INDUSTRIAL ECONOMICS & FOREIGN TRADE

Mr. Biju George
Asst. Prof. &HOD
Department of Science & Humanities
Viswajyothi College of Engineering and Technology
Vazhakulam, PO, Muvattupuzha, Kerala 686670

SYLLABUS
Module 3 (Market Structure)

- Perfect and imperfect competition
- Monopoly, regulation of monopoly, monopolistic completion (features and equilibrium of a firm)
- Oligopoly – Kinked demand curve – Collusive oligopoly (meaning).
- Non-price competition – Product pricing – Cost plus pricing
- Target return pricing – Penetration pricing – Predatory pricing – Going rate pricing – Price skimming.

Module 3 – Market Structure

Market

- Market is a place or a process where the interaction between buyers and sellers takes place in order to buy or sell a product. In other words, ***market refers to all the places in which buyers and sellers are in contact with each other for the purchase and sale of any commodity or service.***
- There are different types of market structures in an economy. **It depends on nature of competition, type of product, number of buyers and sellers, freedom of entry and exit from the market etc.**
- Based on these features a market can be perfect competition, monopoly. monopolistic competition, oligopoly etc.

1. Perfect Competition

Perfect competition is a market structure characterised by large number of buyers and sellers producing homogeneous product and selling at an identical price with freedom of entry and exit.

The following are the important features of perfect competition.

1. Large number of buyers and sellers- There are large number of buyers and sellers so that no single buyer or seller can influence the market. That is each seller or buyer is an insignificant part of the market.

2. Homogeneous product Under perfect competition all sellers are selling an identical product which is same in appearance. colour, quality etc. and hence they are perfect substitutes. Since all sellers are selling the same product, they can charge only the same price.

Features of Perfect Competition conti ….

3. Freedom of entry and exit There are no restrictions, legal or otherwise, on the firm's entry in to or exit from the Industry. Thus there is open competition. It ensures normal profit in the market.

4. Perfect knowledge - There should be perfect knowledge on the part of buyers and sellers regarding market conditions.

5. Perfect mobility of goods and factors of production — Goods and factors of production are free to move from one place to another place or from one industry to another industry.

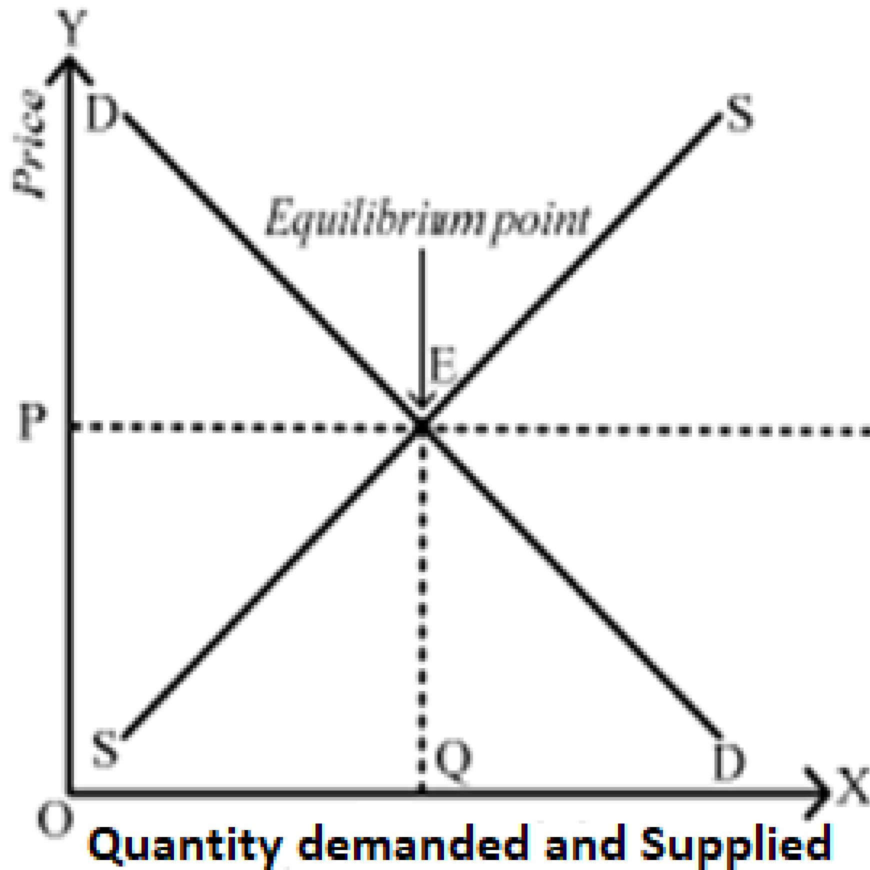
6. Absence of transport cost— It is assumed that transport cost is absent in perfect competition. This also ensures uniform price.

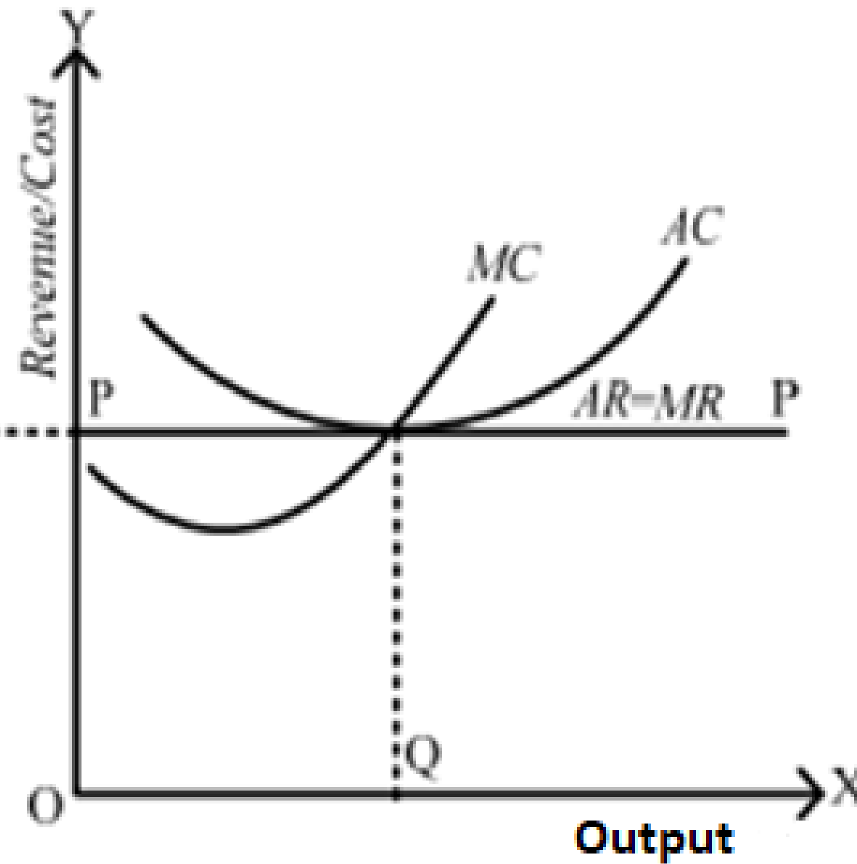
Price and output determination under perfect competition

- Under perfect competition, price of a product is determined for the entire industry by the forces of market demand and market supply. This price is accepted by each firm in the Industry. Therefore a seller under perfect competition is called a price taker.
- A seller can sell any amount of the commodity at this price. Hence the demand curve facing a seller under perfect competition is perfectly elastic.

It is illustrated with the help of the figure below.

Price and output determination under perfect competition





Price and output determination under perfect competition

- ✓ In the figure I) shown, the total demand curve DD intersects industry's supply curve SS at point E. Thus, point E is the equilibrium point and OP is the equilibrium price.
- ✓ Figure II) refers to firm's demand curve. The firm will have to sell all its output at the prevailing price OP. It may sell more units or less units, but it will charge OP price only.
- ✓ The firm can neither increase nor decrease this price; because price is determined by the industry and not by the firm. Firm is a price- taker and not price-maker. As such, firm's demand curve (PP) will be parallel to OX-axis signifying that the firm can sell any number of units at OP price. Firm's demand curve PP is also its Average Revenue and Marginal Revenue curve.
- ✓ Under conditions of perfect competition, Average Revenue (AR) = Marginal Revenue (MR) and their curves coincide with perfectly elastic demand curve of the firm which in this case is PP.

Advantages of perfect competition

1. In a market with perfect competition, there are many small firms producing relatively small amounts. So, prices of the products will be as low as possible.
2. Resources are allocated in the most efficient way.
3. Standard products are available in the market.
4. Advertising and promotional expenses are eliminated because product is homogeneous and there is perfect knowledge among the consumers.
5. It prevents the emergence of a few rich and powerful people.

2. Monopoly

The word 'monopoly' means a single seller. Monopoly is a market situation in which a single seller controls the entire supply of a commodity. In other words, monopoly is that market situation in which a firm has the sole right over production or sale of the product and has no competitor in the market and no close substitute for its product. Indian Railway is a monopoly of the government.

Features of monopoly

1.Single seller- Under monopoly there is only a single seller who controls entire production and distribution of a commodity. Further, in monopoly there is no distinction between firm and industry because the firm itself is the industry.

2.No close substitutes- Monopolist is selling a product which has no close substitutes. Close substitute means goods which satisfy the same want.

Features of monopoly

3. Barriers to entry: Freedom of entry is restricted in monopoly. There are certain barriers for the entry of new firms. These barriers may be in the form of legal restrictions, exclusive ownership of certain resources, technical knowhow which is not available to other firms or economies of scale which help the firm to reduce cost of production in the long run.

4. Price maker: Since the monopolist is only seller of a product which has no close substitutes there is no competition from other sellers. Hence he can fix any price for his product. Therefore a monopolist is a price maker.

5. Price discrimination is possible: Price discrimination refers to the practice of a seller of selling the same good at different prices to different buyers. The monopolist adopts the policy of price discrimination in order to maximize his profit.

Advantages of monopoly

1. **A monopoly firm enjoys the economies of large-scale production and there is no wasteful competition.** In some cases, production or distribution can be carried out more efficiently under monopoly.

2. **Effective utilization of capital-** As the monopoly unit can work at full capacity wastage of capital is eliminated.

3. Firm is a price maker- The monopolist is a price maker and not a price taker. His price fixing power is absolute. He can fix the price for the product as he likes.

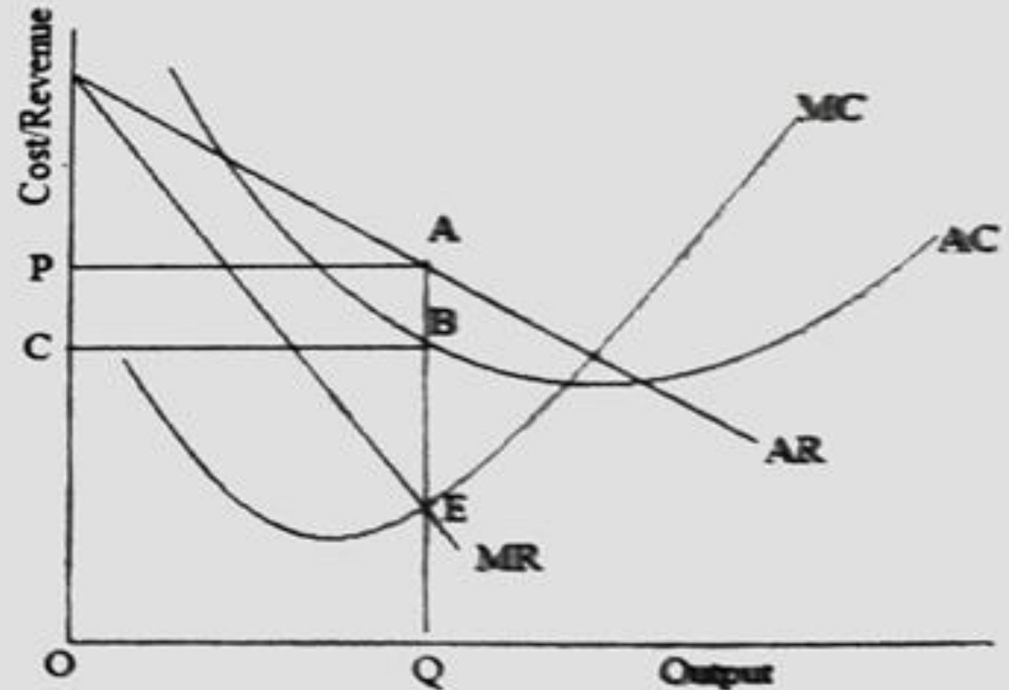
4. Under monopoly, it becomes possible to reduce the number of varieties of products. A reduction, for example, in number of models of cars would reduce the cost of production of cars considerably.

Price and output determination under monopoly

Usually a monopolist earn supernormal profit because the monopolist has complete control over the supply of a commodity. Price and output determination is explained with the help of the following diagram.

In the diagram at point E, MC = MR and MC curve intersects MR curve from below. Hence E is the equilibrium point and OQ is the equilibrium level of output. When the firm produce OQ level of output QA is the AR or price. But the average cost is less than this and it is QB. Hence AB is the profit per unit. The rectangle PABC shows the total profit earned by the monopolist.

However to control supernormal profit the government may impose a tax and this may reduce the profit. Hence there are rare chances for normal profit and loss to a monopoly firm. If there is loss the monopoly firm may closedown. (Diagrams are same as 5.12 and 5.13 to show normal profit or loss for a monopolist)



Equilibrium under monopoly

- Bilateral Monopoly

It is a situation in which there is a single producer and a single consumer. The producer and the consumer are monopolists and so both of them will have to depend upon each other.

- **Duopoly**

Duopoly is a special case of oligopoly. It is a market situation in which there is two sellers for a commodity.

- **Price Discrimination**

It is the act of charging different prices for the same product from different consumers.

For example, a doctor charges different fees from poor and rich patients or for electricity low rates are charged for domestic consumption and high rate for commercial consumption.

- **Dumping**

It means a monopolist sells his product at a higher price in the home market and lower price in the international market. This may be to clear the excess or outdated stock or to increase the market share, or to avoid competitors.

3. Monopolistic Competition

- **Monopolistic competition is a market situation characterized by competition among fairly large number of firms selling differentiated products which are close substitutes.**
- Even though the product produced by each seller is not identical, they are close substitutes. They may differ in color, shape, taste etc. Different brands of bath soap, soft drinks, tooth paste etc. are examples.

Features of Monopolistic Competition

1. Existence of very large number of buyers and fairly large number of sellers — Similar to perfect competition there are large number of buyers and sellers in monopolistic competition. But the number of sellers is not as large as in perfect competition.

2. Product differentiation- Product differentiation is the essence of monopolistic competition. Each firm produces a product which is differentiated from the products of rival firms. It can be in the form of changes in colour, shape, quality, packing etc. Therefore product of each producer has a unique feature and this give him the monopoly power over his product.

Monopolistic Competition

3. Selling cost- Each seller is selling a product which are close substitutes. Hence there is acute competition between sellers and they spend huge amounts on advertisement and other sales promotional activities. This is called selling cost.

In other words, selling costs are those expenses which are incurred for promoting sales.

4. Freedom of entry and exit- There are no restrictions on the entry or exit of firms. New firms can enter into the industry or loss making firms can leave the market at any time.

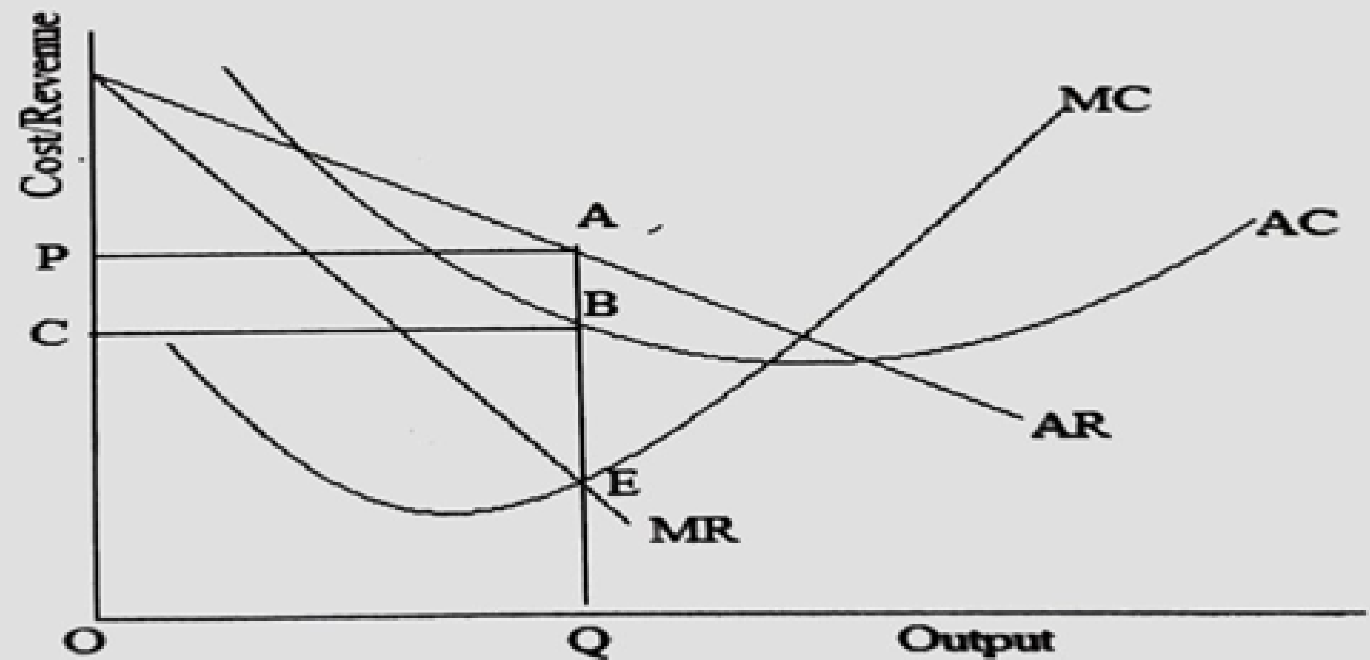
5. Imperfect knowledge — The information about market conditions like price, quality, cost etc. is not uniformly available to all buyers and sellers.

Price and output determination under monopolistic competition

Price and output determination

A firm in monopolistic competition is in equilibrium when it maximises profit. Profit is maximum when it produces that level of output where MC=MR and MC is rising at the equilibrium point. Usually a firm earn supernormal profit in the short run. This situation is explained with the help of the following diagram.

In the diagram at point E, MC = MR and at this point firm is producing OQ level of output. When production is OQ, average cost is QB but AR is greater than AC which is QA. Hence the difference between AC and AR, that is AB shows profit per unit of output. The rectangle PABC represent total profit earned by the firm.



Equilibrium under Monopolistic competition

Not all firms will earn Supernormal profit. Some firms may earn normal profit and some firms may incur loss. This is shown below.

Price and output determination under monopolistic competition

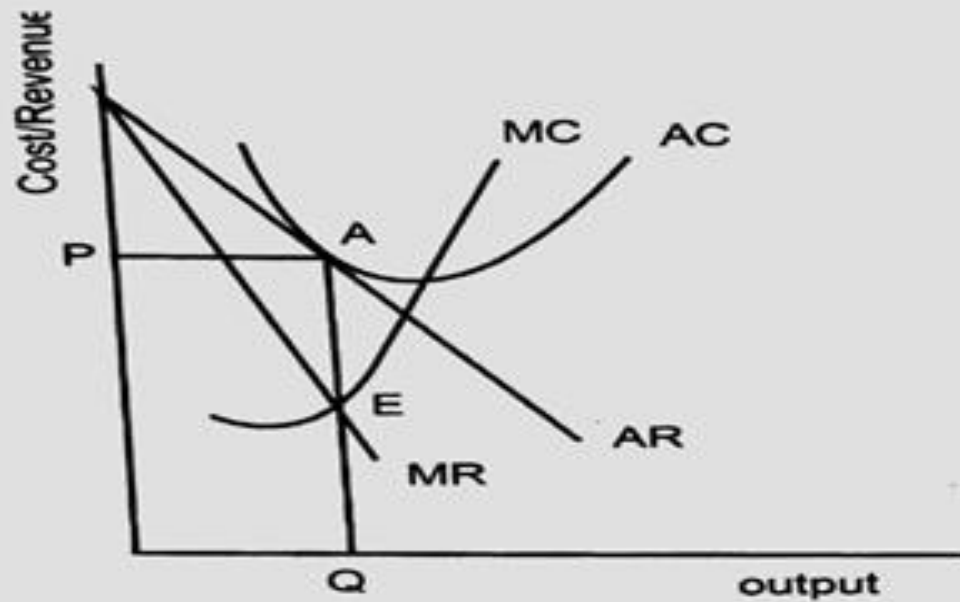


Fig 5.12 Normal profit

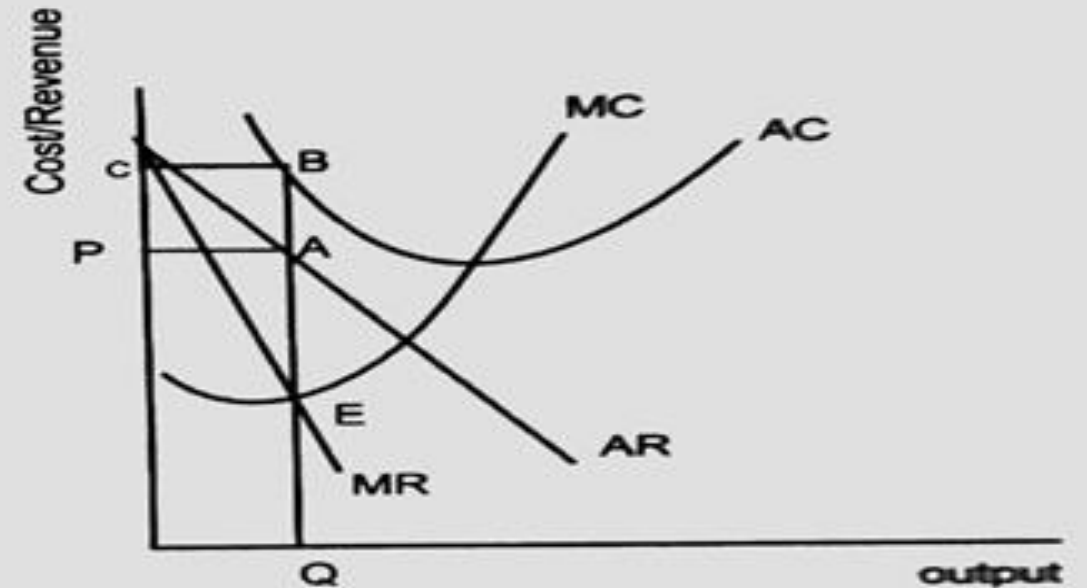


Fig 5.13 Loss

When a firm earn normal profit at MC = MR, AR curve will be tangent to the AC curve or AR=AC. This is shown fig. 5.12 where at point A, AR curve is tangent to AC curve. When the firm incur a loss AC curve lies above the AR curve or AC>AR. In the above diagram(5.13) rectangle PABC shows the loss of the firm. When the firm produces Q level of output where MC = MR, loss is minimised.

Freedom of entry and exit ensures **normal profit in the long run**. If there is high profit, new firms will enter and the market share(demand) of the firm decreases and the AR curve shifts downwards. Finally it becomes tangent to the AC curve. When there is loss some of the existing firms will leave the industry. Thus market share of the firm increases and therefore AR curve shifts upwards and it becomes tangent to the AC curve.

4. Oligopoly

- Oligopoly is a market situation characterized by competition between a few firms producing similar or differentiated products. Markets for passenger cars, motor cycles, scooters etc. are characterized by a limited number of firms.
- The products sold by the oligopolists may be differentiated or homogeneous. If they sell a homogeneous product, it is known as perfect oligopoly, and if they deal in differentiated products, it is known as imperfect oligopoly.

Features of Oligopoly

1. A few sellers: The number of firms in oligopoly will be only a few.
2. Interdependence between firms: Since the number of firms is limited, any action by one firm will lead to reaction from other firms. For instance, if one firm reduces the price of its product, other firms will do likewise. This leads to interdependence between firms.

Features of Oligopoly

3. No barriers to entry: There are no restrictions, legal or otherwise, on the firm's entry in to or exit from the Industry.

4. Product may be homogeneous or differentiated: The product sold in the oligopoly market can be either homogeneous like cooking gas, steel and petrol or differentiated like motor cycles and scooters.

5. Selling costs: Selling costs are those expenses which are incurred for promoting sales. Oligopolistic firms incur huge expenditure on advertisement and other sales promotional techniques.

6. Price Leadership: This is a common feature of oligopoly market. Under price leadership the leader sets the price of the product and takes other major decisions for the industry.

Collusion and Cartel model

- ✓ A cartel is an agreement of co-operation formed between competitors in a specific industry. In other words, all types of formal agreements reached among the oligopolistic firms of an industry are known as cartel. The best example of a cartel today is the Organization of Petroleum Exporting Countries, otherwise known as OPEC.
- ✓ Collusion is a secretive agreement between two or more organizations, formed with the aim of gaining illegal mutual benefits. In other words, Collusion is an informal agreement between competitive parties to cooperate to limit competition and raise prices, increasing monopoly power and raising profits.
- ✓ The main difference between cartel and collusion is that a cartel is more organised and is a formal arrangement such as the OPEC, whereas collusion is informal in nature and involves firms secretively fixing prices and agreeing not to compete in certain areas of the market.

Price and output determination-Kinked demand curve model

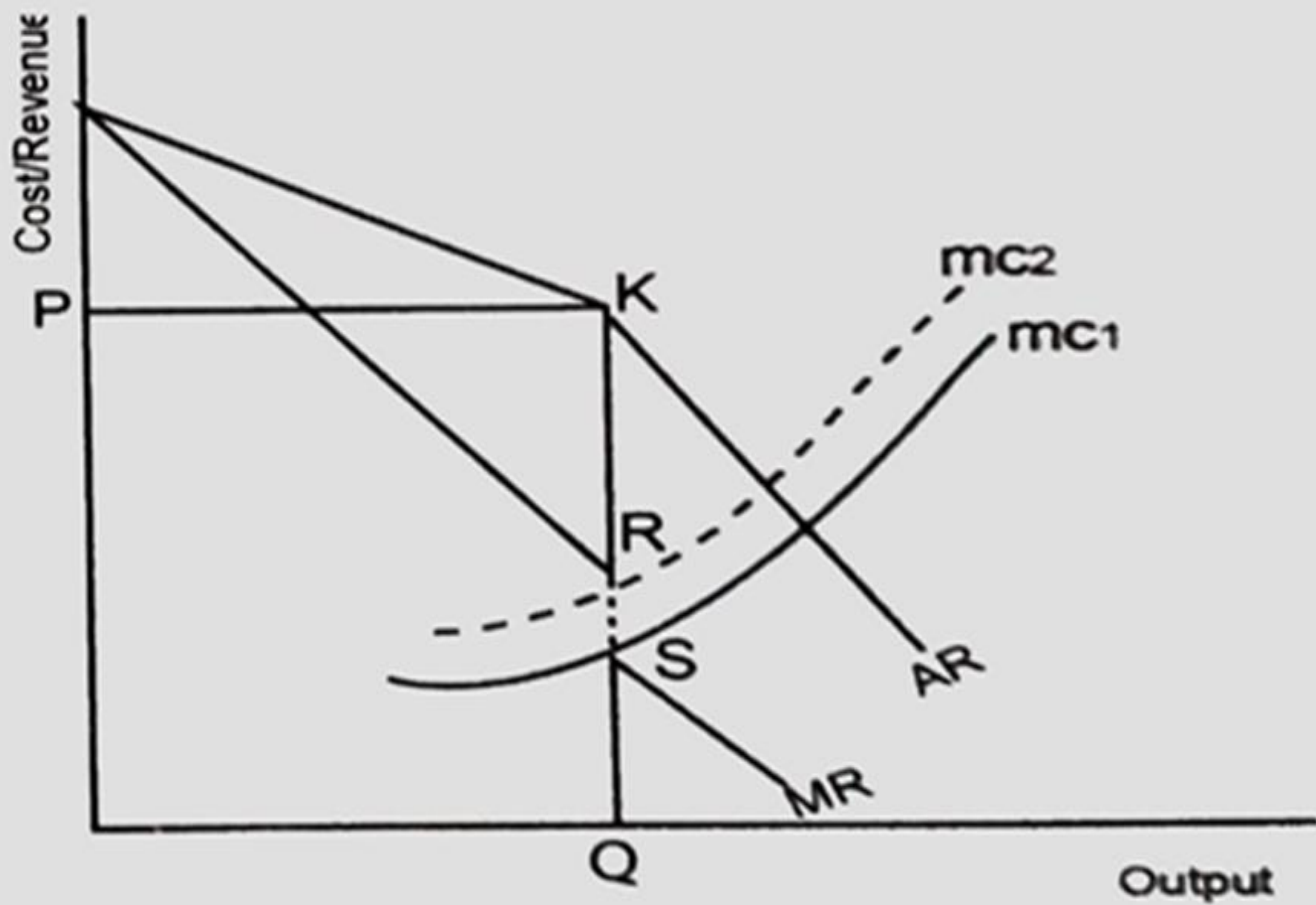
The kinked demand curve model was developed by Paul M Sweezy in 1939. Kinked demand curve explains price rigidity under oligopoly on the basis of following assumptions.

i. If a firm increases its price others will not follow.

ii. If a firm decreases its price others will also do the same.

Usually in oligopoly firms will not enter into a price war and hence price remains rigid. If one firm decreases the price others will also reduce price. Hence firm's demand will not increase but at the same time it will affect their profitability. On the other hand if the firm increases the price others will not increase the price and hence it will lose its customers. Therefore a firm under oligopoly stick to its price.

This kind of behaviour in oligopoly was explained by the kinked demand curve. The lower part of the demand curve is less elastic because a firm cannot gain from a price cut. The upper part of the demand curve is more elastic because there will be a substantial fall in demand if there is a price hike. Thus, in the following diagram we can see that there is kink at point K in the demand curve.



This kink in the demand curve or AR curve at point K creates a discontinuity in the MR curve. At the kink MR remain unchanged between points S and R.

Marginal cost curve mc1 intersect MR curve at point S and OQ is the equilibrium level of output. Suppose cost increases and MC curve shifts upwards as mc2 there will not be any change in equilibrium price and quantity till MC reaches the point R in the gap.

Non-Price Competition

Under oligopoly, there is very tight competition between the firms. If the firms try to increase their market share through price competition, it may result in a price war and hence the firms will be the losers. Hence, they resort to non-price competition to increase sales. Non-price competition refers to competition between companies that focuses on benefits, extra services, product quality etc.

Non-price competition is a marketing strategy that typically includes promotional expenditures such as sales staff, sales promotions, special orders, free gifts, coupons, and advertising. In other words, it means marketing a firm's brand and quality of products rather than lowering prices.

Non-Price Competition

- There are two main branches of non-price competition. They are product differentiation and promotion or advertising.
- Product differentiation means differentiating the product with respect to packing, colour, smell, quality etc. This helps to attract more customers and to increase the market share.
- Promotion includes advertising, branding, public relations etc. Advertising can be informative or persuasive.

The following are some of the examples of non-price competition.

i. Loyalty card — Loyalty cards give 'rewards' or money back to customers who build up points. Airlines, supermarkets etc. use loyalty cards to encourage customers to repeat.

ii. Subsidized delivery - Big firms such as Amazon has been successful in offering free delivery for their customers. This would give customers an incentive to purchase more because of the waived delivery fee. This works especially well for customers who are regular online shoppers. Supermarkets also offer delivery services for their customers.

Non-Price Competition

iii. Offering good after-sales service: After-sales service is crucial for the reputation and brand loyalty of the firm. In order to retain customers, they would have to provide great after-sales service.

iv. Advertising/ brand loyalty: Firms spend billions on advertising because repeated exposure to famous brands can make consumers more likely to buy such brands. High brand loyalty can also create barriers to entry.

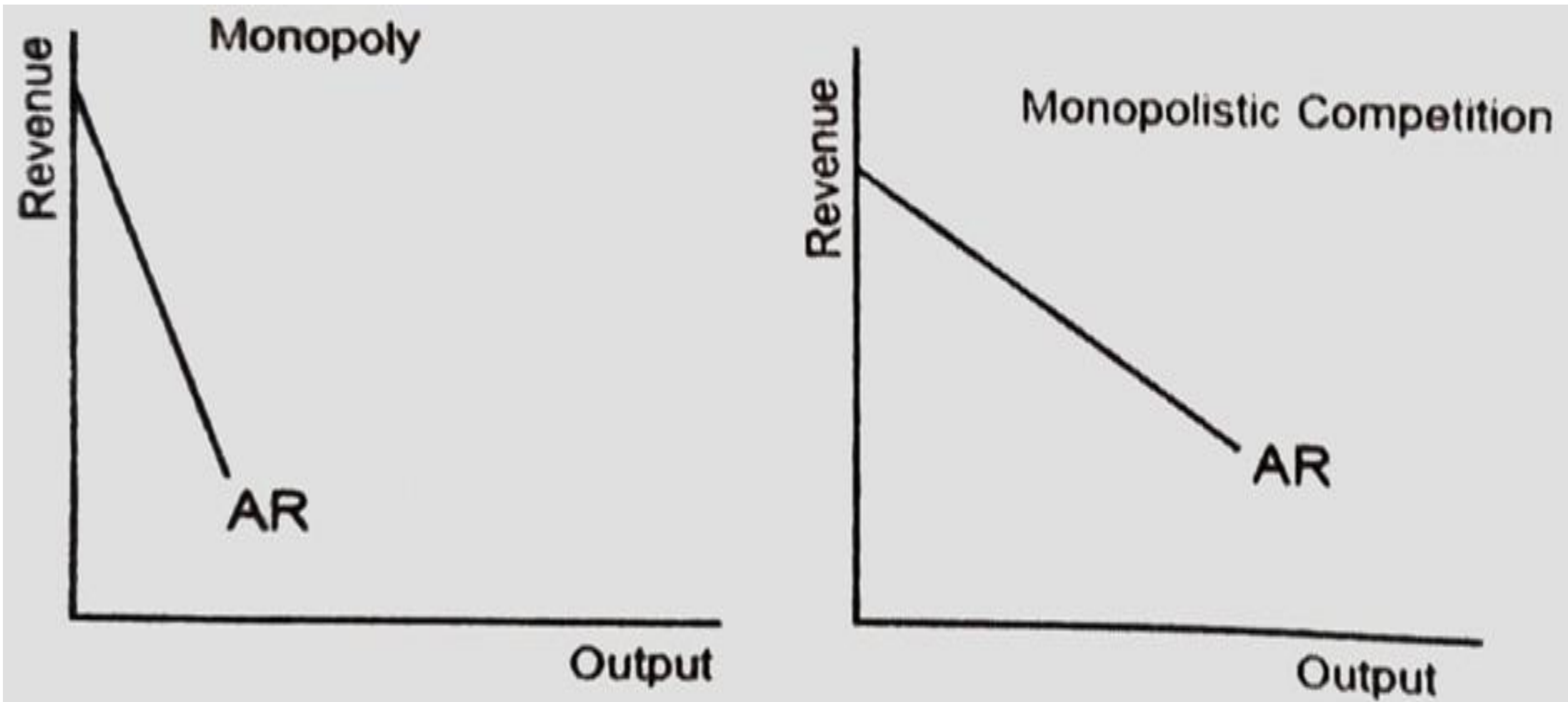
v. Cultivation of good reviews: In an online world, good reviews are increasingly important. Therefore, firms have an incentive to encourage happy customers to leave reviews.

vi. Coupons and free gifts: Some sellers provide coupons and free gifts along with a product. This encourages more customers to buy from that seller.

In short non-price competition increases the market share of a product. But it increases selling cost and other promotional expenses which in turn increases the average cost of production.

Comparison Between perfect competition, monopoly, monopolistic competition and oligopoly

Perfect Competition	Monopoly	Monopolistic Competition	Oligopoly
Large no. of buyers and sellers	Single Seller and large no. of buyers	Large number of buyers and sellers	Few sellers and large no of buyers
Homogenous product	Single product without close substitutes	Differentiated product	Homogenous or Differentiated
Freedom of entry and Exit	Freedom of entry restricted	Freedom of entry and exit	Barriers to entry
No selling cost	No selling cost	Selling cost	Selling cost
Perfectly elastic demand curve	Downward sloping less elastic demand curve	Downward sloping more elastic demand curve	Indeterminate demand curve



Demand curves under monopoly and monopolistic competition

Product Pricing

- **The right price of a product is one which keeps all participants of a market- consumers, sellers and shareholders- happy.**
- **A firm should decide its pricing strategy after considering the degree of competition in the market, price of competitors product, consumers buying capacity etc. Objective of the firm also play an important role in pricing decision because the objectives like profit maximisation and sales maximisation need different pricing strategies.**
- **Another important factor which is to be considered in price fixation is cost of the product. This is the most important factor. Whenever, there is a change in cost, the price of the product should be changed.**
- **Another factor which influences pricing policy is government policy regarding taxation and subsidy.**

The following are the important pricing strategies:

1. Cost Plus or Markup Pricing

Under this strategy price is the sum of cost and a profit margin. Usually, average cost is used for this purpose. Therefore, it is also called Average Cost Pricing or Full Cost Pricing.

Thus, the price will be

Price = AC + m Where m is the percentage of markup. Markup is fixed arbitrarily and in many cases it is determined at 10 per cent. However, it may vary industry to industry and among the different firms in the same industry depending on the availability of substitutes, degree of competition etc. This method is very simple and convenient. However, one important limitation of this method is that it is not suitable when there is tough competition in the market or when there is the threat of entry of new firms.

2. Target Return Pricing

This method is similar to cost plus pricing. But the main difference is that cost plus pricing, the profit margin is decided arbitrarily, whereas under this method producer rationally decides the minimum rate of return. Even though the methodology of price determination is the same as the previous case, the margin is decided depending on the experience of the firm, consumer's paying capacity, risk involved and many other factors.

3. Penetration Pricing

When a firm wants to enter into a market which is already dominated by existing firms, the only option is charging a price less than the existing price. This price is called penetration price. Reliance has adopted this kind of a pricing strategy in the mobile phone industry. This method of pricing can be adopted on a short-term basis and its success largely depends on price elasticity of demand.

4. Predatory Pricing

Under predatory pricing the predator, already a dominant firm, sets its prices too low for a sufficient period of time so that its competitors leave the market and others are deterred from entering. This kind of predation is done on the expectation that these present losses (or foregone profits) will be compensated by future gains. In other words, the firm is on the expectation of acquiring exploitable market power after the predatory period, and that profits of this later period will be sufficiently large enough to compensate incurring present losses or foregoing present profits. Predatory pricing usually will cause harm to the consumers and is considered as anti-competitive. It violates competition laws, as it makes markets more vulnerable to a monopoly.

5. Going Rate Pricing

This is the strategy of following the prevailing market price instead of a separate pricing strategy of their own. Usually, in this case price is fixed by a dominant firm and others accept it. Going rate pricing strategy is adopted when the products sold by the sellers are very close substitutes and their cross elasticity is very high. Packaged drinking water is an example. Besides, when new firms are not sure about the shift in demand in favour of them, they also follow this pricing strategy. By adopting this pricing strategy firms can avoid a price war like situation.

This kind of a pricing strategy is adopted when the product has reached maturity and has become generic in nature. That is a buyer ask for a product in general rather than a particular brand. An example is mineral water.

6. Price Skimming

It is a strategy in which high price is charged at the time of introduction of the product and a lower price during maturity. By experience producers know that a segment of high-income consumers wishes to become the first among those who possess the product. They use the product as a status symbol instead of considering its intrinsic value. Hence, the producers charge a very high price from such buyers to skim the market and earn a very high profit. Once the product is established and reached maturity, producers will reduce the profit margin and charge a lower price. This will attract the lower income group.

7. Administered Pricing

Generally, the term administered pricing is used to denote the price charged by the monopolists. Since, a monopolist is a price maker he can charge any price for his product. In other words, administered prices are not fixed by the market mechanism.

But in the Indian context, administered pricing means price is fixed statutorily by the government. During certain occasions government fixes the price of certain essential commodities on social interest. Price of cooking gas is an example.

Regulation of Monopoly

Gregory Mankiw has suggested the following measures to control monopoly.

1. Increasing competition with Antitrust Laws: Antitrust laws are statutes developed by governments to protect consumers from monopoly practices and ensure fair competition. Antitrust laws allow the government to prevent merger. They also allow the government to breakup companies. In India there is the MRTP Act (Monopolies and Restrictive Trade Practices Act) to control monopolies.
2. Regulation: Through regulation the government does not allow the companies to charge any price as they wish. The government agencies regulate the price. For example, water and electricity charges are regulated by the government authorities.
3. Public Ownership: In this case, instead of regulating monopoly run by a private firm, the government run the monopoly itself. That is the government become the owner.

Thank You