2 Market Structure

Syllabus

Perfect competitions imperfect - Monopolistic, oligopoly, duopoly sorbent features of price determination and various market conditions.

Contents

2.1 Concept of Market

where buyer or seller contact

- There are many organizations which trade with the public i.e. supply goods and services in return for money. Business organizations are those which exist with the intention of maximizing their profits.

  1. **Firm** - There are many different types and forms of business which exist to maximize their profits. The economist calls them altogether as **firms**.
  2. The **plant** is the unit of production in industry while the **firm** is the unit of ownership and control.
  3. **Industry** - An **industry** is the set of all firms making the same product. The output of an industry is the sum of the outputs of its firms.
  4. **Market** - Market is a place where buyers and sellers exchange their goods and its cost. In some cases, such as local fruit stall, buyers and sellers meet physically. In other cases, such as the stock market, transaction is done by computer.

- A **market** is an expression for the process by which households decisions about consumption of alternative goods, firm's decision about what and how to produce and worker's decision about how much and for whom to work are all reconciled by adjustment of prices.

2.2 Business in Competitive Market

UPTU : 2011-12, 2012-13

- If a firm wants to increase its profits, should it raise its prices or should it lower them ? Should it increase its output or should it reduce it ? Should it modify its product or should it keep the product unchanged ? The answer to these and many other questions is that it depends on the market in which the firm operates.
- If the market is buoyant, it may well be a good idea for the firm to increase its output in anticipation of greater sales. It may also be a good idea to raise the price of its product in the belief that consumers will be willing to pay more. If however, the market is declining, the firm may well decide to reduce output, or cut prices or diversity across into an alternative product.
- The firm is thus greatly affected by its environment, an environment that is often outside the firm's control and subject to frequent changes. For many firms, prices are determined not by them but by the market.
- Even where they do have some influence over prices, the influence in only slight. They may be able to put prices up a small amount, but if they raise them too much, they will find that they lose sales to their rivals.

- The market dominates a firm's activities. The more competitive the market, the greater this domination becomes. In the extreme case, the firm may have no power at all to change its price, it is what we call a **price taker.** It has to accept the market price, it will simply be unable to sell its product, it will lose all its sales to its competitors. Take the case of farmers selling wheat. They have no accept the price as dictated by the market. If individually they try to sell above the market price, no one will buy.
- In competitive market, consumers too are price takers. When we go into shops we have no control over prices. We have to accept the price as given. For example, when you get to the supermarket checkout, you cannot start bargaining with the check out operator over the price of bar of soap.

2.2.1 Market Performance

- A market is effective in performance when sellers utilize the economic resources with optimum efficiency for the ultimate benefit of the consumers.
- Market performance is decided by :

1. Efficiency in production
2. Efficiency in distribution
3. Fixation of prices
4. Product performance
5. Improved technology.

2.2.2 Market Structure

- Market structure is the characteristics of a market that influnce the behaviour and performance of firms working in market.
- Market structure is influenced by following factors.
  1. Degree of seller concentration.
  2. Degree of buyer concentration.
  3. Degree of product differentiation.
  4. Conditions of entry to the market.

2.2.3 Equilibrium of Firm

- Equilibrium of firm is an ideal state. Under equilibrium condition of a firm the firm enjoys maximum super normal profits also the firm suffers from minimum losses or no loss at all. Also the consumer derives maximum satisfaction out of it.

*Any firm is said to in **equilibrium** when it has no incentive either to expand or to contract its production.*

- In equilibrium the output or production of the firm is maximum i.e. demand and supply are equal or in balance. Once equilibrium is achieved, price movements stop and the equilibrium remains stable.

University Questions

1. *What are the different types of markets ?* **UPTU : 2011-12, Marks 5**
2. *Describe the term "Equilibrium". How a farm will reach to equilibrium with fluctuation in demand and supply ?* **UPTU : 2012-13, Marks 10**

2.3 Market Competition

- The behaviour of firms in different circumstance can be determined by amount of competitions it faces. To understand clearly just what effect competition has, different market conditions are to studied. On the basis of nature of competition there exists different types of market forms. These are
  i) Perfect or pure competition
  ii) Imperfect competition
  iii) Pure or absolute monopoly.
- Fig. 2.3.1 shows different types of competition. A gap is shown between perfect competition and imperfect competition since perfect competition is only a theoretical possibility.

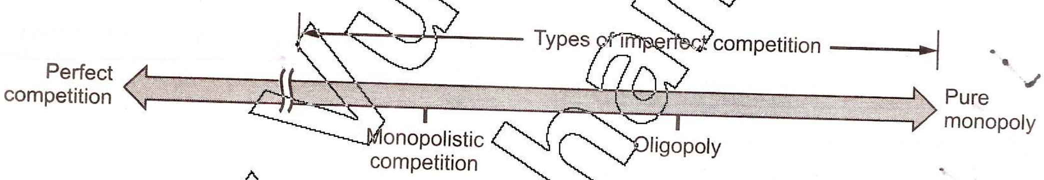

Fig. 2.3.1 Types of competition

- At one extreme is **perfect competition**, where there are many firms competing. Each firm is so small relative to the whole industry that it has no power to influence price. It is a price taker. At the other extreme is **monopoly**, where there is just one firm in the industry, and hence no competition, from **within** the industry. In the middle comes **monopolistic competition,** where there are quite a lot of firms competing and where there is freedom for new firms to enter the industry, and **oligopoly**, where there are only a few firms and where entry of new firms is restricted.
- The market structure under which a firm operates will determine its behavior. Firms under perfect competition will behave quite differently from firms that are

monopolists, which will behave differently again from firms under oligopoly or **monopolistic** competition.

- This behaviour will in turn affect the firm's performance it's prices, profits, efficiency etc. In many cases it will also affect other firm's performance, their prices, profits, efficiency etc. The collective conduct of all the firms in the industry will affect the whole industry's performance.
- Economists thus see a causal chain running from market structure to the performance of that industry. Structure → Conduct → Performance.

2.4 Perfect Competition

UPTU : 2011-12, 2014-15

- In perfect competition, all firms are separate and independent from each other. Each firm operates as an individual enterprise looking only to its own best interests. Perfect competition is an extreme situation in which competition is as strong as it could ever possibly be.
- The theory of perfect competition illustrates an extreme form of capitalism. In it firms are entirely subject to market forces. They have no power whatsoever to affect the price of the product. The price they face is that determined by the interaction of demand and supply in the whole market.
- There is complete freedom of entry of new firms into the industry. Existing firms are unable to stop new firms setting up in business. Setting up a business takes time, however. Freedom of entry therefore applies in the long run. An extension of this assumption is that there is complete factor mobility in the long run. If profits are higher than elsewhere, capital will be freely attracted into the industry.

Definition of perfect competition :

- A market structure in which there are many firms, where there is freedom of entry to the industry, where all firms produce an identical product and where all firms are price takers.

2.4.1 Features of Perfect Competition

Monopoly
Monopolistic

i) Large number of buyers and sellers :

- There must be so many participants (buyers and sellers) involved that no one of them acting alone is able to have any noticeable effect on the overall demand or supply position.
- Every firm is too small to affect the market. That means no matter how much it produces, it can sell its entire production at the going market price. The output of any firm is only a small portion of the total demand in the market. Moreover,

it will not raise its price above the market price, because they can't sell much because consumers would rather buy from its lower priced competitions.

ii) **A homogeneous product :**

- The goods from each of the sellers must be absolutely identical (standardized) in every respect to those of all the others. This means there is no advantage for the consumer to buy from any particular supplier rather than any other. This ensures price uniformity for the same product in market. No individual firm is able to influence the market price.

iii) **Perfect knowledge :**

- There are two aspects of perfect knowledge :

  A) Sellers and buyers must know the prices being asked in other parts of market.

  B) In order to make free entry to new seller, a would be producer must also know what profits are being made by the existing producers.

- No one has any privileged information. All participants are fully informed, all the time, about everything.

iv) **Freedom of entry and exit :**

- Everyone involved is a willing participant, all the firms in market earns normal profit. Any seller can enter any time and exit any time also there is no restriction on entry or exit.

University Questions

1. *Write short notes on*

   a) Substitute effect

   b) Perfect competition

   UPTU : 2011-12, Marks 10

2. *What is perfect competition ? Explain the conditions of firm and industry under perfect competition.*

   UPTU : 2014-15, Marks 10

2.5 Imperfect Competition / Monopolistic Market

UPTU : 2010-11, 2011-12, 2014-15

- If a firm can appreciably affect the market price of its output then the firm is classified as an imperfect competitor.
- Imperfect competition exists whenever individual sellers have some measure of control over the price of their output.
- Modern industrial economy have different varieties of imperfect competition depending on the numbers and sizes of sellers, and how much of the market the large sellers control. Economists classify imperfectly competitive markets into

three different market structures. Fig. 2.5.1 shows the market structure of imperfect competition.

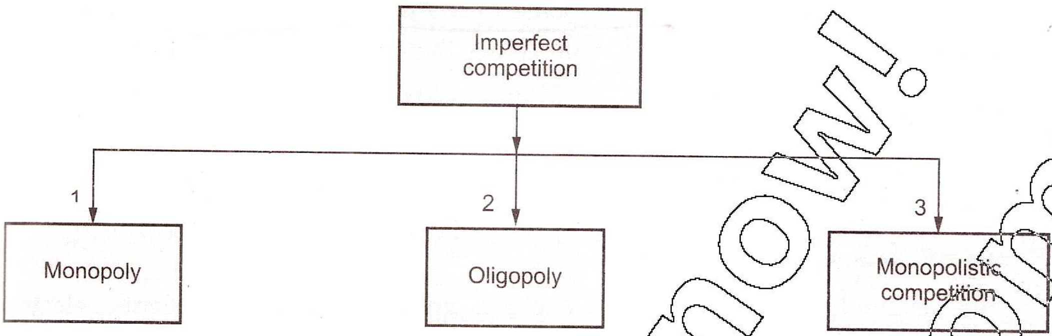

Fig. 2.5.1 Imperfect market structure

2.5.1 Monopoly Market

- (Monopoly is exactly at the opposite end of the perfect competition. This sort of market is used to illustrate a situation in which there is no competition at all i.e. a single seller with complete control over the industry. It is the only one producing in the industry and no industry is producing its close substitute. But true monopolies are rarely existing today. They can exists typically with some form of government protection e.g. Indian Railways, Post and Telegram services (P&T).)

  The market form of perfect monopoly is highly abstract.

- A monopolist has no competitors. This is the great advantage of being monopolist. It can earn super normal profits.
- Another examples of monopoly is a franchised local authority such as local telephone, cable TV, gas and electricity. Here there is single seller of a service with no close substitute. But in today's most highly competitive market even government protected monopolists face competition. e.g. cellular telephones competes with traditional land line phones, private gas agencies competes with government LPG companies (BP and IP).
- Thus in the long term, no monopolist is completely secured from attack of competitors.

Features of monopoly :

1. There is only one seller or producer.
2. There is no free entry to the new seller in the market.
3. There is no close substitute for the product or services provided by the monopolist.

4. Monopolist decides the pricing and service conditions.
5. Monopolist enjoys the supernormal profits.
6. Method of marketing - The monopolist's need to brand his product and advertise depend on the threat of competition rather than an actual competition.

2.5.2 Oligopoly

- Oligopoly means a few. An oligopoly is a market with only a few sellers. Few, in this context, can be 2 number as small as 2 or as large as 10 or 12 firms. It is a very common situation.

  For example, department stores, green grocers, newspaper agents, electrical retailers, supermarkets, banks, petrol pump, shoe shops in your area.

- Oligopoly is an important market form. In our country oligopoly market situation exists almost in every town. There are only a few suppliers operating in the market, so each provides a major part of the total market supply. It is important to recognize, whether the actions of individual firms can affect the market price. The decision of single firm can change the market condition. The other firms have to respond to the changed conditions.

  For example, in airlines industry, the decision of a single airline to lower fares can set off a price war which brings down the fares charged by all its competitors.

- Other than price competitions between the firms, the firms compete on following things such as - quality, design, service, after sales support, packaging, luxury, styling, marketing, advertising etc.

- The result is oligopolistic firms often have very aggressive selling policies rather than conservative pricing policy. Therefore consumers often gets benefit of choice of suppliers, quality and services and price benefit as well.

Features of oligopoly :

1. Few producers in the market.
2. Product features may be same (homogeneous) or may not same (differentiated).
3. Each seller has to take into account the reaction of rival to his own pricing policy.
4. Limited entry for the sellers in the market.
5. Consumers get the benefit of competition.
6. Method of marketing - Advertising, rivals quality and price.

Key features of oligopoly

1. **Barriers to entry :**
   - Unlike firms under monopolistic, there are various barriers to the entry of few firms. These are similar to those under monopoly. The size of the barriers, however, will vary from industry to industry. In some cases entry is relatively easy, whereas in others it is virtually impossible.
2. **Interdependence of the firms :**
   - Because there are only a few firms under oligopoly, each firm will have to take account of the others. This means that they are mutually dependent, they are **interdependent.** Each firm is affected by its rival's actions. If a firm changes the price or specification of its product, for example, or the amount of its advertising, the sales of its rivals will be affected. The rivals may then respond by changing their price, specification or advertising. No firm can therefore afford to ignore the actions and reactions of other firms in the industry.

2.5.3 Monopolistic Competition / Imperfect Market

- Monopolistic market structure refers to a market where there are many sellers but each has unique product to sell. They are all monopolists for the supply of their own product particular.
- But they are all in competition with other suppliers of very similar sorts of products.

  e.g. The car industry is a good example. Each car maker sells a unique vehicle. No one car maker can offer exactly the same type of car. All cars are to some extent substitutes for each other. So each car maker is engaged in a competitive battle with all the other car makers.
- Monopolistic competition is similar to oligopoly. The distinction is that, in monopolistic competition there are many producers as compared to few in oligopoly. And the product differentiation is also more in monopolistic competition. It is the product differentiation which makes monopolistic competition different from the perfect competition and which causes its own consequences for the product and performance of the sellers.

Assumptions of monopolistic competition :

1. **There is quite a large number of firms :** As a result, each firm has an insignificantly small share of the market and therefore, its actions are unlikely to affect its rivals to any great extent. What this means is that each firm in making its decisions does not have to worry about how its rivals will react. It assumes that what its rivals choose to do will not be influenced by what it does. This is known as the assumption of **independence.**
2. There is freedom of entry of new firms into the industry. If any firm wants to setup in business in this market, it is free to do so. In these two respects, therefore, monopolistic competition is like perfect competition.

3. Unlike perfect competition, however, each firm produces a product or provides a service that is in some way different from its rivals. As a result, it can raise its price without loosing all its customers. Thus its demand curve is downward sloping, also relatively elastic given the large number of competitors to whom customers can turn. This is known as the assumption of **product differentiation.**

- Petrol stations, chemist shops, hair dressers and builders are all examples of monopolistic competition.
- A typical feature of monopolistic competition is that, although there are many firms in the industry, there is only one firm in particular location. This applies particularly in retailing. There may be many green grocers in a town, but only one in a particular street. In a sense, therefore, it has a local monopoly. People may be prepared to pay higher prices therefore their vegetables to avoid having to go elsewhere.

Features of monopolistic competition :

1. Competition amongst the many producers.
2. Free entry to new producer.
3. The products are differentiated.
4. Firm's degree of control over the price of the product is limited.
5. Method of marketing advertising and rivals price.
6. Every firm decides its own policy and price.

2.5.4 Comparison of Various Market Forms

Characteristic	Perfect competition	Imperfect competition		
		Monopolistic competition	Oligopoly	Monopoly
Number of firms	Many	Many	Few	One
Ability to affect price	None	Limited	Some	Considerable
Entry barriers	None (Free entry)	None (Free entry)	Some (limited entry)	Complete (No entry)
Product type	Homogeneous	Differentiated	Homogeneous	Brand
Marketing methods	Commodify exchanges or auctions	Advertising quality and design differences	Advertising quality riverly administered prices	Promotional and public relations advertising
Example	Fruit stalls	Grocer	Cars	Post office

Diminishing number of sellers →

Market forms

2.5.5 Duopoly

- Duopoly (from the Greek duo means two, and polein means to sell) is a form of oligopoly.
- This kind of imperfect competition is characterized by having only two firms in the market producing a homogeneous good. For simplicity purposes, oligopolies are normally studied by analysing duopolies. What strategies firms follow and their interactions is a key feature of this market structure.
- In duopolies there are two variables of interest : The prices set by each firm and the quantity produced by each firm.
- For the following duopoly examples, we will assume the following :

1. The two firms produce homogeneous and indistinguishable goods.
2. There are no other firms in the market who produce the same or substitute goods.
3. No other firms can or will enter the market.
4. Collusive behaviour is prohibited. Firms cannot act together to form a cartel.
5. There exists one market for the produced goods.

- Duopoly is a special case of oligopoly. Duopoly is a special case in the sense that it is limiting case of oligopoly as there must be at least two sellers to make the market oligopolistic in nature.

1. The Cournot's duopoly model
2. The Chamberlin duopoly model
3. The Bertrand's duopoly model
4. The Edgeworth duopoly model

2.5.6 Comparison of Monopoly and Duopoly

Sr. No.	Monopoly	Duopoly
1.	Only one seller in market.	There are two sellers in market.
2.	Price is decided by seller.	Competition in price.
3.	Exits in rare situation.	It practically exists.
4.	Sole control of supply by a seller.	It is not in duopoly.
5.	Difficult entry in market.	Market entry is not very difficult.

University Questions

1. *Write short note on oligopoly.* **UPTU : 2010-11, Marks 5**
2. *How will you differentiate between "Monopoly" and Duopoly" ?* **UPTU : 2011-12, Marks 5**
3. *Write short notes on monopoly and oligopoly with assumptions.* **UPTU : 2014-15, Marks 5**

2.6 Sorbent Features of Price

- In a free market individuals are free to make their own economic decisions. Consumers are free to decide what to buy with their incomes, free to make demand decisions. Firms are free to choose what to sell and what production methods to use, free to make supply decisions. The resulting demand and supply decisions of consumers and firms are transmitted to each other through their effect on prices, through the **price mechanism.**
- The price mechanism works as follows. Prices respond to **shortage** and **surpluses**. Shortages cause prices to rise. Surpluses cause prices to fall.
- Consumers decide they want more of a good, demand will exceed supply. The resulting **shortage** will cause the **price of the good to rise**. This will act as an incentive to producers to supply more, since production will now be more profitable. On the other hand it will discourage consumers from buying so much. **Price will continue rising unit the shortage has thereby been eliminated.**
- It on the other hand, consumers decide they want less of a good supply will exceed demand. The resulting **surplus** will cause **the price of the good to fall.** This will act as a disincentive to producers, who will supply less, since production will now be less profitable. It will encourage consumers to buy more. Price **will continue falling until the surplus has thereby been eliminated.**
- The same analysis can be applied to labour markets, except that here the demand and supply roles are reversed. Firms are the demanders of labour. Households are the suppliers. If the demand for a particular type of labour exceeded its supply the resulting shortage would drive up the wage rate, thus reducing firm's demand for that type of job. Wages would continue rising until demand equalled supply, until the shortage was eliminated.
- Likewise if there were a surplus of a particular type of labour, the wage would fall until demand equalled supply.

2.6.1 Objectives of Pricing

- Various objectives of pricing are :

. **Survival**

- Companies strive to survive against intense competition and changing consumer wants. The company stays in the business so long as the prices cover variable costs and some fixed costs.

2. **Maximum current profit**
   - Companies estimate the demand and costs associated with alternative prices and choose the price that produces maximum profits, cash flows and return on investment.
3. **Maximum market share**
   - Companies believe that a higher sales volume will lead to lower unit costs and higher long run profits. Hence they set the lowest price called as penetration pricing.
4. **Maximum market skimming**
   - Companies not willing the new technology hence setting high prices to maximize market skimming. Here the price starts at higher level and slowly drop over time.
5. **Product quality leadership**
   - In some brands position themselves as leaders in quality with a premium pricing and a very loyal customer base. For instance Mercedes and BMW cars, TAJ Hotels.

2.7 Price-output Determination in Perfect Competition

UPTU : 2010-11, 2014-15

- Under perfect competitive market price of any commodity is mainly decided by the demand and supply of all the firms in the market. Time factor also plays a significant role in deciding price of a commodity.
- **Equilibrium point** is a state that refers to a condition where a firm enjoys maximum profits and has no incentive either to reduce or increase its output level. Two conditions for equilibrium state are :
  I. Marginal Revenue (MR) must be equal to Marginal Cost (MC) i.e. MR = MC
  II. Marginal cost curve should intersect marginal revenue curve (MR) near to its bottom.
- Price determination under perfect competition can be studied under three different time periods.

  a) Very short-run (Market period) b) Short-run c) Long-run

2.7.1 Pricing in Very Short-run (Market Period)

- Very short - run is a time period during which quantity supplied is absolutely fixed or total output of the product is fixed. The demand is fixed and hence demand curve is a horizontal straight line as shown in the Fig. 4.3.1.
- The firm attains equilibrium at point B, as it satisfied both equilibrium conditions.

  OA = QB is actual price

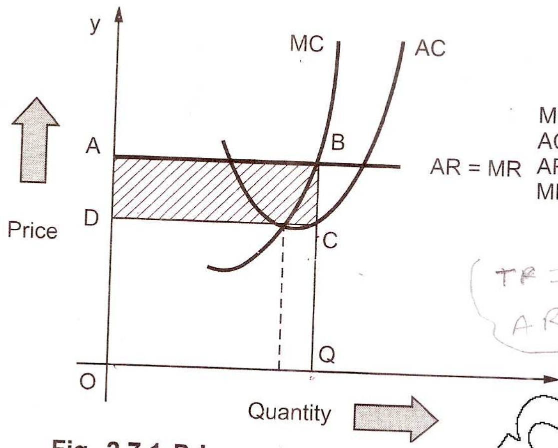

Fig. 2.7.1 Price output determination in very short-run

OD = QC is average cost

OQ = DC is equilibrium output

Profit = Actual price – Average cost

ABCD is total profit.

2.7.2 Pricing in Short-run

- The time period is referred as short-run as the firm can not alter its assets like plant, building, machinery etc. in order to produce more. Therefore fixed costs remain constant. The only way to increase production is to increase in variable cost. Fig. 2.7.2 shows short-run supply curve.

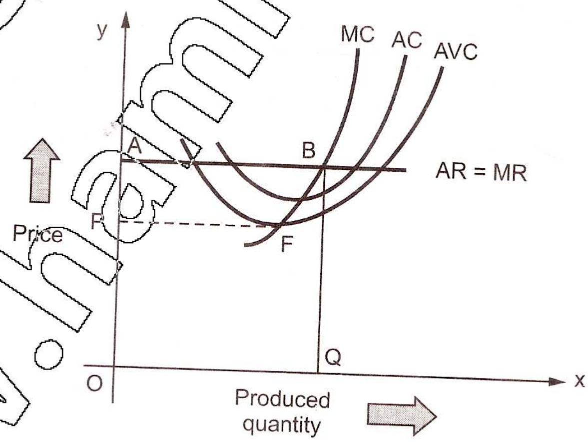

Fig. 2.7.2 Short-run supply curve under perfect competition

- In short-run, a firm can earn profit or make loss depending on price and cost conditions provided the firm is to produce as much as that can be sold at a given price. If the market price is P_1 or more, the firm is willing to sell otherwise not. The supply curve is portion of MC beginning from F. The point B is the equilibrium point i.e. MR = MC.

2.7.3 Pricing in Long-run

- In long-run, the firm can alter its assets like plant, building, machinery etc. to increase the production capacity. The firm can enjoy normal profits i.e. profit just sufficient to remain in business. Fig. 2.7.3 shows long-run equilibrium of a firm under perfect competition.

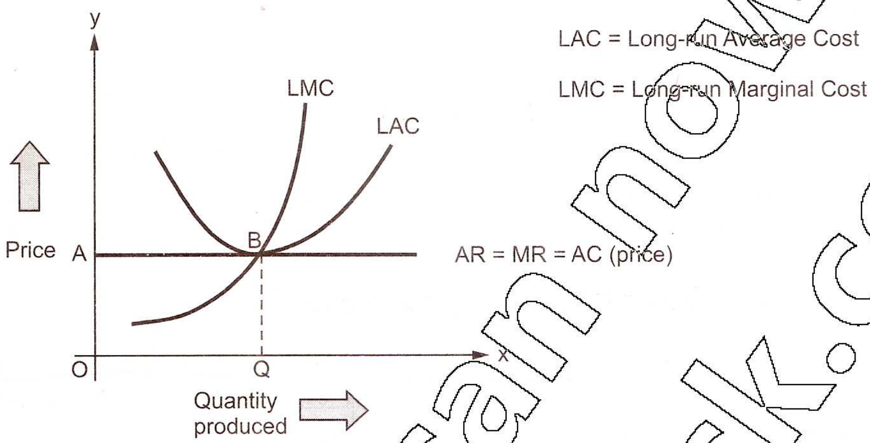

Fig. 2.7.3 Pricing under long-run

- Point B shows long-run equilibrium position. When the market price goes below LAC, the firm cannot recover its expenses and quits the industry.

2.7.4 Role of Time Factor in Determination of Price

- The price of any commodity is determined by its demand and supply in the market. When demand increases or when there is delay in supply, the prices of the commodity goes up. The price and supply equilibrium is indicated by three periods.
  a) Very short-period equilibrium/Market period
  b) Short-run equilibrium period
  c) Long-run equilibrium period

a) Very short-period equilibrium period

- When the available stock is limited and it is not possible to arrange for additional product immediately. A sudden increase in demand may attract higher price than the present market price.

b) Short-run equilibrium period

- Short-run equilibrium period permits marginal changes in the production factors to increase the productivity. In this situation the price of the commodity may not increase as high as in very short period equilibrium.

c) **Long-run equilibrium period**

- It is quite long duration in which firm can make all possible permutations and combinations for maximum productivity and profit.
- The price in long-run depends on factors such as technology, competition, cost etc. The price of the product in long-run is normal price.

University Questions

1. *Plot and describe about the short run equilibrium of a perfectly competitive firm.* **UPTU : 2010-11, Marks 10**
2. *Discuss the nature of short run and long run cost curves. Why is the long run cost curve flatter than the short run cost curve ?* **UPTU : 2014-15, Marks 10**

2.8 Price-output Determination in Monopoly

- In monopoly there is only one supplier or service provider in the market. the monopolist can decide the price and terms of business. The Marginal Revenue (MR) is always less than Average Revenue (AR).
- The equilibrium price and output under monopoly is usually studied in two forms.

  a) Pricing in short-run. b) Pricing in long-run.

2.8.1 Pricing under Monopoly in Short-run

- In monopoly, the Marginal Revenue (MR) is curve lies below the Average Revenue curve (AR). Fig. 2.8.1 shows these curve along with Short-run Marginal Cost Curve (SMC) and Short-run Average Cost Curve (SAC).
- OA = QB is equilibrium price

  QC = QD is average cost

  BC = AD is average profit

  ABCD shows the profit earned in equilibrium.

  The necessary condition for attaining equilibrium is satisfied i.e. MR = MC and MC curves passes through the minimum point of AC.

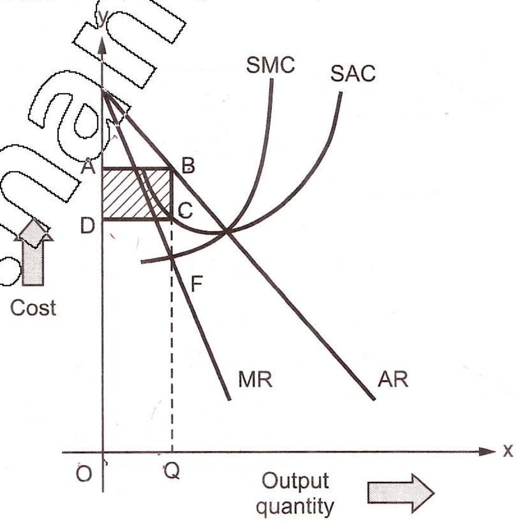

Fig. 2.8.1 Price-output determination in short-run monopoly

2.8.2 Pricing under Monopoly in Long-run

- The monopoly firm under long-run can adjust its infrastructure suitably to maximize profits. Fig. 2.8.2 shows equilibrium price of monopoly firm in long-run.

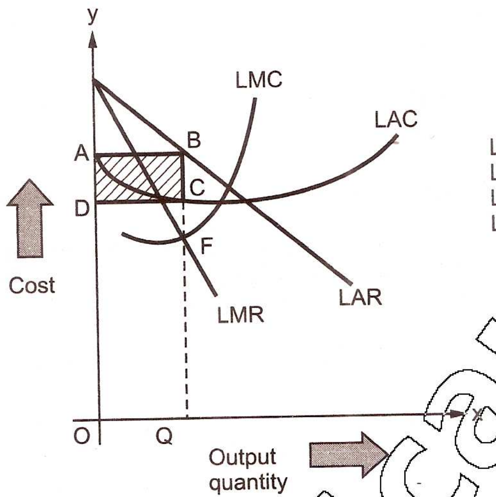

Fig. 2.8.2 Price output determination in long-run monopoly

- OA = QB is equilibrium price

  OQ = AB is equilibrium output

  OD = QC is average cost

  AD = BC is average profit

  ABCD shows the total profit earned under equilibrium. The firm enjoys supernatural profits in long-run.

2.9 University Questions with Answers

2010-11

Q.1 *Write short note on oligopoly.* **(Refer section 2.5)** **[5]**

Q.2 *Plot and describe about the short run equilibrium of a perfectly competitive firm.* **(Refer section 2.7)** **[10]**

2011-12

Q.3 *What are the different types of markets ?* **(Refer section 2.2)** **[5]**

Q.4 *Write short notes on*

a) Substitute effect

b) Perfect competition **(Refer section 2.4)** **[10]**