

Market structures

Why Monopolies Arise

- **Market power**
 - Alters the relationship between a firm's costs and the selling price
- **Monopoly**
 - Charges a price that exceeds marginal cost
 - A high price reduces the quantity purchased
 - Outcome: often not the best for society

Why Monopolies Arise

- **Monopoly resources**
 - A key resource required for production is owned by a single firm
 - Higher price

"Rather than a monopoly, we like to consider ourselves 'the only game in town.'"



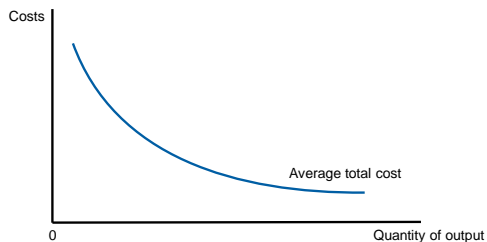
Why Monopolies Arise

- **Government regulation**
 - Government gives a single firm the exclusive right to produce some good or service
 - Government-created monopolies
 - Patent and copyright laws
 - Higher prices
 - Higher profits

Why Monopolies Arise

- **Natural monopoly**
 - A single firm can supply a good or service to an entire market
 - At a smaller cost than could two or more firms
 - Economies of scale over the relevant range of output
 - Club goods
 - Excludable but not rival in consumption

Economies of Scale as a Cause of Monopoly



When a firm's average-total-cost curve continually declines, the firm has what is called a natural monopoly. In this case, when production is divided among more firms, each firm produces less, and average total cost rises. As a result, a single firm can produce any given amount at the least cost

Why Monopolies Arise

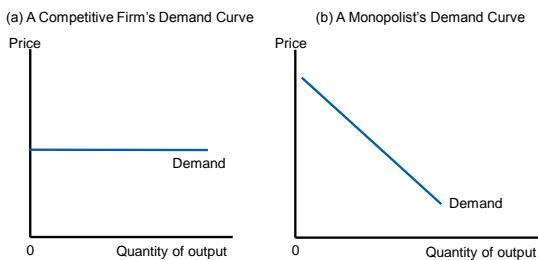
External Growth

- Acquisition, mergers and takeovers
- Big four banks

Production and Pricing Decisions

- **Monopoly**
 - Price maker
 - Sole producer
 - Downward sloping demand: the market demand curve
- **Competitive firm**
 - Price taker
 - One producer of many
 - Demand is a horizontal line (Price)

Demand Curves for Competitive and Monopoly Firms



Because competitive firms are price takers, they in effect face horizontal demand curves, as in panel (a). Because a monopoly firm is the sole producer in its market, it faces the downward-sloping market demand curve, as in panel (b). As a result, the monopoly has to accept a lower price if it wants to sell more output.

Production and Pricing Decisions

- A monopoly's total revenue
 - Total revenue = price times quantity
- A monopoly's average revenue
 - Revenue per unit sold
 - Total revenue divided by quantity
 - Always equals the price

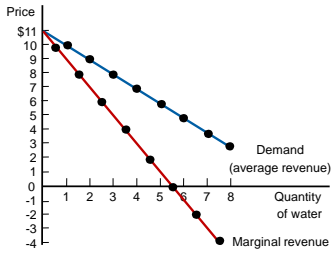
Production and Pricing Decisions

- A monopoly's marginal revenue
 - Revenue per each additional unit of output
 - Change in total revenue when output increases by 1 unit
 - $MR < P$
 - Downward-sloping demand
 - To increase the amount sold, a monopoly firm must lower the price it charges to all customers
 - Can be negative

A Monopoly's Total, Average, and Marginal Revenue

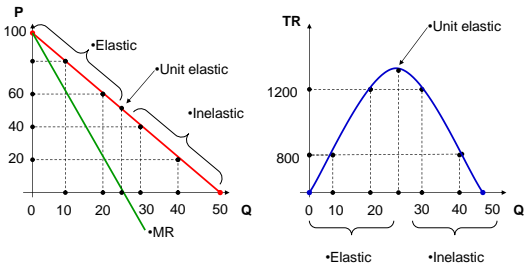
Quantity of Water (Q)	Price (P)	Total Revenue (TR = P × Q)	Average Revenue (AR = TR / Q)	Marginal Revenue (MR = ΔTR / ΔQ)
0 gallons	\$11	\$ 0	—	
1	10	10	\$10	\$10
2	9	18	9	8
3	8	24	8	6
4	7	28	7	4
5	6	30	6	2
6	5	30	5	0
7	4	28	4	-2
8	3	24	3	-4

Demand and Marginal-Revenue Curves for a Monopoly



The demand curve shows how the quantity affects the price of the good. The marginal-revenue curve shows how the firm's revenue changes when the quantity increases by 1 unit. Because the price on all units sold must fall if the monopoly increases production, marginal revenue is always less than the price.

Marginal Revenue Like a Monopolist



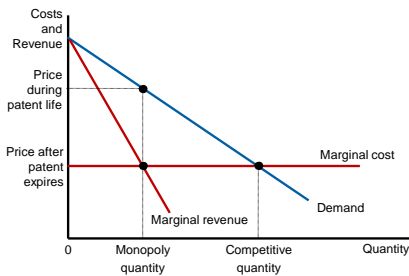
Production and Pricing Decisions

- Profit maximization
 - If $MR > MC$: increase production
 - If $MC > MR$: produce less
 - Maximize profit
 - Produce quantity where $MR=MC$
 - Intersection of the marginal-revenue curve and the marginal-cost curve
 - Price: on the demand curve

Monopoly Drugs versus Generic Drugs

- Market for pharmaceutical drugs
 - New drug, patent laws, monopoly
 - Produce Q where $MR=MC$
 - $P>MC$
 - Generic drugs: competitive market
 - Produce Q where $MR=MC$
 - And $P=MC$
- Price of the competitively produced generic drug
 - Below the monopolist's price

The Market for Drugs



When a patent gives a firm a monopoly over the sale of a drug, the firm charges the monopoly price, which is well above the marginal cost of making the drug. When the patent on a drug runs out, new firms enter the market, making it more competitive. As a result, the price falls from the monopoly price to marginal cost.

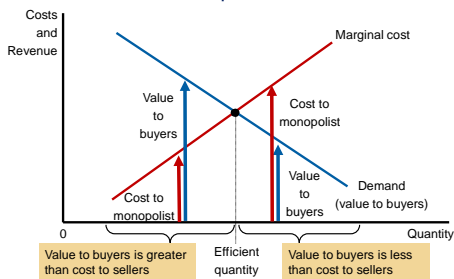
The Welfare Cost of Monopolies

- Total surplus
 - Economic well-being of buyers and sellers in a market
 - Sum of consumer surplus and producer surplus
- Consumer surplus
 - Consumers' willingness to pay for a good
 - Minus the amount they actually pay for it

The Welfare Cost of Monopolies

- **Producer surplus**
 - Amount producers receive for a good
 - Minus their costs of producing it
- **Benevolent planner: maximize total surplus**
 - Socially efficient outcome
 - Produce quantity where
 - Marginal cost curve intersects demand curve
 - Charge $P=MC$

The Efficient Level of Output

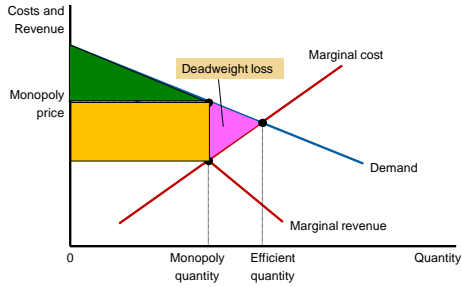


A benevolent social planner maximizes total surplus in the market by choosing the level of output where the demand curve and marginal-cost curve intersect. Below this level, the value of the good to the marginal buyer (as reflected in the demand curve) exceeds the marginal cost of making the good. Above this level, the value to the marginal buyer is less than marginal cost.

The Welfare Cost of Monopolies

- **Monopoly**
 - Produces less than the socially efficient quantity of output
 - Charge $P > MC$
 - Deadweight loss
 - Triangle between the demand curve and MC curve

The Inefficiency of Monopoly



Because a monopoly charges a price above marginal cost, not all consumers who value the good at more than its cost buy it. Thus, the quantity produced and sold by a monopoly is below the socially efficient level. The deadweight loss is represented by the area of the triangle between the demand curve (which reflects the value of the good to consumers) and the marginal-cost curve (which reflects the costs of the monopoly producer).

The Welfare Cost of Monopolies

- The monopoly's profit: a social cost?
 - Monopoly - higher profit
 - Not a reduction of economic welfare
 - Bigger producer surplus
 - Smaller consumer surplus
 - Not a social problem
 - Social loss = Deadweight loss
 - From the inefficiently low quantity of output

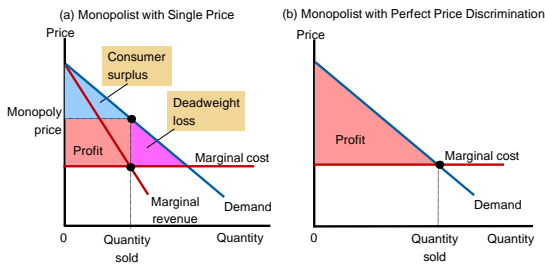
Price Discrimination

- Price discrimination
 - Business practice
 - Sell the same good at different prices to different customers
 - Rational strategy to increase profit
 - Requires the ability to separate customers according to their willingness to pay
 - Can raise economic welfare

Price Discrimination

- Perfect price discrimination
 - Charge each customer a different price
 - Exactly his or her willingness to pay
 - Monopoly firm gets the entire surplus (Profit)
 - No deadweight loss

Welfare with and without Price Discrimination



Panel (a) shows a monopoly that charges the same price to all customers. Total surplus in this market equals the sum of profit (producer surplus) and consumer surplus. Panel (b) shows a monopoly that can perfectly price discriminate. Because consumer surplus equals zero, total surplus now equals the firm's profit. Comparing these two panels, you can see that perfect price discrimination raises profit, raises total surplus, and lowers consumer surplus.

Price Discrimination

- Examples of price discrimination
 - Movie tickets
 - Lower price for children and seniors

Public Policy Toward Monopolies

- Increasing competition with antitrust laws

- Prevent mergers
- Break up companies
- Prevent companies from coordinating their activities to make markets less competitive



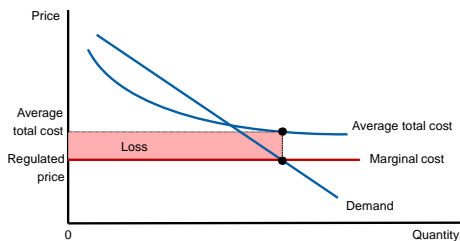
"But if we do merge with Amalgamated, we'll have enough resources to fight the anti-trust violation caused by the merger."

Public Policy Toward Monopolies

- Regulation

- Regulate the behavior of monopolists
 - Price
- Common in case of natural monopolies
- Marginal-cost pricing
 - May be less than ATC
 - No incentive to reduce costs

Marginal-Cost Pricing for a Natural Monopoly



Because a natural monopoly has declining average total cost, marginal cost is less than average total cost. Therefore, if regulators require a natural monopoly to charge a price equal to marginal cost, price will be below average total cost, and the monopoly will lose money.

Public Policy Toward Monopolies

- Public ownership
 - How the ownership of the firm affects the costs of production
 - Private owners
 - Incentive to minimize costs
 - Public owners (government)
 - If it does a bad job
 - Losers are the customers and taxpayers
