

10 Market Power: Monopoly and Monopsony

Read Pindyck and Rubinfeld (2012), Chapter 10

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

- **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.

10.1 Monopoly

Average Revenue and Marginal Revenue

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

Consider a firm facing the following demand curve: $P = 6 - Q$

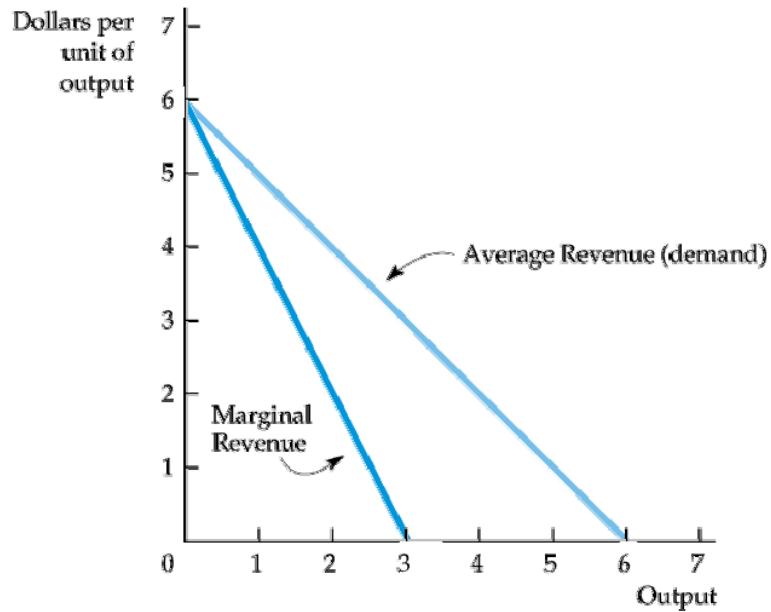
TABLE 10.1		TOTAL, MARGINAL, AND AVERAGE REVENUE		
PRICE (P)	QUANTITY (Q)	TOTAL REVENUE (R)	MARGINAL REVENUE (MR)	AVERAGE REVENUE (AR)
\$6	0	\$0	—	—
5	1	5	\$5	\$5
4	2	8	3	4
3	3	9	1	3
2	4	8	-1	2
1	5	5	-3	1

- Average Revenue and Marginal Revenue

Figure 10.1

Average and Marginal Revenue

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



- The Monopolist's Output Decision

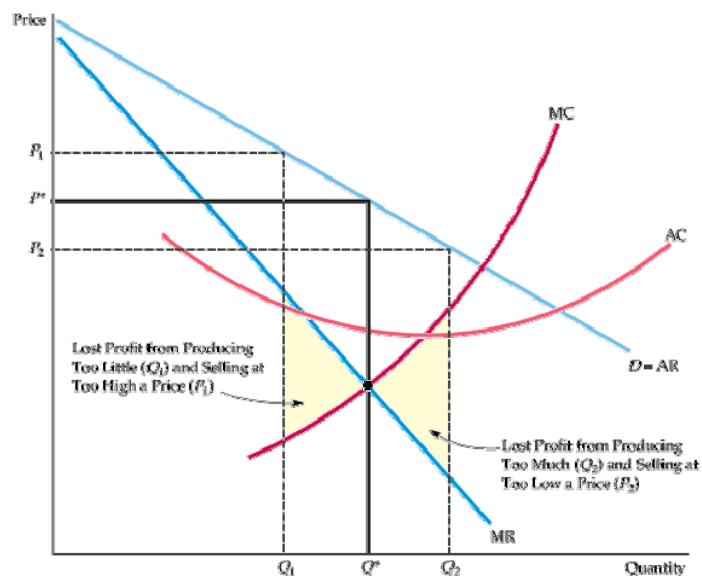
Figure 10.2

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.



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

$$\pi(Q) = R(Q) - C(Q)$$

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., $\Delta\pi/\Delta Q = 0$). Then

$$\Delta\pi/\Delta Q = \Delta R/\Delta Q - \Delta C/\Delta Q = 0$$

But $\Delta R/\Delta Q$ is marginal revenue and $\Delta C/\Delta Q$ is marginal cost. Thus the profit-maximizing condition is that

$$MR - MC = 0, \text{ or } MR = MC$$

An Example

Cost of production: $C(Q) = 50 + Q^2$



Demand: $P(Q) = 40 - Q$

FIGURE 10.3

EXAMPLE OF PROFIT MAXIMIZATION

Part **(a)** shows total revenue R , total cost C , and profit, the difference between the two.

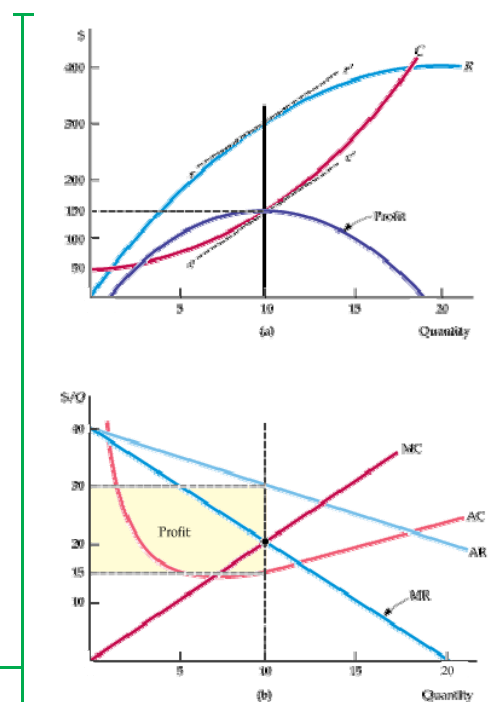
Part **(b)** shows average and marginal revenue and average and marginal cost.

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.



A Rule of Thumb for Pricing



With limited knowledge of average and marginal revenue, we can derive a rule of thumb that can be more easily applied in practice. First, write the expression for marginal revenue:

$$MR = \frac{\Delta R}{\Delta Q} = \frac{\Delta(PQ)}{\Delta Q}$$

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,

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

$(Q/P)(\Delta P/\Delta Q)$ 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:

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

EXAMPLE 10.3 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 $P = MC/(1 - 0.1) = MC/(0.9) = (1.11)MC$.

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.

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.

7. Suppose a profit-maximizing monopolist is producing 800 units of output and is charging a price of \$40 per unit.

- a) If the elasticity of demand for the product is -2 , find the marginal cost of the last unit produced.
- b) What is the firm's percentage markup of price over marginal cost?
- c) Suppose that the average cost of the last unit produced is \$15 and the firm's fixed cost is \$2000. Find the firm's profit.

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10.1

MONOPOLY

- Shifts in Demand

A monopolistic market has no supply curve.

The reason is that the monopolist's output decision depends not only on marginal cost but also on the shape of the demand curve.

Shifts in demand can lead to changes in price with no change in output, changes in output with no change in price, or changes in both price and output.

• 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.

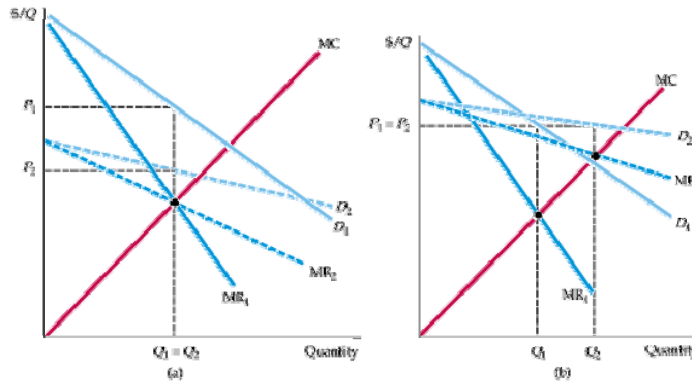
In (a), the demand curve D_1 shifts to new demand curve D_2 .

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.



• 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

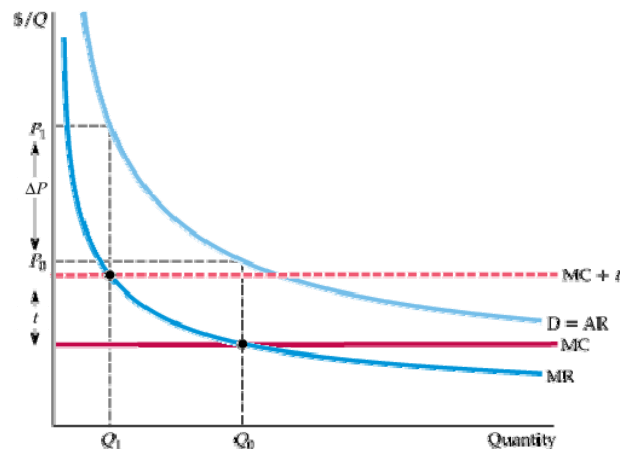
$$MR = MC + t$$

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 ΔP is larger than the tax t .



10.1 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.

10.1 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.

10.1 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

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

10.1 The Multiplant Firm

FIGURE 10.6
PRODUCING 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 .

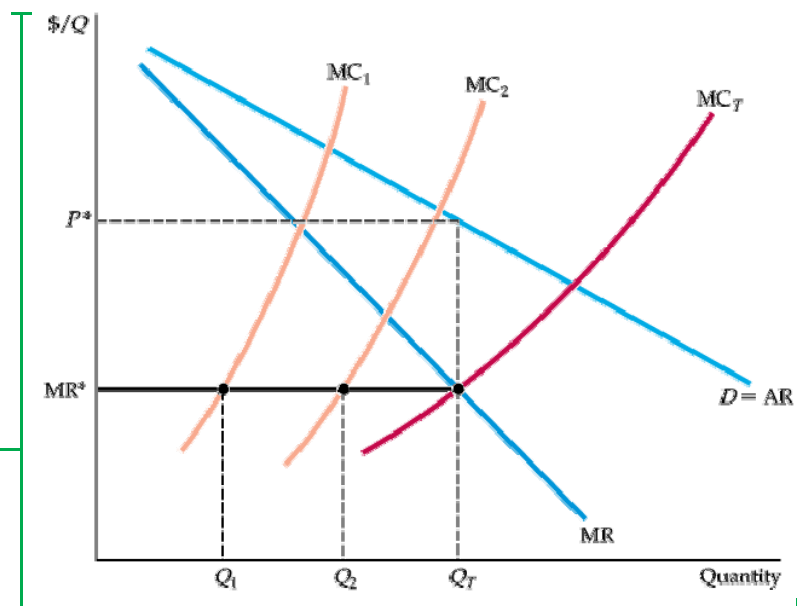


Figure 10.7

The Demand for Toothbrushes

Part (a) shows the market demand for toothbrushes.

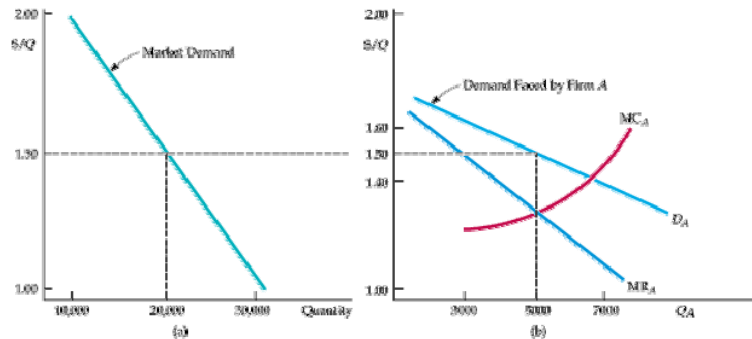
Part (b) shows the demand for toothbrushes as seen by Firm A.

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.



Production, Price, and Monopoly Power

In figure 10.7, although Firm A is not a pure monopolist, *it does have monopoly power*—it can profitably charge a price greater than marginal cost. Of course, its monopoly power is less than it would be if it had driven away the competition and monopolized the market, but it might still be substantial.

This raises two questions.

1. How can we measure monopoly power in order to compare one firm with another? (So far we have been talking about monopoly power only in *qualitative* terms.)
2. What are the sources of monopoly power, and why do some firms have more monopoly power than others?

We address both these questions below, although a more complete answer to the second question will be provided in Chapters 12 and 13.

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.

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

The Rule of Thumb for Pricing

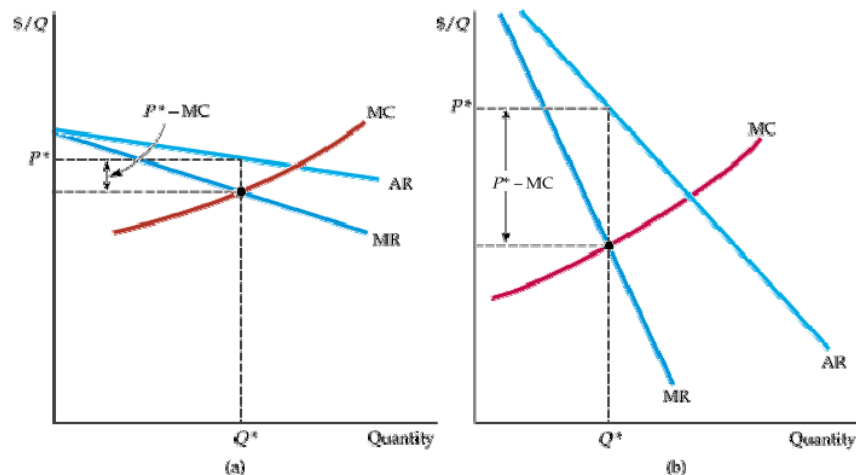


FIGURE 10.8

ELASTICITY OF DEMAND AND PRICE MARKUP

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

EXAMPLE 10.3 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.



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EXAMPLE 10.4 THE PRICING OF VIDEOS



When the market for videos was young, producers had no good estimates of the elasticity of demand. As the market matured, however, sales data and market research studies put pricing decisions on firmer ground. By the 1990s, most producers had lowered prices across the board.

TABLE 10.2 RETAIL PRICES OF VIDEOS IN 1985 AND 2011

1985		2011	
TITLE	RETAIL PRICE (\$)	TITLE	RETAIL PRICE (\$)
	VHS		DVD
Purple Rain	\$29.98	Tangled	\$20.60
Raiders of the Lost Ark	\$24.95	Harry Potter and the Deathly Hallows, Part 1	\$20.58
Jane Fonda Workout	\$59.95	Megamind	\$18.74
The Empire Strikes Back	\$79.98	Despicable Me	\$14.99
An Officer and a Gentleman	\$24.95	Red	\$27.14
Star Trek: The Motion Picture	\$24.95	The King's Speech	\$14.99
Star Wars	\$39.98	Secretariat	\$20.60

EXAMPLE 10.4 THE PRICING OF VIDEOS

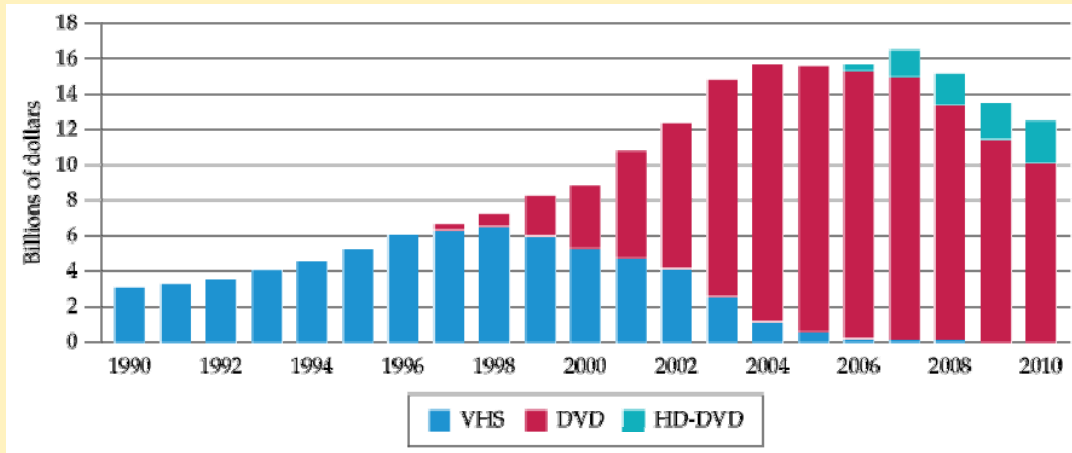


FIGURE 10.9

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. All DVDs, however, are now being displaced by streaming video.

4. A firm faces the following average revenue (demand) curve:

$$P = 120 - 0.02Q$$

where Q is weekly production and P is price, measured in cents per unit. The firm's cost function is given by $C = 60Q + 25,000$. Assume that the firm maximizes profits.

- What is the level of production, price, and total profit per week?
- If the government decides to levy a tax of 14 cents per unit on this product, what will be the new level of production, price, and profit?

10.3 Sources of Monopoly Power



As equation (10.4) shows, the less elastic its demand curve, the more monopoly power a firm has. The ultimate determinant of monopoly power is therefore the firm's elasticity of demand.

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.

The Elasticity of Market Demand



If there is only one firm—a pure monopolist—its demand curve is the market demand curve. In this case, the firm's degree of monopoly power depends completely on the elasticity of market demand.

When several firms compete with one another, the elasticity of market demand sets a lower limit on the magnitude of the elasticity of demand for each firm.

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.

The Number of Firms



Other things being equal, the monopoly power of each firm will fall as the number of firms increases.

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.

Sometimes there are natural barriers to entry:

Patents, copyrights, and licenses

Economies of scale may make it too costly for more than a few firms to supply the entire market. In some cases, economies of scale may be so large that it is most efficient for a single firm—a *natural monopoly*—to supply the entire market.

The Interaction Among Firms



Firms might compete aggressively, undercutting one another's prices to capture more market share, or they might not compete much. They might even collude (in violation of the antitrust laws), agreeing to limit output and raise prices.

Other things being equal, monopoly power is smaller when firms compete aggressively and is larger when they cooperate. Because raising prices in concert rather than individually is more likely to be profitable, collusion can generate substantial monopoly power.

Remember that a firm's monopoly power often changes over time, as its operating conditions (market demand and cost), its behavior, and the behavior of its competitors change. Monopoly power must therefore be thought of in a dynamic context.

Furthermore, real or potential monopoly power in the short run can make an industry more competitive in the long run: Large short-run profits can induce new firms to enter an industry, thereby reducing monopoly power over the longer term.

2. Caterpillar Tractor, one of the largest producers of farm machinery in the world, has hired you to advise it on pricing policy. One of the things the company would like to know is how much a 5-percent increase in price is likely to reduce sales. What would you need to know to help the company with this problem? Explain why these facts are important.

- (Elasticity of demand) First, how similar are the products offered by Caterpillar's competitors? If they are close substitutes, a small increase in price could induce customers to switch to the competition.
- ((The Number of Firms & The Interaction Among Firms) Second, how will Caterpillar's competitors respond to a price increase? If the other firms are likely to match Caterpillar's increase, Caterpillar's sales will not fall nearly as much as they would were the other firms not to match the price increase.
- (Age of existing stock) Third, With an older population of tractors, a smaller drop in sales.
- (Expected profitability of the agricultural sector) Finally, If farm incomes are expected to fall, an increase in tractor prices would cause a greater decline in sales.

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10.4

THE SOCIAL COSTS OF MONOPOLY POWER



Figure 10.10

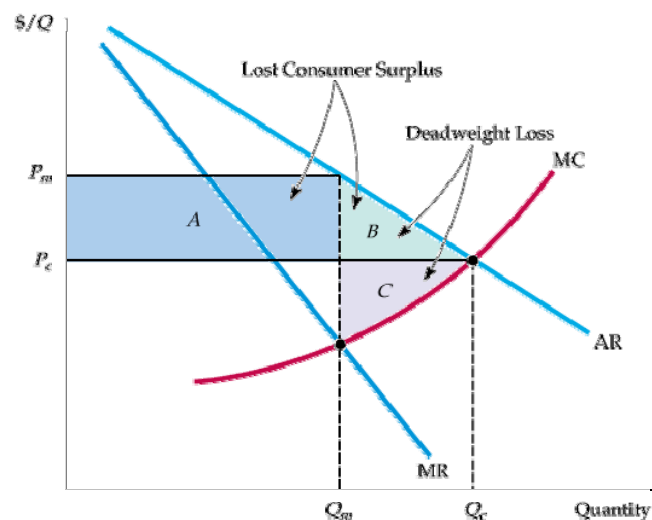
Deadweight Loss from Monopoly Power

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 $B + C$.



- 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.

- Price Regulation

Figure 10.11

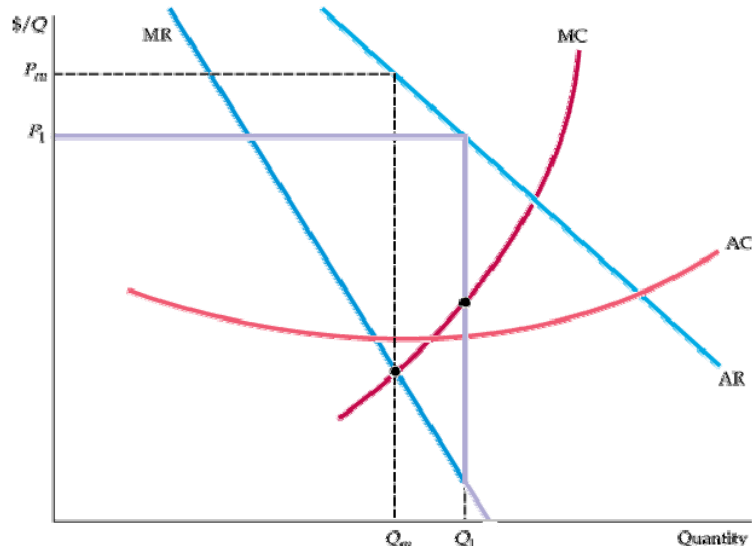
Price Regulation

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 .



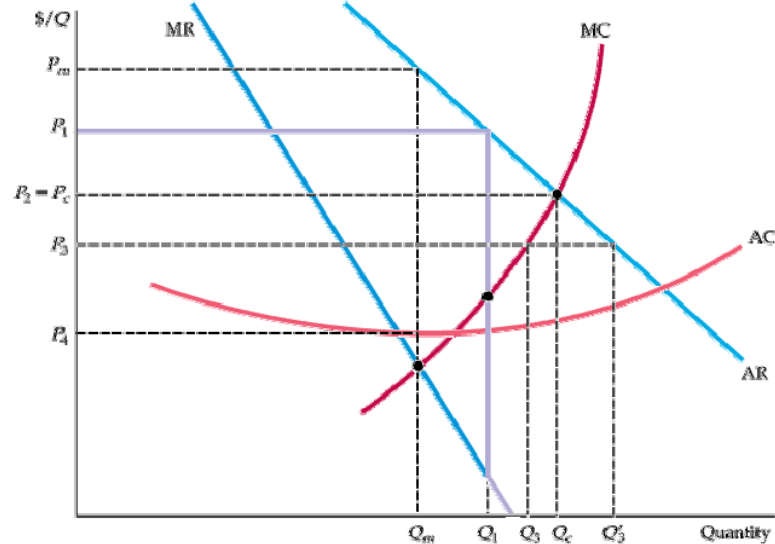
- Price Regulation

Figure 10.11

Price Regulation

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

Lowering price further, to P_3 reduces output to Q_3 and causes a shortage, $Q'_3 - Q_3$.



- 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.

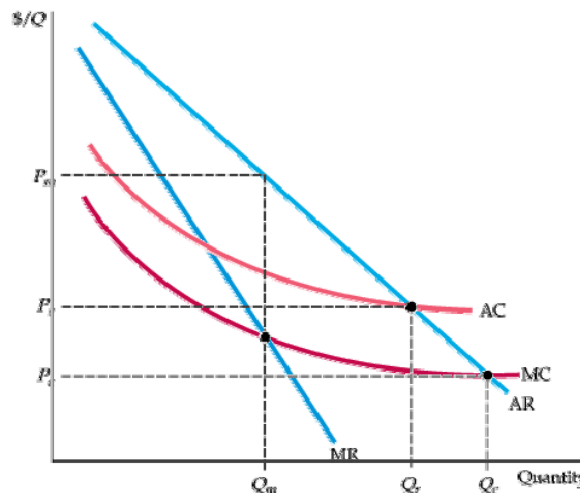
Figure 10.12

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_c the firm would lose money and go out of business.

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



Regulation in Practice

The regulation of a monopoly is sometimes based on the rate of return that it earns on its capital. The regulatory agency determines an allowed price, so that this rate of return is in some sense “competitive” or “fair.”

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

Although it is a key element in determining the firm’s rate of return, a firm’s capital stock is difficult to value. While a “fair” rate of return must be based on the firm’s actual cost of capital, that cost depends in turn on the behavior of the regulatory agency. *Regulatory lag* is a term associated with delays in changing regulated prices.

Another approach to regulation is setting price caps based on the firm’s variable costs. A price cap can allow for more flexibility than rate-of-return regulation. Under price cap regulation, for example, a firm would typically be allowed to raise its prices each year (without having to get approval from the regulatory agency) by an amount equal to the actual rate of inflation, minus expected productivity growth.

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.

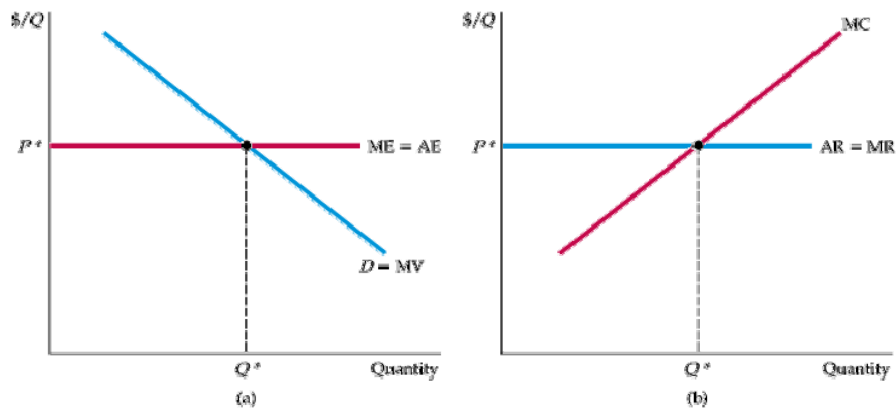


Figure 10.13

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.

Figure 10.14

Monopsonist Buyer

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

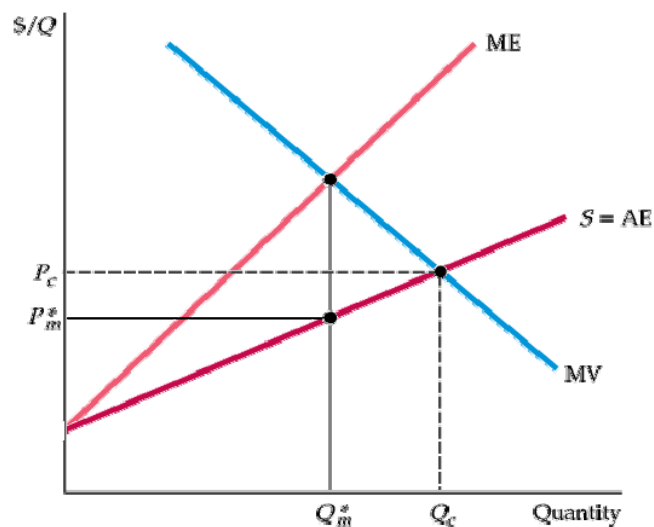
Because average expenditure is rising, marginal expenditure lies above it.

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.



10.5

MONOPSONY



- Monopsony and Monopoly Compared

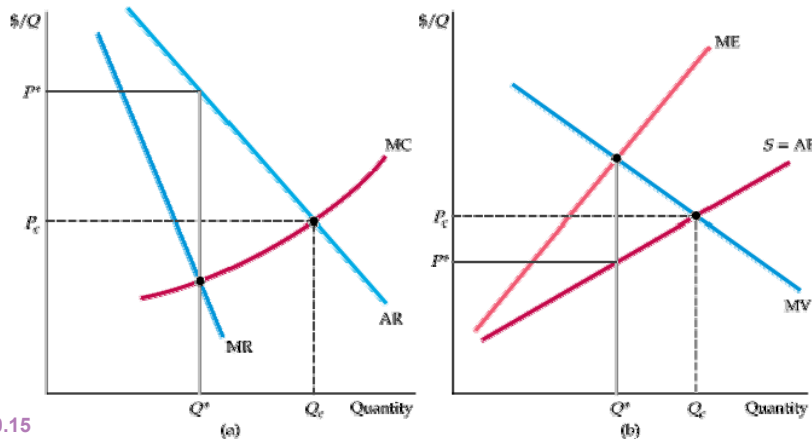


Figure 10.15

Monopoly and Monopsony

These diagrams show the close analogy between monopoly and monopsony.

(a) The monopolist produces where marginal revenue intersects marginal cost.

Average revenue exceeds marginal revenue, so that price exceeds marginal cost.

(b) The monopsonist purchases up to the point where marginal expenditure intersects marginal value.

Marginal expenditure exceeds average expenditure, so that marginal value exceeds price.

10.6

MONOPSONY POWER

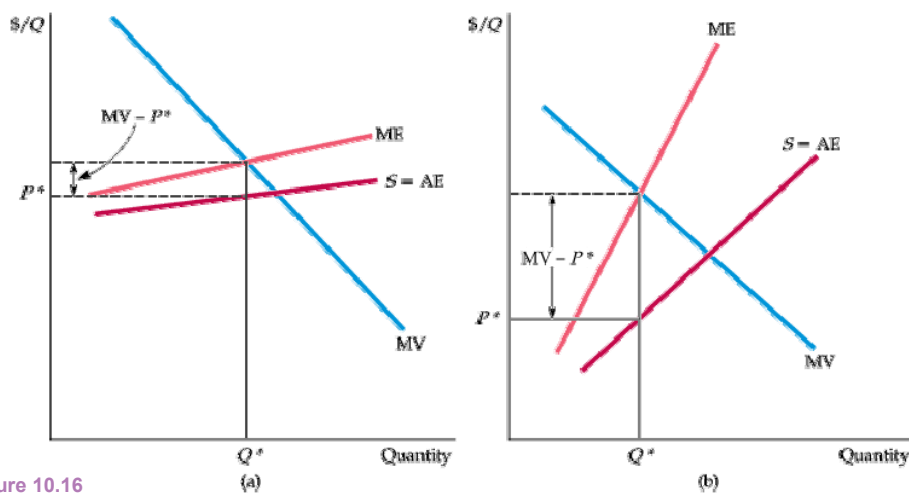


Figure 10.16

Monopsony Power: Elastic versus Inelastic Supply

Monopsony power depends on the elasticity of supply.

When supply is elastic, as in (a), marginal expenditure and average expenditure do not differ by much, so price is close to what it would be in a competitive market.

The opposite is true when supply is inelastic, as in (b).

- Sources of Monopsony Power

Elasticity of Market Supply

If only one buyer is in the market—a pure monopsonist—its monopsony power is completely determined by the elasticity of market supply. If supply is highly elastic, monopsony power is small and there is little gain in being the only buyer.

Number of Buyers

When the number of buyers is very large, no single buyer can have much influence over price. Thus each buyer faces an extremely elastic supply curve, so that the market is almost completely competitive.

Interaction Among Buyers

If four buyers in a market compete aggressively, they will bid up the price close to their marginal value of the product, and will thus have little monopsony power. On the other hand, if those buyers compete less aggressively, or even collude, prices will not be bid up very much, and the buyers' degree of monopsony power might be nearly as high as if there were only one buyer.

- The Social Costs of Monopsony Power

Figure 10.17

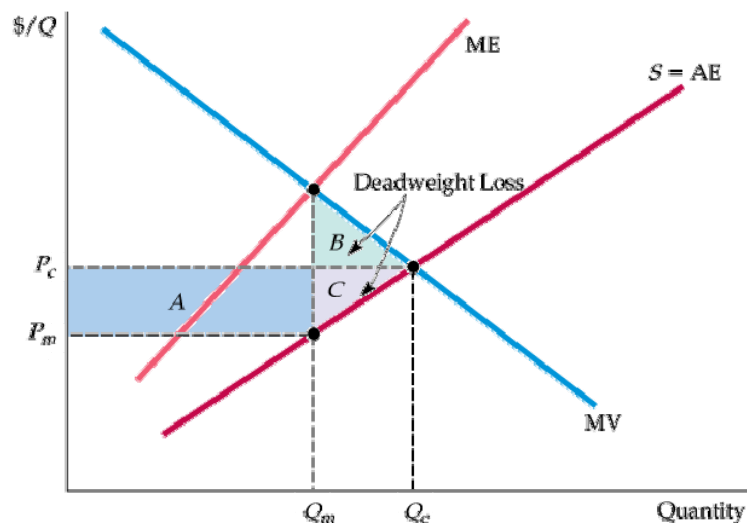
Deadweight Loss from Monopsony Power

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 .



Bilateral Monopoly



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

It is difficult to predict the price and quantity in a bilateral monopoly. Both the buyer and the seller are in a bargaining situation.

Bilateral monopoly is rare. Although bargaining may still be involved, we can apply a rough principle here: Monopsony power and monopoly power will tend to counteract each other. In other words, the monopsony power of buyers will reduce the effective monopoly power of sellers, and vice versa.

This tendency does not mean that the market will end up looking perfectly competitive, but in general, monopsony power will push price closer to marginal cost, and monopoly power will push price closer to marginal value.

EXAMPLE 10.5 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. Not surprisingly, producers of parts and components usually have little or no monopoly power.



14. The employment of teaching assistants (TAs) by major universities can be characterized as a monopsony. Suppose the demand for TAs is

$$W = 30,000 - 125n,$$

where W is the wage (as an annual salary), and n is the number of TAs hired. The supply of TAs is given by

$$W = 1000 + 75n.$$

1. If the university takes advantage of its monopsonist position, how many TAs will it hire? What wage will it pay?
2. If, instead, the university faced an infinite supply of TAs at the annual wage level of \$10,000, how many TAs would it hire?

CHAPTER 10 RECAP

- Monopoly
- Monopoly Power
- Sources of Monopoly Power
- The Social Costs of Monopoly Power
- Monopsony
- Monopsony Power