Summary

2.11 Market failure – market power (HL)

Subject	Year	Start date	Duration
Economics	IB1	Week 4, February	3 weeks 12 hours

Course Part

2. Microeconomics

Description

2.11 Market failure – Market power, you should be able to:

- Be familiar with the following terms: short run, long run, law of diminishing marginal returns, total product, average product, marginal product, explicit costs, implicit costs, economic costs, total cost, average cost, marginal cost, fixed costs, variable costs, imperfect market, total revenue, average revenue, marginal revenue, economies of scale, perfect competition, monopoly, oligopoly, monopolistic competition, normal profit, abnormal profit, economic profit, predatory pricing, satisficing behaviour, productive efficiency, allocative efficiency, natural monopoly, collusion, tacit collusion, price war, contestable market, interdependent, concentration ratio, profit maximisation, fungibility, breaking even, perfectly price elastic demand, price taker, marginal social benefit, marginal social cost, price elasticity of demand, kinked demand curve, price maker, substitutes, legislation, regulation, nationalisation, price competition, non-price competition, perfect information.
- Explain the characteristics of the four market structures: perfect competition, monopoly, oligopoly, monopolistic competition.
- Distinguish between total costs, marginal costs and average costs.
- Draw diagrams illustrating the relationship between marginal costs and average costs.
- Calculate total fixed costs, total variable costs, total costs, average fixed costs, average variable costs, average total costs and marginal costs from a set of data.
- Distinguish between total revenue, average revenue and marginal revenue.
- Draw diagrams illustrating the relationship between total revenue, average revenue and marginal revenue.
- Calculate total revenue, average revenue and marginal revenue from a set of data.

Profit maximisation (HL):

- Describe economic profit (abnormal profit) as the case where the total revenue exceeds the economic cost.
- Describe normal profit (zero economic profit) as the case where total revenue is equal to total economic costs or the situation in which the amount of revenue earned is just sufficient to keep the firm in its current line of business.
- Explain that economic profit (abnormal profit) is profit over and above normal profit (zero economic profit), and that the firm earns a normal profit when economic profit (abnormal profit) is zero.
- Explain why a firm will continue to operate even when it earns zero economic profit (abnormal profit).
- Explain the meaning of loss as negative economic profit arising when total revenue is less than total cost.
- Calculate different profit levels from a set of data.
- Explain the goal of profit maximisation where the difference between total revenue and total cost is maximised, or where marginal revenue equals marginal cost.

Perfect competition (HL):

- Describe, using examples, the assumed characteristics of perfect competition: a large number of firms; a homogeneous product; freedom of entry and exit; perfect information; perfect resource mobility.
- Explain, using a diagram, the shape of the perfectly competitive firm's average revenue and marginal revenue curves, indicating that the assumptions of perfect competition imply that each firm is a price taker.
- Explain, using a diagram, that the perfectly competitive firm's average revenue and marginal revenue curves are derived from market equilibrium for the industry.
- Explain, using diagrams, that it is possible for a perfectly competitive firm to make economic profit (abnormal profit), normal profit (zero economic profit) or negative economic profit in the short run based on the marginal cost and marginal revenue

profit maximisation rule.
- Explain, using a diagram, why, in the long run, a perfectly competitive firm will make normal profit (zero economic profit).
- Explain, using a diagram, how a perfectly competitive market will move from short- run equilibrium to long-run equilibrium.
- Explain, using a diagram, when a loss-making firm would shut down in the short run.
- Explain, using a diagram, when a loss-making firm would shut down and exit the market in the long run.
- Explain the meaning of the term allocative efficiency.
- Explain that the condition for allocative efficiency is P = MC (or, with externalities, MSB = MSC).
- Explain, using a diagram, why a perfectly competitive market leads to allocative efficiency in both the short run and the long run.
- Explain the meaning of the term productive efficiency.
- Explain that the condition for productive efficiency is that production takes place at minimum average total cost.
- Explain, using a diagram, why a perfectly competitive firm will be productively efficient in the long run, though not necessarily in the short run.

Monopoly (HL):

- Describe, using examples, the assumed characteristics of a monopoly: a single or dominant firm in the market; no close substitutes; significant barriers to entry.
- Describe, using examples, barriers to entry, including economies of scale, branding and legal barriers.
- Explain that the average revenue curve for a monopolist is the market demand curve, which will be downward sloping.
- Explain, using a diagram, the relationship between demand, average revenue and marginal revenue in a monopoly.
- Explain why a monopolist will never choose to operate on the inelastic portion of its average revenue curve.
- Explain, using a diagram:
  - The short- and long-run equilibrium output and pricing decision of a profit maximising (loss minimising) monopolist, identifying
  - The firm's economic profit (abnormal profit), or losses

- Explain the role of barriers to entry in permitting the firm to earn economic profit (abnormal profit).
- Explain, using a diagram, the output and pricing decision of a revenue-maximising monopoly firm.
- Compare and contrast, using a diagram, the equilibrium positions of a profit-maximising monopoly firm and a revenue-maximising monopoly firm.
- With reference to economies of scale, and using examples, explain the meaning of the term 'natural monopoly'.
- Draw a diagram illustrating a natural monopoly.
- Explain, using diagrams, why the profit-maximising choices of a monopoly firm lead to allocative inefficiency (welfare loss) and productive inefficiency.
- Explain why, despite inefficiencies, a monopoly may be considered desirable for a variety of reasons, including the ability to finance research and development (R&D) from economic profits, the need to innovate to maintain economic profit (abnormal profit), and the possibility of economies of scale.
- Evaluate the role of legislation and regulation in reducing monopoly power.
- Draw diagrams and use them to compare and contrast a monopoly market with a perfectly competitive market, with reference to factors including efficiency, price and output, research and development (R&D) and economies of scale.

Oligopoly (HL):

- Describe, using examples, the assumed characteristics of an oligopoly: the dominance of the industry by a small number of firms; the importance of interdependence; differentiated and homogeneous products; high barriers to entry.
- Explain why interdependence is responsible for the dilemma faced by oligopolistic firms – whether to compete or to collude.
- Explain how a concentration ratio may be used to identify an oligopoly.
- Explain how game theory (the simple prisoner's dilemma) can illustrate strategic interdependence and the options available to oligopolies.
- Explain the term 'collusion', give examples, and state that it is usually (in most countries) illegal.
- Explain the term 'cartel'.
- Explain that the primary goal of a cartel is to limit competition between member firms and to maximise joint profits as if the firms were collectively a monopoly.
- Explain the incentive of cartel members to cheat.
- Analyse the conditions that make cartel structures difficult to maintain.

- Describe the term 'tacit collusion', including reference to price leadership by a dominant firm.
- Explain that the behaviour of firms in a non-collusive oligopoly is strategic in order to take account of possible actions by rivals.
- Explain, using a diagram, the existence of price rigidities, with reference to the kinked demand curve.
- Explain why non-price competition is common in oligopolistic markets, with reference to the risk of price wars.
- Describe, using examples, types of non-price competition.

Monopolistic competition (HL):

- Describe, using examples, the assumed characteristics of a monopolistic competition: a large number of firms; differentiated products; absence of barriers to entry and exit.
- Explain that product differentiation leads to a small degree of monopoly power and therefore to a negatively sloping demand curve for the product.
- Explain, using a diagram, the short-run equilibrium output and pricing decisions of a profit-maximising (loss-minimising) firm in monopolistic competition, identifying the firm's economic profit (or loss).
- Explain, using diagrams, why in the long run a firm in monopolistic competition will make normal profit.
- Distinguish between price competition and non-price competition.
- Describe examples of non-price competition, including advertising, packaging, product development and quality of service.
- Explain, using a diagram, why neither allocative efficiency nor productive efficiency are achieved by monopolistically competitive firms.
- Compare and contrast, using diagrams, monopolistic competition with perfect competition, and monopolistic competition with monopoly, with reference to factors including short run, long run, market power, allocative and productive efficiency, number of producers, economies of scale, ease of entry and exit, size of firms and product differentiation.

Inquiry & Purpose

Inquiry / Higher Order Questions

Type	Inquiry Questions
Skills-based	The risks of increasing monopoly power and abuse in a selected industry (for example, technology). • Examples of government intervention in response to abuse of market power.

Curriculum

Objectives

Use and application of appropriate skills (AO4)

Produce and use diagrams to help explain economic theory, concepts and real-world issues

Syllabus Content

Unit 2: Microeconomics

Real-world issue 2 - When are markets unable to satisfy important economic objectives—and does government intervention help?

2.11 Market failure—market power (HL only)

Perfect competition–many firms, free entry, homogeneous products

Monopoly—single or dominant firm, high barriers to entry, no close substitutes

Imperfect competition

- Oligopoly—few large firms, high barriers to entry, interdependence
- Monopolistic competition—many firms, free entry, product differentiation

Rational producer behaviour—profit maximization (HL only)

- Total revenue - Total costs (TR -TC)
- Marginal cost = Marginal revenue (MC=MR)
- Abnormal profit (AR > AC)*
- Normal profit (AR = AC)*
- Losses (AR < AC)*
- * AR = Average revenue, AC = Average cost

Calculation (HL only): profit, MC, MR, AC, AR from data

Degrees of market power

- Meaning of market power
- Perfect competition—no market power—firm as price taker
  - profit maximization:
    - in the short run
    - in the long run
  - Meaning of allocative efficiency, necessary conditions
  - Imperfect competition—varying degrees of market power—firm as price maker

Diagram: perfectly competitive firm as price taker where,

- *P = D = AR = MR

Diagram: perfectly competitive firm showing:

- abnormal profit
- normal profit
- losses

Diagram: equilibrium in perfectly competitive market with reference to allocative efficiency when P = MC or MB = MC, maximum social/community surplus.

*P = Price, D = Demand

Monopoly

- Profit maximization
- Allocative inefficiency (market failure)
- Welfare loss in a monopoly in comparison with perfect competition due to restricted output and higher price
- Natural monopoly

Diagram: market power where AR > MC

Diagram: monopolist showing:

- abnormal profit
- normal profit
- losses

Diagram: price/quantity comparison of a monopoly firm with a perfect competitive market. Also showing welfare loss under the monopoly.

Diagram: natural monopoly

Oligopoly

- Collusive versus non-collusive
- Interdependence, risk of price war, incentive to collude, incentive to cheat
- Allocative inefficiency (market failure)
- simple game theory payoff matrix
- Price and non-price competition
- Measurement of market concentration – concentration ratios

Diagram: collusive oligopoly acting as a monopoly

Monopolistic competition

- Profit maximization:
    - in the short run
    - in the long run
- Less market power due to many substitutes—more elastic demand curve compared with monopoly
- Allocative inefficiency (market failure)
- Less inefficiency, more product variety

Diagram: monopolistically competitive firm showing:

- abnormal profit
- normal profit
- losses

Diagram: monopolistic competition (with a more elastic demand curve compared to a monopoly)

Advantages of large firms having significant market power, including:

- Economies of scale including natural monopolies
- Abnormal profits may finance investments in research and development (R&D), hence innovation

Risks in markets dominated by one or a few very large firms

- Risks in terms of output, price, consumer choice

Government intervention in response to abuse of significant market power

- Legislation and regulation
- Government ownership
- Fines

Concepts

Change and Efficiency

ATL Skills

Approaches to Learning

Thinking

- In this unit, we will

  ask students to formulate a reasoned argument to support their opinion or conclusion

Communication

- In this unit, we will

  encourage or require students to plan a response before they begin

Developing IB Learners

Learner Profile

Knowledgeable

Thinkers