

CHAPTER 10

# Market Power: Monopoly and Monopsony

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Fernando & Yvonn Quijano

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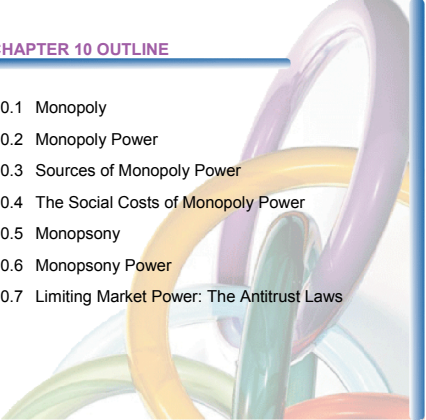
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CHAPTER 10 OUTLINE

- 10.1 Monopoly
- 10.2 Monopoly Power
- 10.3 Sources of Monopoly Power
- 10.4 The Social Costs of Monopoly Power
- 10.5 Monopsony
- 10.6 Monopsony Power
- 10.7 Limiting Market Power: The Antitrust Laws

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Market Power: Monopoly and Monopsony



- **monopoly** Market with only one seller.
- **monopsony** Market with only one buyer.
- **market power** Ability of a seller or buyer to affect the price of a good.

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## 10.1 MONOPOLY

### Average Revenue and Marginal Revenue

- **marginal revenue** Change in revenue resulting from a one-unit increase in output.

To see the relationship among total, average, and marginal revenue, consider a firm facing the following demand curve:

$$P = 6 - Q$$

TABLE 10.1 Total, Marginal, and Average Revenue

Price (P)	Quantity (Q)	Total Revenue (R)	Marginal Revenue (MR)	Average Revenue (AR)
\$6	0	\$0	---	---
5	1	5	\$5	5
4	2	8	3	4
3	3	9	1	3
2	4	8	-1	2
1	5	5	-3	1

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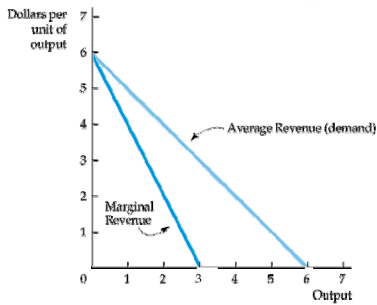
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## 10.1 MONOPOLY

### Average Revenue and Marginal Revenue

Figure 10.1

**Average and Marginal Revenue**  
Average and marginal revenue are shown for the demand curve  $P = 6 - Q$ .




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## 10.1 MONOPOLY

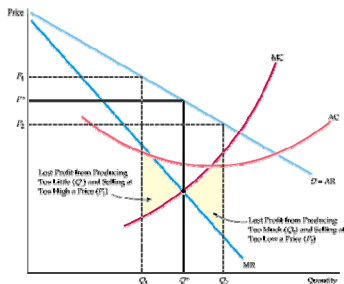
### The Monopolist's Output Decision

Figure 10.2

**Profit Is Maximized When Marginal Revenue Equals Marginal Cost**  
 $Q^*$  is the output level at which  $MR = MC$ .

If the firm produces a smaller output—say,  $Q_1$ —it sacrifices some profit because the extra revenue that could be earned from producing and selling the units between  $Q_1$  and  $Q^*$  exceeds the cost of producing them.

Similarly, expanding output from  $Q^*$  to  $Q_2$  would reduce profit because the additional cost would exceed the additional revenue.




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10.1 MONOPOLY

The Monopolist's Output Decision



Chapter 10: Market Power: Monopoly and Monopsony

We can also see algebraically that Q\* maximizes profit. Profit π is the difference between revenue and cost, both of which depend on Q:

π(Q) = R(Q) - C(Q)

As Q is increased from zero, profit will increase until it reaches a maximum and then begin to decrease. Thus the profit-maximizing Q is such that the incremental profit resulting from a small increase in Q is just zero (i.e., Δπ / ΔQ = 0). Then

Δπ / ΔQ = ΔR / ΔQ - ΔC / ΔQ = 0

But ΔR / ΔQ is marginal revenue and ΔC / ΔQ is marginal cost. Thus the profit-maximizing condition is that

MR - MC = 0, or MR = MC

Horizontal lines for student notes.

10.1 MONOPOLY

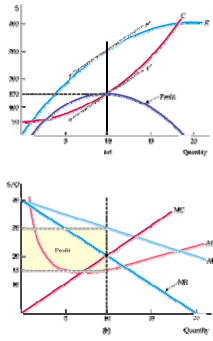
An Example



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Figure 10.3 Example of Profit Maximization

Part (a) shows total revenue R, total cost C, and profit, the difference between the two. Part (b) shows average and marginal revenue and average and marginal cost. Marginal revenue is the slope of the total revenue curve, and marginal cost is the slope of the total cost curve. The profit-maximizing output is Q\* = 10, the point where marginal revenue equals marginal cost. At this output level, the slope of the profit curve is zero, and the slopes of the total revenue and total cost curves are equal. The profit per unit is \$15, the difference between average revenue and average cost. Because 10 units are produced, total profit is \$150.



Horizontal lines for student notes.

10.1 MONOPOLY

A Rule of Thumb for Pricing



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We want to translate the condition that marginal revenue should equal marginal cost into a rule of thumb that can be more easily applied in practice.

To do this, we first write the expression for marginal revenue:

MR = ΔR / ΔQ = Δ(PQ) / ΔQ

Horizontal lines for student notes.

**10.1** MONOPOLY

## A Rule of Thumb for Pricing



Note that the extra revenue from an incremental unit of quantity,  $\Delta(PQ)/\Delta Q$ , has two components:

1. Producing one extra unit and selling it at price  $P$  brings in revenue  $(1)(P) = P$ .
2. But because the firm faces a downward-sloping demand curve, producing and selling this extra unit also results in a small drop in price  $\Delta P/\Delta Q$ , which reduces the revenue from all units sold (i.e., a change in revenue  $Q(\Delta P/\Delta Q)$ ).

Thus,

$$MR = P + Q \frac{\Delta P}{\Delta Q} = P + P \left( \frac{Q}{P} \right) \left( \frac{\Delta P}{\Delta Q} \right)$$

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**10.1** MONOPOLY

## A Rule of Thumb for Pricing



$(Q/P)(\Delta P/\Delta Q)$  is the reciprocal of the elasticity of demand,  $1/E_d$ , measured at the profit-maximizing output, and

$$MR = P + P(1/E_d)$$

Now, because the firm's objective is to maximize profit, we can set marginal revenue equal to marginal cost:

$$P + P(1/E_d) = MC$$

which can be rearranged to give us

$$\frac{P - MC}{P} = -\frac{1}{E_d} \quad (10.1)$$

Equivalently, we can rearrange this equation to express price directly as a markup over marginal cost:

$$P = \frac{MC}{1 + (1/E_d)} \quad (10.2)$$

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**10.1** MONOPOLY**EXAMPLE 10.1** Astra-Merck Prices Prilosec

In 1995, Prilosec, represented a new generation of antiulcer medication. Prilosec was based on a very different biochemical mechanism and was much more effective than earlier drugs.

By 1996, it had become the best-selling drug in the world and faced no major competitor.

Astra-Merck was pricing Prilosec at about \$3.50 per daily dose.

The marginal cost of producing and packaging Prilosec is only about 30 to 40 cents per daily dose.

The price elasticity of demand,  $E_D$ , should be in the range of roughly  $-1.0$  to  $-1.2$ .

Setting the price at a markup exceeding 400 percent over marginal cost is consistent with our rule of thumb for pricing.

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## 10.1 MONOPOLY

### Shifts in Demand

Figure 10.4

#### Shifts in Demand

Shifting the demand curve shows that a monopolistic market has no supply curve—i.e., there is no one-to-one relationship between price and quantity produced.

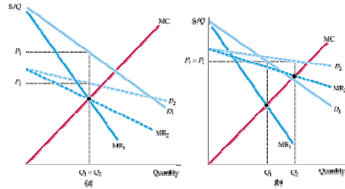
In (a), the demand curve  $D_1$  shifts to new demand curve  $D_2$ .

But the new marginal revenue curve  $MR_2$  intersects marginal cost at the same point as the old marginal revenue curve  $MR_1$ .

The profit-maximizing output therefore remains the same, although price falls from  $P_1$  to  $P_2$ .

In (b), the new marginal revenue curve  $MR_2$  intersects marginal cost at a higher output level  $Q_2$ .

But because demand is now more elastic, price remains the same.



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## 10.1 MONOPOLY

### The Effect of a Tax

Suppose a specific tax of  $t$  dollars per unit is levied, so that the monopolist must remit  $t$  dollars to the government for every unit it sells. If  $MC$  was the firm's original marginal cost, its optimal production decision is now given by

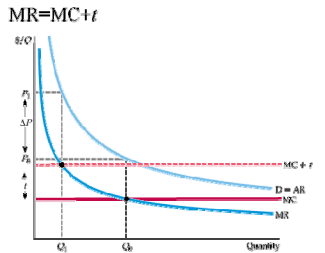
$$MR = MC + t$$

Figure 10.5

#### Effect of Excise Tax on Monopolist

With a tax  $t$  per unit, the firm's effective marginal cost is increased by the amount  $t$  to  $MC + t$ .

In this example, the increase in price  $\Delta P$  is larger than the tax  $t$ .



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## 10.1 MONOPOLY

### \*The Multiplant Firm

Suppose a firm has two plants. What should its total output be, and how much of that output should each plant produce? We can find the answer intuitively in two steps.

- **Step 1.** Whatever the total output, it should be divided between the two plants so that *marginal cost is the same in each plant*. Otherwise, the firm could reduce its costs and increase its profit by reallocating production.
- **Step 2.** We know that total output must be such that *marginal revenue equals marginal cost*. Otherwise, the firm could increase its profit by raising or lowering total output.

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10.1 MONOPOLY



\*The Multiplant Firm

We can also derive this result algebraically. Let  $Q_1$  and  $C_1$  be the output and cost of production for Plant 1,  $Q_2$  and  $C_2$  be the output and cost of production for Plant 2, and  $Q_T = Q_1 + Q_2$  be total output. Then profit is

$$\pi = PQ_T - C_1(Q_1) - C_2(Q_2)$$

The firm should increase output from each plant until the incremental profit from the last unit produced is zero. Start by setting incremental profit from output at Plant 1 to zero:

$$\frac{\Delta \pi}{\Delta Q_1} = \frac{\Delta(PQ_T)}{\Delta Q_1} - \frac{\Delta C_1}{\Delta Q_1} = 0$$

Here  $\Delta(PQ_T)/\Delta Q_1$  is the revenue from producing and selling one more unit—i.e., *marginal revenue*, MR, for all of the firm's output.

Chapter 10: Market Power: Monopoly and Monopsony

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10.1 MONOPOLY



\*The Multiplant Firm

The next term,  $\Delta C_1/\Delta Q_1$ , is *marginal cost* at Plant 1,  $MC_1$ . We thus have  $MR - MC_1 = 0$ , or

$$MR = MC_1$$

Similarly, we can set incremental profit from output at Plant 2 to zero,

$$MR = MC_2$$

Putting these relations together, we see that the firm should produce so that

$$MR = MC_1 = MC_2 \quad (10.3)$$

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10.1 MONOPOLY

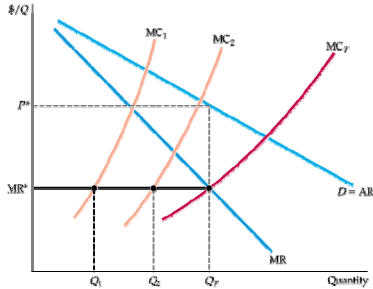


\*The Multiplant Firm

Figure 10.6

Production with Two Plants

A firm with two plants maximizes profits by choosing output levels  $Q_1$  and  $Q_2$  so that marginal revenue MR (which depends on total output) equals marginal costs for each plant,  $MC_1$  and  $MC_2$ .



Chapter 10: Market Power: Monopoly and Monopsony

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**10.2 MONOPOLY POWER**

Figure 10.7

**The Demand for Toothbrushes**

Part (a) shows the market demand for toothbrushes.

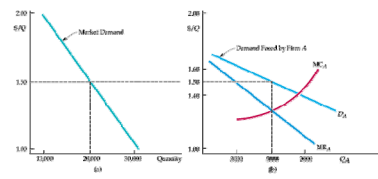
Part (b) shows the demand for toothbrushes as seen by Firm A.

At a market price of \$1.50, elasticity of market demand is  $-1.5$ .

Firm A, however, sees a much more elastic demand curve  $D_A$  because of competition from other firms.

At a price of \$1.50, Firm A's demand elasticity is  $-6$ .

Still, Firm A has some monopoly power: its profit-maximizing price is \$1.50, which exceeds marginal cost.



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**10.2 MONOPOLY POWER**

**Measuring Monopoly Power**

Remember the important distinction between a perfectly competitive firm and a firm with monopoly power: *For the competitive firm, price equals marginal cost; for the firm with monopoly power, price exceeds marginal cost.*

- **Lerner Index of Monopoly Power**  
 Measure of monopoly power calculated as excess of price over marginal cost as a fraction of price.

Mathematically:

$$L = (P - MC) / P$$

This index of monopoly power can also be expressed in terms of the elasticity of demand facing the firm.

$$L = (P - MC) / P = -1 / E_d \quad (10.4)$$

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**10.2 MONOPOLY POWER**

**The Rule of Thumb for Pricing**

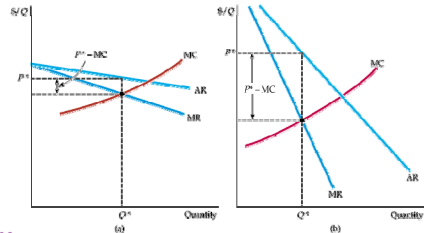


Figure 10.8

**Elasticity of Demand and Price Markup**

The markup  $(P - MC)/P$  is equal to minus the inverse of the elasticity of demand facing the firm.

If the firm's demand is elastic, as in (a), the markup is small and the firm has little monopoly power.

The opposite is true if demand is relatively inelastic, as in (b).

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## 10.2 MONOPOLY POWER

### EXAMPLE 10.2 Markup Pricing: Supermarkets to Designer Jeans



Although the elasticity of market demand for food is small (about  $-1$ ), no single supermarket can raise its prices very much without losing customers to other stores.

The elasticity of demand for any one supermarket is often as large as  $-10$ .

We find  $P = MC / (1 - 0.9) = MC / (0.1) = (1.11)MC$ .

The manager of a typical supermarket should set prices about 11 percent above marginal cost.

Small convenience stores typically charge higher prices because its customers are generally less price sensitive.

Because the elasticity of demand for a convenience store is about  $-5$ , the markup equation implies that its prices should be about 25 percent above marginal cost.

With designer jeans, demand elasticities in the range of  $-2$  to  $-3$  are typical.

This means that price should be 50 to 100 percent higher than marginal cost.

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## 10.2 MONOPOLY POWER

### EXAMPLE 10.3 The Pricing of Videos

TABLE 10.2 Retail Prices of VHS and DVDs

1995		2007	
Title	Retail Price VHS	Title	Retail Price DVD
<i>Purple Rain</i>	\$29.88	<i>Pirates of the Caribbean</i>	\$19.99
<i>Raiders of the Lost Ark</i>	\$24.95	<i>The Da Vinci Code</i>	\$19.99
<i>Jane Fonda Workout</i>	\$59.95	<i>Mission: Impossible III</i>	\$17.99
<i>The Empire Strikes Back</i>	\$79.98	<i>King Kong</i>	\$19.98
<i>An Officer and a Gentleman</i>	\$24.95	<i>Harry Potter and the Goblet of Fire</i>	\$17.49
<i>Star Trek: The Motion Picture</i>	\$24.95	<i>Ice Age</i>	\$19.99
<i>Star Wars</i>	\$39.98	<i>The Devil Wears Prada</i>	\$17.99

Source (2007): Based on <http://www.amazon.com>. Suggested retail price.

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## 10.2 MONOPOLY POWER

### EXAMPLE 10.3 The Pricing of Videos (continued)

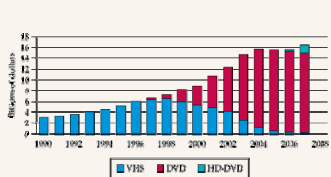
Figure 10.9

#### Video Sales

Between 1990 and 1998, lower prices induced consumers to buy many more videos.

By 2001, sales of DVDs overtook sales of VHS videocassettes.

High-definition DVDs were introduced in 2006, and are expected to displace sales of conventional DVDs.



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### 10.3 SOURCES OF MONOPOLY POWER



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Three factors determine a firm's elasticity of demand.

1. *The elasticity of market demand.* Because the firm's own demand will be at least as elastic as market demand, the elasticity of market demand limits the potential for monopoly power.
2. *The number of firms in the market.* If there are many firms, it is unlikely that any one firm will be able to affect price significantly.
3. *The interaction among firms.* Even if only two or three firms are in the market, each firm will be unable to profitably raise price very much if the rivalry among them is aggressive, with each firm trying to capture as much of the market as it can.

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### 10.3 SOURCES OF MONOPOLY POWER



Chapter 10: Market Power: Monopoly and Monopsony

#### The Elasticity of Market Demand

If there is only one firm—a pure monopolist—its demand curve is the market demand curve.

Because the demand for oil is fairly inelastic (at least in the short run), OPEC could raise oil prices far above marginal production cost during the 1970s and early 1980s.

Because the demands for such commodities as coffee, cocoa, tin, and copper are much more elastic, attempts by producers to cartelize these markets and raise prices have largely failed.

In each case, the elasticity of market demand limits the potential monopoly power of individual producers.

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### 10.3 SOURCES OF MONOPOLY POWER



Chapter 10: Market Power: Monopoly and Monopsony

#### The Number of Firms

When only a few firms account for most of the sales in a market, we say that the market is highly *concentrated*.

- **barrier to entry** Condition that impedes entry by new competitors.

#### The Interaction Among Firms

Firms might compete aggressively, undercutting one another's prices to capture more market share.

This could drive prices down to nearly competitive levels.

Firms might even collude (in violation of the antitrust laws), agreeing to limit output and raise prices.

Because raising prices in concert rather than individually is more likely to be profitable, collusion can generate substantial monopoly power.

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## 10.4 THE SOCIAL COSTS OF MONOPOLY POWER

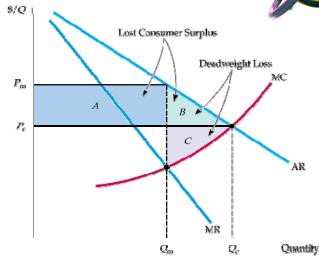
Figure 10.10

### Deadweight Loss from Monopoly Power

The shaded rectangle and triangles show changes in consumer and producer surplus when moving from competitive price and quantity,  $P_c$  and  $Q_c$ ,

to a monopolist's price and quantity,  $P_m$  and  $Q_m$ .

Because of the higher price, consumers lose  $A + B$  and producer gains  $A - C$ . The deadweight loss is  $B + C$ .




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## 10.4 THE SOCIAL COSTS OF MONOPOLY POWER

### Rent Seeking

- **rent seeking** Spending money in socially unproductive efforts to acquire, maintain, or exercise monopoly.

In 1996, the Archer Daniels Midland Company (ADM) successfully lobbied the Clinton administration for regulations requiring that the ethanol (ethyl alcohol) used in motor vehicle fuel be produced from corn.

Why? Because ADM had a near monopoly on corn-based ethanol production, so the regulation would increase its gains from monopoly power.

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## 10.4 THE SOCIAL COSTS OF MONOPOLY POWER

### Price Regulation

Figure 10.11

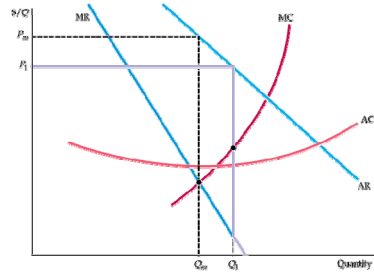
#### Price Regulation

If left alone, a monopolist produces  $Q_m$  and charges  $P_m$ .

When the government imposes a price ceiling of  $P_1$ , the firm's average and marginal revenue are constant and equal to  $P_1$  for output levels up to  $Q_1$ .

For larger output levels, the original average and marginal revenue curves apply.

The new marginal revenue curve is, therefore, the dark purple line, which intersects the marginal cost curve at  $Q_1$ .




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## 10.4 THE SOCIAL COSTS OF MONOPOLY POWER

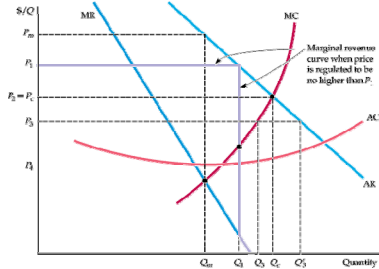
### Price Regulation

Figure 10.11

#### Price Regulation

When price is lowered to  $P_3$ , at the point where marginal cost intersects average revenue, output increases to its maximum  $Q_3$ . This is the output that would be produced by a competitive industry.

Lowering price further, to  $P_4$ , reduces output to  $Q_4$  and causes a shortage,  $Q_3 - Q_4$ .



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## 10.4 THE SOCIAL COSTS OF MONOPOLY POWER

### Natural Monopoly

- **natural monopoly** Firm that can produce the entire output of the market at a cost lower than what it would be if there were several firms.

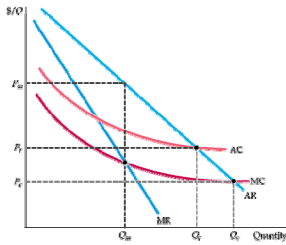
Figure 10.12

#### Regulating the Price of a Natural Monopoly

A firm is a natural monopoly because it has economies of scale (declining average and marginal costs) over its entire output range.

If price were regulated to be  $P_2$ , the firm would lose money and go out of business.

Setting the price at  $P_1$  yields the largest possible output consistent with the firm's remaining in business; excess profit is zero.



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## 10.4 THE SOCIAL COSTS OF MONOPOLY POWER

### Regulation in Practice

- **rate-of-return regulation** Maximum price allowed by a regulatory agency is based on the (expected) rate of return that a firm will earn.

The difficulty of agreeing on a set of numbers to be used in rate-of-return calculations often leads to delays in the regulatory response to changes in cost and other market conditions.

The net result is **regulatory lag**—the delays of a year or more usually entailed in changing regulated prices.

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## 10.5 MONOPSONY



- **oligopsony** Market with only a few buyers.
- **monopsony power** Buyer's ability to affect the price of a good.
- **marginal value** Additional benefit derived from purchasing one more unit of a good.
- **marginal expenditure** Additional cost of buying one more unit of a good.
- **average expenditure** Price paid per unit of a good.

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## 10.5 MONOPSONY

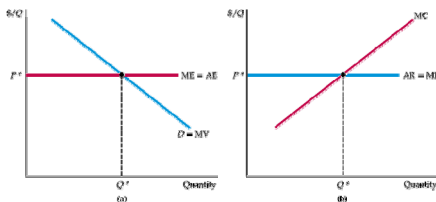


Figure 10.13

### Competitive Buyer Compared to Competitive Seller

In (a), the competitive buyer takes market price  $P^*$  as given. Therefore, marginal expenditure and average expenditure are constant and equal; quantity purchased is found by equating price to marginal value (demand).

In (b), the competitive seller also takes price as given. Marginal revenue and average revenue are constant and equal; quantity sold is found by equating price to marginal cost.

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## 10.5 MONOPSONY



Figure 10.14

### Monopsonist Buyer

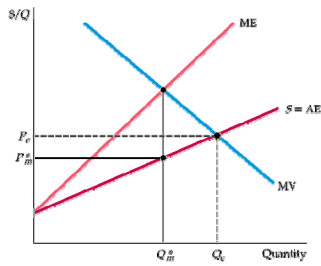
The market supply curve is monopsonist's average expenditure curve AE.

Because average expenditure is rising, marginal expenditure lies above it.

The monopsonist purchases quantity  $Q_m^*$  where marginal expenditure and marginal value (demand) intersect.

The price paid per unit  $P_m^*$  is then found from the average expenditure (supply) curve.

In a competitive market, price and quantity,  $P_c$  and  $Q_c$ , are both higher. They are found at the point where average expenditure (supply) and marginal value (demand) intersect.




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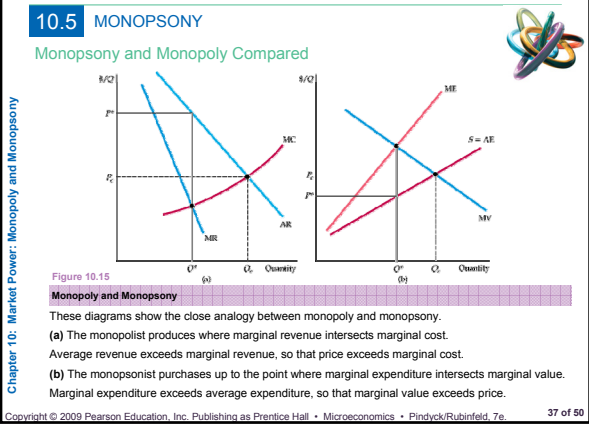
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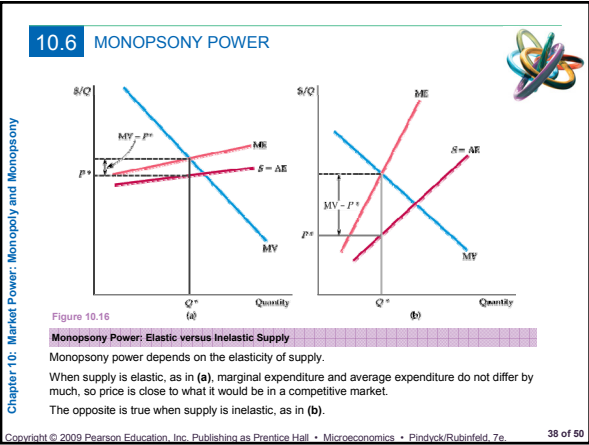
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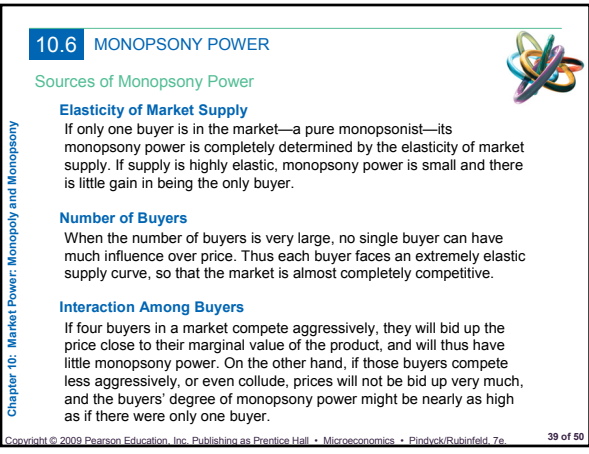
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## 10.6 MONOPSONY POWER

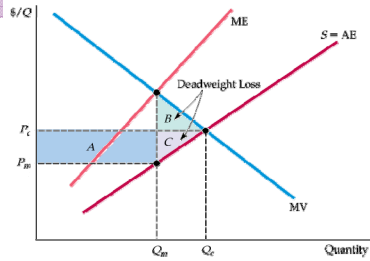


### The Social Costs of Monopsony Power

Figure 10.17

#### Deadweight Loss from Monopsony Power

The shaded rectangle and triangles show changes in buyer and seller surplus when moving from competitive price and quantity,  $P_c$  and  $Q_c$ , to the monopsonist's price and quantity,  $P_m$  and  $Q_m$ . Because both price and quantity are lower, there is an increase in buyer (consumer) surplus given by  $A - B$ . Producer surplus falls by  $A + C$ , so there is a deadweight loss given by triangles  $B$  and  $C$ .



Chapter 10: Market Power: Monopsony and Monopsony

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## 10.6 MONOPSONY POWER



### Bilateral Monopsony

- **bilateral monopoly** Market with only one seller and one buyer.

*Monopsony power and monopoly power will tend to counteract each other.*

Chapter 10: Market Power: Monopsony and Monopsony

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## 10.6 MONOPSONY POWER



### EXAMPLE 10.4 Monopsony Power in U.S. Manufacturing



The role of monopsony power was investigated to determine the extent to which variations in price-cost margins could be attributed to variations in monopsony power.

The study found that buyers' monopsony power had an important effect on the price-cost margins of sellers.

In industries where only four or five buyers account for all or nearly all sales, the price-cost margins of sellers would on average be as much as 10 percentage points lower than in comparable industries with hundreds of buyers accounting for sales.

Each major car producer in the United States typically buys an individual part from at least three, and often as many as a dozen, suppliers.

For a specialized part, a single auto company may be the *only* buyer.

As a result, the automobile companies have considerable monopsony power.

Chapter 10: Market Power: Monopsony and Monopsony

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10.7 LIMITING MARKET POWER: THE ANTITRUST LAWS



- **antitrust laws** Rules and regulations prohibiting actions that restrain, or are likely to restrain, competition.

There have been numerous instances of illegal combinations. For example:

- In 1996, Archer Daniels Midland Company (ADM) and two other major producers of lysine (an animal feed additive) pleaded guilty to criminal charges of price fixing.
- In 1999, four of the world's largest drug and chemical companies—Roche A.G. of Switzerland, BASF A.G. of Germany, Rhone-Poulenc of France, and Takeda Chemical Industries of Japan—were charged by the U.S. Department of Justice with taking part in a global conspiracy to fix the prices of vitamins sold in the United States.
- In 2002, the U.S. Department of Justice began an investigation of price fixing by DRAM (dynamic access random memory) producers. By 2006, five manufacturers—Hynix, Infineon, Micron Technology, Samsung, and Elpida—had pled guilty for participating in an international price-fixing scheme.

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10.7 LIMITING MARKET POWER: THE ANTITRUST LAWS



- **parallel conduct** Form of implicit collusion in which one firm consistently follows actions of another.
- **predatory pricing** Practice of pricing to drive current competitors out of business and to discourage new entrants in a market so that a firm can enjoy higher future profits.

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10.7 LIMITING MARKET POWER: THE ANTITRUST LAWS



Enforcement of the Antitrust Laws

The antitrust laws are enforced in three ways:

1. *Through the Antitrust Division of the Department of Justice.*
2. *Through the administrative procedures of the Federal Trade Commission.*
3. *Through private proceedings.*

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## 10.7 LIMITING MARKET POWER: THE ANTITRUST LAWS



### Antitrust in Europe

The responsibility for the enforcement of antitrust concerns that involve two or more member states resides in a single entity, the Competition Directorate.

Separate and distinct antitrust authorities within individual member states are responsible for those issues whose effects are felt within particular countries.

The antitrust laws of the European Union are quite similar to those of the United States. Nevertheless, there remain a number of differences between antitrust laws in Europe and the United States.

Merger evaluations typically are conducted more quickly in Europe.

It is easier in practice to prove that a European firm is dominant than it is to show that a U.S. firm has monopoly power.

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## 10.7 LIMITING MARKET POWER: THE ANTITRUST LAWS



### EXAMPLE 10.5 A Phone Call About Prices

Robert Crandall, president and CEO of American, made a phone call to Howard Putnam, president and chief executive of Braniff. It went like this:

*Crandall:* I think it's dumb as hell for Christ's sake, all right, to sit here and pound the @\$%&! out of each other and neither one of us making a @!#\$%&! dime.

*Putnam:* Well . . .

*Crandall:* I mean, you know, @!#\$%&!, what the hell is the point of it?

*Putnam:* But if you're going to overlay every route of American's on top of every route that Braniff has—I just can't sit here and allow you to bury us without giving our best effort.

*Crandall:* Oh sure, but Eastern and Delta do the same thing in Atlanta and have for years.

*Putnam:* Do you have a suggestion for me?

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## 10.7 LIMITING MARKET POWER: THE ANTITRUST LAWS



### EXAMPLE 10.5 A Phone Call About Prices (continued)

*Crandall:* Yes, I have a suggestion for you. Raise your @\$%&! fares 20 percent. I'll raise mine the next morning.

*Putnam:* Robert, we . . .

*Crandall:* You'll make more money and I will, too.

*Putnam:* We can't talk about pricing!

*Crandall:* Oh @!#\$%&!, Howard. We can talk about any @!#\$%&! thing we want to talk about.

Crandall was wrong. Talking about prices and agreeing to fix them is a clear violation of Section 1 of the Sherman Act.

However, *proposing* to fix prices is not enough to violate Section 1 of the Sherman Act: For the law to be violated, the two parties must *agree* to collude.

Therefore, because Putnam had rejected Crandall's proposal, Section 1 was not violated.

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## 10.7 LIMITING MARKET POWER: THE ANTITRUST LAWS

### EXAMPLE 10.6 The United States versus Microsoft



Did Microsoft engage in illegal practices?

The U.S. Government said yes; Microsoft disagreed. Here is a brief road map of some of the U.S. Department of Justice's major claims and Microsoft's responses.

**DOJ claim:** Microsoft has a great deal of market power in the market for PC operating systems—enough to meet the legal definition of monopoly power.

**MS response:** Microsoft does not meet the legal test for monopoly power because it faces significant threats from potential competitors that offer or will offer platforms to compete with Windows.

**DOJ claim:** Microsoft viewed Netscape's Internet browser as a threat to its monopoly over the PC operating system market. In violation of Section 1 of the Sherman Act, Microsoft entered into exclusionary agreements with computer manufacturers and Internet service providers with the objective of raising the cost to Netscape of making its browser available to consumers.

**MS response:** The contracts were not unduly restrictive. In any case, Microsoft unilaterally agreed to stop most of them.

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## 10.7 LIMITING MARKET POWER: THE ANTITRUST LAWS

### EXAMPLE 10.6 The United States versus Microsoft (continued)

**DOJ claim:** In violation of Section 2 of the Sherman Act, Microsoft engaged in practices designed to maintain its monopoly in the market for desktop PC operating systems. It tied its browser to the Windows 98 operating system, even though doing so was technically unnecessary. This action was predatory because it made it difficult or impossible for Netscape and other firms to successfully offer competing products.

**MS response:** There are benefits to incorporating the browser functionality into the operating system. Not being allowed to integrate new functionality into an operating system will discourage innovation. Offering consumers a choice between separate or integrated browsers would cause confusion in the marketplace.

**DOJ claim:** In violation of Section 2 of the Sherman Act, Microsoft attempted to divide the browser business with Netscape and engaged in similar conduct with both Apple Computer and Intel.

**MS response:** Microsoft's meetings with Netscape, Apple, and Intel were for valid business reasons. Indeed, it is useful for consumers and firms to agree on common standards and protocols in developing computer software.

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