Unit 5

Market structures

Market is a structure in which the buyers and sellers of a commodity remain in close contact.

- **Basic factors for determination of market structure**:
  - ✓ Number of buyers and sellers,
  - ✓ Nature of the product,
  - ✓ Knowledge about the market,
  - ✓ Freedom of entry or exit of the firms,
  - ✓ Degree of price influence,
  - ✓ Degree of competition among firms in the market.
- **Main market forms are**:
  - Perfectly competitive market,
  - Pure monopoly,
  - Monopolistically competitive market,
  - Oligopoly.

PERFECTLY COMPETITIVE MARKET

- A perfectly competitive market or perfect competition is a market structure in which there are a large number of producers (firms) producing a homogeneous product so that **no individual firm** can influence the price of the commodity.
- In this type of market, the price is determined by the industry (aggregate of all the firms producing the same product) through the forces of demand and supply.

Assumptions of Perfectly Competitive Markets

- ***Very large number of buyers and sellers***: The number of buyers and sellers is so large that none of them can influence the prevailing price in the market.
  - once the price is determined by the industry, each firm and buyer has to accept it. A firm is, therefore, a price-taker rather than a price-maker.
- ***Homogeneous product***: Products sold in the market are homogeneous – i.e., they are identical in all respects, including ***quality***, ***color***, ***size***, ***weight***, ***design***, etc.
  - They are perfect substitutes for one another.
- ***Free entry and exit of firms***: Buyers and sellers are free to enter or leave the market at any time they like.
  - New firms, induced by large profits, can enter the industry, whereas losses cause the inefficient firms leave the industry.
- ***Perfect knowledge***: The buyers and sellers have perfect knowledge about **the prices** and **costs** prevailing in the different parts of the market.

- All firms have equal access to knowledge about the market and technology, resulting in same per-unit cost of production. Clearly, this leads to the emergence of uniform price of the product.

- ***Perfect mobility***: There is perfect mobility of goods and factors of production without any hindrance or obstruction.
  - The factors are free to enter the industry, if considered profitable, and to leave the industry when remuneration is inadequate.

- ***Absence of transport cost***: In perfect competition, it is assumed that there is no transport cost for consumers who may buy from any firm.
  - This ensures the existence of a single uniform price of the product.

    Example: most agricultural product's market.

Distinction Between Perfect Competition and Pure Competition

- **Competition** is said to be **pure** when the first three conditions explained above are satisfied. It means that pure competition exists when there is a very large number of buyers and sellers who deal in a homogeneous product and when the industry is characterized by free entry and exit.
- In contrast, **competition** is said to be **perfect** when all six of the conditions explained above are satisfied.

Revenue of a Perfectly Competitive Market

- **Revenue**: The revenues of a firm are the receipts that it obtains from selling its products. Hence, the curve depicting the amounts of revenue that it receives by selling the various quantities of a commodity is called the revenue curve.
- Similar to costs, revenues have three main categories: Total Revenue (TR) , Average Revenue (AR) , and Marginal Revenue (MR) .

Total, Average and Marginal Revenue :

- **Total Revenue (TR)**: Total Revenue refers to the total amount of money that the firm receives from the sale of a given amount
  - Total revenue can be estimated by multiplying the quantity sold by its selling price,

$$TR = P \times Q \qquad (5.1)$$ Where; P is the price per unit, and Q is the quantity of output sold.

- **Average Revenue (AR)**: Average Revenue is the total revenue (TR) divided by the quantity sold (Q), or it is the per-unit revenue.

$$AR = TR/Q = P \times Q./Q = P$$

- **Marginal Revenue (MR):** Marginal revenue is the change in total revenue resulting from one unit increase in the sales.
  - Marginal revenue can also be estimated as the change in total revenue with the sale of n units of a product instead of n – 1 unit. Thus,

MR = TR n – TR n – 1

TR, AR and MR under Perfect Competition

In perfect competition, a firm can sell any amount of output at a given market price. It means that a firm's additional revenue (MR) from the sale of every additional unit of the commodity is just equal to the market price (P) or (AR). Hence, average revenue and marginal revenue become equal and constant in the given situation.

In a perfectly competitive market structure, average revenue (AR) and marginal revenue (MR) are both equal to market price.

Profit Maximization or Producer's Equilibrium in the Short Run

There are two approaches to finding out the level of output at which a competitive firm maximizes its profit. They are:

- Total Approach (TR and TC approach)
- Marginal Approach (MR and MC approach)

Remember that the total profit of a firm is the excess of total revenue (TR) over total cost (TC), that is,

Total Profit = TR – TC

I **Total Revenue and Total Cost Approach**: A firm is in equilibrium at that level of its output where the difference between TR and TC is maximum.

Mathematically, profit is maximum when TR – TC is maximum

Since profit is the difference between total revenue and total cost, therefore, profit at any level of output is given by the gap between the two curves of TR and TC. Thus, from the TR and TC curves of a firm, it is possible to find out the level of output, which gives the firm maximum profit. This output level is called optimal output (you can see the graph from your text book page 193)

II **Marginal Revenue and Marginal Cost Approach**: In general a firm's profit maximizing condition is MR = MC and MC is rising. But for a competitive firm, this condition is expressed as:

P = MC (because in perfect competition, price = AR = MR)

(you can see the graph from your text book page 194)

Note that the price line can intersect the MC curve at two points, i.e., falling MC curve and rising MC curve. The profit-maximizing condition of P = MC holds time only the when price line cuts the rising MC curve. MC must be higher than MR after equilibrium condition. Hence to achieve equilibrium, a competitive firm chooses its level of output in the rising portion of the MC curve. Thus, we may conclude, a competitive firm maximizes its profit when

MR = MC, and MC is rising

Profit Maximization in the Long Run

Normal Economic Profit:

In economics, if a firm covers all the economic costs of production — that is, if it covers the opportunity cost of all

the resources used in production, it is said to earn normal profit (or zero profit).

A firm under perfect competition will be in equilibrium (state of profit maximisation) in the long run when it earns only normal profits. The key to longrun equilibrium is free entry and free exit of firms in the industry. If the existing firms are making abnormal profits in the short run, new firms will be entering the industry to earn these abnormal profits. The total supply of the industry will increase. As a result, the equilibrium price will fall. As the price falls, so will abnormal profits.

Thus, the long-run profit maximisation condition for a perfectly competitive firm is:

- P = (AR) = LAC (i.e., normal profits)
- MC = MR (profit-maximisation rule), and also that the LMC curve cuts the MR curve from below.

Deriving the Supply Curve of a Perfectly Competitive Firm (in the Short Run)

The supply curve of a firm shows what various quantities of a commodity the firm is willing and able to supply at different prices. The quantity which a perfectly competitive firm is willing to supply at a particular price (i.e., equilibrium output) is determined by the equality of MC and MR = AR = P.

The following figures show the equilibrium output at different prices, when a firm

- faces losses
- earns normal profits and
- earns abnormal profits.

(you can see the graph from your text book page 197 and 198)

PURE MONOPOLY

- Monopoly is one of the major types of imperfect markets.
- The term monopoly is derived from the two Greek words, viz, '**Monos**' and '**polus**'. '***Monos' means single***, and ***'polus' means a seller***.
- Thus, monopoly is a market structure in which there exists only a single seller of a product, who is the sole producer of the product, and that product has no close substitute.

Assumptions (Features) of Monopoly

The following are assumed to be the features of a monopoly.

- **Single Producer**: There is a single firm producing the commodity in the market.
- **No Close Substitutes**: For the monopoly to exist, a single producer is the necessary condition but not a sufficient one. It is also essential that there is no close substitute for the commodity in the market.
- **Barriers to the Entry**: Entry into the industry is completely banned or otherwise made impossible. If new firms are admitted into the industry, the condition of monopoly breaks down.
- **Independent Price Policy**: A monopolist firm can adopt an independent price policy — i.e., it can increase

or decrease prices as it likes. It is in this sense that a seller under monopoly is said to be the price maker or price setter.

- **Price Discrimination is Possible**: Under the conditions of monopoly, price discrimination is possible. It implies that a monopolist can sell its product at different prices to different customers.

In short, monopoly depends on two factors:

- absence of close substitutes; and
- restriction on competition.

Example: Electricity market in Ethiopia and Ethio Telecom.

Reasons for the Existence of Pure Monopoly

- Patent rights for the products or production processes give legal monopoly rights to firms;
- Government policies such as related to granting licences or imposing foreign trade restrictions (like quotas, etc.) result in limiting the number of sellers;
- Ownership and control of some strategic raw materials;
- Exclusive knowledge of technology by the firm;
- It may be that the size of market can accommodate only a single firm. The technology might be such that only a large output can reap the economies of scale.

Profit Maximization Under Pure Monopoly

In this section, profit maximisation or a firm's equilibrium determination under monopoly is based on the following assumptions:

- The monopolist does not charge discriminating prices (but in reality the monopolist charges different prices)
- The monopolist is rational in the sense that she/he aims at maximising profits.
- The individual buyer is a price-taker,
- There are no restrictions on the monopolist with regard to her/his price. Also, there is no threat of entry by other firms into the industry.

The monopolist can control both the prices and the supply of the product. But at any point of time she/he can fix only one of them. Either she/he can fix the quantity of output and let the market determine the price of the product on the basis of market demand; or she/he can fix the price of the product and let market demand determine the quantity which she/he can sell at the given price.

In order to determine the profit-maximization output of a monopolist, we need to combine the monopolist's revenue curves and cost curves and apply the profit-maximization rules. As far as cost curves are concerned, they have the same U-shape for the monopolist as for a competitive firm because they depict technological conditions, which are common to all types of market structures. Similarly, profit-maximization rules are the same in all

Profit Maximization

The profit of a monopoly firm is maximum at the level of output at which MR = MC and MC is rising.

(you can see the graph from your text book page 204 and 205)

Profit maximisation under monopoly conditions can also be explained by using the total revenue and total cost approach, just as we did in the case of the perfectly competitive market.

3. MONOPOLISTICALLY COMPETITIVE MARKET

- Monopolistic competition refers to a situation where there are many sellers of a differentiated product.
- There is competition, which is keen, though not perfect, between many firms making very similar products, which are close but not perfect substitutes. Since the products are differentiated, each seller can independently decide his/her own price-output policies.

Characteristics of a Monopolistically Competitive Market

The major characteristics of a monopolistically competitive market are the following:

- **Many Sellers**: The sellers are "many and small enough".
  - They are many in number and no seller is big enough to influence the market price, which is determined by industry demand and supply. Thus,
  - there is no significant interdependence between sellers. Each seller pursues an independent output-price policy.
- **Product Differentiation**: another main feature of monopolistic competition is product differentiation.
  - There are many firms producing a particular product, but each firm introduces its product as different from others.
  - The basis of this differentiation may take the form of
    - quality difference,
    - advertisement,
    - patent rights,
    - trademarks, etc.
- **Free Entry and Exit of Firms**: New firms can enter the market if they find it profitable.
  - Similarly, inefficient firms already operating in the market are free to quit if they incur losses. Because of this feature, monopolistic competition also gives rise to normal profit in the long run, just like perfect competition.
- **Selling Cost**: An important characteristic of monopolistic competition is that firms under monopolistic competition compete with each other by incurring selling costs or expenditures for sales promotion.

- ***Selling cost*** *is the expenditure incurred by the firm to promote the sale of its product through various sales promotion measures.*
- The sales promotion measures may take the form of persuasive or competitive advertisement like advertisement in newspapers, T.V. commercials, etc.

❖ **Non-Price Competition**: Non-price competition is an essential part of monopolistic competition.

- Firms under monopolistic competition compete with each other not merely by price-cutting, but also on the basis of non-price competition, i.e., producing differentiated products, incurring advertisement expenditure, etc.

❖ **Independent Price Policy**: A firm under monopolistic competition can follow an independent price policy. It can influence the price of the commodity to some extent.

Profit Maximization Under Monopolistically Competitive Markets

- The conditions for profit maximization under monopolistic competition are the same as in the case of perfect competition and monopoly. Here also we determine profit maximizing output by combining the cost curves (which are, as usual, U-shaped) with demand curves. Note that both monopolistic firms and monopolistically competitive firms have downward sloping demand curves for their products. Yet there is an important difference between the two. The demand curve of a firm under monopolistic competition is flatter or more price-elastic than that of a monopolistic firm.

4. OLIGOPOLY MARKET

- Oligopoly is a market situation where a few large firms compete against each other and there is an element of interdependence in the decision-making of these firms.
- Each firm in the oligopoly recognizes this interdependence.
- Any decision one firm makes (be it about price, product or promotion) will affect the trade of the competitors and so results in countermoves.

Characteristics of Oligopoly Markets

Oligopoly markets have the following characteristics:

✓ **Number of Sellers**: The number of sellers is small, and each seller is catering to a significant part of the market demand.

✓ **Interdependence**: An oligopolistic firm is not independent in making decisions.

- It has to take into consideration the actions and reactions of its rivals (competitors).

✓ **Nature of the Product**: The firms under oligopoly may produce homogeneous products or differentiated products.

- Accordingly, we may have “oligopoly without product differentiation” (or pure oligopoly) and “oligopoly with product differentiation”.

- ✓ **Importance of Selling Costs**: In view of the intense competition and interdependence of the firms under oligopoly,
    - the firms compete with each other through various sales-promotion measures like
        - price cutting,
        - discounts,
        - door-to-door campaigns,
        - advertisement, etc.

    Therefore, selling costs and advertisement are very important under oligopoly market structure.
- ✓ **Barriers to Entry**: The existence of oligopoly in the long run necessitates the existence of barriers to the entry of new firms to the industry.
    - In the absence of these barriers, the oligopoly may not retain its characteristic of few sellers in the long run.
- ✓ **Indeterminate Demand Curve**: An important feature of oligopoly is that the demand curve faced by an oligopolist firm is indeterminate.
    - An oligopolist firm cannot ignore the reactions of rival firms in view of the interdependence of the firms.

The methods of collusion (coordination) among oligopoly firms may be classified as follows:

- **Cartel**: A cartel is an explicit agreement among independent firms on subjects like prices, output, market sharing, etc.
    - The desire of the firms to have large joint profits induces them to form cartels.
    - Normally such a desire is short lived and therefore, the formal agreement of cartels is not a long-term phenomenon.
- **Price Leadership**: Another form of collusion is price leadership.
    - In this form of co-ordinated behavior of oligopolists, one firm sets the price and the others follow it because it is advantageous to them or because they prefer to avoid uncertainty about their competitors' reactions.
    - Price leadership is more widespread than cartels, because it allows members to have complete freedom regarding their product and selling activities, and thus is more acceptable to the followers than a complete cartel, which requires the surrendering of all freedom of action to the central agency.
- **Conscious Parallelism**: This is coordination based on the understanding of each oligopolist about the market.
    - In other words, each oligopoly firm uses its understanding about the market to make its own decision and anticipate the behavior of the remaining oligopoly firms.