

UNIT 2

MARKET STRUCTURE AND THE DECISION OF FIRMS

Introduction to Market Structures

A **market** is a system where buyers and sellers interact to exchange goods and services. Market structure refers to how markets are organized based on competition levels, including:

1. **Perfect Competition**
2. **Monopolistic Competition**
3. **Oligopoly**
4. **Monopoly**

Key Concepts:

- **Price Taker:** Firms accept the market price as given.
- **Price Maker:** Firms can influence the price.
- **Homogeneous Products:** Goods are identical across firms.
- **Differentiated Products:** Goods are unique or varied.
- **Short-Run Equilibrium:** Firm's situation in the short term with fixed inputs.
- **Collusion:** Firms cooperate to set prices or output.
- **Non-Collusion:** Firms compete independently.

2.1 Review of Market Structures

Market Structure Overview

- **Perfect Competition:** Many firms, identical products, price takers.
- **Monopolistic Competition:** Many firms, differentiated products, some price-making power.
- **Oligopoly:** Few firms, may produce similar or differentiated products, potential for collusion.
- **Monopoly:** Single firm, unique product, price maker.

Characteristics Comparison

- **Perfect Competition:**
 - Many buyers and sellers
 - Homogeneous products

- Free entry and exit
- Perfect information
- **Monopolistic Competition:**
 - Many buyers and sellers
 - Differentiated products
 - Some control over prices
 - Free entry and exit
- **Oligopoly:**
 - Few firms
 - Products may be homogeneous or differentiated
 - Significant control over prices
 - Potential for collusion
- **Monopoly:**
 - Single seller
 - Unique product
 - High barriers to entry
 - Price maker

2.2 Perfect Competition Market

Key Features

- **Demand Curve:** Horizontal, reflecting the market price.
- **Revenue Curves:**
 - **Total Revenue (TR):** Straight line upward, as price is constant.
 - **Average Revenue (AR):** Equal to price.
 - **Marginal Revenue (MR):** Also equal to price, constant in perfect competition.

Cost Curves

- **Total Cost (TC):** Includes both fixed and variable costs, typically U-shaped due to economies and diseconomies of scale.
- **Average Total Cost (ATC):** U-shaped due to initial decreases followed by increases.
- **Marginal Cost (MC):** Typically U-shaped, reflecting changes in variable costs.

Profit Maximization

- **Short-Run Equilibrium:**
 - **Total Revenue – Total Cost Approach:** Find output where the difference between total revenue and total cost is maximized.

- **Marginal Revenue – Marginal Cost Approach:** Set MR equal to MC to determine optimal output.

Profit/Loss Situations

- **Profit:** Occurs when price > ATC.
- **Break-Even:** Occurs when price = ATC.
- **Loss:** Occurs when price < ATC.

Shutdown Point

- **Shutdown Point:** Price below the minimum of average variable cost (AVC), where the firm covers no variable costs and may shut down temporarily.

Short-Run Supply Curve

- **Supply Curve:** Portion of the MC curve above the AVC. Firms will supply output as long as price covers AVC.

Summary: In a perfectly competitive market, firms are price takers with no control over the market price. They maximize profit by producing where $MR = MC$. The short-run supply curve is the segment of the MC curve that lies above the AVC.

Long-Run Equilibrium of a Firm

Key Concepts:

1. **Long-Run Production Period:**
 - A period where firms can adjust their production processes and enter or exit the market freely.
2. **Market Dynamics:**
 - **Economic Profits:** If firms in an industry are earning economic profits, new firms will enter the market, attracted by these profits.
 - **Economic Losses:** If firms are incurring losses, some will exit the market, as the returns are better elsewhere.
3. **Adjustment Process:**
 - Firms will enter or leave the market until there is no incentive for further changes. This results in all firms earning just normal profits—no economic profit or loss.
4. **Long-Run Equilibrium:**
 - In the long run, a firm achieves equilibrium when:
 - **Output is produced at the minimum point of its Long-Run Average Cost (LAC) curve.**

- **LAC is tangential to the market price.**
 - **Firms earn only normal profits.**
5. **Cost Curves:**
- **Long-Run Average Cost (LAC) Curve:** Shows the minimum average cost for producing each level of output when the firm can adjust all inputs.
 - **Short-Run Average Cost (SAC) Curve:** Shows average costs when at least one input is fixed.
6. **Condition for Long-Run Equilibrium:**
- **Marginal Cost (MC) = Price (P) = Long-Run Average Cost (LAC)**
 - At this point, the firm operates at optimal capacity with no incentive to change its production level.

Graphical Explanation:

- **Initial Situation:** Firms making supernormal profits (at cost SAC1) will attract new firms, shifting the supply curve right and reducing the price to OP1.
- **Long-Run Equilibrium:** At OP1, firms and the industry reach a point where firms earn normal profits. The LAC curve is tangent to the demand curve, and the firm's output is at the minimum point of the LAC.

By understanding these principles, students can grasp how firms in perfectly competitive markets adjust over time to achieve long-run equilibrium, ensuring that resources are allocated efficiently and firms operate at their most cost-effective level.

Monopolistic Competition Market

Overview: Monopolistic competition is a market structure where many firms sell products that are differentiated from each other. It sits between perfect competition and monopoly, combining elements of both.

Key Concepts:

1. **Product Differentiation:**
- **Definition:** Products are differentiated if they are distinct in some way, either in terms of physical aspects, location, or brand perception. This could involve real differences (e.g., unique features or quality) or spurious differences (e.g., branding or packaging).
 - **Importance:** Differentiation helps firms gain some degree of market power, allowing them to set prices above marginal cost. Despite this, they still face competition from close substitutes.

2. Demand Curve:

- **Characteristics:** The demand curve for a firm in monopolistic competition is downward-sloping, unlike in perfect competition where it's perfectly elastic. This means the firm can raise prices without losing all customers, but faces competition from similar products.
- **Implication:** The firm's demand curve is more elastic than a monopoly's but less so than in perfect competition due to the presence of substitutes.

3. Costs:

- **Cost Curves:** In monopolistic competition, the average revenue (AR) curve is downward-sloping, and marginal revenue (MR) falls more steeply than AR. Firms need to manage costs to maximize production and profitability.

4. Short-Run Equilibrium:

- **Profit Maximization:** A monopolistically competitive firm maximizes profit where $MR = MC$ (Marginal Cost). The equilibrium output and price are determined at this point. The firm may earn supernormal profits in the short run, which will attract new firms into the market.
- **Visual Representation:** The equilibrium is where the MR curve intersects the MC curve, with the price determined from the AR curve. Supernormal profit is the area between AR and AC (Average Cost) above the equilibrium output.

5. Industry and Product Group:

- **Industry vs. Product Group:** In monopolistic competition, there is no single industry due to product differentiation. Instead, firms are grouped by similar products with high cross-elasticity of demand. Each firm is effectively its own industry because of the unique nature of its product.

Summary: In monopolistic competition, firms sell differentiated products and have some control over their pricing due to the uniqueness of their offerings. They face competition from other firms with similar but not identical products. In the short run, firms may earn profits, but these will attract new entrants, driving profits down to zero in the long run.