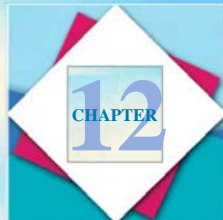


MONOPOLY



Objectives

- Causes of monopoly
- Monopoly pricing and output determination
- Performance and efficiency of single-price monopoly and competition
- Price discrimination
- Regulation of monopoly

Market Power

Market power

- the ability to influence the market, and in particular the market price, by influencing the total quantity offered for sale.
- greater when there are fewer close substitutes and demand is more inelastic

Monopoly

- an industry that produces a good or service for which no close substitute exists and in which there is one supplier that is protected from competition by a barrier preventing the entry of new firms.

Market Power

Barriers to entry cause a monopoly.

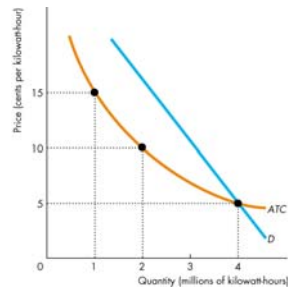
- Legal barriers to entry
 - patents
 - the grant of a property right to the inventor, issued by the Patent and Trademark Office.
 - The term of a new patent is usually 20 years
 - copyrights
 - A document granting exclusive right to publish and sell literary or musical or artistic work
 - public franchise
 - zoning
 - Licensing (medical, law, accounting, alcohol)
- Natural barriers to entry
 - Scale economies

Market Power

A **natural monopoly** is an industry in which one firm can supply the entire market at a lower price than two or more firms can.

What's the source of scale economies in:

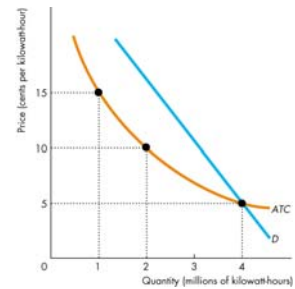
- Software
- Utilities
- Satellite TV providers



Market Power

In a natural monopoly, economies of scale are so powerful that they are still being achieved even when the entire market demand is met.

The *ATC* curve is still sloping downward when it meets the demand curve.



Market Power

Monopoly Price-Setting Strategies

Single-price monopoly

- sells each unit of its output for the same price to all its customers.

Price discriminating monopoly

- Sells different units of a good or service for different prices.
- Many firms price discriminate, but not all of them are monopoly firms.

A Single-Price Monopoly's Output and Price Decision

Price and Marginal Revenue

A monopoly is a price setter, not a price taker like a firm in perfect competition.

The reason is that the demand curve for the monopoly's output is the market demand curve.

To sell a larger output, a monopoly must set a lower price.

A Single-Price Monopoly's Output and Price Decision

$$TR = P * Q$$

MR = increase in TR from selling one more unit

For a single-price monopoly,

$$MR < P$$

A Single-Price Monopoly's Output and Price Decision

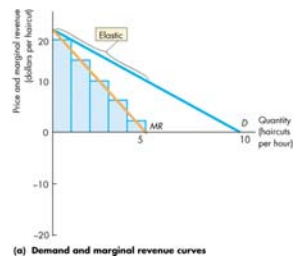
P	Q	TR	MR
4	1	4	4
3	2	6	2
2	3	6	0
1	4	4	-2
0	6	0	-4

- $MR < P$
- MR falls at twice the rate as price.

A Single-Price Monopoly's Output and Price Decision

Marginal Revenue and Elasticity

If demand is elastic, a fall in price brings an increase in total revenue, and marginal revenue will be positive.

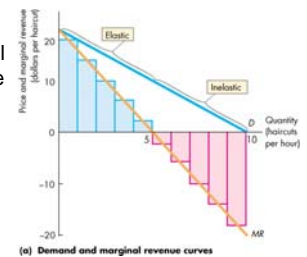


(a) Demand and marginal revenue curves

A Single-Price Monopoly's Output and Price Decision

If demand is inelastic, a fall in price brings a decrease in total revenue and marginal revenue is negative.

What price maximizes total revenue?



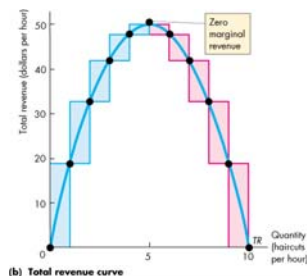
(a) Demand and marginal revenue curves

A Single-Price Monopoly's Output and Price Decision

If demand is unit elastic, a fall in price brings no change in total revenue.

The rise in revenue from the increase in quantity sold equals the fall in revenue from the lower price per unit, and $MR = 0$.

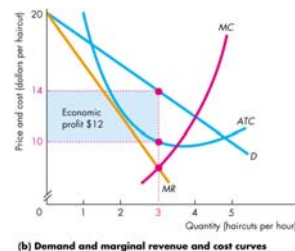
Total revenue is maximized when $MR = 0$.



A Single-Price Monopoly's Output and Price Decision

The firm produces the output at which $MR = MC$ and sets the price to sell that quantity.

Economic profit is the profit per unit multiplied by the quantity produced—the blue rectangle.



A Single-Price Monopoly's Output and Price Decision

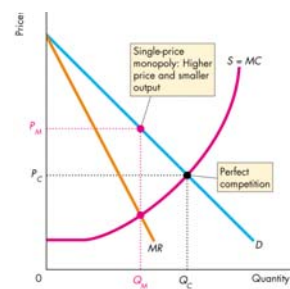
A single-price monopoly never produces an output at which demand is inelastic (i.e. where $MR < 0$).

If it did produce such an output, the firm could increase total revenue, decrease total cost, and increase economic profit by raising price and decreasing output.

Single-Price Monopoly and Competition Compared

Equilibrium output for a monopoly, Q_M , occurs where marginal revenue equals marginal cost, $MR = MC$.

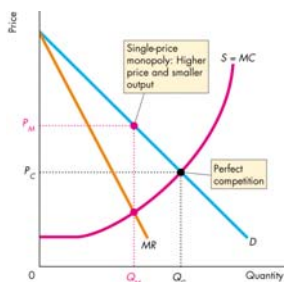
Equilibrium price for a monopoly, P_M , occurs on the demand curve at the profit-maximizing quantity.



Single-Price Monopoly and Competition Compared

Because marginal revenue is less than price at each output level, $Q_M < Q_C$ and $P_M > P_C$.

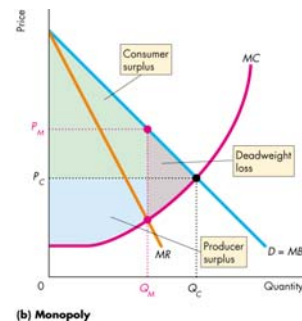
Compared to perfect competition, monopoly restricts output and charges a higher price.



Single-Price Monopoly and Competition Compared

Compared to perfect competition

- Consumer surplus
- Producer surplus
- Deadweight loss



Single-Price Monopoly and Competition Compared

Rent Seeking

The social cost of monopoly may exceed the deadweight loss through an activity called **rent seeking**, which is any attempt to capture consumer surplus, producer surplus, or economic profit.

Rent seeking is not confined to a monopoly. There are two forms of rent seeking activity to pursue monopoly:

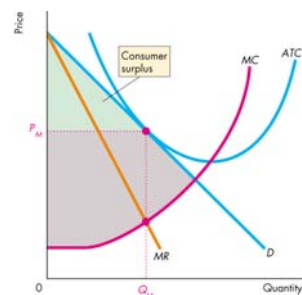
Buy a monopoly—transfers rent to creator of monopoly.

Create a monopoly—uses resources in political activity.

Single-Price Monopoly and Competition Compared

Rent-Seeking Equilibrium

The resources used in rent seeking can exhaust the monopoly's economic profit and leave the monopoly owner with only normal profit as the rent seeking behavior drives ATC up until there is no profit.



Price Discrimination

Price discrimination is the practice of selling different units of a good or service for different prices.

To be able to price discriminate, a monopoly must:

- Identify and separate different buyer types
- Sell a product that cannot be resold

Price differences that arise from cost differences are not price discrimination.

Price Discrimination

Examples of price discrimination

- Quantity discounts

—quantity discounts that reflect lower costs at higher volumes are not price discrimination.

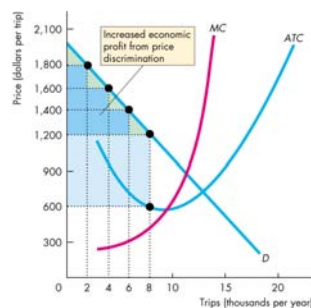
- Among groups of buyers.

—Business versus vacation travelers.
—Senior citizen discounts.

Price Discrimination

Single price monopolist would charge \$1200 and sell 8,000 trips to maximize profits.

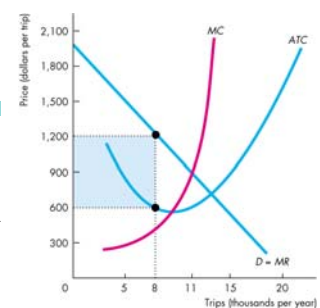
Price discriminating monopolist would charge different price for each trip to convert **consumer surplus into its own revenue**.



Price Discrimination

Perfect price discrimination extracts the entire potential consumer surplus and converts it to economic profit.

Demand curve becomes MR curve.

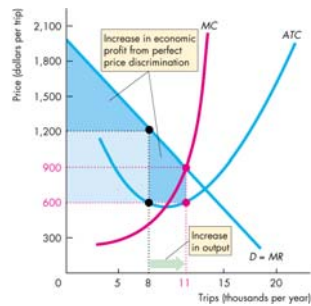


Price Discrimination

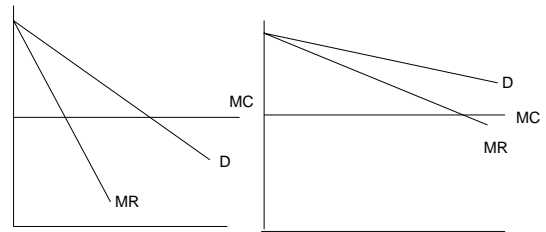
Output increases to the quantity at which price equals marginal cost

Economic profit increases above that earned by a single-price monopoly.

Deadweight loss is eliminated

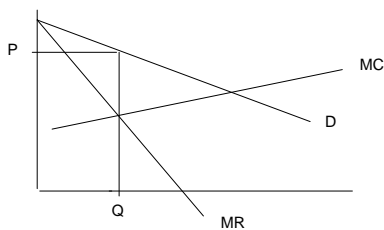


Price discrimination and elasticity



If a firm has constant MC and markets with different elasticity of demand, where should it charge the higher price?

Two part pricing.



- Two part pricing: charge a "membership fee" and a per unit fee.
- The membership fee converts consumer surplus into monopoly revenue.
- How large a membership fee can the monopoly charge without losing the customer's business?

Price Discrimination

Efficiency and Rent Seeking with Price Discrimination

The more perfectly a monopoly can price discriminate, the closer its output gets to the competitive output ($P = MC$) and the more efficient is the outcome.

But this outcome differs from the outcome of perfect competition in two ways:

- The monopoly captures the entire consumer surplus.
- The increase in economic profit attracts even more rent-seeking activity that leads to an inefficient use of resources.

Monopoly Policy Issues

Gains from Monopoly

A single-price monopoly creates inefficiency.

A price discriminating monopoly captures consumer surplus and converts it into producer surplus and economic profit.

The possibility of monopoly profits encourages rent-seeking, which wastes resources.

But monopoly brings benefits.

Monopoly Policy Issues

Product innovation

Patents and copyrights provide protection from competition and let the monopoly enjoy the profits stemming from innovation for a longer period of time.

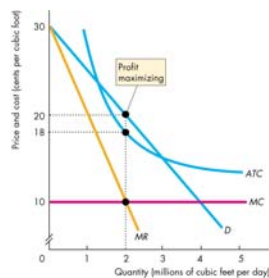
Economies of scale and scope

Where economies of scale or scope exist, a monopoly can produce at a lower average total cost than what a large number of competitive firms could achieve.

Monopoly Policy Issues

Regulating Natural Monopoly

When demand and cost conditions create natural monopoly, government agencies regulate the monopoly.



Monopoly Policy Issues

Different types of regulations:

MC pricing

- socially efficient
- economic losses
- subsidies or allow price discrimination?

AC pricing

- not socially efficient
- zero economic profit

