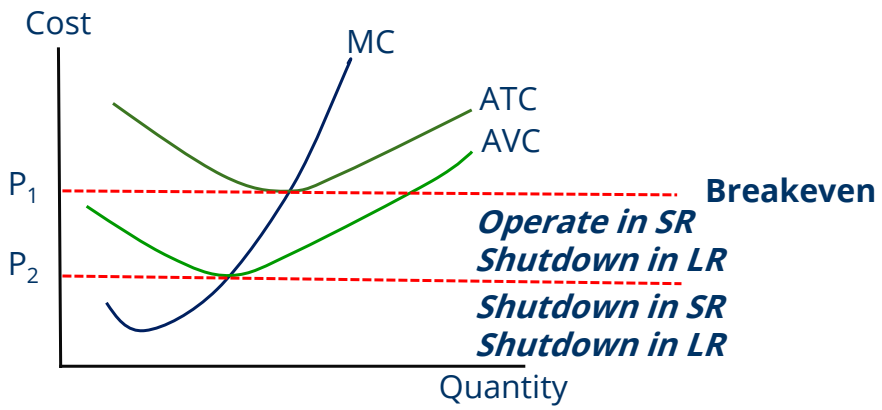
Economics

The Firm and Market Structures

Exam Focus

- Shutdown decisions
- Economies of scale
- Perfect and monopolistic competition
- Oligopoly and monopoly
- Concentration measures

Breakeven and Shutdown Decision



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Shutdown Decision: Example

A company has revenues of GBP2 million, total fixed costs of GBP1 million, and total variable costs of GBP1.5 million. The net loss on the firm's income statement is reported as GBP500,000.

What decisions should the company make regarding operations over the short term and long term?

	£
Revenue	
Variable costs	
Contribution	
Fixed costs	
Profit/loss	

Short term: contribution =

Long term: +ve contribution < fixed costs

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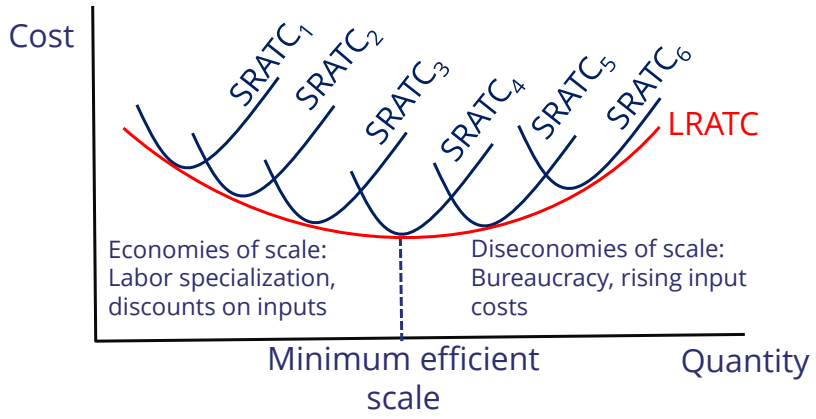
Economies and Diseconomies of Scale

Short run: quantity of some factors (e.g., scale) are fixed
Long run: all input quantities are variable



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Characteristics of Market Structures

	Perfect Competition	Monopolistic Competition	Oligopoly	Monopoly
Number of sellers	Many firms	Many firms	Few firms	Single firm
Barriers to entry	Very low	Low	High	Very high
Nature of substitute products	Very good substitutes	Good substitutes but differentiated	Very good substitutes or differentiated	No good substitutes
Nature of competition	Price only	Price, marketing, features	Price, marketing, features	Advertising
Price power	None	Some	Some to significant	Significant

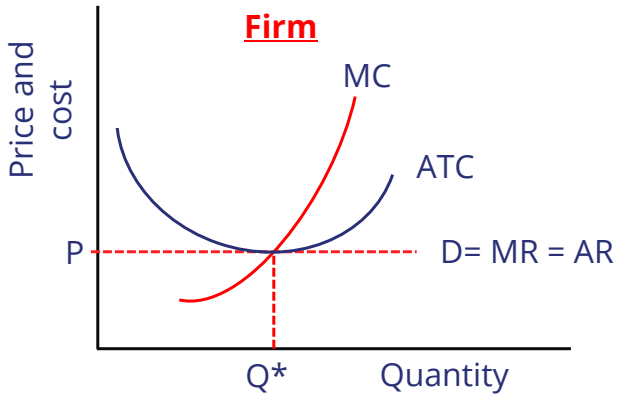
Perfect Competition

- Firms in perfect competition are **price takers**
  - They have no influence over market price and face a **perfectly elastic** demand curve

Market characteristics

- Homogeneous product
- Large number of independent firms; each small relative to the total market
- No barriers to entry or exit
- Supply and demand determine market price

Perfect Competition: LR Equilibrium



Optimal output @ MR = MC

Economic profit = 0

For the firm: P = min ATC
Firm demand perfectly elastic at market equilibrium price

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Perfect Competition: Example 1

An agricultural firm operating in a perfectly competitive market supplies wheat to manufacturers of consumer food products and animal feeds. If the firm were able to expand its production and unit sales by 10%, the *most likely* result would be a:

A. 10% increase in total revenue.

B. 10% increase in average revenue.

C. less than 10% increase in total revenue.

In a perfectly competitive market, in supply by a single will not affect price. Therefore, an increase in units sold by the proportionately by an increase in revenue.

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Perfect Competition: Example 2

The marginal revenue per unit sold for a firm doing business under conditions of perfect competition will *most likely* be:

A. equal to average revenue.
B. less than average revenue.
C. greater than average revenue.

Under perfect competition, a firm is a to the market, and = = at any quantity supplied

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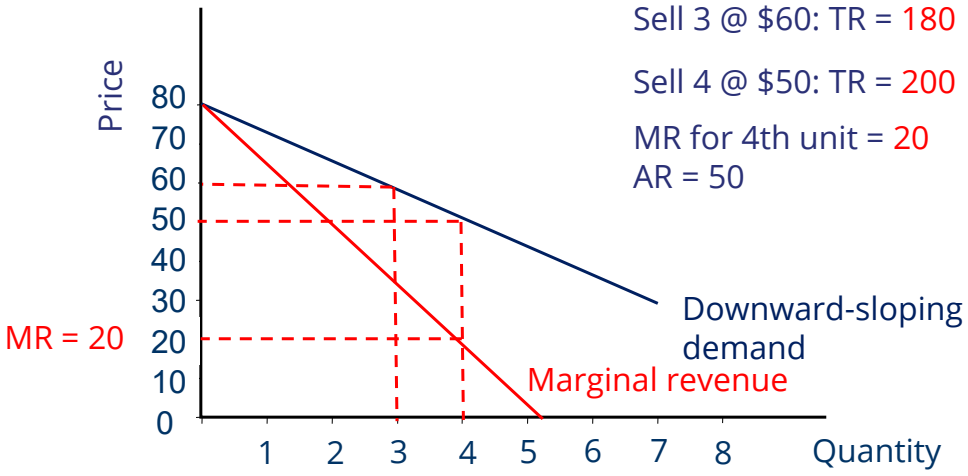
Marginal Revenue in Imperfect Competition



Sell 3 @ $60: TR = 180

Sell 4 @ $50: TR = 200

MR for 4th unit = 20
AR = 50

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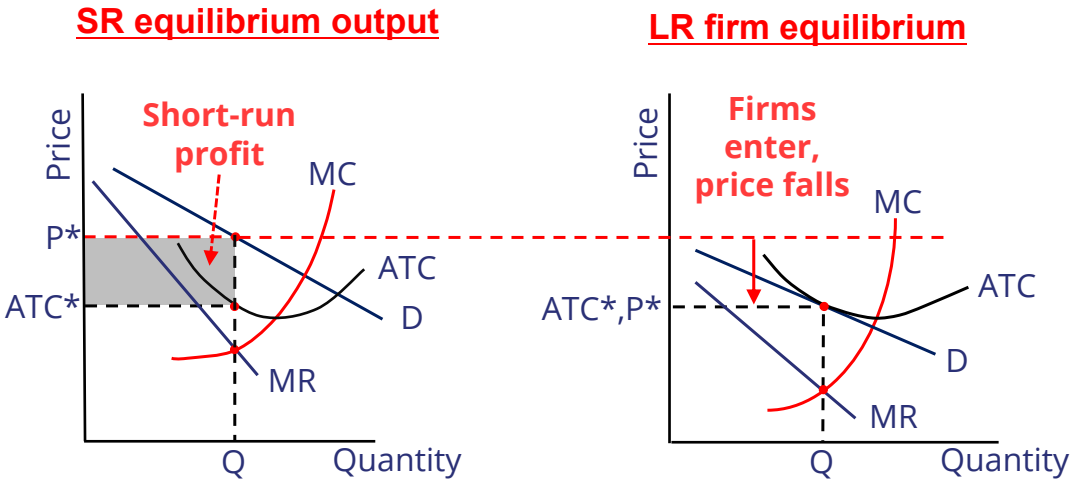
Monopolistic Competition

- A large number of buyers and sellers
- Firms produce differentiated products (close but not perfect substitutes)
- Low barriers to entry
- Some pricing power
- Firms compete on price, quality, and marketing

Monopolistic Competition



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Monopolistic Competition: Example

A company doing business in a monopolistically competitive market will *most likely* maximize profits when its output quantity is set such that:

A. average cost is minimized.

B. marginal revenue is equal to average cost.

C. marginal revenue is equal to marginal cost.

The profit-maximizing choice is the level of output at which
equals

-1

Oligopoly

- **Small number** of sellers—downward-sloping demand curves
- **Interdependence** among competitors and their demand curves
- Substantial pricing power
- Significant **barriers to entry** (e.g., scale of operations)
- Products may be similar *or* differentiated
- Collusion may lead to increased profits

Oligopoly Pricing Models

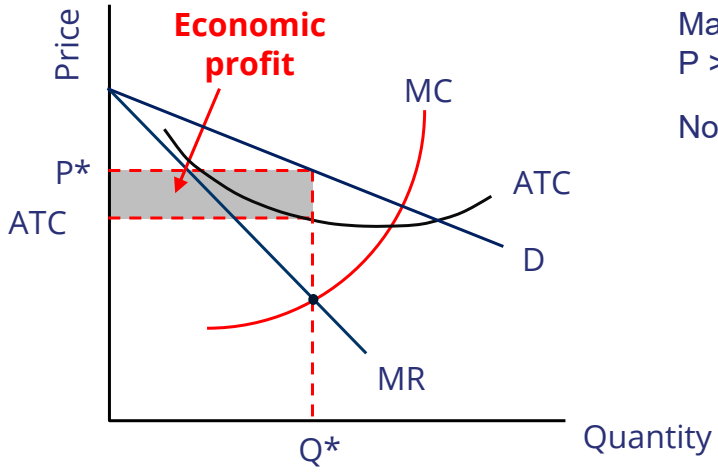
- **Kinked demand curve—**competitors match price decreases; do not match price increases
- **Cournot model—**same product, identical costs; simultaneous decisions, firms split the market equally
- **Stackelberg model**—decisions are sequential, ”leader” firm captures more of the market
- **Nash equilibrium—**choices of all firms are such that no other choice makes any firm better off (increases profits or decreases losses)

Monopoly

A monopoly is characterized by the following:

- Single seller
- Unique product
- Very high barriers to entry
- Considerable pricing power
- When regulated, a monopoly earns normal profit

Pure Monopoly Short and Long Run



Maximize profit at MC = MR
P > ATC, econ profit > 0

No well-defined supply curve

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Market Structures: Example 1

A market structure characterized by many sellers with each having some pricing power and product differentiation is *best* described as:

A. oligopoly.

B. perfect competition.

C. monopolistic competition.

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Market Structures: Example 2

A market structure with relatively few sellers of a homogeneous or standardized product is *best* described as:

A. oligopoly.

B. monopoly.

C. perfect competition.

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Concentration Measures

***N*-firm concentration ratio:** sum of the percentage market shares of *N* largest firms in an industry

Advantage: simple

Limitations: ignores barriers to entry; largely unaffected by mergers

Herfindahl-Hirschman Index (HHI): sum of squared market shares of *N* largest firms in a market

Advantages: more sensitive to mergers than *N*-firm ratio, widely used by regulators

Limitations: ignores barriers to entry, ignores elasticity of demand

Concentration Measures: Example

An analyst gathered the following market share data for an industry composed of five companies:

Company	Market Share %
Zeta	35
Yusef	25
Xenon	20
Waters	10
Vlastos	10

The industry's three-firm Herfindahl-Hirschman Index is *closest* to:

A. 0.185.

B. 0.225.

C. 0.235.

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Solutions

Shutdown Decision: Example

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What decisions should the company make regarding operations over the short term and long term?

	£
Revenue	2,000,000
Variable costs	(1,500,000)
Contribution	500,000
Fixed costs	(1,000,000)
Profit/loss	(500,000)

Short term: +ve contribution = continue to operate

Long term: +ve contribution < fixed costs shut down

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In a perfectly competitive market, an increase in supply by a single firm will not affect price. Therefore, an increase in units sold by the firm will be matched proportionately by an increase in revenue.

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The marginal revenue per unit sold for a firm doing business under conditions of perfect competition will *most likely* be:

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Under perfect competition, a firm is a price taker at any quantity supplied to the market, and AR = MR = price.

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A. average cost is minimized.
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$0.35^2 + 0.25^2 + 0.20^2 = 0.225$

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