currently, the equilibrium price is $10. The total revenue and marginal revenue data for one seller in this market look like the following:

<table>
<thead>
<tr>
<th>Units of output</th>
<th>Total revenue</th>
<th>Marginal revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$10</td>
<td>$10</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>10</td>
</tr>
</tbody>
</table>

This firm’s total cost and marginal cost data look like the following:

<table>
<thead>
<tr>
<th>Units of output</th>
<th>Total cost</th>
<th>Marginal cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$6</td>
<td>$6</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>10</td>
</tr>
</tbody>
</table>

If this manufacturer operates in a perfectly competitive market, how does it decide what price to charge for its products?
Now ask what quantity of output this firm will produce. You know that it wants to produce the quantity of output at which marginal revenue equals marginal cost: MR = MC occurs at a quantity of 3 units. Now ask what price it will charge for each of the 3 units it sells. Because the firm is a price taker, it takes the equilibrium price of $10. So, it produces 3 units and charges a price of $10 for each unit.

How much profit does this firm earn? We know that profit is the difference between total revenue and total cost. When the firm produces 3 units of output its total revenue is $30 and its total cost is $24, so it follows that this firm’s profit is $6.

**A Student Asks**

**QUESTION:** How did you get the dollar amounts in the marginal revenue (MR) column and in the marginal cost (MC) column?

**ANSWER:** Remember from Chapter 7 that marginal revenue is the additional revenue from producing an additional unit of a good. Notice that when the firm sells 1 unit of the good its total revenue is $10 and when it sells 2 units of a good its total revenue is $20. What is the additional revenue generated due to selling the additional unit (the second unit)? Obviously the answer is $10. The same holds going from selling 2 units to 3 units. The total revenue for the firm when it sells 2 units is $20 and it is $30 when it sells 3 units; therefore the additional revenue due to selling an additional unit (the third unit) is $10. Here is the MR equation from Chapter 7:

\[ \text{Marginal revenue (MR)} = \Delta TR/\Delta Q \]

As to the dollar amounts in the marginal cost (MC) column, we just made up these dollar amounts. Often, in the real world, marginal cost rises as a firm produces additional units of a good, so we had the marginal cost dollar amounts rise in our example.

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### What is likely to happen if this fast-food restaurant’s profits begin to climb?

**Profit Is a Signal in a Perfectly Competitive Market**

Suppose 200 sellers operate in market X, a perfectly competitive market. Each of the sellers produces good X and sells it for its current equilibrium price, $10. Furthermore, all 200 firms earn profits. Will things stay as they are currently? Not likely.

According to the fourth characteristic of a perfectly competitive market, easy entry is an aspect of a perfectly competitive market. In other words, firms that are currently not in market X can easily get into that market. Nothing is holding them out. As long as sellers are earning profits in that market, the answer is yes.

As new firms enter market X, the number of firms in the market increases, say from 200 to 250. With more firms, the supply of good X increases. (Remember from Chapter 5 that as the number of sellers increases, the supply of the good increases too—the supply curve shifts rightward.) When the supply of a good rises, equilibrium price falls. Furthermore, as price falls, so does profit. Profit, remember, is total revenue (price times number of units sold) minus total cost. In this case, as price falls, so do total revenue and profit.

How long will new firms keep entering market X? Until they see no reason to do
so—that is, until the competition eliminates the profit. When profit falls to zero and total revenue exactly equals total cost, firms will no longer have a monetary incentive to enter market X.

In a perfectly competitive market, then, profit acts as a signal to firms that are currently not in the market. It says, “Come over here and get me.” As new firms gravitate toward the profit, they increase the supply of the good that is earning profit and thus lower its price. As they lower its price, the profit dissipates. The process ends when firms no longer see an incentive to enter the market to obtain profit:

Profit exists → New firms enter the market → Supply rises → Price falls → Price falls until firms no longer see an incentive to enter the market

**A Student Asks**

**QUESTION:** Can you give us some examples of profit (in a market) that signals other firms to enter into the market, ultimately reducing the price that consumers pay?

**ANSWER:** Think about the prices you sometimes pay for new goods (goods that have just been introduced). When the VCR was introduced, its price was more than $1,000. The profit in the VCR market acted as a signal to new firms to enter that market. As they did, the supply of VCRs went up and the price of VCRs fell. You can buy one today for about $60. The same thing happened in the market for calculators (the early ones with numerous functions sold for about $400), the market for personal computers, the market for DVD players, and many more markets.

**Profits May Be Taxed Away**

Suppose we go back to the point in time when the 200 firms in market X were all earning profits. Now suppose a member of Congress says, “The firms in market X are earning huge profits. They do not deserve them; they just happened to be in the right place at the right time. The government needs some additional money for some new programs, so we ought to tax these profits. I propose a special tax on these profits of 100 percent.”

Congress goes along with this member, enacts a special tax on the profits of the firms in market X, and taxes away these profits. With the profits taxed away, the reason for firms not currently in market X to enter it is gone. If no new firms enter market X, the supply of good X will not rise, and the price of good X will not then fall. This situation leaves consumers paying a higher price than they would have paid if the profits of the 200 firms had not been taxed away.

The intended effect was to tax away the profits of the 200 firms and to generate new revenue for the government. The unintended effect was that consumers ended up paying a higher price for good X than they would have paid without the tax.

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**Defining Terms**

1. Define:
   a. price taker
   b. market structure
   c. perfectly competitive market

**Reviewing Facts and Concepts**

2. What quantity of output does a perfectly competitive firm produce? What price does it charge for its product?

**Critical Thinking**

4. Some of the 200 firms in market X, a perfectly competitive market, are incurring losses. How will these losses influence (a) exit out of the market, (b) the supply of the good produced in the market, and (c) the price of the good? Explain your answers.

**Applying Economic Concepts**

5. How can a seller determine whether it is a price taker?
Characteristics of a Monopoly

The three characteristics of a monopolistic market include the following:

1. The market consists of one seller.
2. The single seller sells a product that has no close substitutes.
3. The barriers to entry are high, which means that entry into the market is extremely difficult.

How Monopolists Differ from Perfect Competitors

Perfectly competitive firms are price takers. A monopoly firm (or monopolist) is a price searcher. In contrast with a price taker, a price searcher can sell some of its product at various prices (for example, at $12, $11, $10, $9, and so on). Whereas a price taker has to “take” one price—the equilibrium price—and sell its product at that price, the price searcher has a list of prices from which to choose. The price searcher “searches” for the best price, the price that generates the greatest profit or, in some cases, the price that minimizes losses.

Which of the many possible prices is the best price? To answer this question, back up and consider the questions that the monopoly firm, like any firm, has to answer: (1) How much do we produce? (2) How much do we charge? The monopoly firm, like any firm, will produce that quantity of output at which marginal revenue equals marginal cost.

Now suppose that for a monopoly firm this quantity turns out to be 20,000 units. What is the best price to charge for each unit? The best price turns out to be the highest price at which all 20,000 units can be sold. If only 15,000 units of the 20,000 units are sold at a price of $14, then $14 is not the best price. But if at $13, all 20,000 units can be sold, then $13 is the best price. Again, the monopoly firm seeks to charge the best price possible, which is the highest price at which it can sell its entire output.

Here is the problem for the monopolist: It does not know what its best price is. So, it has to search for it through a process of trial and error. It may charge one price this week, only to change it next week. Over time, a
monopoly firm finds the highest price at which it can sell its entire output.

**Example:** Suppose you are taking a long drive along a route that has only one gas station. The sign reads: Last Chance for Gas for 100 Miles. Gasoline is a product with very few substitutes. You can’t put water in your gas tank and hope that the car will run. The gas station is a local monopolist; in other words, it’s not that it is the only gas station in the world, but it is the only gas station in a certain small part of the world. The gas station owner decided that the best quantity of gas for her to sell is 400 gallons. Now, of course, she wants to find the highest price per gallon at which she can sell all 400 gallons. She may have to “search” for this price. Is $2.76 too low? Is $3.18 too high? It is likely that through trial and error she will eventually figure out what the highest price is at which she can sell all 400 gallons of gas.

**Q:** You mentioned that the gas station is a local monopolist. I am interested in the word “local” here. Do you mean to imply that a seller might be a monopolist in one area but not in another?

**A:** Yes. Think of a small grocery store instead of a gas station. The small grocery store might be the only grocery store in 10 square miles, but not the only grocery store in 20 square miles. Or think of a bookstore on a university campus. Many university campuses have only one bookstore that sells the textbooks that students buy. Some would consider the bookstore in this setting a monopolist. Of course, with the introduction of the Internet, this bookstore isn’t as much a monopolist today as it might have been in years gone by. Today, students can buy many of their textbooks online, either directly from the publisher or from an online bookstore.

**How Selling Corn or Stock Differs from Selling Cable Television Service**

Perhaps nothing brings home the difference between a perfectly competitive seller (a price taker) and a monopoly seller (a price searcher) than placing yourself in the role of each. First, suppose you are a corn farmer in Iowa. You just harvested 100,000 bushels of corn, and you want to sell them as quickly as possible. It’s easy to determine at what price you sell your corn: you just check the newspaper or listen to the crop report on the radio or TV news to see what price corn is selling at. That’s the price you take for your corn.

Now say you own a cable television company. In many towns only one cable company
is allowed to serve a certain geographic area; therefore, you are a monopolist. (Although with satellite TV, the local cable company is probably less of a monopolist than it once was.) The cable wire has been laid across town, and you are ready for business. What do you charge for your cable service? The answer is not so easy this time. No “cable television report” provides the market with information the way a crop report does. Thus, even though it is rather easy for firms to determine their selling prices in perfectly competitive markets, price determination is not so easy in monopolistic markets.

**Is the Sky the Limit for the Monopolist?**

Suppose a pharmaceutical company recently invented a new medicine that cures arthritis. With respect to this medicine, the pharmaceutical company is a monopolist; it is the only seller of a medicine that has no close substitutes. Can the pharmaceutical company charge any price it wants for the medicine? For example, can it charge $5,000 for one bottle (24 pills) of medicine? If your answer is yes, ask yourself whether the company can charge $10,000 for one bottle. If your answer is still yes, ask yourself whether the company can charge $20,000 for one bottle.

The purpose of these questions is to get you to realize that monopolists do face a limit as to how high a price they can charge. The sky is not the limit. At some high prices in our example, no one, not even someone who suffers greatly from arthritis pain, is willing to buy the medicine.

The monopolist is limited by the “height” of the demand curve it faces. What do we mean by the “height” of the demand curve? Suppose the demand curve in Exhibit 8-1 is the demand curve for the medicine that cures arthritis and that the pharmaceutical company has decided to produce 500,000 bottles of medicine. As you can see, the highest price (per bottle) that can be charged for each bottle of 500,000 bottles is determined by the height of the demand curve, $100 per bottle. The sky is not the limit; the height of the demand curve (at the quantity of output the firm wants to sell) is the limit.

**A Monopoly Seller Is Not Guaranteed Profits**

Most people think that if a firm is a monopoly seller, it is guaranteed to earn profits. This assumption is not true, however; no monopoly seller is guaranteed profits. A firm earns profits only if the price it sells its good for is above its average total cost. For example, if a firm sells its good for $10 and average total cost (per-unit cost) is $6, then it earns $4 profit per unit. If it sells 1,000 units, its profit is $4,000.

The monopolist sells its product for the highest price possible, but nothing guarantees that this price is greater than the monopoly seller’s average total cost. If it is not, the monopoly seller does not earn any profits. If average total cost for the monopoly seller is actually higher than the highest possible price for which it sells its product, the monopoly seller earns a loss (not a profit). If this situation continues, the monopoly seller will go out of business.

**Example:** Tony has gone into business; he sells a good that no one else sells.

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**EXHIBIT 8-1 Is the Sky the Limit for the Monopolist?**

Once a monopoly firm decides on its quantity of output, it is limited to the highest price it can charge (per unit) for the product. Specifically, it is limited by the height of the demand curve. In this case the monopoly firm decides to produce 500,000 bottles of medicine. The highest price it can charge (per unit) and sell this output is $100 per bottle.
Because he is the only one who sells this particular good, his friend refers to him as a monopolist. Is Tony guaranteed profit because he is the only seller of a particular good? Not necessarily. It turns out that no one demands the good that Tony sells. In other words, a seller could possibly be a monopolist and not sell anything. The objective many sellers set for themselves is to be a monopolist with respect to a good for which demand is high.

**Barriers to Entry**

Suppose firm X is a monopolist. It is currently charging a relatively high price for its product and earning large profits. Why don’t other businesses enter the market and produce the same product as firm X? As noted earlier, one of the three characteristics of a monopolistic market is high barriers to entry. They include legal barriers, a monopolist’s extremely low average total costs, and a monopolist’s exclusive ownership of a scarce resource.

**Legal Barriers**

Legal barriers to entry in a monopoly market include public franchises, patents, and copyrights. A public franchise is a right granted to a firm by government that permits the firm to provide a particular good or service and excludes all others from doing so. Potential competition is thus eliminated by law.

For example, as stated earlier, in many towns only one cable company is allowed to service a particular geographic area. This company has been given the exclusive right to produce and sell cable television. If an organization other than the designated company were to start producing and selling cable television, it would be breaking the law.

Another example of a legal barrier is the restriction the U.S. government has placed on private mail carriers. Only the U.S. Postal Service can deliver first-class mail. Also, some towns make it illegal for more than one company to collect trash.

In the United States, a patent is granted to the inventor of a product or process for 20 years. For example, a pharmaceutical company may have a patent on a medicine. During this time, the patent holder is shielded from competitors; no one else can legally produce and sell the patented product or process.

Copyrights give authors or originators of literary or artistic productions the right to publish, print, or sell their intellectual productions for a period of time. With books, either the author or the company that publishes the book holds the copyright. For example, the publishing company holds the copyright to this textbook—it owns the right to reproduce and sell copies of this book. Anyone else who copies the book or large sections of it to sell or simply to avoid buying a copy is breaking the law.

**Extremely Low Average Total Costs (Low Per-Unit Costs)**

Chapter 7 described average total cost as total cost divided by quantity of output, also called per-unit cost. For example, if total cost is $1,000 and quantity of output is 1,000 units, then average total cost is $1 per unit.

In some industries, firms have an average total cost that is extremely low—so low that no other firm can compete with this firm. To see why, let’s consider the relationship of average total cost and price. A business will earn a per-unit profit when it sells its product for a price that is higher than its average total cost. For example, if price is
$10 and average total cost is $4, then per-unit profit is $6.

Some companies may have such a low average total cost that they are able to lower their prices to a very low level and still earn profits. Consequently, competitors may be forced out of business. Suppose 17 companies are currently competing to sell a good. One of the companies, however, has a much lower average total cost than the others. Say company A’s average total cost is $5, whereas the other companies’ average total cost is $8. Company A can sell its good for $6 and earn a $1 profit on each unit sold. Other companies cannot compete with it. In the end, company A, because of its low average total cost, is the only seller of the good; such a firm is called a natural monopoly.
Three companies, A, B, and C, all sell a particular good. The per-unit costs of company A are $4 while the per-unit costs for B and C are $7. Currently, all three companies sell their good for a price of $10. In time, company A lowers its price to $6, but companies B and C cannot follow suit. For them to lower price to $6 would mean they would incur a $1 per-unit loss on each item they produce and sell. Because of its lower price, customers start buying from company A instead of from B and C. In time, companies B and C go out of business.

**Exclusive Ownership of a Scarce Resource**

It takes oranges to produce orange juice. Suppose one firm owned all the oranges; it would be considered a monopoly firm. The classic example of a monopolist that controls a resource is the Aluminum Company of America (Alcoa). For a long time, this company controlled almost all sources of bauxite (the main source of aluminum) in the United States, making Alcoa the sole producer of aluminum in the country from the late nineteenth century until the 1940s.

**Government Monopoly and Market Monopoly**

Sometimes high barriers to entry exist because competition is legally prohibited, and sometimes they exist for other reasons. Where high barriers take the form of public franchises, patents, or copyrights, competition is legally prohibited. In contrast, where high barriers take the form of one firm’s low average total cost or exclusive ownership of a resource, competition is not legally prohibited. In these cases, no law keeps rival firms from entering the market and competing, even though they may choose not to do so.

Some economists use the term *government monopoly* to refer to monopolies that are legally protected from competition. They use the term *market monopoly* to refer to monopolies that are not legally protected from competition.

**Antitrust and Monopoly**

One of the stated objectives of government is to encourage competition so that monopolists do not have substantial control over the prices they charge. Let’s look briefly at some of the issues involved in maintaining competition.

**Antitrust Laws**

The government tries to meet its objectives through its *antitrust laws*, laws meant to control monopoly power and to preserve and promote competition. Following are descriptions of some of the major antitrust laws. Exhibit 8-2 provides a quick look at a time line for the implementation of these laws.

**The Sherman Antitrust Act**

The Sherman Antitrust Act (or, simply, the Sherman Act) was passed in 1890, a time when there were numerous mergers between companies. A merger occurs when one company buys more than half the stock in another company, putting two companies under one top management. At the time of the Sherman Act, the organization that two companies formed by combining to act as a monopolist was called a *trust*, which in turn gave us the word *antitrust*.

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*EXAMPLE:* Three companies, A, B, and C, all sell a particular good. The per-unit costs of company A are $4 while the per-unit costs for B and C are $7. Currently, all three companies sell their good for a price of $10. In time, company A lowers its price to $6, but companies B and C cannot follow suit. For them to lower price to $6 would mean they would incur a $1 per-unit loss on each item they produce and sell. Because of its lower price, customers start buying from company A instead of from B and C. In time, companies B and C go out of business.

*A Research companies often obtain patents on their products, which prevent other companies from entering the market for a specified time period. Do you think such barriers to entry are necessary? Explain.*

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*antitrust law* Legislation passed for the stated purpose of controlling monopoly power and preserving and promoting competition.
The Sherman Act contains two major provisions:

1. “Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce . . . is hereby declared to be illegal.”
2. “Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons to monopolize any part of the trade or commerce . . . shall be deemed guilty of a misdemeanor.”

Together, these two provisions state that either attempting to become a monopolist or trying to restrain trade is illegal.

The Clayton Act The Clayton Act of 1914 made certain business practices illegal when their effects “may be to substantially lessen competition or tend to create a monopoly.” Here are two practices that were prohibited by the act:

1. Price discrimination. Price discrimination occurs when a seller charges different buyers different prices for the same product and when the price differences are not related to cost differences. For example, if a company charges you $10 for a product and charges your friend $6 for the same product, and there is no cost difference for the company in providing the two of you with this product, then the company is practicing price discrimination. (You will learn more about price discrimination near the end of the chapter.)

2. Tying contracts. A tying contract is an arrangement whereby the sale of one product depends on the purchase of some other product or products. For example, suppose the owner of a company that sells personal computers and computer supplies agrees to sell computers to a store only if the store owner agrees to buy paper, desk furniture, and some other products, too. This agreement is a tying contract, and it is illegal under the Clayton Act.

The Federal Trade Commission Act The Federal Trade Commission Act, passed in 1914, declared that “unfair methods of competition in commerce” were illegal. In particular, the act was designed to prohibit aggressive price-cutting acts, sometimes referred to as cutthroat pricing.

**EXAMPLE:** Suppose you own a business that produces and sells tires. A competitor begins to drastically lower the prices of the tires it sells. From your viewpoint, your competitor may be engaged in cutthroat pricing. From the viewpoint of the consumer, your competitor is simply offering a good deal. The FTC officials, who enforce the Federal Trade Commission Act, will have to decide. If they believe your competitor is cutting its prices so low that you will have to go out of business and that it intends to raise its prices later, when you’re gone, they may decide that your competitor is violating the act.

Some economists have noted that the Federal Trade Commission Act, like other antitrust acts, contains vague terms. For instance, the act does not precisely define what “unfair methods of competition” consist of. Suppose a hotel chain puts up a big, beautiful hotel across the street from an old, tiny, run-down motel, and the old motel ends up going out of business. Was the hotel chain employing “unfair methods of competition” or not?

The Robinson-Patman Act The Robinson-Patman Act was passed in 1936 in an attempt to decrease the failure rate of small businesses by protecting them from the competition of large and growing chain stores. At that time in our economic history, large chain stores had just arrived on the scene.
They were buying goods in large amounts and were sometimes being offered price discounts from their suppliers. The chain stores began to pass on the price discounts to their customers. The small businesses were not being offered the price discounts and thus found it increasingly difficult to compete with the chain stores. The Robinson-Patman Act prohibited suppliers from offering special discounts to large chains unless they also offered the discounts to everyone else. Many economists believe that rather than preserving and strengthening competition, the Robinson-Patman Act limited it. They say, it was more concerned about a particular group of competitors (small businesses) than about the process of competition.

The Wheeler-Lea Act The Wheeler-Lea Act, passed in 1938, empowered the Federal Trade Commission (FTC), a government agency, to deal with false and deceptive acts or practices by businesses. Major actions by the FTC in this area have involved advertising that the agency has deemed false and deceptive.

The Issue of Natural Monopoly Instead of applying antitrust laws to natural monopoly, often what government does is impose some kind of regulation on the natural monopolist. For example, instead of allowing the natural monopoly to charge any price it wants, government often sets the price that the natural monopoly can charge. Alternatively, sometimes government specifies a certain rate of profit the natural monopoly can earn.

There are often unintended effects of government regulation of natural monopolists. For example, suppose government states that the natural monopolist can only charge a price of $2 above costs. If the natural monopolist knows that it can always charge a price of $2 higher than costs, it will have little, if any, incentive to keep its costs down. In the end, consumers may end up paying high prices because the natural monopolist knows that no matter what its costs are, it can always charge a price $2 higher (than costs). Similarly, if a natural monopoly is guaranteed a certain rate of profit, it will have little incentive to hold down its costs.

Are Antitrust Laws Always Applied Properly? People are inclined, perhaps, to believe that when the government enforces the antitrust laws, it does so properly. Government may be seen as riding into the market on a white horse, preventing monopolies from running roughshod over consumers. In reality, the record of government in this area is mixed. Sometimes government,
through its enforcement of the antitrust laws, promotes and protects competition, and sometimes it does not.

**EXAMPLE:** In 1967, the Salt Lake City–based Utah Pie Company charged that three of its competitors in Los Angeles were practicing price discrimination, which is deemed illegal by the Clayton Act. Specifically, the three competitors were charged with selling pies in Salt Lake City for lower prices than they were selling them near their plants of operation. The U.S. Supreme Court ruled in favor of Utah Pie.

What were the facts? Were the three competitors from Los Angeles running Utah Pie out of business? Were they hurting consumers by charging low prices? Some econ-

- **Why So Much for Such a Short Ride?**

It is easy for new firms to enter some markets and difficult for them to enter others. Difficulty in entering a market is usually caused by the existence of some barrier to entry. Of course, not all barriers to entry are the same. One kind is created through legal means. For example, when the government specified that no firm can compete with the U.S. Postal Service in the delivery of first-class mail, it effectively created a legal barrier to entering the business of delivering first-class mail.

Suppose you go to New York City. You visit Rockefeller Center and Madison Square Garden; you take a tour of the Empire State Building and the Statue of Liberty; you go to a Broadway play at night. In your travels around New York City, you notice taxis picking up and delivering people. You wonder what you or anyone else would need to do to enter the taxicab market in New York City.

Let’s list the things that sound reasonable. You would need a car and a driver’s license. Perhaps the city of New York would want to make sure that you did not have a criminal record, so you might need to pass a personal background check.

In reality, the Taxi and Limousine Commission in New York City requires that you also have a taxi license, called a taxi medallion. It is similar to a business license: you need it to lawfully operate a taxicab business in New York City. In 2003 the price of a taxi medallion was $220,214.

The high price of a taxi medallion acts as a barrier to entering the taxicab market in New York City. Who gains and who loses as a result of this barrier to entry? The beneficiaries are clearly the current owners of taxicab businesses. Because of such a high barrier to entering the taxicab business, the supply of taxis on the streets of New York City is less than it otherwise would be. If supply is lower than it would be, then prices are higher. In other words, the price of a taxi ride in New York City is likely to be less if a taxi medallion cost, say, $300 than if it cost $220,000. At the latter price, fewer people will be entering the taxicab business and expanding the supply of taxis for hire. The losers are (1) people who would like to enter the taxicab business but cannot and (2) the taxi riders who pay higher prices because of the somewhat restricted entry into the taxicab business.

As a result of the high price of a taxi medallion, taxi fares are higher than they would be if taxi medallion prices were lower. Do you agree or disagree?
Economists have noted that Utah Pie actually charged lower prices for its pies than did its competitors and that it continued to increase its sales volume and earn a profit during the time its competitors were supposedly exhibiting anticompetitive behavior. These economists suggest that Utah Pie was simply trying to use the antitrust laws to hinder its competition.

Now consider a case in which most economists believe that the antitrust laws were applied properly. For many years, the upper-level administrators of some of the top universities—Brown, Columbia, Cornell, Dartmouth, Harvard, MIT, Princeton, University of Pennsylvania, and Yale—met to discuss such things as tuition, faculty salaries, and financial aid. There seemed to be evidence that these meetings occurred because the universities were trying to align tuition, faculty raises, and financial need. For example, one of the universities wanted to raise faculty salaries by more than the others but was persuaded not to do so. Also at these meetings, the administrators would compare lists of applicants to find the names of students who had applied to more than one of their schools (for example, someone might have applied to Harvard, Yale, and MIT). The administrators would then adjust their financial aid packages for that student so that no university was offering more than another.

The U.S. Justice Department charged the universities with a conspiracy to fix prices. Eight of the universities settled the case by agreeing to cease colluding (making secret agreements that effectively reduce competition) on tuition, salaries, and financial aid. MIT pursued the case to the U.S. Supreme Court. In 1992, the Supreme Court ruled against MIT, saying that it had violated antitrust laws.

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**Defining Terms**

1. Define:
   a. barrier to entry
   b. natural monopoly
   c. price searcher
   d. antitrust law

**Reviewing Facts and Concepts**

2. When it comes to determining the quantity of goods to produce, how is a monopolist like a perfect competitor?
3. A monopolist is a price searcher. For what price is the monopolist searching?
4. A company advertises its product in a deceptive manner. Which antitrust act would apply to this action?

**Critical Thinking**

5. Firm A is a perfectly competitive firm, and firm B is a monopoly firm. Both firms are currently earning profits. Which firm is less likely to be earning profits in the future? Explain your answer.

**Applying Economic Concepts**

6. The demand for the good that firm A sells does not rise or fall during the month. Firm A raises its price at the beginning of the month and lowers its price at the end of the month. What might explain firm A’s pricing behavior?
One day you receive a letter in the mail. The letter is from an investment advisor who says that he can predict what will be good investments in the near future.

**The Setup**

At this point, like most people would be, you are skeptical. Having anticipated your skepticism, the investment advisor goes on to say in his letter that he is going to make a prediction about next week’s price of gold. He predicts that it will rise. It costs you nothing to wait to see if the price of gold rises, so you do.

Next week, the price of gold rises. Soon after, you get another letter from the investment advisor. He reminds you that he wrote you last week and predicted a rise in the price of gold. He predicts that it will rise. It costs you nothing to wait to see if the price of gold rises, so you do.

The final letter you get from the advisor reminds you that he predicted the change in gold in three consecutive weeks. He asks whether you are convinced that he can predict what will and will not be good investments. He also asks you for $1,000, after which he promises to send you a weekly update of his investment advice. He says that if you only follow his “crystal-ball advice” you can turn a little money into a lot.

**Don’t Be Fooled**

Now if you are thinking that you should go along and send in the $1,000, think again. What the investment advisor has just done is make a promise to you that he cannot possibly keep. He can’t really predict the good investments time after time. But he’s done it, you say. You saw him do it with your own two eyes. He didn’t just say he could predict the change in the price of gold, he did it.

Don’t be skeptical of any get-rich offers you receive in the mail. If it sounds too good to be true, it probably is.
How It Works

Here is how he did it. Before you got your first letter from the investment advisor, he wrote 10,000 letters. Half of the letters predicted an increase in the price of gold next week, and half predicted a decrease. The investment advisor kept a record of the people to whom he sent each letter. When the price of gold went up the next week, he then wrote the people who got the “price-is-going-up” letter—one of whom was you—and told you how he had predicted things correctly three times in a row. Then came the request for money—he urged you to pay him $1,000 for his investment advice.

In the second round of letters he predicted a rise in price to half the people, and a decline in price to the other half. When the price of gold went down, he then wrote the people who had the “price-is-going-down” letter again. He did not write to the “price-going-up” people.

In the second round of letters he predicted a rise in price to half the people, and a decline in price to the other half. When the price of gold went down, he then wrote the people who got the “price-is-going-down” letter again, but did not write again to the “price-going-up” people.

He repeated this process one more time. To half of the people receiving the third round of letters he predicted another fall in the price of gold. To the other half he predicted a rise in the price of gold. When the price of gold rose, he then wrote the people who got the “price-is-going-up” letter—one of whom was you—and told you how he had predicted things correctly three times in a row. Then came the request for money—he urged you to pay him $1,000 for his investment advice.

So, you see, the investment advisor never really predicted anything. He just wrote a lot of letters, predicting a higher price of gold in half of the letters and predicting a lower price of gold in the other half. To the people who received the “correct prediction,” he wrote again. He wasn’t predicting the future, he was covering all bases. He was running a scam.

My Personal Economics Action Plan

Here are some points you may want to consider and some guidelines you might want to put into practice:

1. Often, when something looks “too good to be true,” it isn’t true.

I promise myself to question and investigate further anything that seems “too good to be true.”

2. If predicting the right investment were as easy as some people say it is, then they should easily be multimillionaires from their own investments. Why do they need to go into the investment advice business?

When I confront a “too good to be true” situation, I will try to determine the motives of the person making the offer.

3. If someone tells me that I’m guaranteed “to make money” if I just take that person’s advice, I will ask whether or not that person is willing to refund my money if the investment isn’t successful.

When the person says that refunds aren’t possible, I will remind the “advisor” that the advice was “guaranteed.”

Even reputable newspapers and magazines contain ads for questionable business ventures. Investigate the company before giving them your money if you have any doubts.
Between perfect competition at one extreme and monopoly at the other, there are two types of markets: monopolistic competitive and oligopolistic. In this section you will learn about monopolistic competition. In the next section we will examine oligopolies.

The three characteristics of a monopolistic competitive market are as follows:

1. The market includes many buyers and many sellers.
2. Firms produce and sell slightly differentiated products.
3. Firms have easy entry into and exit out of the market.

Notice that two of the characteristics (the first and third) are the same as found in a perfectly competitive market (a perfectly competitive market has many buyers and sellers and easy entry and exit). One characteristic (the second characteristic) is not found in either a perfectly competitive or monopolistic market.

Focus Questions
- What are the characteristics of monopolistic competition?
- What are some examples of monopolistic competition?
- Are monopolistic competitors price takers or price searchers?
- How do monopolistic competitors answer questions about how much to produce and what price to charge?
- What are some ways in which the products of monopolistic competitors differ?

Key Term
monopolistic competitive market

A Monopolistic Competitive Market

Monopolistic Competitive Firms Are Price Searchers

Firms in a monopolistic competitive market are price seekers. Why do we consider them price searchers? Because they sell a slightly differentiated product.

Suppose firm A is a monopolistic competitive firm or seller. It is currently producing and selling good A at $40 per unit. At this price, it sells 1,000 units a week. If it raises its price to $45, it is likely to still sell some of its product (say, 700 units), because what it sells is not identical to any other product in the market. In other words, consumers will not be able to shift wholly from buying good A to buying an identical good; good A is slightly different from all other goods.

EXAMPLE: In many cities and towns, you will find a good number of Italian and Mexican restaurants. One restaurant that serves Italian-style food may be similar to, but not identical with, another restaurant that serves Italian-style food. These restaurants operate in a monopolistic competitive market.
What Do Monopolistic Competitive Firms Do?

Like perfectly competitive firms and monopoly firms, monopolistic competitive firms have to answer two questions: (1) How much do we produce? and (2) What price do we charge? They answer the first question the same way every firm answers it: they produce the quantity of output at which marginal revenue equals marginal cost. They answer the second question the same way monopoly sellers answer it: by searching for the highest price per unit at which they can sell their entire output. If they produce 10,000 units of their good, they search for the highest per-unit price at which they can sell all 10,000 units.

QUESTION: What use is it to me to know that one seller (say, a wheat farmer) operates in a perfectly competitive market and another seller (a restaurant) operates in a monopolistic competitive market?

ANSWER: What this information helps you understand is why the prices you pay are what they are. Suppose a number of sellers are selling a particular good for the same price. (Every seller is charging $100.) When some people see all the same prices, they sometimes jump to the conclusion that the sellers agreed among themselves to sell the good for the same price. In other words, people think they colluded on price. Of course, another explanation that you learned from our discussion of a perfectly competitive market is that all sellers sometimes sell the good for the same price because they have no other choice. In other words, no collusion is involved at all. It’s just that the sellers are operating in a perfectly competitive market.

Suppose you wonder why some medicines are priced as high as they are. Some of the high price has to do with the patents that pharmaceutical companies hold—patents that hold other sellers out of the market (for a period of time). Or suppose you learn that in your town only one cable company has the right to provide cable TV services. Would you have known how this type of monopoly would affect your monthly cable bill? Now you know that limiting entry to a market (for good reasons or bad reasons) always results in higher prices than would have existed had entry not been limited.

We do not expect that as the years pass, you will go around in your daily life pointing out which companies are perfectly competitive companies, and which companies are monopolists, and so on. That is not the reason for learning this material. The reason is to understand “how things work” in a part of the world that you might not have understood before.

How Are Monopolistic Competitors’ Products Different?

When we say that one product is slightly different from another product, to what are we referring? When we say that McDonald’s hamburgers are slightly different from Burger King’s hamburgers, for example, the
The word *different* refers to taste and appearance. McDonald’s hamburgers look and taste slightly different (to most people) from Burger King’s hamburgers. Products can differ in other ways, too. For example, consider a particular brand of gasoline sold at a gas station at Third Avenue and Main Street and at a gas station at Ninth Avenue and Main Street. Is the gasoline at the two stations identical? Certainly the physical properties are the same, but the gasoline is sold at different locations, and the locational differences may affect the choices of the buyers of the gasoline. For example, suppose the gas station at Third and Main is in a dangerous neighborhood, and the gas station at Ninth and Main is in a safe neighborhood. Consumers may perceive gas sold in a safe neighborhood as slightly different from gas sold in a dangerous neighborhood. In other words, the location at which a product is sold may be enough to differentiate one physically identical product from another.

Monopolistic competitors’ products, then, can be different in any way that is perceived as different by consumers. If location makes a difference to consumers, then two physically identical products sold at different locations are slightly different products. If different credit terms, sales service, or delivery options make two physically identical products different in the minds of consumers, then they are slightly different products. In short, when it comes to buying products, the physical properties of a product may not be all that matters to consumers. How the product is packaged, where it is purchased, from whom it is purchased, and whether it is delivered may all matter (make a difference) to consumers.

**Many Monopolistic Competitors Would Rather Be Monopolists**

Suppose you own a business that is considered a monopolistic competitive firm. Your business is one of many sellers, you sell a product slightly differentiated from the products of your competitors, and entry into and exit from the industry is easy. Would you rather your business was a monopolist firm instead? Wouldn’t it be better for you to be the only seller of a product than to be one of many sellers?

Most business owners would say it is indeed better to be a monopolist firm than a monopolistic competitive firm, because they believe that as a monopolist they would face less competition. How do monopolistic competitors go about trying to become monopolists?

Some monopolistic competitors use advertising. If a monopolistic competitor can, through advertising, persuade the buying public that its product is more than slightly differentiated from those of its competitors, it stands a better chance of becoming a monopolist. For example, many firms produce men’s and women’s jeans, and many people think the jeans produced by these firms look very much alike. How, then, does any one of the firms differentiate its product from the pack? Some companies add designer labels to their jeans to suggest that they are uniquely desirable.
QUESTION: Are you suggesting that it is wrong or uneconomical to buy designer jeans?

ANSWER: Not at all. People may get "utility" or "satisfaction" from wearing designer jeans. It is not the job of the economist to tell consumers how they should get their satisfaction. Sometimes people buy, say, designer clothes because they feel it sets them apart from others, or because their friends are wearing designer clothes, or because they feel better about themselves if they are wearing a particular item with a monogram. We are not saying that any of these preferences are wrong. We are simply pointing out that sellers will sometimes try to differentiate their products (from their competitors’ products) by adding a particular label, or coming up with a particular "motto" ("Just Do It"), and other such things. It is up to the consumer to decide whether the designer label, the motto, or anything else is worth the (sometimes) higher price. It might be a bland world indeed if all shirts were green, all jeans were the same cut, and all MP3 players were the same color.

What Matters Is How Much Competition a Seller Faces

One of the major differences between sellers in different types of markets is how much competition a seller in each market faces. How much competition a seller faces—much, some, very little, none—principally depends on two factors: how close to unique a seller’s product is, and how easy it is for new sellers to enter the market.

In a perfectly competitive market, a seller does not produce and sell a unique product at all: it produces and sells a product identical to that of other sellers. This means the seller is in a competitive position. If it raises the price of its product by only one penny over equilibrium price, consumers can turn to other sellers to purchase the identical product. A seller in a perfectly competitive market faces stiff competition from other sellers currently in the market, as well as potentially stiff competition from new sellers who may join the market. After all, a perfectly competitive market has easy entry into the market.

Things are somewhat different for the monopolistic competitive seller. This seller does not face as much competition from current sellers, because it produces and sells a product that is slightly different from that of other sellers. A rise in the price of its good will not cause all its customers to leave it and head for its competitors. Still, the monopolistic competitor has the same problem as the perfect competitor when it comes to potential

Go to www.emcp.net/bloomberg.com/ and find today’s price of gold. Are the sellers of gold price takers or price searchers? Explain your answer. Next, go to Amazon.com in the United States (www.emcp.net/amazon.com) and in the United Kingdom (www.emcp.net/amazon_uk). Find the price of the most recent Harry Potter book in both pounds and dollars. Next, go to www.emcp.net/currency and find today’s dollar price for a pound. Next, multiply it by the pound price of the Harry Potter book. Is the price of the Harry Potter book in the United States and the United Kingdom the same? On the day we looked, the dollar price of Harry Potter and the Half-Blood Prince was $17.99, and the pound price was £9.99. The dollar price of a pound was $1.8233. Multiplying $1.8223 by 9.99, we get $18.20. In other words, Harry Potter was selling for $17.99 in the United States and for $18.20 in the United Kingdom.

Why might a jean manufacturer create a designer label for its jeans?
competitors because of easy entry into a monopolistic competitive market, just as in a perfectly competitive market. New sellers can be just around the corner waiting to take away some of a current monopolistic competitor’s business.

How much competition does a monopoly seller face? It faces less competition than either a perfect competitor or a monopolistic competitor. It sells a product that has no close substitutes. Consumers buying from monopoly sellers have fewer options available to them than they do when they buy from perfect competitors or monopolistic competitors. For example, if a monopolistic competitor raises price too high, provides poor service, or lowers quality, many consumers will choose to walk away and buy from the seller’s competition. It’s not that easy to walk away from a monopoly seller, because no sellers sell a close substitute for the monopoly seller’s products. In short, the monopoly seller does not have to be afraid of competition, because it really doesn’t have much. Furthermore, competition is not likely to increase because of barriers to entering the monopoly market.

Lower Taxes?
In 2001, a worker in Belgium paid 55 cents in taxes out of every $1 earned. In the same year, a worker in Ireland paid 25 cents in taxes out of every $1 earned. Going back a few years, in the late 1990s, several major Swedish companies said they were likely to leave Sweden because taxes were high. Mainly they were talking about taxes on personal income (earned by workers and owners of the companies). In Sweden, in 2001, a worker paid 48 cents in taxes for every $1 earned. Keep in mind that a job activity that requires only a computer screen, a telephone, and a modem can be located anywhere in the world. Today, with lower telecommunication costs, companies and workers find it easier to locate anywhere in the world. They have an increased ability to “vote with their feet,” which means if they don’t like it one place, they can move somewhere else.

Will this increased ability to vote with one’s feet, which is a characteristic of globalization, cause taxes in many high-tax countries to drop? Might the high-tax country lower its taxes in order to keep companies and workers in the country?

Reviewing Facts and Concepts
1. What three conditions characterize a monopolistic competitive market?
2. How might monopolistic competitors’ products be slightly different?
3. A monopolistic competitive market shares some things with a perfectly competitive market and some things with a monopolistic market. Explain.

Applying Economic Concepts
5. Identify an action of a real-world monopolistic competitor that is trying to turn itself into a monopolist.

ECONOMIC THINKING
Will this increased ability to vote with one’s feet, which is a characteristic of globalization, cause taxes in many high-tax countries to drop? Might the high-tax country lower its taxes in order to keep companies and workers in the country?

How would you categorize the painkiller market—perfectly competitive, monopoly, or monopolistic competitive? Explain.
Characteristics of an Oligopolistic Market

The following three conditions characterize an oligopolistic market:

1. It has few sellers.
2. Firms produce and sell either identical or slightly differentiated products.
3. The barriers to entry are significant, which means that entry into the market is difficult.

Exhibit 8-3 lists the conditions that characterize each of the four markets discussed in this chapter.

Oligopolistic Firms Are Price Searchers

Like monopolistic and monopolistic competitive firms, oligopolistic firms are price searchers. In other words, they have some control over the price they charge. They can raise the price of their good and still sell some of the good they produce (which is not the case for a price taker).

How Much Competition Do Oligopolists Face?

The last section developed a way to think about sellers in various markets. We think about, or categorize, sellers according to how much competition they face. In turn, how much competition a seller faces depends on how close to unique a seller’s product is and how easy it is for new sellers to enter the market and compete with it. With this information as background, let’s discuss oligopoly.

How close to unique is an oligopolist’s product? According to the conditions that characterize oligopoly, an oligopolist’s product is not unique. Some oligopolists produce an identical good (e.g., steel), and others produce a slightly differentiated product (e.g., cars). We would expect, then, that an oligopolistic seller faces fairly intense competition from current sellers. For example, Ford Motor Company faces stiff competition from General Motors. In the world market for cars, Ford faces extremely stiff competition from Japanese oligopolistic market.

Focus Questions

- What are the characteristics of an oligopolistic market?
- What are some examples of an oligopolistic market?
- Are sellers in an oligopolistic market price takers or price searchers?
- What are cartel agreements?

Key Terms

oligopolistic market
 cartel agreement
 price discrimination
car companies such as Toyota, Nissan, Honda, and Mitsubishi.

Where the oligopolistic seller does not face too much competition is from potential sellers. It is difficult to enter an oligopolistic market, so current oligopolistic sellers are shielded from new sellers to some degree.

A Student Asks

QUESTION: I always thought that the more sellers in a given market (for example, the more sellers of, say, computers), the more competition in that market. Now it sounds like there can be quite a bit of competition in a market even with only two or three sellers. Is this statement correct?

ANSWER: Yes. Competition can exist in a market with three sellers and with 300 sellers. For example, think back to the days of only three television networks: ABC, NBC, and CBS. The three networks stiffly competed with each other. Today more competition in the television market exists largely because of cable. Still, the television market experienced competition before cable.

Identifying Oligopolistic Industries

Economists determine whether a market is oligopolistic by looking at the percentage of sales accounted for by the top four firms in the industry. If only a few firms account for a large percentage of sales, then the market is considered oligopolistic. For example, suppose an industry consists of 10 firms, and the total revenue of the industry is $100 million. The four firms with the highest sales generate $80 million in revenue. In other words, the top four firms account for 80 percent of total revenues in the industry (because $80 million is 80 percent of $100 million), and the industry is dominated by the top four firms. It is an example of an oligopolistic market.

Now consider a real-world example. The U.S. automobile industry is largely made up of General Motors, Ford Motor Company, and Chrysler (or DaimlerChrysler) Corporation. Together, these three firms account for about 90 percent of American-made cars sold in the United States. Other examples of oligopolistic markets include industries that produce cigarettes, tires and inner tubes, breakfast cereals, farm machinery, and soap and detergents.
Oligopoly and Interdependence: Looking over Your Shoulder

Oligopoly differs from other market structures in terms of the number of sellers. Both perfectly competitive and monopolistic competitive markets include many sellers, and a monopolistic market has only one seller. Only an oligopolistic market consists of a few sellers.

Will a seller act differently if it is one of only a few sellers than if it is one of many? Some evidence indicates that when a seller is one of only a few sellers, it is more likely to base its behavior on what other sellers do than if it is one of many sellers. Consider the airline market, which is considered to be oligopolistic. If one airline lowers its ticket prices, other airlines are likely to do the same.

Cartels

It is easier for the few sellers in an oligopolistic market to get together and discuss common issues than for the many sellers in either a perfectly competitive or a monopolistic competitive market to do the same. Why would sellers that compete with each other want to get together in the first place? One of the various reasons may be that they want to try to eliminate or reduce the competition they present to one another.

Each year, the three major car companies compete with one another on such things as price, quality, style, and service. Over the years they realized that the competition between them actually helps the car consumer and hurts them. In the boardroom of one of the car companies, the chief executive officer (CEO) says, “Every time our competitors lower prices, we have to do the same thing; every time they come up with a new sport utility vehicle or a better or safer sedan, we have to do the same thing. All this competition is great for the consumer, but it’s not so good for our profits.”

Suppose the CEO calls a meeting with the CEOs at the other two major car companies. They get together for a nice lunch somewhere and talk over their problems. At the end of the lunch they all agree that the competition among them is helpful to consumers but not so helpful to them, so they should try to reduce some of this competition. Specifically, they decide to keep prices where they currently are (no more discounts) and to stop coming up with new car models for the next two years.

The three CEOs have entered into a cartel agreement, an agreement that specifies that they will act in a coordinated way to reduce the competition among them and (they hope) raise their profits. In the United States, cartel agreements are illegal. But suppose that they were not illegal, so nothing prevented the CEOs from making the cartel agreement. What then? Many people would say that the CEOs would be successful at reducing their competition and increasing their profits. In other words, the cartel agreement would harm consumers and help the three car companies.

This answer assumes that the three car companies would actually hold to the cartel agreement. However, firms that enter into cartel agreements often break them. To see why, put yourself in the place of one of the

The cereal market is an oligopolistic market. Can you name the firms that dominate this market?
three automobile company CEOs. You return to your office after lunch with the other CEOs. You start to think about the cartel agreement you just entered into and say to yourself, “I know I promised not to lower prices and not to develop any new model cars, but suppose I forget what I promised. Suppose I develop new car models and release them to the market next year. If my competitors hold to the cartel agreement, they will not release new models next year, and I will be the only car company with new models. My company should be able to take business away from our competitors. Instead of not competing with my competitors, why don’t I just try to run them out of business?”

Each of the CEOs feels a strong monetary incentive to break the promise made with the other CEOs. Each is likely to break the agreement in the hope of getting rid of his or her competition, once and for all. If all three break the agreement out of self-interest, the agreement is gone. The three car companies are back where they started, competing with each other.

Is It Buyers Against Sellers or Sellers Against Sellers?

The noneconomist may think that the best interests of consumers or buyers are pitted against the best interests of producers or sellers. They may believe that buyers want to buy high-quality products at low prices. Sellers want to produce cheap products and sell them for high prices. Whatever is good for buyers is bad for sellers, and whatever is good for sellers is bad for buyers. In short, buyers and sellers are on different sides of the fence; it’s sellers against buyers.

Putting things this way makes it sound as if buyers and sellers are natural enemies and always at war. However, this view does not accurately represent the forces at work. The real war may not be between buyers and sellers but among sellers. Sellers may indeed be on one side of the fence and buyers on the other side, but not all the sellers on the same side of the fence are happy with one another. Some want to get rid of other sellers so that there will be fewer sellers on the selling side of the fence. General Motors wants to get rid of Toyota so there will be fewer car companies. Dell wants to get rid of Hewlett-Packard so there will be fewer computer manufacturers. NBC wants to get rid of CBS; and NBC, CBS, and ABC wish that cable television had never come to exist.

Sellers may (initially) have interests opposed to those of consumers, but it does not mean sellers will get what they want at the expense of consumers. Often, what keeps sellers in line is other sellers—either other sellers currently in the market or sellers who

> People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices.

—Adam Smith
Price Discrimination  

Price discrimination exists when a seller charges different prices to different buyers, and the price differences do not reflect cost differences. Suppose a movie theater charges children $4 to see a movie and charges adults $8 to see a movie. If the movie theater experiences absolutely no cost difference when it comes to children and adults, this situation would be an example of price discrimination.

Now suppose a company runs two small grocery stores: one on the east side of town and one on the west side of town. In the grocery store on the east side of town it charges $3 for a loaf of bread, but on the west side of town it charges $2.50 for the same loaf of bread. Is this situation an example of price discrimination? Well, it could be, but not necessarily. In this town, the crime rate is higher on the east side than on the west side, which means the insurance rates for the company are higher on the east side of town. As a result, it may be more costly to sell bread on the east side of town than on the west side of town, and this higher cost is reflected in the higher price of bread on the east side of town. The difference in price here is not an example of price discrimination.

When we have price discrimination, though, we need to ask two important questions: (1) Why would a seller want to price discriminate? (2) Under what conditions can a seller price discriminate?

Why Discriminate?

A seller would want to price discriminate if it increased total revenue. Look at the following three points on a market demand curve.

<table>
<thead>
<tr>
<th>Point</th>
<th>Price</th>
<th>Quantity demanded</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$10</td>
<td>1</td>
</tr>
<tr>
<td>B</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

As you can see, price and quantity demanded move in the opposite direction according to the law of demand, which says that more is purchased at lower prices than at higher prices.

QUESTION: What about underhanded, manipulative sellers who try to scam buyers?

ANSWER: Probably all buyers have come across sellers that haven’t told them everything they would like to know about a product, or tried to get them to buy something they might not have wanted, or tried to cheat them in some way. Nothing we have said is meant to imply that unscrupulous sellers do not exist. What we are suggesting, though, is that what essentially keeps sellers in line, and trying to serve the buying public, is not a seller’s “big heart,” but the competition it faces from other sellers. In other words, fewer sellers and less competition would mean a lot more “underhanded, manipulative sellers” in the world.

Price Discrimination

Practice by which a seller charges different prices (to different buyers) for the product it sells when the price differences do not reflect cost differences.
Now suppose the seller can only charge one price and wants to sell 3 units of the good. What price will the seller charge? The answer is $6, because only at $6 will 3 units of the good be purchased. (If the seller charges $8, only 2 units will be purchased.) The total revenue for this seller is $18, which is the price of the good ($6) times the quantity bought (3).

Now suppose this seller can price discriminate, or charge one price to one buyer and a different price to another buyer. The seller will charge one buyer $10 (because from our table we know that at least one buyer is willing and able to pay $10 for the good)—after all, we can see that the quantity demanded is 1 at a price of $10), and then charge another buyer $8 (because we know that the price of the good has to be $8 before another person will buy the good). The seller charges a third person $6 (because we know that the price of the good has to be $6 before a third person will buy the good). What is the seller’s total revenue now? It is the sum of $10 and $8 and $6, or $24.

In other words, if the seller does not (or cannot) price discriminate, and charges the same price to all customers, total revenue is $18. But if the seller can and does price discriminate, charging different prices to different customers, total revenue increases by $6 to a total of $24.

Do You Sometimes Choose to Pay Higher Prices?

As you know, one of the conditions of price discrimination is that the seller be able to distinguish among customers who would be willing to pay different prices.

Ask yourself whether people who value their time highly are more willing to pay a higher price for a product than people who do not. Some sellers think so. They argue that people who place a high value on their time want to economize on the shopping time connected with the purchase of the product. If sellers want to price discriminate between these two types of customers—charging more to customers who value time more and charging less to customers who value their time less—they must determine the category into which each of their customers falls.

How would you go about making this determination if you were a seller? What many sellers do is place cents-off coupons in newspapers and magazines. They think that people who value their time relatively low will spend it clipping and sorting coupons. People who place a relatively high value on their time will not.

In effect, the process works in a similar way at your local grocery store.

• The posted price for all products is the same for all customers.
• Both Linda and Josh put the cereal in their shopping carts.
• When Linda goes through the checkout, the clerk asks her if she has any coupons. Linda says no, so Linda pays the posted price.
• When Josh goes through the checkout, he says he has a coupon for the cereal, and so he ends up paying a lower price than Linda paid.

Do you think that people in their thirties are more or less likely to use coupons than people in their late sixties? Explain your answer.
It would seem, then, that every seller in the world would want to price discriminate. In fact, every seller does want to price discriminate— but not every seller can. Certain conditions must be present.

**Factors Allowing Price Discrimination**

First, different customers must be willing and able to pay different prices for a good. In other words, one person is willing and able to pay $10 for the good, but another person is only willing and able to pay $8 for the good.

Second, the seller requires a way to tell who is willing to pay $10 and who is only willing to pay $8. (By the way, buyers don’t willingly give up this information.)

Third, it has to be impossible, or extremely costly, for the good that is purchased by one customer to be resold to another. For example, suppose the person who bought the good at $6 (in the example earlier) could buy 3 units of the good at this price. Then this buyer could turn around and sell one unit of the good to another buyer for, say, $10, and one unit of the good to still another buyer for $8. Instead of the seller capturing the “$6 added revenue” from price discrimination, it goes instead to one buyer.

**Where Does Price Discrimination Occur?**

Think of the places where you might see price discrimination. Often restaurants will sell a dinner to an older person for less than it will sell the same dinner to a younger person. In other words, the older person gets the “senior discount.” Here is an example where the good the older person buys is not usually resold. We have never seen an older person in a restaurant buy the salmon and vegetables for $15 and then try to sell it for $20 to the person at the next table.

As we mentioned earlier, we sometimes see price discrimination at a movie theater. Young kids are often charged less than adults. Again, little if any reselling is going on here. A kid doesn’t typically buy 100 tickets for $4 each and then stand outside the movie theater selling them for, say, $7 each.

You will also sometimes see price discrimination at a pharmacy. An older person may perhaps pay a lower price for a medicine than a younger person. Here again reselling of the medicine is unlikely. Older people (and younger people too) only buy medicine they seem to need. Did you ever see an older person standing outside of the pharmacy offering a 40-year-old his or her high blood pressure medicine for a lower price than the 40-year-old has to pay?

**Why Not Higher Prices for Everyone?**

Here’s something to consider, though: why does the seller charge a lower price to some customers than to others. For example, if the older person would pay $20 for the salmon and vegetables, why charge $15? If the young kid would pay $8 to get into the movie, why charge $4? The answer is because the seller believes that older persons (on average) won’t pay $20 for the salmon and vegetables and that young kids (on average) won’t pay $8 to get into the movie.

It’s not that the seller is trying to “do a favor” for the older person or the young...
kid. It’s that the seller has some reason to believe that the older person will not buy the dinner unless it is priced at, say, $15. How does the seller know? It might be because at $20 a dinner, very few older persons show up to buy the meal, but at $15 a dinner, many do. The situation is similar with the movie theater and the young kids. It might be that if the price is $8 for adults and for kids, few young kids would show up at the movies. Parents might leave their kids at home, or with a babysitter, if they have to pay $8 for their young kids, but will bring their kids along to the movie if the price is $4 for the kids.

QUESTION: Does one buyer end up paying a higher price because some other buyer pays a lower price? For example, does some 30-year-old end up paying more for a dinner because some people get a “senior discount”?

ANSWER: No, but most people seem to think it works this way. The seller wants to charge both the 30-year-old and the older person the highest price each is willing and able to pay. If possible, the seller would charge the older person $20 for the dinner.
instead of $15. If the seller did charge $20 to the older person, that seller wouldn’t then be content enough to charge the 30-year-old only $18 for the dinner. The seller would still charge the 30-year-old $20 for the dinner. Again, the objective is to charge everyone the highest price he or she is willing and able to pay, no matter what someone else pays.

Price Discrimination and the Law

The general perception is that price discrimination is illegal in the United States. It is illegal under certain conditions. For example, it is illegal if a seller price discriminates, and, as a result, injures competition (which usually means reducing the amount or intensity of competition in the market). It is also usually illegal if one of the discriminating sales crosses state lines (for example, when a seller sells a good for less in one state than in another state and the difference in price is not warranted by a difference in costs). Price discrimination is not usually deemed illegal by government authorities if no injury occurs to competition or if the seller can show that charging a lower price to some customers is necessary to adequately compete in the market.

Defining Terms

1. Define:
   a. oligopolistic market
   b. cartel agreement
   c. price discrimination

Reviewing Facts and Concepts

2. Why might a firm that voluntarily entered into a cartel agreement decide to cheat on (or breach) the agreement?
3. Why are oligopolistic firms price searchers?

4. What conditions are necessary before a seller can practice price discrimination?

Critical Thinking

5. If perfectly competitive firms are price takers, and monopolistic, monopolistic competitive, and oligopolistic firms are price searchers, then it follows that three times as many firms in the real world are price searchers than are price takers. Do you agree or disagree? Explain your answer.

Applying Economic Concepts

6. Someone tells you that the firms in a particular industry are all selling their products for the same prices. Does it follow that the firms have entered into a cartel agreement?
Chapter Summary

Be sure you know and remember the following key points from the chapter sections.

Section 1
- The four types of market structure are perfectly competitive, monopolistic, monopolistic competitive, and oligopolistic markets.
- A perfectly competitive market has many buyers and sellers who have relevant information about prices, quality, and other factors; its firms sell identical goods; and market entry and exit are easy.

Section 2
- A monopolistic market consists of one seller of a good that has no good substitute in a market with high barriers to entry.
- A monopoly firm searches for the price at which it can maximize its profits.
- Some barriers to entry into a monopolistic market are legal barriers.

Section 3
- A monopolistic competitive market includes many buyers and sellers; firms produce and sell slightly differentiated products; and market exit and entry are easy.
- Monopolistic competitive firms are price searchers because of the slight differentiation in their products.
- Like other firms, monopolistic competitive firms must answer the questions of how much to produce and what price to charge.

Section 4
- An oligopolistic market has few sellers, firms sell either identical or slightly differentiated goods, and market entry and exit are difficult.
- Oligopolistic firms have some control over the price they charge.
- The barriers to market entry limit the amount of potential competition for oligopolistic firms.

Economics Vocabulary

To reinforce your knowledge of the key terms in this chapter, fill in the following blanks on a separate piece of paper with the appropriate word or phrase.

1. A(n) ______ is a seller that can sell all its output at the equilibrium price but none at 1 penny higher.
2. The conditions that characterize ______ include one seller, no close substitutes for the good the seller sells, and high barriers to entry.
3. A(n) ______ can sell some of its output at various prices, although it sells less output at higher prices.
4. A(n) ______ is a monopoly that is legally protected from competition.
5. A company that ends up being the only seller of a good because of its low average total cost is called a(n) ______.
6. The conditions that characterize ______ include many buyers and sellers, firms that sell slightly differentiated products, and easy entry into and exit from the market.
7. The conditions that characterize ______ include few sellers, firms that produce and sell either identical or slightly differentiated products, and significant barriers to entry.
8. An agreement among firms that specifies that they will act in a coordinated way to reduce the competition between them is called a(n) ______ agreement.
9. A(n) ______ is a right granted to the firm by the government that permits the firm to provide a particular good or service and excludes all others from doing so.

Understanding the Main Ideas

Write answers to the following questions to review the main ideas in this chapter.

1. Firm A is a perfectly competitive firm. Why can’t it sell its product for 1 penny higher than the equilibrium price?
2. Why is a monopoly seller a price searcher?
3. In at least one sense, a perfectly competitive firm is like a monopoly firm. Each firm sells its
product for the highest price possible. Do you agree or disagree? Explain your answer.

4. How can low average total costs (per-unit costs) act as a barrier to entry?

5. What keeps any profits the monopoly seller is earning from being competed away?

6. What is a tying contract, and which antitrust act deems it illegal?

7. Firms in a monopolistic competitive market produce slightly different products. In what ways might these products differ?

8. What are the two principal determinants of how much competition a seller in a market faces?

9. Why might a cartel agreement be more likely in an oligopolistic market than in a monopolistic competitive market?

10. Explain why a firm that entered into a cartel agreement would cheat on or break that agreement.


**Doing the Math**

Do the calculations necessary to solve the following problems.

1. A monopoly seller produces and sells 1,000 units of a good at a price of $49.99 per unit. Its total cost is $30,000. How much profit does it earn?

2. A firm can sell 1 unit of good X at $40, and it can sell one additional unit for every $1 reduction in price. Its marginal cost is constant at $34. How many units of the good should the firm produce?

**Working with Graphs and Tables**

1. Exhibit 8-4(a) partly describes what happens in a competitive market when firms earn high profits. Fill in the missing boxes A through C.

2. Exhibit 8-4(b) partly describes what happens in a competitive market when firms in a market earn losses. Based on your knowledge of what happens when firms earn high profits, fill in the missing boxes D and E.

**Solving Economic Problems**

Find solutions to the following problems.

1. **Application.** Lam goes to a car dealership to look at cars. The salesperson shows him the cars he wants to see and drive. The salesperson asks Lam what he does for a living. What is the economic reason for asking this question?

2. **Analysis.** Firm A has been producing and selling good A in market A for 10 years. Recently, other firms moved into market A and started to produce good A. Firm A asked the government to restrict the number of firms that can enter the market. Why would firm A want to restrict entry into the market?