

CHAPTER 1

PERFECT COMPETITION

MARKET

Markets are institutions in which buyers and sellers are brought into contact for purposes of engaging in exchange. Since goods and services are exchanged and prices are established in markets, a key role is played by markets in the allocation of resources in a private enterprise economy.

Simply, the concept of a market is any structure that allows buyers and sellers to exchange any type of goods, services and information.

FUNCTIONS OF MARKETS

There are five major functions of markets:

1)The market sets values:

In the market economy price is the measure of value. The goods and services and resources exchanged have a price because they are subject to market transactions.

2) The market organizes production:

This is done by producing goods and services by using the most efficient method of production. The method of production that minimizes cost per unit of output is the most efficient method.

3)The market distributes the product:

Goods and services are distributed in the economy among the people who possess high people who are most productive or those who own the most productive resources.

4) The market rations:

Rationing is the essence of pricing for it restricts the current rate of consumption to available production.

5)The market provides for future:

Saving and investment take place in the market in an effort to maintain the system and bring about economic growth.

MARKET STRUCTURE

The term market structure refers to the type of market in which the firms operate. The main dimensions of market structure are the following.

- 1. Number of sellers**
- 2. Number of buyers**
- 3. Nature of the product: homogeneous or differentiated**
- 4. Conditions of entry.**

Number of Sellers

A key market characteristic is whether there are many or few sellers of the product. In a market with many sellers, each seller is free to make decisions alone without worrying about the reactions of rivals.

If the market is characterized by few sellers, a price change by one seller will be noticed and reacted to by other sellers.

Number of Buyers

A second dimension of market structure depends on the number of buyers. In consumer markets, the number of buyers is usually much larger than the number of sellers.

Sometimes, the market may be characterized by a single buyer confronting a single seller. This kind of a market is called bilateral monopoly.

Nature of the Product

A third dimension of market structure depends on the nature of the product, that is whether they are homogeneous or differentiated. Products are said to be homogeneous if they are identical or indistinguishable. Products are said to be differentiated if buyers can distinguish them and attach different preferences.

Conditions of Entry

The structure of the market is also influenced by entry conditions. In certain markets, newcomers can enter an industry at will whereas other markets may be characterized by strong barriers to entry.

TYPES OF MARKETS

The following are the important forms of market structures.

1. Pure Competition:

Pure competition is a market structure characterized by a large number of firms producing a homogeneous product.

2. Pure Monopoly: Pure monopoly is a market situation in which there is a single firm selling a commodity for which there are no close substitutes.

3. Duopoly

The market in which only two sellers exist is called duopoly. It is a special case of oligopoly. Since there are only two sellers, each must take into account the behaviour of the other.

4. Oligopoly

Oligopoly is a market structure in which there are only a few sellers of a commodity.

5. Monopsony

Monopsony is a market situation in which there is only one buyer of the commodity or service in the market.

6. Duopsony

The market in which there are only two buyers for a commodity or service is called duopsony.

7. Oligopsony

An oligopsony is a market with only a few smaller buyers.

8. Monopolistic Competition

Monopolistic Competition is a market structure characterized by a large number of firms producing differentiated product.

9. Monopsonistic Competition

Monopsonistic competition is a market situation characterized by many buyers of a differentiated input.

FIRM

A firm is an entity that purchases various productive factors and transform them into outputs that are sold. Thus, the firm is an intermediary between the input markets and the output market.

The important attributes of a firm are the following.

1. Each firm is regarded as a single, consistent decision-taking unit.
2. Most firms make their decisions with the objective of profit maximization.
3. Firms are the principal users of the services of factors of production.

INDUSTRY

An industry is a group of firms that sell the same or closely related goods or services. Two criteria are commonly used for the definition of an industry:

- 1) Market criterion: The product being produced
- 2) Technological criterion: The methods of production.

Market Criterion: Similarity of Products

An industry is composed of those firms whose products are sufficiently similar so that they are considered as close substitutes, and the degree of similarity is measured by cross elasticity of demand.

Technological Criterion: Similarity of Production Methods

According to this criterion an industry is composed of those firms, which use similar production processes. The similarity may reside in the methods of production or the raw materials used.

PERFECT COMPETITION

The concept of perfect competition was first introduced by Adam Smith in his book "Wealth of Nations". Later on, it was improved by Edgeworth. However, it received its complete formation in Frank Knight's book "Risk, Uncertainty and Profit" (1921).

A perfectly competitive market is one in which the number of buyers and sellers is very large, all engaged in buying and selling a homogeneous product without any artificial restrictions and possessing perfect knowledge of market at a time.

In the words of A. Koutsoyiannis, "Perfect competition is a market structure characterized by a complete absence of rivalry among the individual firms."

A market is said to be perfectly competitive when each firm has zero market power.

Characteristics (Assumption):

1) Large Number of Buyers and Sellers:

The first condition is that the number of buyers and sellers must be so large that none of them individually is in a position to influence the price and output of the industry as a whole. In other words, the individual seller is unable to influence the price of the product by increasing or decreasing its supply. He has to accept the price for the product as fixed for the whole industry. He is a "price taker".

2) Homogeneous Product:

Each firm produces and sells a homogeneous product so that no buyer has any preference for the product of any individual seller over others. This is only possible if units of the same product produced by different sellers are perfect substitutes. In other words, the cross elasticity of the products of sellers is infinite.

3) Freedom of Entry and Exit

Freedom of entry and exit means that new firms can enter and leave an industry without much difficulty. The existence of barriers will restrict the number of firms in an industry. This will help the firms to acquire market power to affect the price in the market

4) Profit Maximization Goal:

Every firm has only one goal of maximizing its profits.

5)Absence of government regulations: The government imposes no restrictions on price, output, entry and similar factors.

6)Absence of collusion: All economic agents in the market act independently. Thus there is no collusion among buyers or sellers.

7) Absence of Transport Costs:

Another condition is that there are no transport costs in carrying of product from one place to another.

8) Absence of Selling Costs:

Under perfect competition, the costs of advertising, sales-promotion, etc. do not arise because all firms produce a homogeneous product.

The market structure in which above assumptions are fulfilled is called Pure Competition. Perfect competition requires the fulfillment of following additional assumptions.

9)Perfect Knowledge of Market Conditions:

This condition implies a close contact between buyers and sellers. Buyers and sellers possess complete knowledge about the prices at which goods are being bought and sold, and of the prices at which others are prepared to buy and sell.

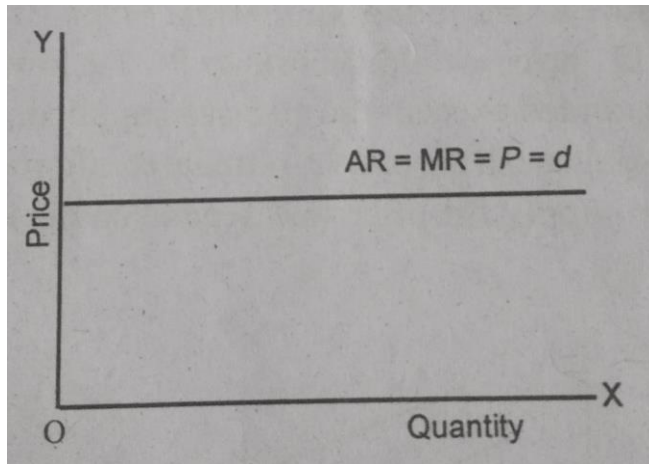
10)Perfect Mobility of Goods and Factors:

Another requirement of perfect competition is the perfect mobility of goods and factors between industries. The factors of production are free to move from one firm to another throughout the economy.

DEMAND, AVERAGE REVENUE AND MARGINAL REVENUE CURVES:

A competitive market is characterized by a large number of firms selling the same product. The market price of the product is determined by the intersection of the total market supply of and the demand for the product. The demand curve is shown in the following figure. The assumption of a horizontal demand curve in perfect competition does not mean that the price

never changes. It simply means that a single firm cannot affect market price. The price may vary from time to time but not because of changes in the amount sold by one firm.



Average revenue is the total revenue divided by the number of units sold. Thus average revenue is the price of the commodity. Since price is constant in perfect competition, the average revenue of the firm must be the same as price. Thus the AR curve will coincide with the demand curve. Marginal revenue is the change in total revenue resulting from the sale of an additional unit of output. Since an additional unit is sold at the same price in perfect competition, the marginal revenue is equal to the price. MR will coincide with AR on the horizontal demand curve. Hence

$$AR = MR = P = d.$$

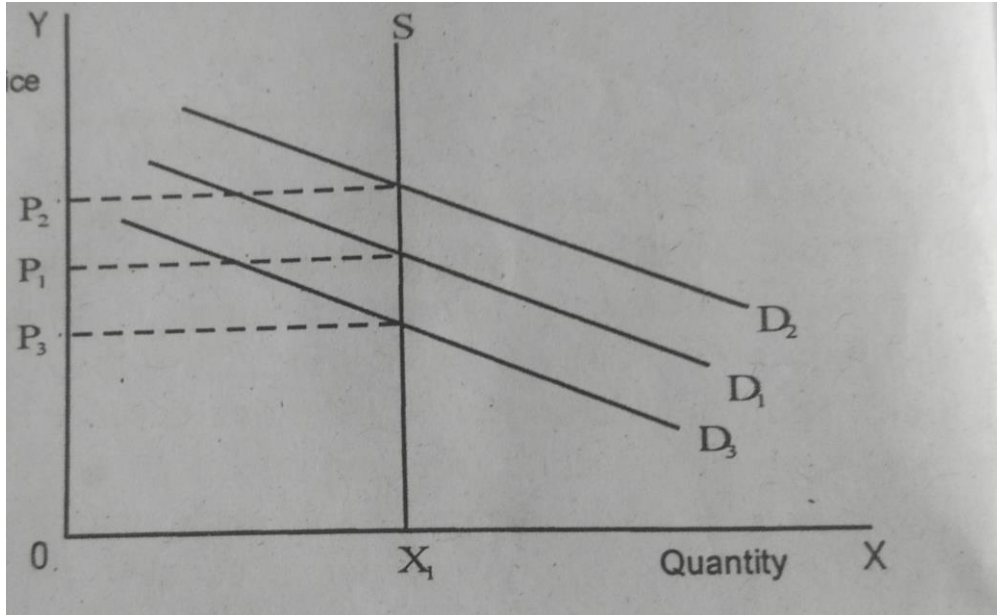
PRICE DETERMINATION IN THE MARKET PERIOD

The market period or the very short run refers to the period of time in which the supply of a commodity is completely fixed because no input can be changed. Each firm has a fixed stock of the commodity on hand and the total stock in the market is also fixed.

In a perfectly competitive market, price is determined by the interaction of market demand and market supply. In the market period since the entire stock of a commodity is offered for sale at once, the supply curve of a commodity is a vertical line. Because quantity is given, the equilibrium price is determined by the level of demand. The higher the level of demand, the higher the price and vice versa.

In the following figure, the intersection of the market demand curve D_1 with the perfectly inelastic supply curve S determines the price P_1 where total quantity demanded equals total quantity supplied. If demand increased from D_1 to D_2 the new intersection would yield a higher price P_2 . At higher prices, there will be unsold quantities and this will cause price to fall to the equilibrium level. If demand decreased from D_1 to D_3 price would decline to P_3 . At lower

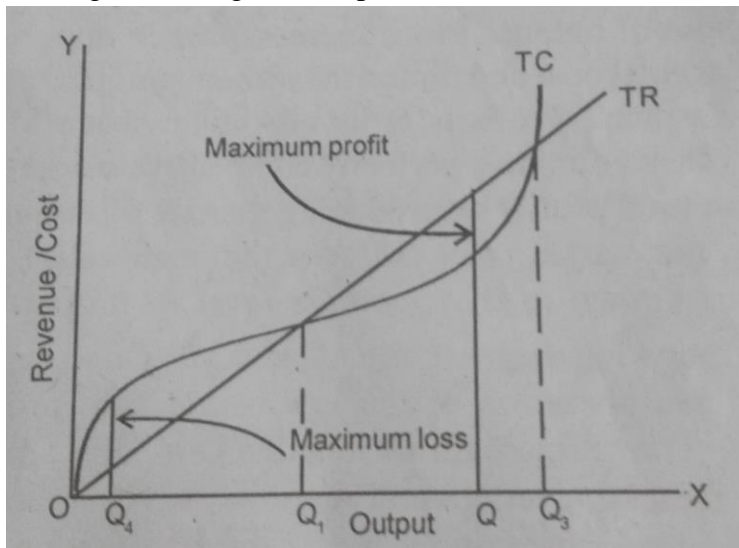
prices, since the quantity demanded exceeds the quantity supplied, competition among the buyers would push the price toward its equilibrium level. Therefore, given a fixed supply, the price will depend on the level of demand.



SHORT RUN EQUILIBRIUM OF THE FIRM (TOTAL APPROACH)

The objective of the firm in perfect competition is maximization of profits. The firm is in equilibrium in the short run when it maximizes its profits. Profit is defined as the difference between its just total revenue and total cost.

π (Profit) = TR – TC, In the following diagram the TR curve is a straight line beginning at the origin showing that the price is constant at all levels of output



Given the TR and TC curves of the firm, the profit maximizing level of output is Q units per period. Moving either to the right or to the left will reduce the amount of profit earned by the firm.

At outputs Q1 and Q3, $TR = TC$ and profits are zero. For levels of output less than Q1 and greater than Q3 profits will be negative because $TC > TR$. In the region of production between Q1 and Q3 $TR > TC$ and profits are positive.

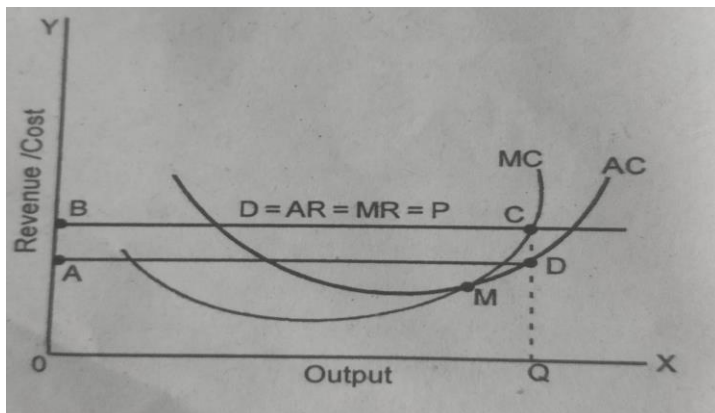
The profit-maximizing firm will produce at the level of output Q where the slope of the TR curve is just equal to the slope of the TC curve. The slope of the TR curve is equal to marginal revenue (price) and the slope of the TC curve is equal to marginal cost.

Thus a perfectly competitive firm is maximizing its short run profits when $MR = MC$. In other words, a perfectly competitive firm will maximize profits if it produces at that level of output where the cost of producing one additional unit of output is exactly equal to the price at which that unit will sell.

MC-MR APPROACH

Short run equilibrium of the firm can also be explained with the MC-MR approach. A firm in perfect competition is said to be in short run equilibrium when it produces an output at which marginal cost equals marginal revenue. MR is the change in TR resulting from an increase of one unit in the sales per period of time. MC shows the additional cost of producing one more unit of output. Profit increases when marginal revenue exceeds marginal cost and diminishes when marginal cost exceeds marginal revenue.

Profit is at its maximum when MR and MC are equal. Thus a firm in a perfectly competitive market maximizes its short run total profits by producing the rate of output for which MC equals the market price (MR) of the commodity. This level of output is known as the optimum level of output.



In the following diagram, the AC and MC curves are U-shaped because of the operation of the law of variable proportions in production. The horizontal line labelled $D = ARMR = P$ shows the firm's demand, average and marginal revenue curve. At output levels below Q , marginal revenue is greater than marginal cost. Output must be expanded because an increase in production increases profit by the amount that $MR > MC$. If the current output is greater than Q , output must be reduced. This is due to the fact that beyond Q , marginal revenue is less than MC .

The first condition for the attainment of equilibrium of the firm is that MC be equal to MR . The second condition for equilibrium requires that the MC curve must cut the MR curve from below, that is the slope of the MC curve must be greater than the slope of the MR curve. Thus the sufficient conditions are two fold.

1. The equality of MR and MC
2. The slope of the MC must be greater than the slope of the MR curve.