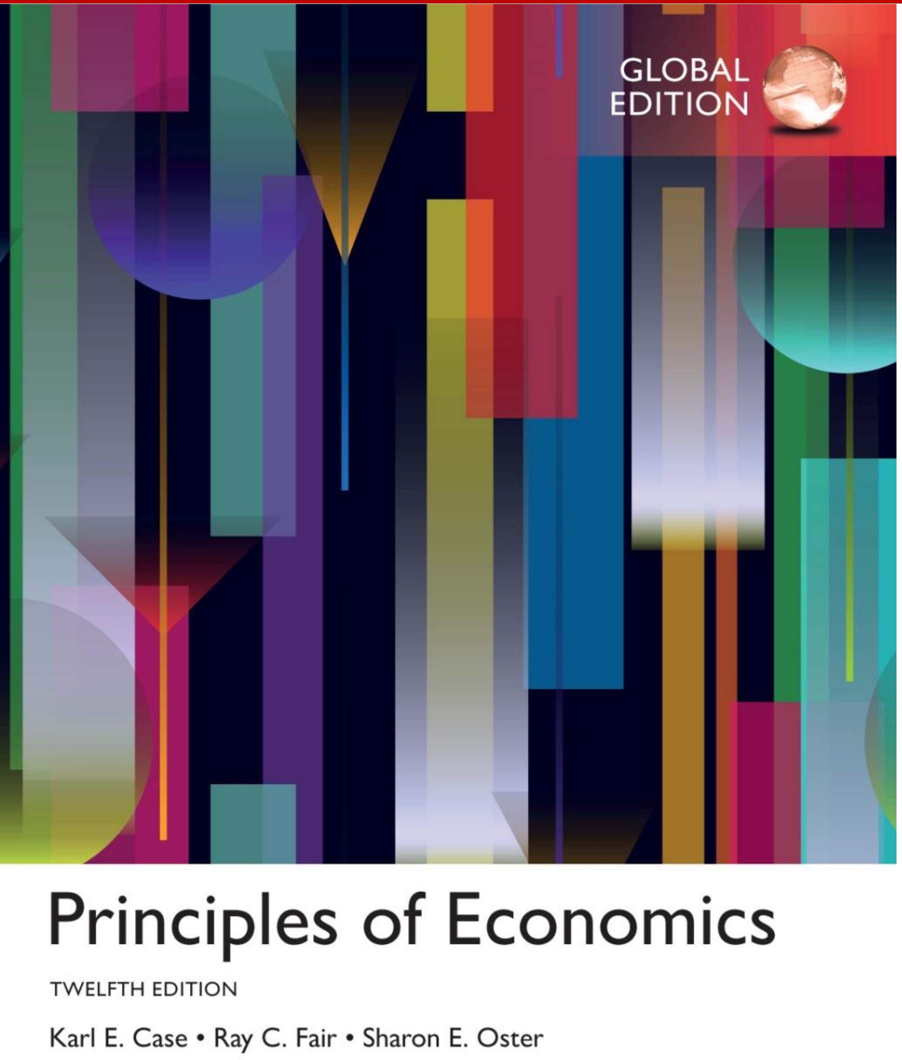
Principles of Economics

Twelfth Edition *(1 of 2)*

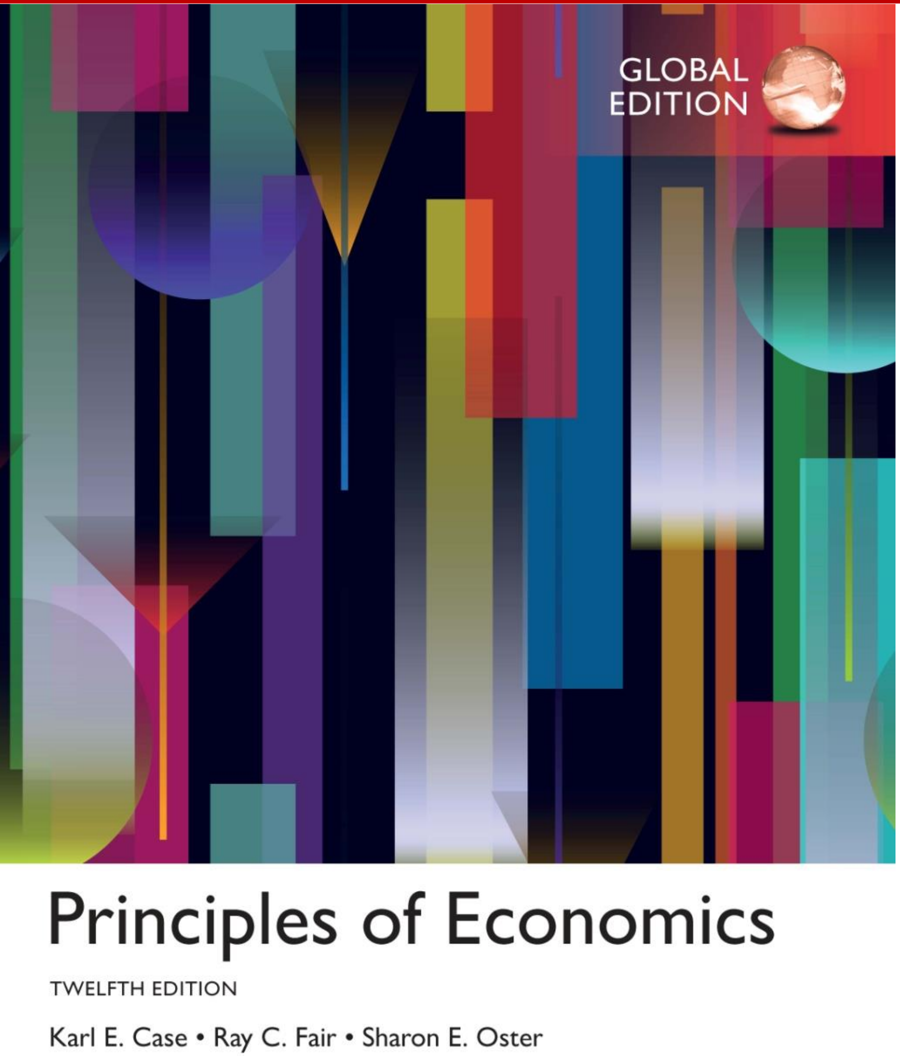


PART III

MARKET IMPERFECTIONS AND THE ROLE OF GOVERNMENT

Principles of Economics

Twelfth Edition *(2 of 2)*



Chapter 13

Monopoly

Chapter Outline and Learning Objectives
(1 of 2)

13.1 Imperfect Competition and Market Power: Core Concepts

- Explain the fundamentals of imperfect competition and market power.

13.2 Price and Output Decisions in Pure Monopoly Markets

- Discuss revenue and demand in monopolistic markets.

13.3 The Social Costs of Monopoly

- Explain the source of the social costs for a monopoly.

Chapter Outline and Learning Objectives

13.4 Price Discrimination

- Discuss the conditions under which we find price discrimination and its results.

13.5 Remedies for Monopoly: Antitrust Policy

- Summarize the functions and guidelines of federal antitrust laws.

Imperfect Markets: A Review and a Look Ahead

Chapter 13 Monopoly and Antitrust Policy

- In 1911, the U.S. Supreme Court found that Standard Oil of New Jersey, the largest oil company in the United States, was a monopoly and ordered it be divided up.
- In 1999, a U.S. court found that Microsoft had exercised monopoly power and ordered it to change its business practices.
- This chapter focuses on monopoly markets in which competition is limited.

Imperfect Competition and Market Power: Core Concepts

- **imperfectly competitive industry** An industry in which individual firms have some control over the price of their output.
- **market power** An imperfectly competitive firm's ability to raise price without losing all of the quantity demanded for its product.

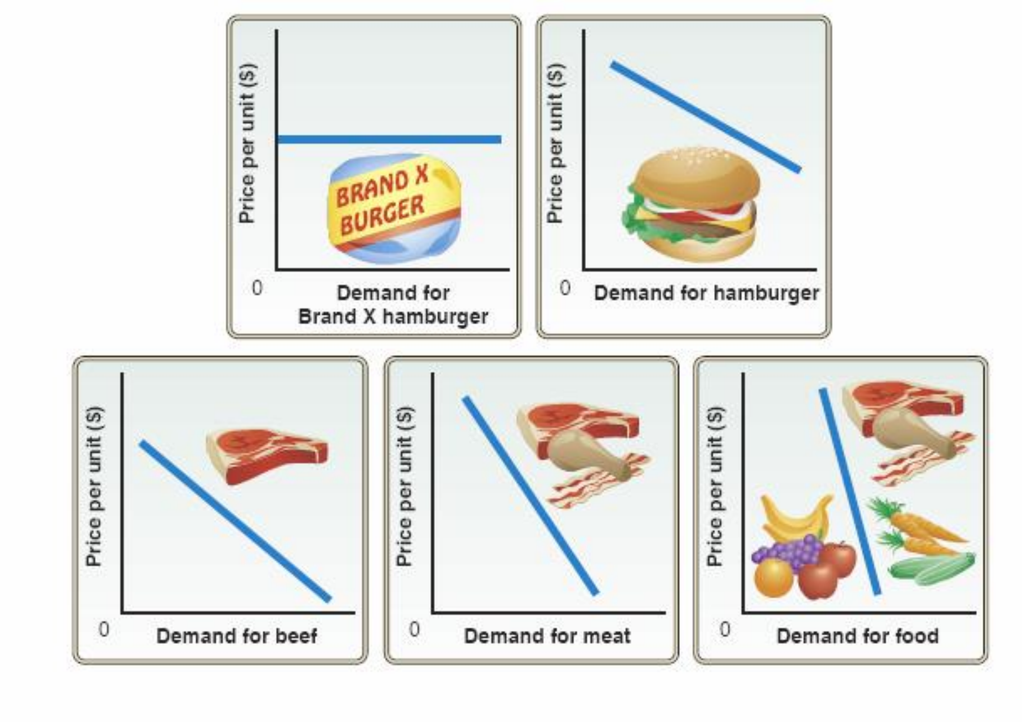
Forms of Imperfect Competition and Market Boundaries *(1 of 2)*

- A *monopoly* is an industry with a single firm in which the entry of new firms is blocked.
- An *oligopoly* is an industry that has a small number of firms, each large enough so that its presence affects prices.
- Firms that differentiate their products in industries with many producers and free entry are called *monopolistic competitors*.

Forms of Imperfect Competition and Market Boundaries *(2 of 2)*

- **pure monopoly** An industry with a single firm that produces a product for which there are no close substitutes and in which significant barriers to entry prevent other firms from entering the industry to compete for profits.

FIGURE 13.1 The Boundary of a Market and Elasticity



We can define an industry as broadly or as narrowly as we like. The more broadly we define the industry, the fewer substitutes there are; thus, the less elastic the demand for that industry's product is likely to be.

A monopoly is an industry with one firm that produces a product for which there are *no close substitutes*. Therefore, monopolies face relatively inelastic demand curves.

The producer of Brand X hamburger cannot properly be called a monopolist because this producer has no control over market price, and there are many substitutes for Brand X hamburger.

Price and Output Decisions in Pure Monopoly Markets

Demand in Monopoly Markets

- A monopolist does not constitute a small part of the market; it *is* the market.
- The monopolist sets the market price by looking at the trade-off in terms of profit earned between getting more money for each unit sold and selling fewer units.

ECONOMICS IN PRACTICE

Figuring Out the Right Price

How does an entrepreneur figure out what people are willing to pay for a completely new product?

One approach is trial and error, or “test marketing.”

Another approach is to learn about the demand of potential customers, by using “focus groups.”

Yet another approach is to use “benchmark” pricing by looking at similar products.

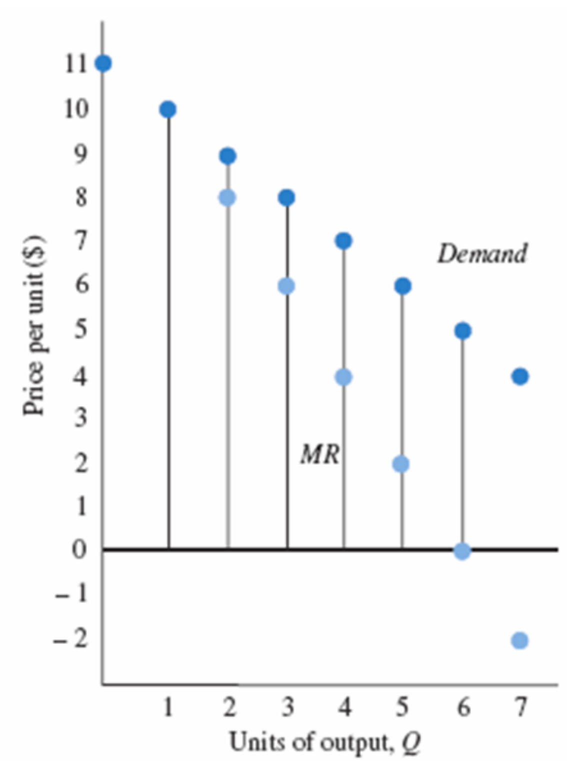
THINKING PRACTICALLY

1. What kind of benchmarks do you think were used in the pricing of the Kindle when it was first brought to market?

TABLE 13.1 Marginal Revenue Facing a Monopolist

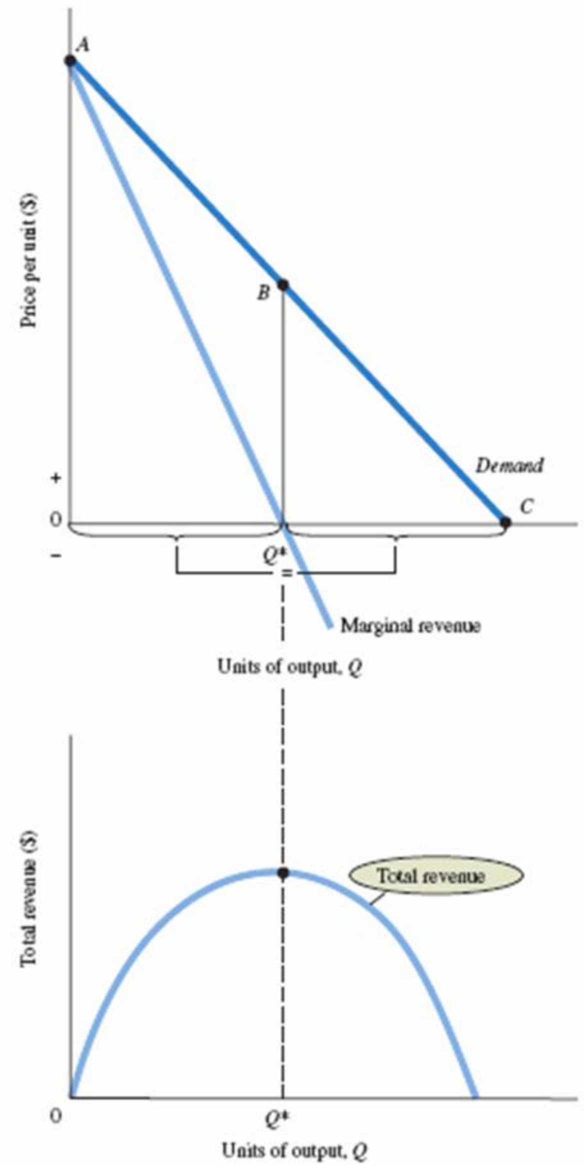
(1) Quantity	(2) Price	(3) Total Revenue	(4) Marginal Revenue
0	$11	0	—
1	10	$10	$10
2	9	18	8
3	8	24	6
4	7	28	4
5	6	30	2
6	5	30	0
7	4	28	−2
8	3	24	−4
9	2	18	−6
10	1	10	−8

FIGURE 13.2 Marginal Revenue Curve Facing a Monopolist



At every level of output except 1 unit, a monopolist's marginal revenue (*MR*) is below price.
This is so because (1) we assume that the monopolist must sell all its product at a single price (no price discrimination) and (2) to raise output and sell it, the firm must lower the price it charges.
Selling the additional output will raise revenue, but this increase is offset somewhat by the lower price charged for all units sold. Therefore, the increase in revenue from increasing output by 1 (the marginal revenue) is less than the price.

FIGURE 13.3 Marginal Revenue and Total Revenue



A monopoly's marginal revenue curve bisects the quantity axis between the origin and the point where the demand curve hits the quantity axis.

A monopoly's *MR* curve shows the change in total revenue that results as a firm moves along the segment of the demand curve that lies exactly above it.

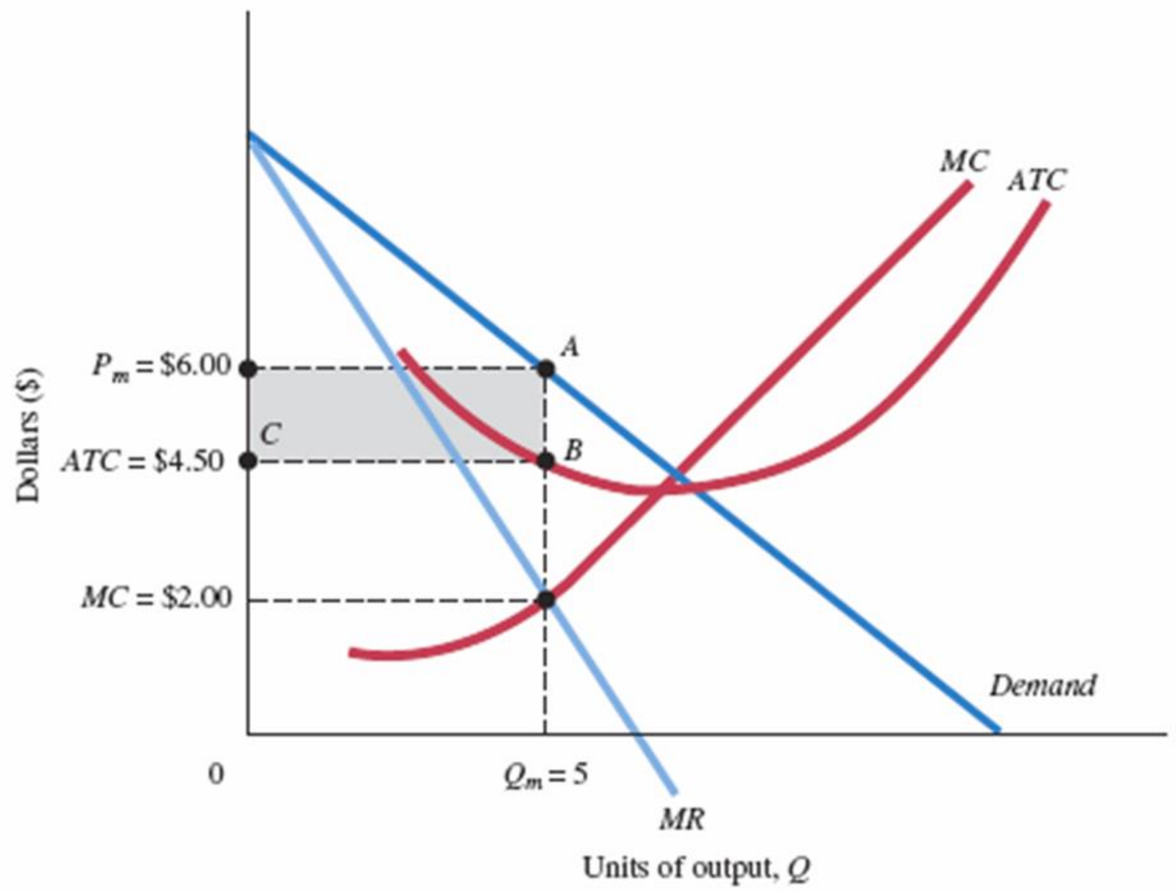
FIGURE 13.4 Price and Output Choice for a Profit-Maximizing Monopolist

A profit-maximizing monopolist will raise output as long as marginal revenue exceeds marginal cost.

Maximum profit is at an output of 5 units per period and a price of $6.

Above 5 units of output, marginal cost is greater than marginal revenue;

increasing output beyond 5 units would reduce profit. At 5 units, TR = P_mAQ_m0, TC = CBQ_m0, and profit = P_mABC.



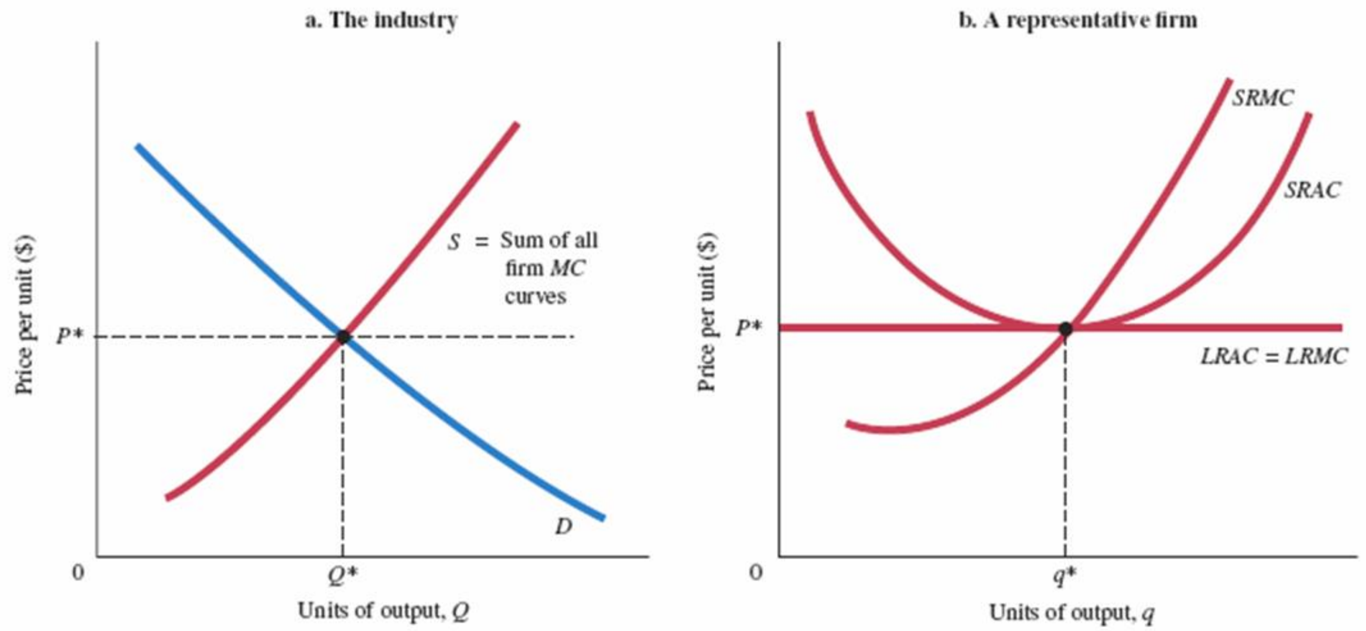
Demand in Monopoly Markets

The Absence of a Supply Curve in Monopoly

- A monopoly firm has no supply curve that is independent of the demand curve for its product.
- A monopolist sets both price and quantity, and the amount of output that it supplies depends on its marginal cost curve and the demand curve that it faces.

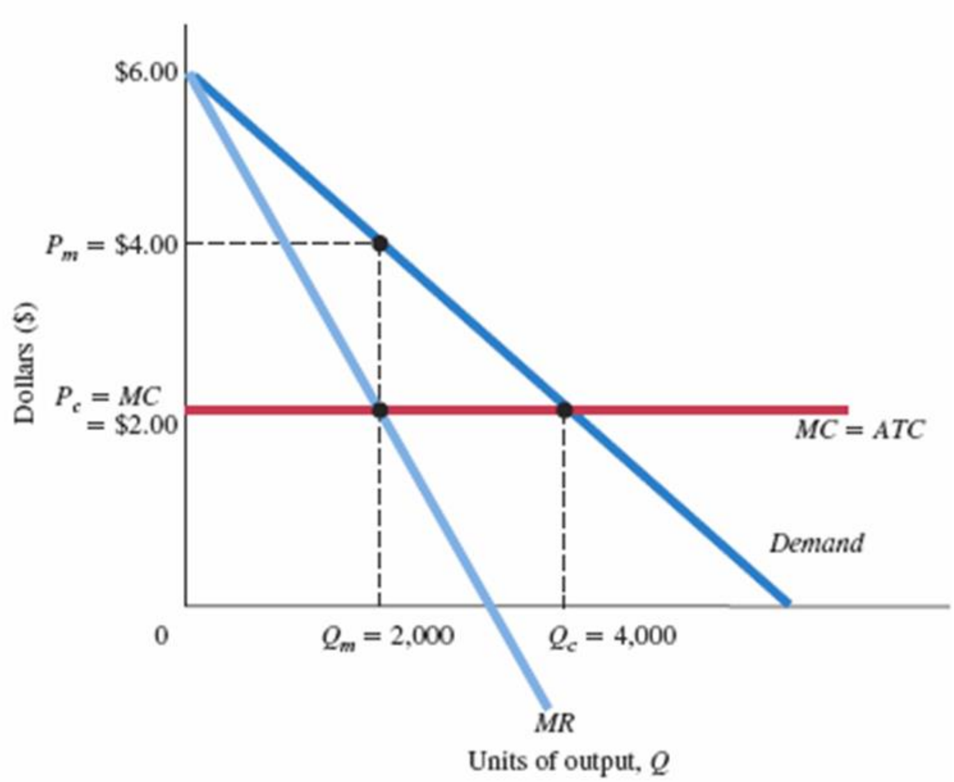
Perfect Competition and Monopoly Compared

FIGURE 13.5 A Perfectly Competitive Industry in Long-Run Equilibrium



In a perfectly competitive industry in the long run, price will be equal to long-run average cost. The market supply curve is the sum of all the short-run marginal cost curves of the firms in the industry. Here we assume that firms are using a technology that exhibits constant returns to scale: LRAC is flat. Big firms enjoy no cost advantage.

FIGURE 13.6 Comparison of Monopoly and Perfectly Competitive Outcomes for a Firm with Constant Returns to Scale



In the newly organized monopoly, the marginal cost curve is the same as the supply curve that represented the behavior of all the independent firms when the industry was organized competitively. Quantity produced by the monopoly will be less than the perfectly competitive level of output, and the monopoly price will be higher than the price under perfect competition.

Under monopoly, P = Pm = $4 and Q = Qm = 2,000.

Under perfect competition, P = Pc = $2 and Q = Qc = 4,000.

Monopoly in the Long Run: Barriers to Entry *(1 of 3)*

- **barriers to entry** Factors that prevent new firms from entering and competing in imperfectly competitive industries.

Economies of Scale

- **natural monopoly** An industry that realizes such large economies of scale that single-firm production of that good or service is most efficient.

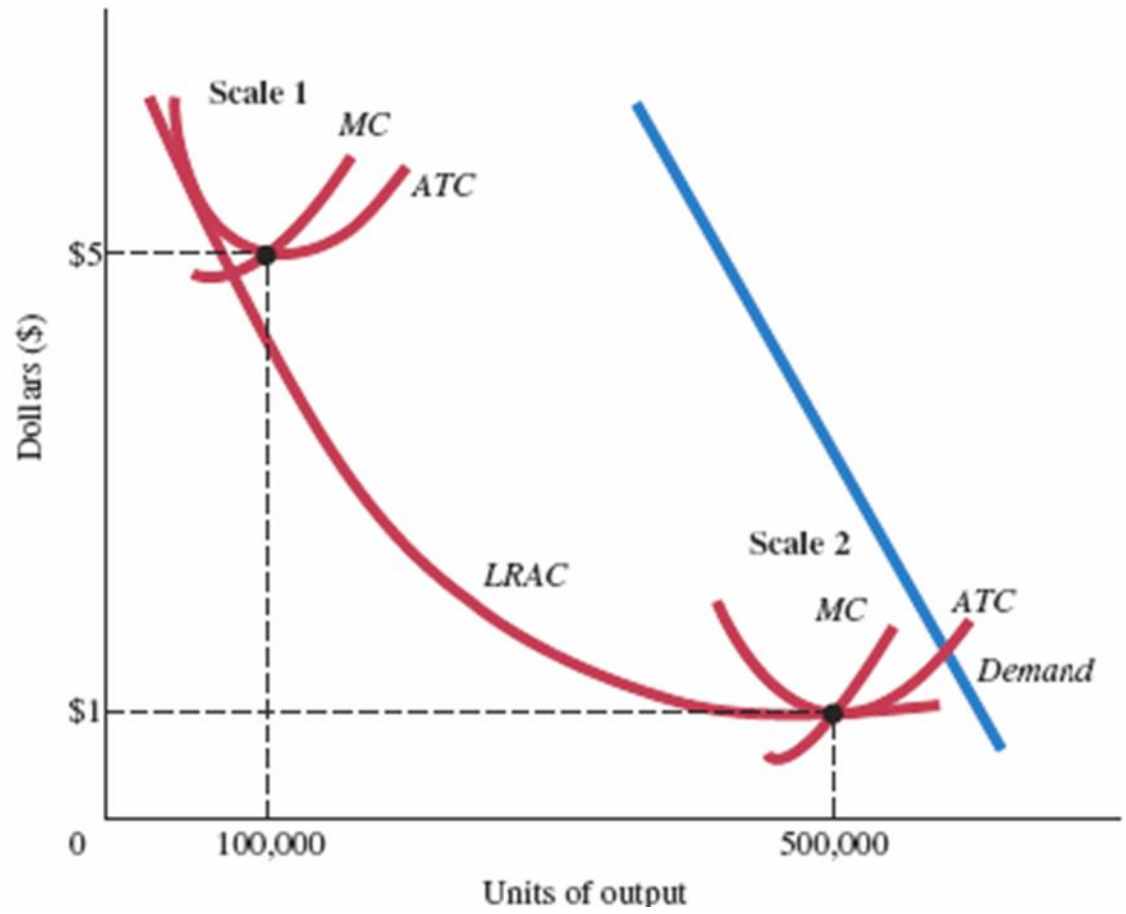
FIGURE 13.7 A Natural Monopoly

A natural monopoly is a firm in which the most efficient scale is very large.

Here, average total cost declines until a single firm is producing nearly the entire amount demanded in the market.

With one firm producing 500,000 units, average total cost is $1 per unit.

With five firms each producing 100,000 units, average total cost is $5 per unit.



Monopoly in the Long Run: Barriers to Entry *(2 of 3)*

Patents

- **patent** A barrier to entry that grants exclusive use of the patented product or process to the inventor.

Government Rules

- In some cases, governments impose entry restrictions on firms as a way of controlling activity.

Monopoly in the Long Run: Barriers to Entry *(3 of 3)*

Ownership of a Scarce Factor of Production

- If production requires a particular input and one firm owns the entire supply of that input, that firm will control the industry.

Network Effects

- **network externalities** The value of a product to a consumer increases with the number of that product being sold or used in the market.

The Social Costs of Monopoly

Inefficiency and Consumer Loss

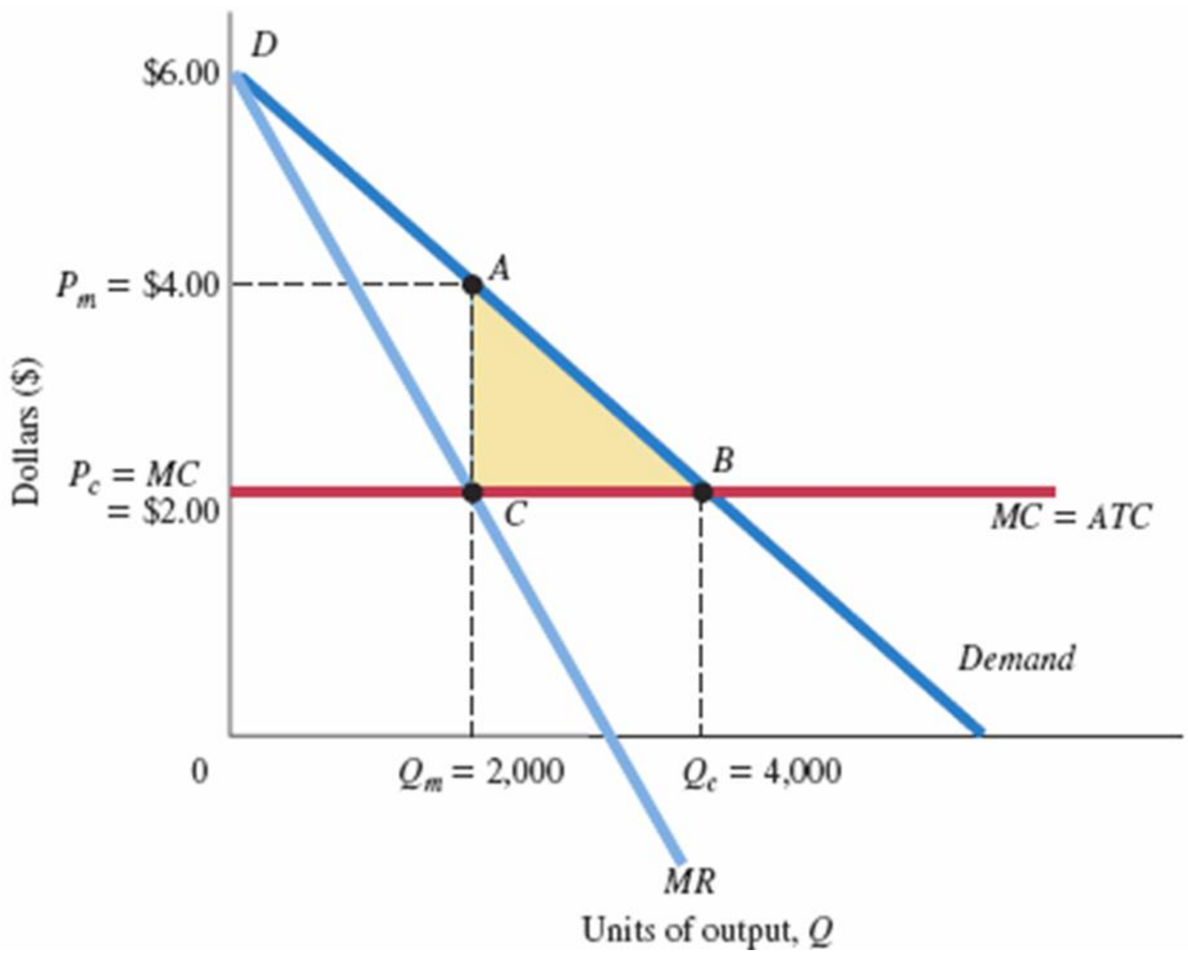
- **deadweight loss** or **excess burden of a monopoly** The social cost associated with the distortion in consumption from a monopoly price.

FIGURE 13.8 Welfare Loss from Monopoly

A demand curve shows the amounts that people are willing to pay at each potential level of output. Thus, the demand curve can be used to approximate the benefits to the consumer of raising output above 2,000 units.

MC reflects the marginal cost of the resources needed.

The triangle *ABC* roughly measures the net social gain of moving from 2,000 units to 4,000 units (or the loss that results when monopoly decreases output from 4,000 units to 2,000 units).



Rent-Seeking Behavior

- **rent-seeking behavior** Actions taken by households or firms to preserve economic profits.
- **government failure** Occurs when the government becomes the tool of the rent seeker and the allocation of resources is made even less efficient by the intervention of government.

Price Discrimination

- **price discrimination** Charging different prices to different buyers for identical products, where these price differences are not an inflection of cost differences.
- **perfect price discrimination** Occurs when a firm charges the maximum amount that buyers are willing to pay for each unit.

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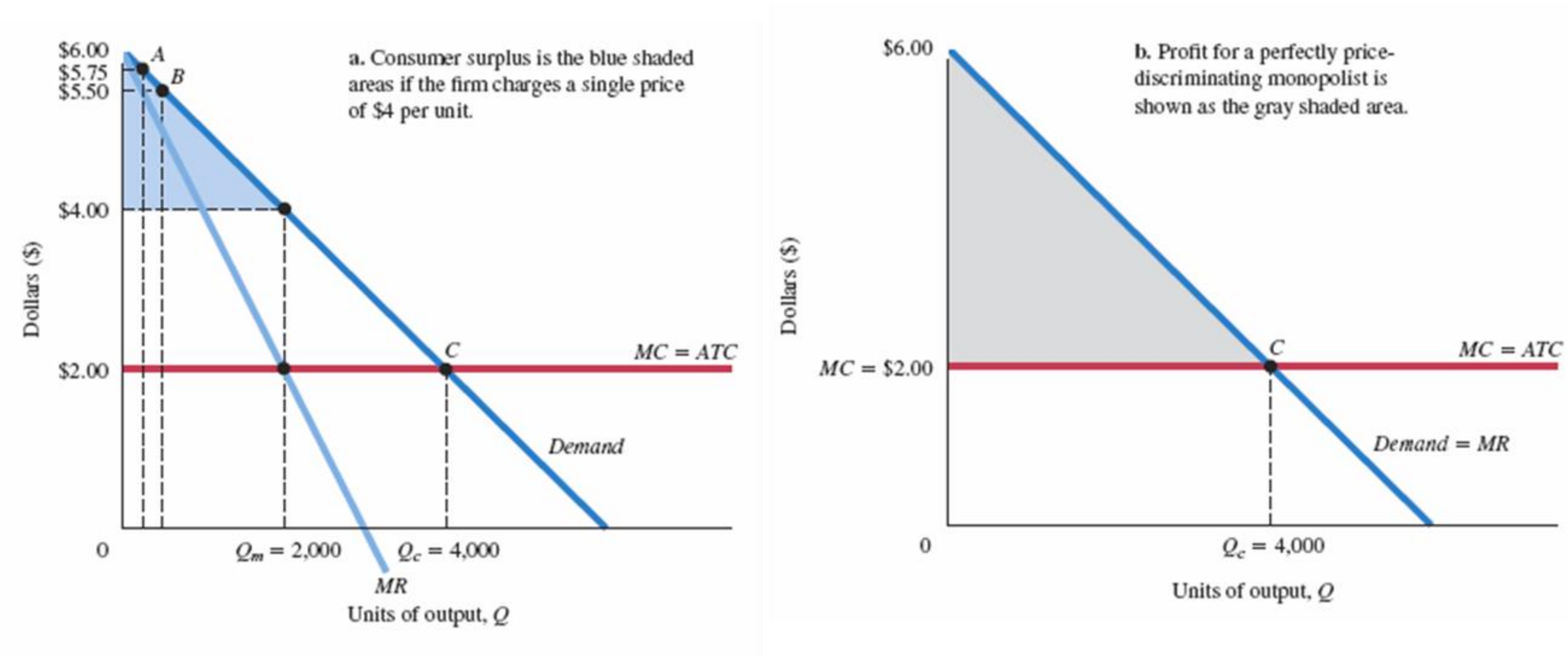
FIGURE 13.9 Price Discrimination



In panel (a), consumer *A* is willing to pay $5.75. If the price-discriminating firm can charge $5.75 to *A*, profit is $3.75.

A monopolist who cannot price discriminate would maximize profit by charging $4.

At a price of $4.00, the firm makes $2.00 in profit, and consumer *A* enjoys a consumer surplus of $1.75.

In panel (b), for a perfectly price-discriminating monopolist, the demand curve is the same as marginal revenue.

The firm will produce as long as $MR > MC$, up to Q_c.

At Q_c, profit is the entire shaded area, and consumer surplus is zero.

Examples of Price Discrimination

- Movie theaters, hotels, and many other industries routinely charge lower prices for children and elderly people than for others.
- With price discrimination, the objective of the firm is to segment the market into different identifiable groups, with each group having a different elasticity of demand.
- The optimal strategy for a firm that can sell in more than one market is to charge higher prices in markets with low demand elasticities.

ECONOMICS IN PRACTICE

Price Discrimination at Work: Laos's Wat SisKent

In Laos, foreigners pay 2.5 times the price Laotians pay to enter a temple.

Is this price discrimination fair?

Foreign visitors are typically much richer than local Laotians, and thus they are less elastic buyers.

Tourists also enter the temple as a single event, while local visitors are likely to make multiple visits.

THINKING PRACTICALLY

1. Many countries follow the local/foreigner price discrimination strategy. Why do you think it is unusual in the United States?

Characteristics of Different Market Organizations

	Number of firms	Products differentiated or homogeneous	Price a decision variable	Easy entry	Distinguished by	Examples
Perfect competition	Many	Homogeneous	No	Yes	Market sets price	Wheat farmer Textile firm
Monopoly	One	One version or many versions of a product	Yes	No	Still constrained by market demand	Public utility Patented drug
Monopolistic competition	Many	Differentiated	Yes, but limited	Yes	Price and quality competition	Restaurants Hand soap
Oligopoly	Few	Either	Yes	Limited	Strategic behavior	Automobiles Aluminum

REVIEW TERMS AND CONCEPTS

- barriers to entry
- Clayton Act
- deadweight loss or excess burden of a monopoly
- Federal Trade Commission (FTC)
- government failure
- imperfectly competitive industry
- market power
- natural monopoly
- network externalities
- patent
- perfect price discrimination
- price discrimination
- pure monopoly
- rent-seeking behavior
- rule of reason