15

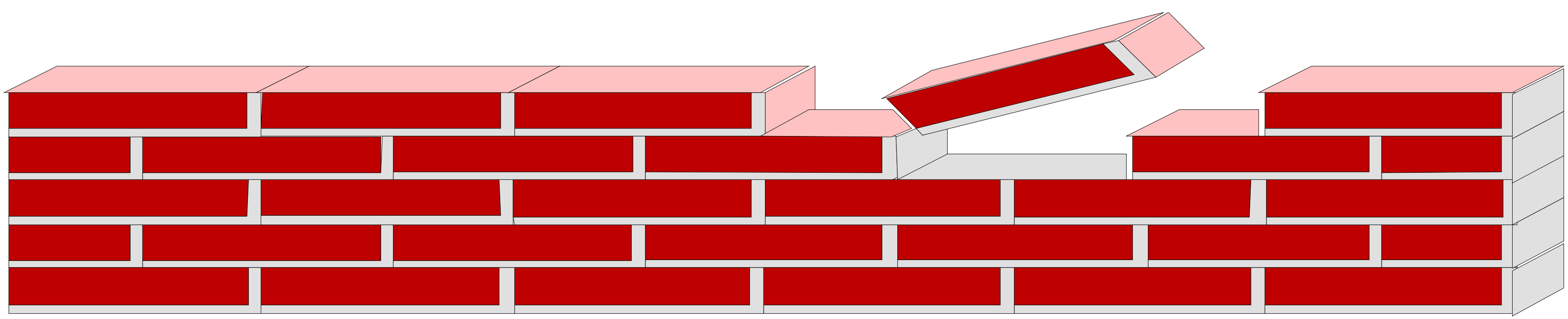
Monopoly

Monopoly

- While a competitive firm is a *price taker*, a monopoly firm is a *price maker*.
- A firm is considered a *monopoly* if . . .
  - it is the sole seller of its product.
  - its product does not have close substitutes.

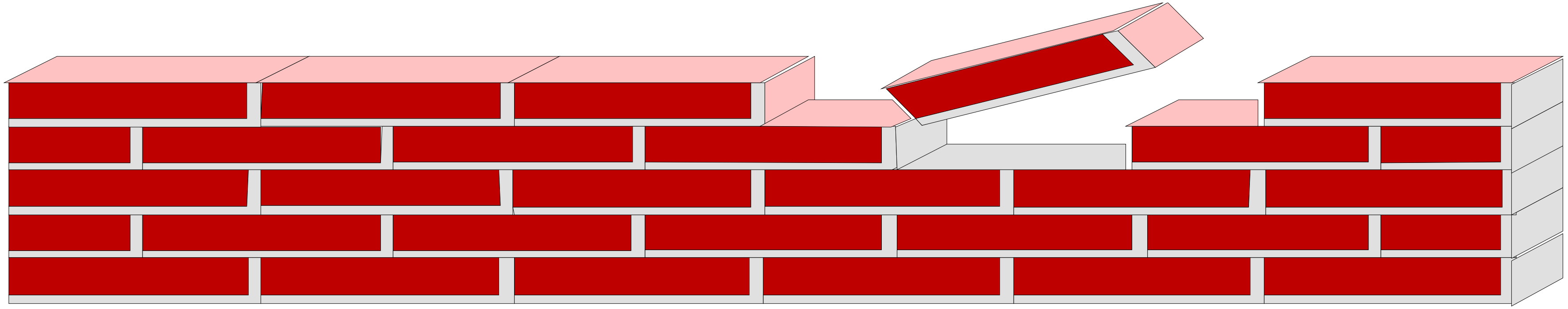
WHY MONOPOLIES ARISE

- The fundamental cause of monopoly is *barriers to entry*.



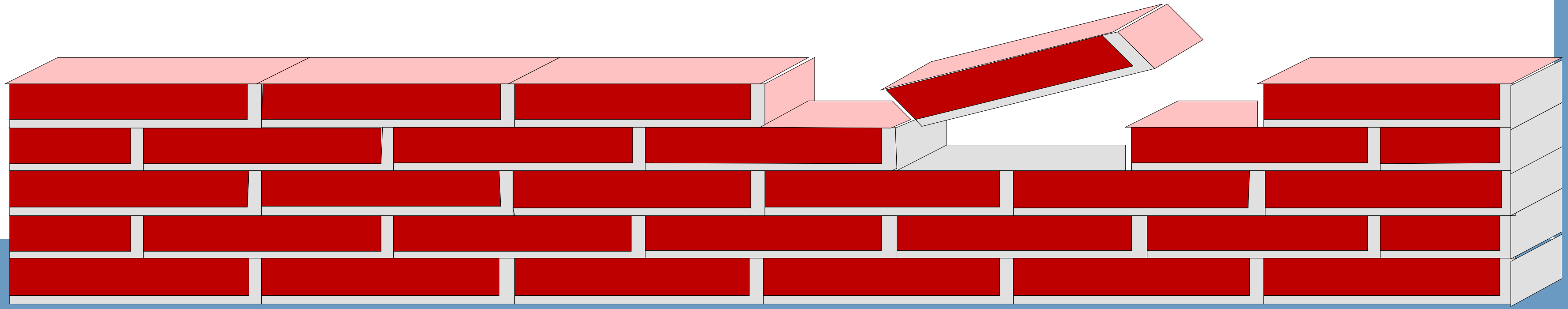
WHY MONOPOLIES ARISE

- Barriers to entry have three sources:
  - Ownership of a key resource.
  - The government gives a single firm the exclusive right to produce some good.
  - Costs of production make a single producer more efficient than a large number of producers.



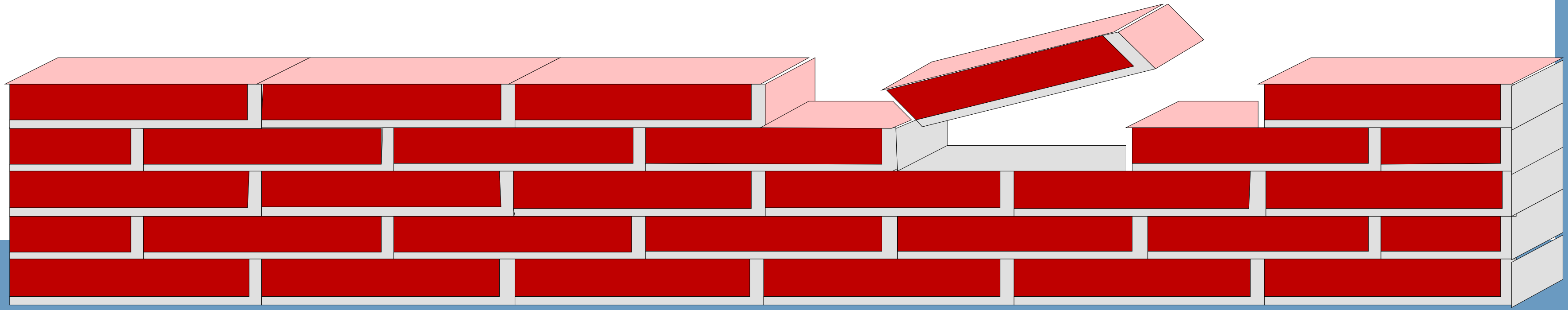
Monopoly Resources

- Although exclusive ownership of a key resource is a potential source of monopoly, in practice monopolies rarely arise for this reason.



Government-Created Monopolies

- Governments may restrict entry by giving a single firm the exclusive right to sell a particular good in certain markets.
- Patent and copyright laws are two important examples of how government creates a monopoly to serve the public interest.



Natural Monopolies

- An industry is a *natural monopoly* when a single firm can supply a good or service to an entire market at a smaller cost than could two or more firms.
- A natural monopoly arises when there are economies of scale over the relevant range of output.

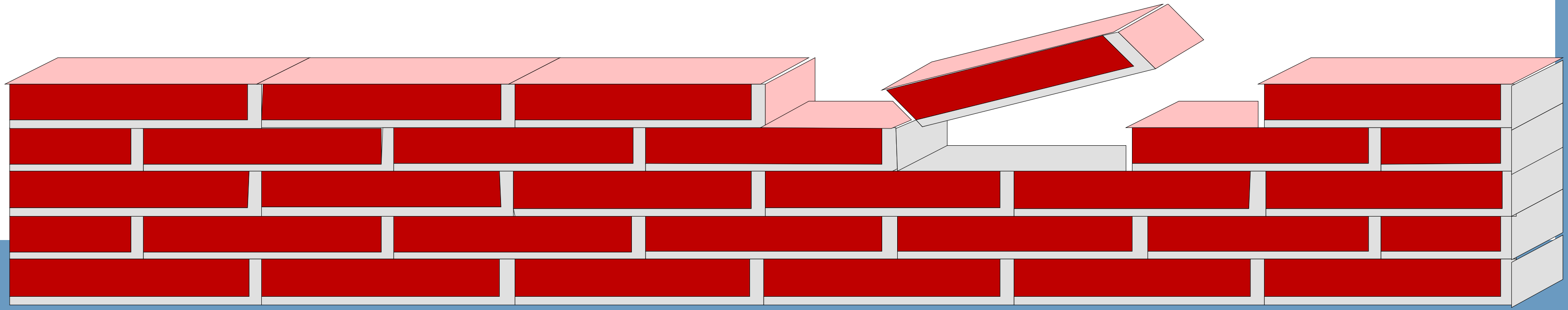
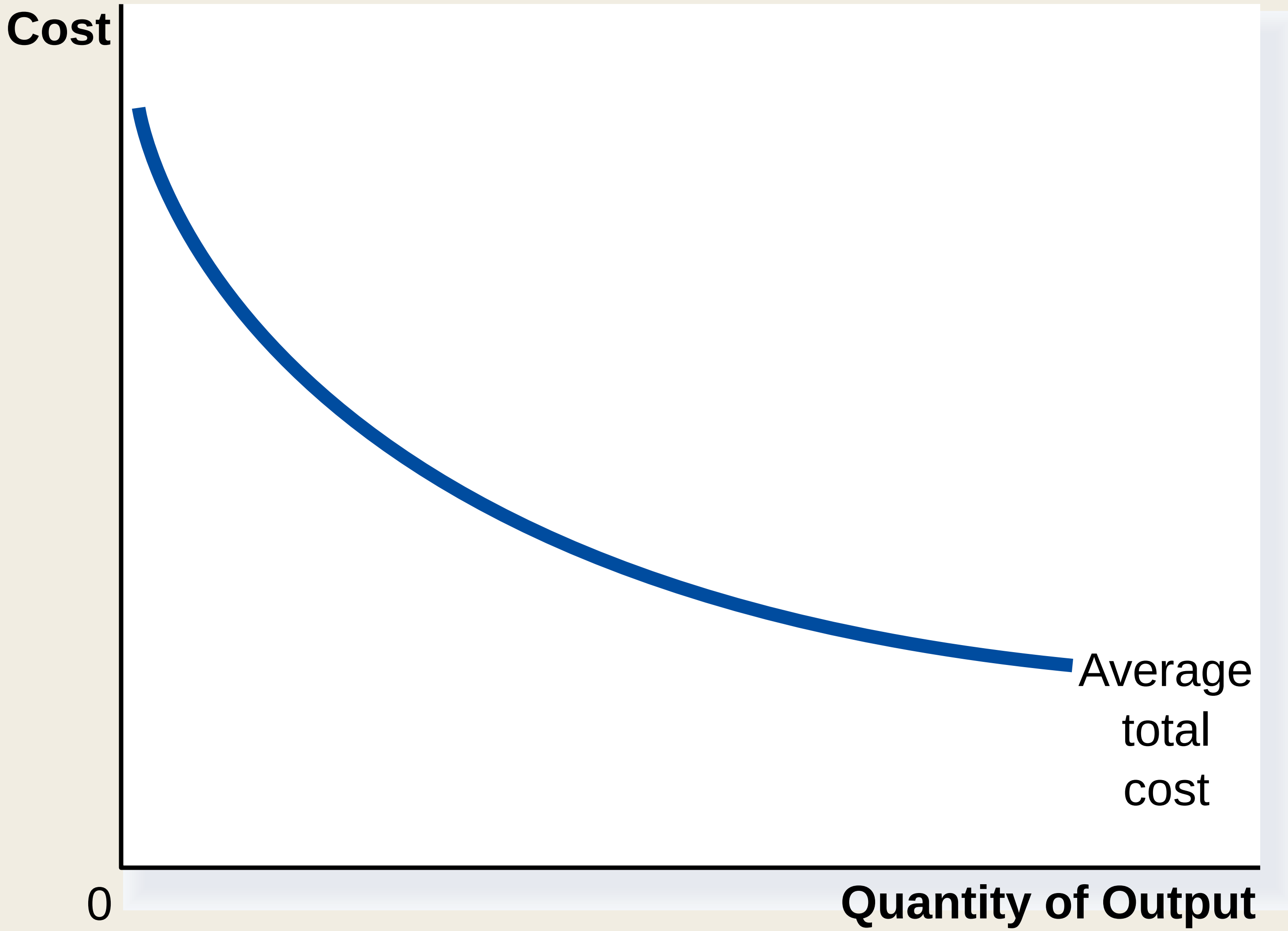


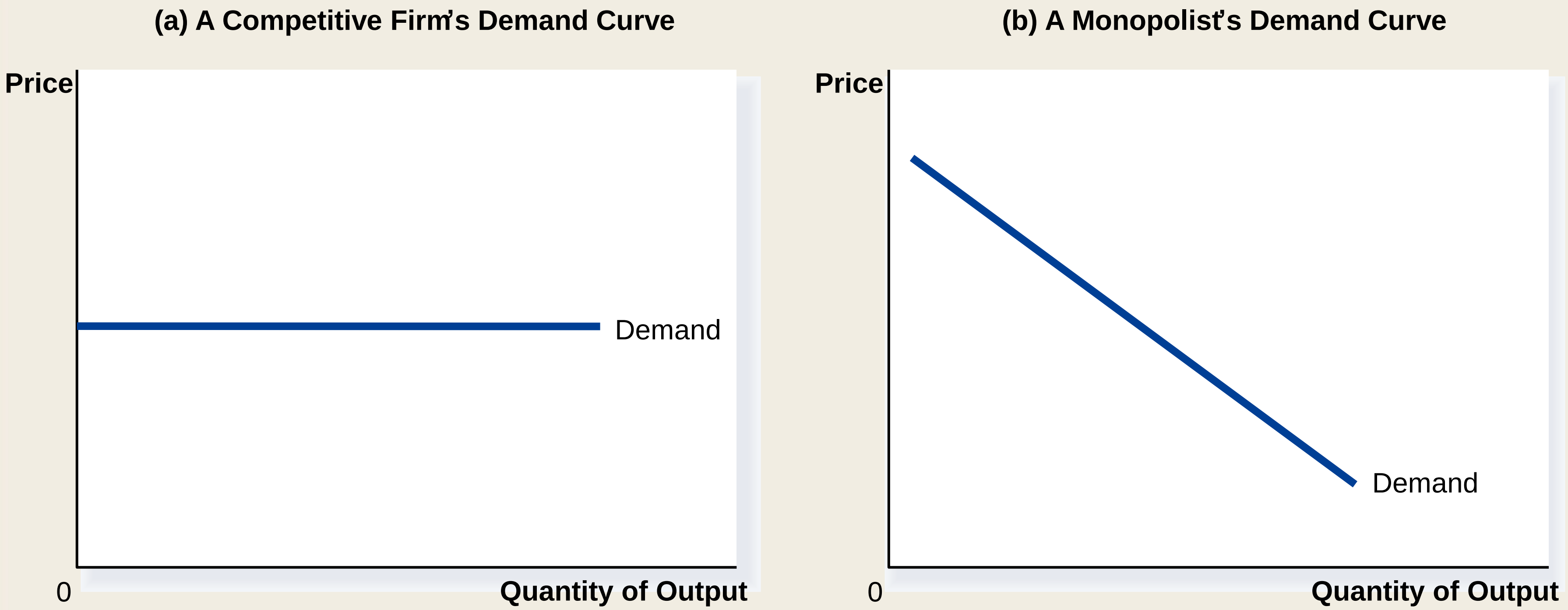
Figure 1 Economies of Scale as a Cause of Monopoly



HOW MONOPOLIES MAKE PRODUCTION AND PRICING DECISIONS

- Monopoly versus Competition
  - Monopoly
    - Is the sole producer
    - Faces a downward-sloping demand curve
    - Is a price maker
    - Reduces price to increase sales
  - Competitive Firm
    - Is one of many producers
    - Faces a horizontal demand curve
    - Is a price taker
    - Sells as much or as little at same price

Figure 2 Demand Curves for Competitive and Monopoly Firms



Since a monopoly is the sole producer in its market, it faces the market demand curve.

A Monopoly's Revenue

- Total Revenue
  - $P \times Q = TR$
- Average Revenue
  - $TR/Q = AR = P$
- Marginal Revenue
  - $\Delta TR/\Delta Q = MR$

Table 1 A Monopoly's Total, Average, and Marginal Revenue

Quantity of Water (Q)	Price (P)	Total Revenue ($TR = P \times Q$)	Average Revenue ($AR = TR / Q$)	Marginal Revenue ($MR = \Delta TR / \Delta Q$)
0 gallons	$11	$ 0	—	
				$10
1	10	10	$10	
				8
2	9	18	9	
				6
3	8	24	8	
				4
4	7	28	7	
				2
5	6	30	6	
				0
6	5	30	5	
				–2
7	4	28	4	
				–4
8	3	24	3	

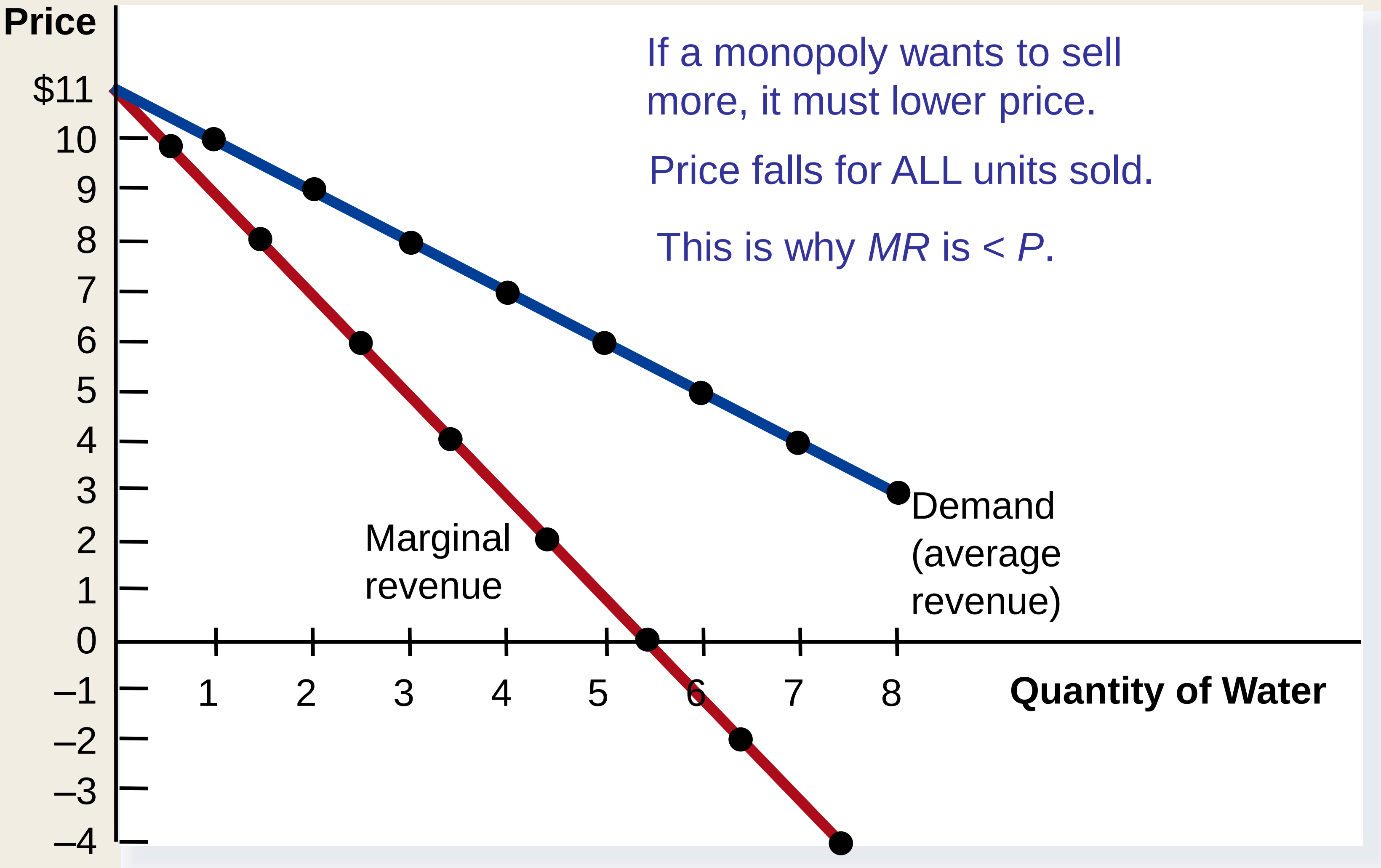
A Monopoly's Revenue

- A Monopoly's Marginal Revenue
  - A monopolist's marginal revenue is always less than the price of its good.
    - The demand curve is downward sloping.
    - When a monopoly drops the price to sell one more unit, the revenue received from previously sold units also decreases.

A Monopoly's Revenue

- A Monopoly's Marginal Revenue
  - When a monopoly increases the amount it sells, it has two effects on total revenue ($P \times Q$).
    - The output effect—more output is sold, so Q is higher.
    - The price effect—price falls, so P is lower.

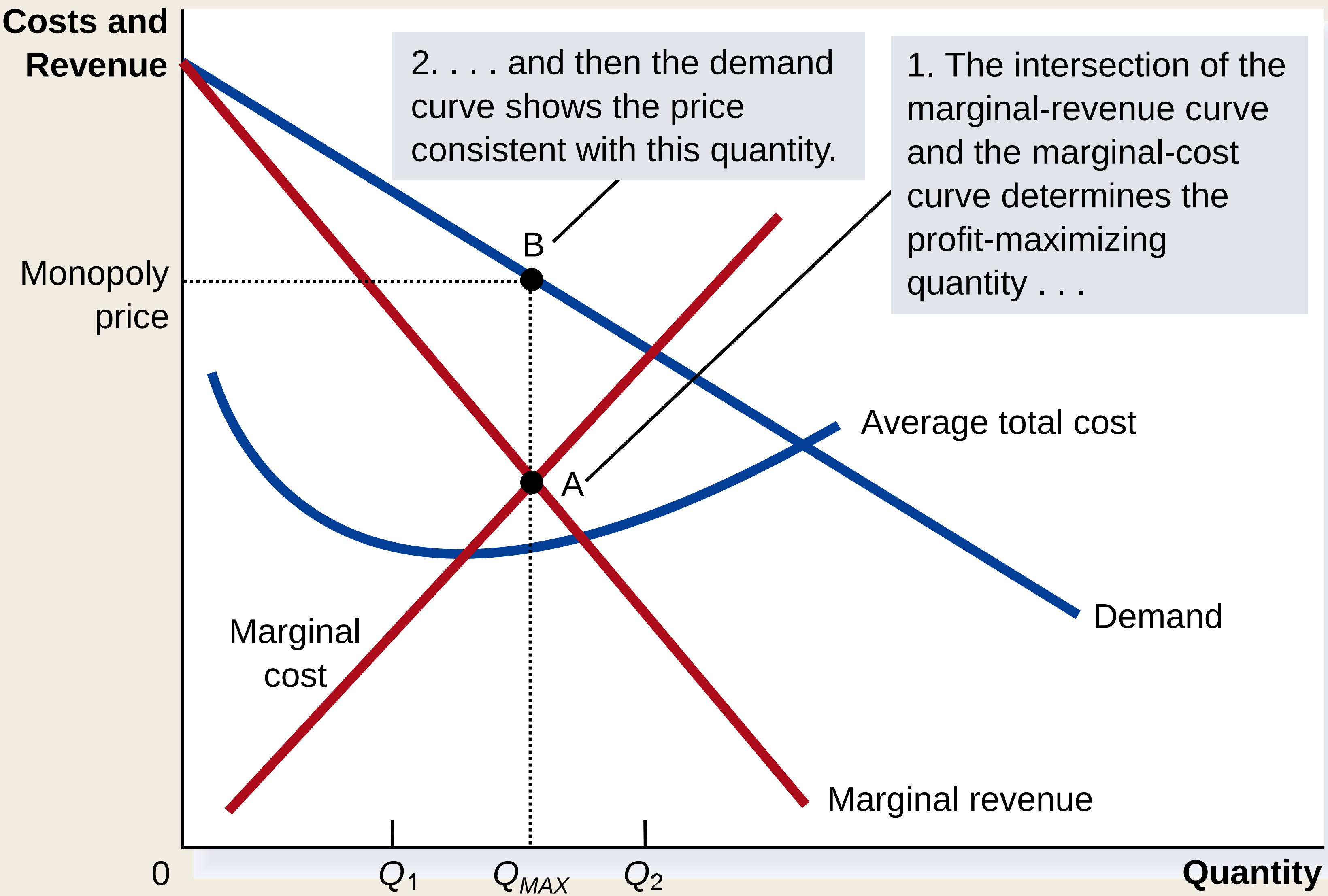
Figure 3 Demand and Marginal-Revenue Curves for a Monopoly



Profit Maximization

- A monopoly maximizes profit by producing the quantity at which marginal revenue equals marginal cost.
- It then uses the demand curve to find the price that will induce consumers to buy that quantity.

Figure 4 Profit Maximization for a Monopoly



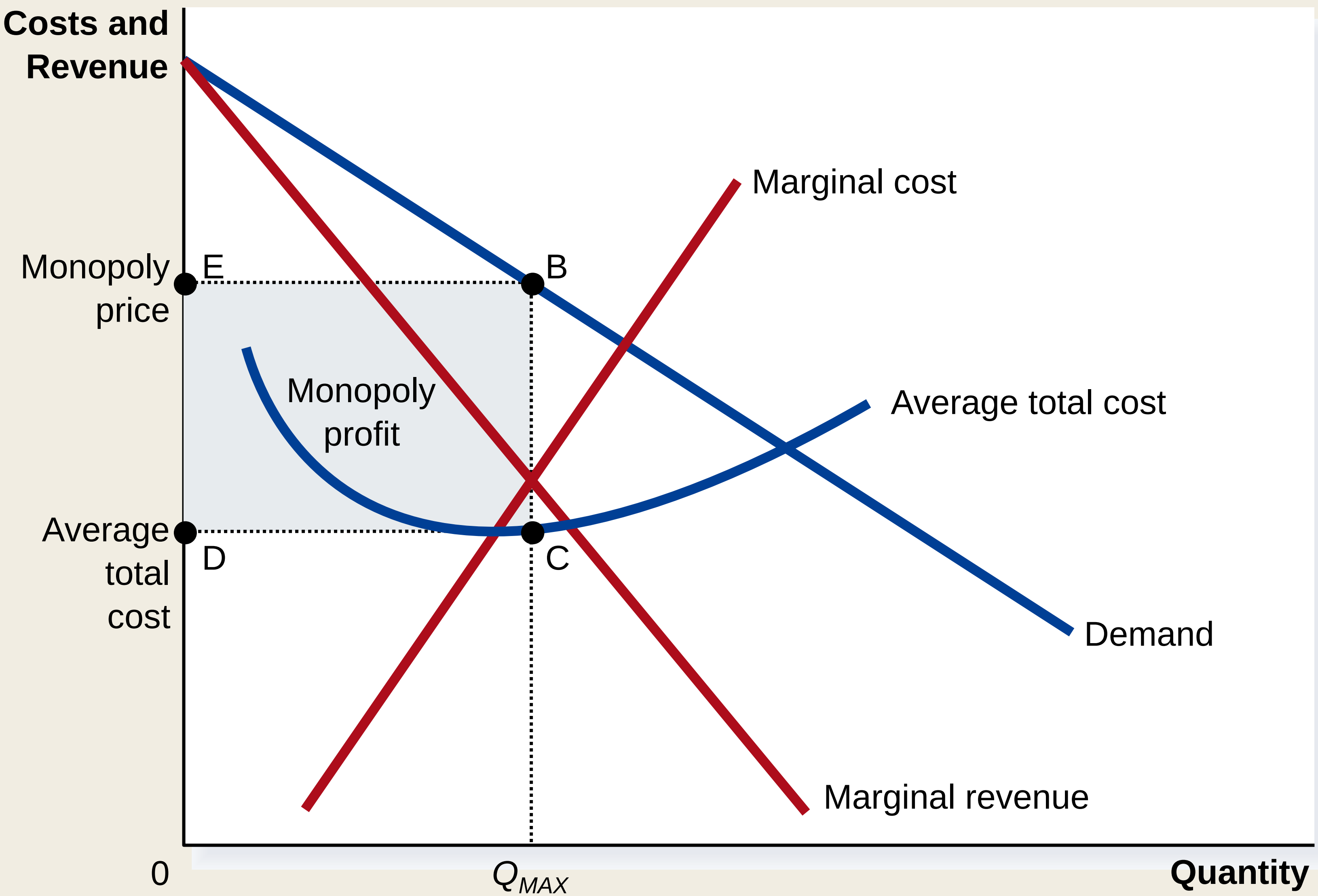
Profit Maximization

- Comparing Monopoly and Competition
  - For a competitive firm, price equals marginal cost.
    - $P = MR = MC$
  - For a monopoly firm, price exceeds marginal cost.
    - $P > MR = MC$
- Remember, all profit-maximizing firms set $MR = MC$.

A Monopoly's Profit

- Profit equals total revenue minus total costs.
  - Profit = $TR - TC$
  - Profit = $(TR/Q - TC/Q) \times Q$
  - Profit = $(P - ATC) \times Q$

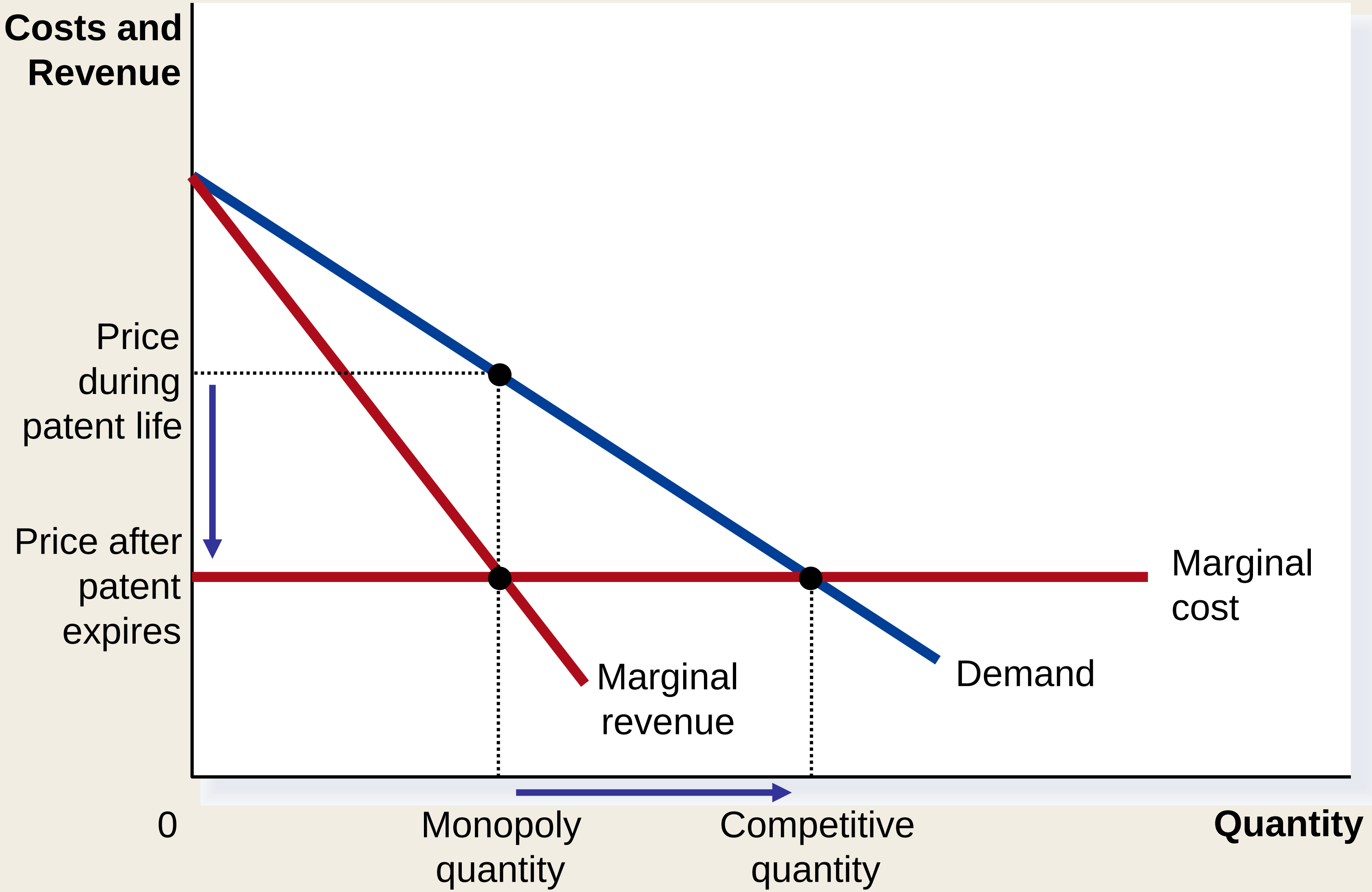
Figure 5 The Monopolist's Profit



A Monopolist's Profit

- The monopolist will receive economic profits as long as price is greater than average total cost.

Figure 6 The Market for Drugs



PRICE DISCRIMINATION

- *Price discrimination* is the business practice of selling the same good at different prices to different customers, even though the costs for producing for the two customers are the same.

The Analytics of Price Discrimination

- Price discrimination is not possible when a good is sold in a competitive market since there are many firms all selling at the market price. In order to price discriminate, the firm must have some *market power*.
- Perfect Price Discrimination
  - Perfect price discrimination refers to the situation when the monopolist knows exactly the willingness to pay of each customer and can charge each customer a different price.

The Analytics of Price Discrimination

- Two important effects of price discrimination:
  - It can increase the monopolist’s profits.

Examples of Price Discrimination

- Movie tickets
- Airline prices
- Discount coupons
- Financial aid
- Quantity discounts

CONCLUSION: THE PREVALENCE OF MONOPOLY

- How prevalent are the problems of monopolies?
  - Monopolies are common.
  - Most firms have some control over their prices because of differentiated products.
  - Firms with substantial monopoly power are rare.
  - Few goods are truly unique.

Table 2 Competition versus Monopoly: A Summary Comparison

	Competition	Monopoly
Similarities		
Goal of firms	Maximize profits	Maximize profits
Rule for maximizing	$MR = MC$	$MR = MC$
Can earn economic profits in the short run?	Yes	Yes
Differences		
Number of firms	Many	One
Marginal revenue	$MR = P$	$MR < P$
Price	$P = MC$	$P > MC$
Produces welfare-maximizing level of output?	Yes	No
Entry in long run?	Yes	No
Can earn economic profits in long run?	No	Yes
Price discrimination possible?	No	Yes

Summary

- A monopoly is a firm that is the sole seller in its market.
- It faces a downward-sloping demand curve for its product.
- A monopoly's marginal revenue is always below the price of its good.

Summary

- Like a competitive firm, a monopoly maximizes profit by producing the quantity at which marginal cost and marginal revenue are equal.
- Unlike a competitive firm, its price exceeds its marginal revenue, so its price exceeds marginal cost.

Summary

- Monopolists can raise their profits by charging different prices to different buyers based on their willingness to pay.