

19. The courts are empowered to impose a number of remedies if they find that antitrust law has been violated. These include civil and criminal penalties, *consent decrees* that specifically forbid future illegal acts, and treble damages.

**A NATURAL MONOPOLY**

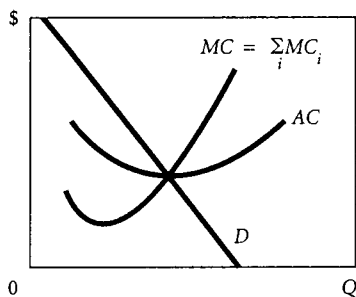
20. When a firm exhibits economies of scale so large that average costs continuously decline with output, it may be efficient to have only one firm in an industry. Such an industry is called a *natural monopoly*.

**REVIEW TERMS AND CONCEPTS**

Antitrust Division (of the Department of Justice), 283	government franchise, 265	public choice theory, 279
barrier to entry, 264	imperfectly competitive industry, 263	pure monopoly, 264
Clayton Act, 282	Interstate Commerce Commission (ICC), 281	rent-seeking behavior, 279
collusion, 276	market power, 263	rule of reason, 281
consent decree, 283	natural monopoly, 285	Sherman Act, 281
Federal Trade Commission (FTC), 282	patent, 266	trust, 280
government failure, 279	per se rule, 282	Wheeler-Lea Act, 283

**PROBLEM SET**

1. Do you agree or disagree with each of the following statements? Explain your reasoning.
- For a monopoly, price is equal to marginal revenue because a monopoly has the power to control price.
  - Because a monopoly is the only firm in an industry, it can charge virtually any price for its product.
  - It is always true that if demand elasticity is equal to  $-1$ , marginal revenue is equal to zero.
2. Explain why the marginal revenue curve facing a competitive firm differs from the marginal revenue curve facing a monopolist.
3. Assume that the potato chip industry in the Northwest in 2000 was competitively structured and in long-run competitive equilibrium; firms were earning a normal rate of return. In 2001, two smart lawyers quietly bought up all the firms and began operations as a monopoly called "Wonks." To operate efficiently, Wonks hired a management consulting firm, which estimated long-run costs and demand. These results are presented in the following figure:



( $\sum_i MC_i$  = the horizontal sum of the marginal cost curves of the individual branches/firms.)

- Indicate 2000 output and price on the diagram.
- By assuming that the monopolist is a profit-maximizer,

- indicate on the graph total revenue, total cost, and total profit after the consolidation.
- Compare the perfectly competitive outcome with the monopoly outcome.
- In 2001, an old buddy from law school files a complaint with the antitrust division of the Justice Department claiming that Wonks has monopolized the potato chip industry. Justice concurs and prepares a civil suit. Suppose you work in the White House and the president asks you to prepare a brief memo (two or three paragraphs) outlining the issues. In your response, be sure to include
  - The economic justification for action
  - A proposal to achieve an efficient market outcome
- Willy's Widgets, a monopoly, faces the following demand schedule (sales in widgets per month):

Price	\$20	\$30	\$40	\$50	\$60	\$70	\$80	\$90	\$100
Quantity demanded	40	35	30	25	20	15	10	5	0

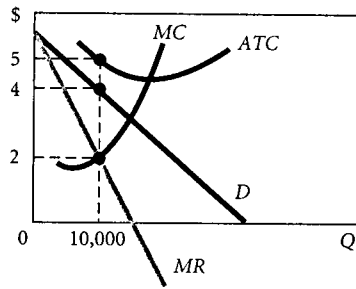
Calculate marginal revenue over each interval in the schedule—for example, between  $q = 40$  and  $q = 35$ . Recall that marginal revenue is the added revenue from an additional *unit* of production/sales and assume that *MR* is constant within each interval.

If marginal cost is constant at \$20 and fixed cost is \$100, what is the profit-maximizing level of output? (Choose one of the specific levels of output from the schedule.) What is the level of profit? Explain your answer using marginal cost and marginal revenue.

Repeat the exercise for  $MC = \$40$ .

5. The following diagram shows the cost structure of a monopoly firm as well as market demand. Identify on the graph and calculate the following:
- Profit-maximizing output level
  - Profit-maximizing price

- c. Total revenue
- d. Total cost
- e. Total profit or loss

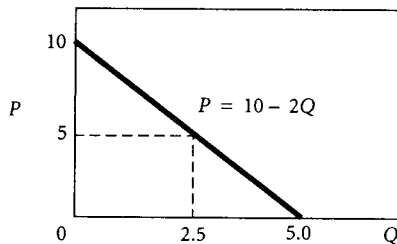


6. Consider the following monopoly that produces paperback books:

fixed costs = \$1,000

marginal cost = \$1 (and is constant)

- a. Draw the average total cost curve and the marginal cost curve on the same graph.
- b. Assume that all households have the same demand schedule, given by the following relationship:



**WEB EXERCISES**



- 1. Go to <http://www.usdoj.gov/atr> and click on "Antitrust Case Filings." Browse the different cases and find a couple that seem interesting. What are the issues being discussed? How do they pertain to what was taught in this chapter?
- 2. The Microsoft trial has been one of the biggest investigations of antitrust behavior since the turn of the century. Write an essay

If there are 400 households in the economy, draw the market demand curve and the marginal revenue schedule facing the monopolist.

- c. What is the monopolist's profit-maximizing output? What is the monopolist's price?
  - d. What is the "efficient price," assuming no externalities?
  - e. Suppose that the government "imposed" the efficient price by setting a ceiling on price at the efficient level. What is the long-run output of the monopoly?
  - f. Can you suggest an alternative approach for achieving an efficient outcome?
7. In the box on page 267, the problem of patented drugs is discussed. Do some research on the AIDS epidemic in Africa. To what extent have the new "wonder drugs" used in the United States been made available to the millions of HIV carriers in Africa? Do you sense from your research that drug companies are doing a better job of distributing to developing countries since the box was written? When the drug companies argue "the free drugs find their way back to the United States through the black market," what are they referring to? Explain.
8. In July 2000, Microsoft appealed Judge Jackson's decision to break up the company into two parts. What is the current status of the appeal? What points have Microsoft won? Where has the Justice Department prevailed? How likely is it that a breakup will occur? Do you think the decision was a good one or a bad one? Why?

outlining both sides of the case. For the government's point of view go to the Department of Justice Web site—<http://www.usdoj.gov>—and click on "What's Hot" or search for Microsoft. For Microsoft's point of view go to: <http://www.microsoft.com> and search on keyword *antitrust*.

**MASTERING ECONOMICS CD-ROM**



Turn to the "Imperfect Competition" episode on the *Mastering Economics* CD-ROM to complete an interactive, video-enhanced exercise that looks at how the staff at CanGo—an e-business start-

up—uses the economic principles presented in this chapter to make business decisions.

even large oligopolistic firms end up behaving like perfect competitors: Prices are pushed to long-run average cost by competition, and positive profits do not persist.

### THE ROLE OF GOVERNMENT

14. The Clayton Act of 1914 (see Chapter 12) gave the government the authority to limit mergers that might “substantially

lessen competition in an industry.” The Celler-Kefauver Act of 1950 enabled the Justice Department to move against a proposed merger. Currently the Justice Department uses the *Herfindahl-Hirschman Index* to determine whether or not it will challenge a proposed merger.

15. Some argue that the regulation of mergers is no longer a proper role for government.

### REVIEW TERMS AND CONCEPTS

cartel, 302	Herfindahl-Hirschman Index (HHI), 310	oligopoly, 300
Celler-Kefauver Act, 310	kinked demand curve model, 302	perfectly contestable market, 307
Cournot model, 302	maximin strategy, 307	price leadership, 304
dominant strategy, 306	monopolistic competition, 291	product differentiation, 293
game theory, 305	Nash equilibrium, 307	tacit collusion, 302

### PROBLEM SET

- Which of the following industries would you classify as an oligopoly? Which would you classify as monopolistically competitive? Explain your answer. If you are not sure, what information do you need to know to decide?
  - Athletic shoes
  - Rock bands
  - Watches
  - Aircraft
  - Ice cream
- All over the world in 2000, people were singing. In Japan, Karaoke bars drew millions of patrons who wanted to sing popular songs accompanied by recorded videos and a prompter lighting up the words. In Taiwan, literally tens of thousands of Karaoke (KTV) establishments exist where groups of people can go into small private rooms and sing to each other while being prompted on a video screen. Each establishment is a bit different from the next. Some are upscale and expensive; others are less expensive, have a smaller selection of songs to choose from, and are not as well maintained. Ten years ago the industry did not exist.
  - Into what industry category does the Taiwanese Karaoke business seem to fall?
  - The first Karaoke establishments in Taiwan made lots of money. What do you think has happened to the price of admission and the profits of most KTV establishments in recent years? Use a graph to explain your answer.
- For each of the following state whether you agree or disagree and explain your answer:
  - Monopolistically competitive firms protect their economic profits with barriers to entry.
  - The telecommunications industry is made up of three very large firms and thousands of smaller firms. Because there are so many firms, it cannot be classified as an oligopoly.
  - Monopolistically competitive firms are efficient because in the long run price falls to equal marginal cost.
- Write a brief essay explaining each statement:
  - “A dominant firm price leader in an oligopolistic industry may actually function as a monopolistically competitive firm in the face of international competition in *world* markets.”
  - “The Beatles were once a monopolistically competitive firm that became a monopolist.”
- Which of the following markets are likely to be perfectly contestable? Explain your answers.
  - Shipbuilding
  - Trucking
  - Housecleaning services
  - Wine production
- The matrix in Figure 1 shows payoffs based on the strategies chosen by two firms. If they collude and hold prices at \$10, each will earn profits of \$5 million. If A cheats on the agreement,

FIGURE 1

