Theory of Market Structure

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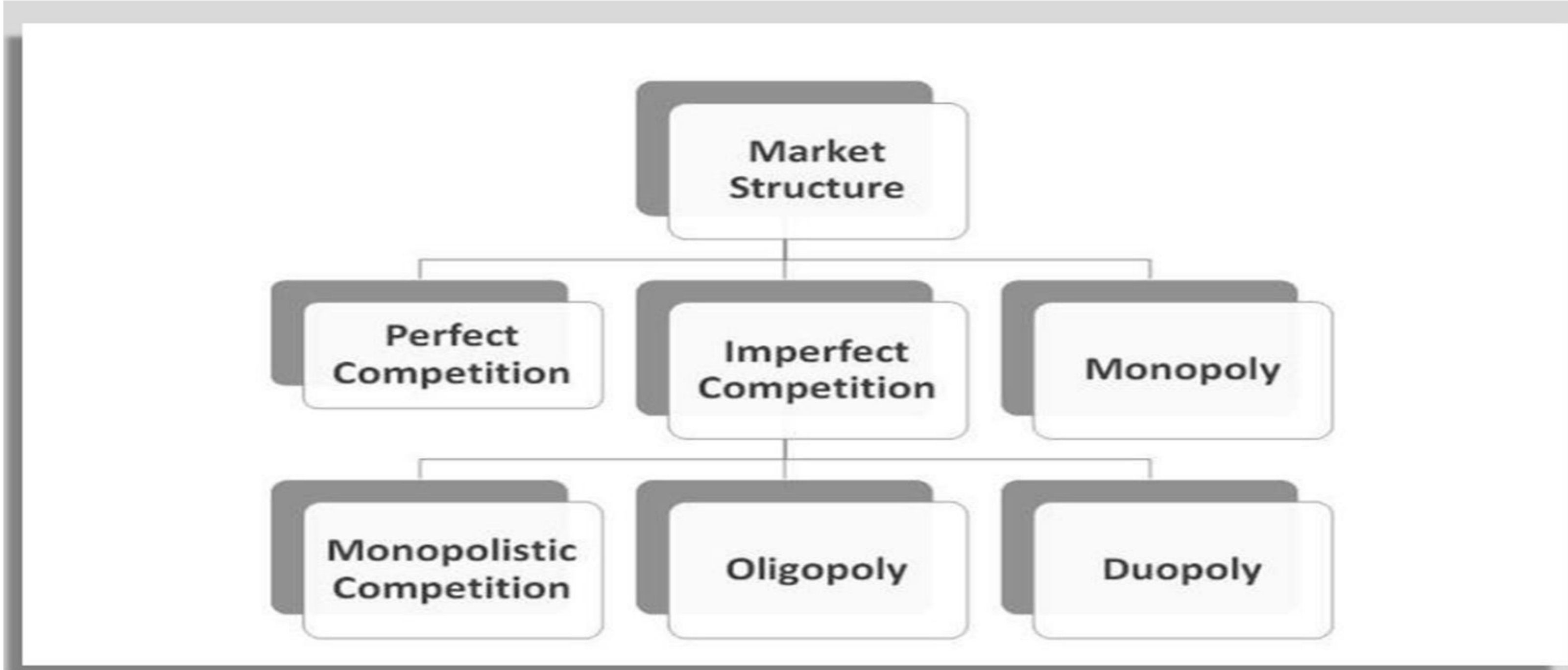
Market

In economics, **market means a social system through which the sellers and purchasers of a commodity or a service** can interact with each other.

Market

- In Common Language, market means a place where goods are purchased.
- However, in economics, market means an arrangement which establish effective relationship between buyers and sellers of a commodity. Hence, each commodity has its own market.

Market Structure

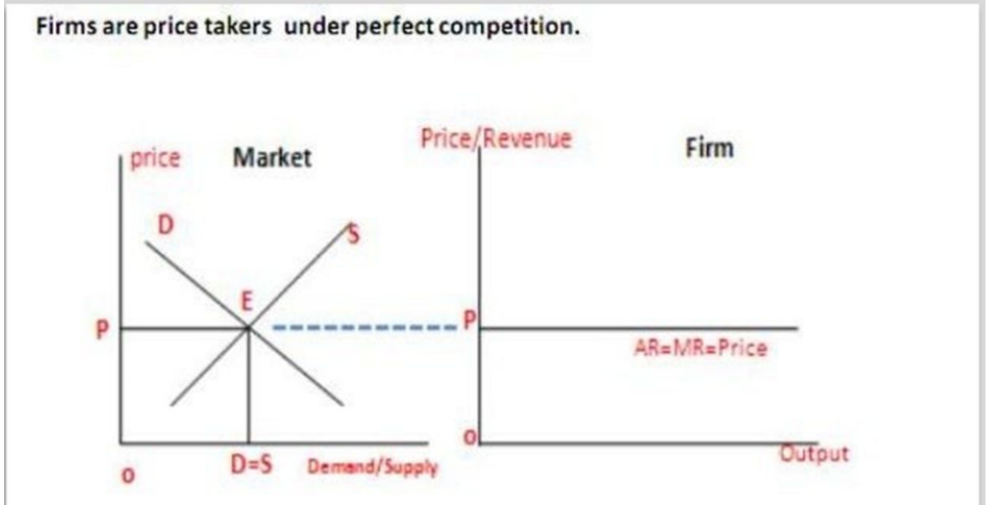


Perfect Competition

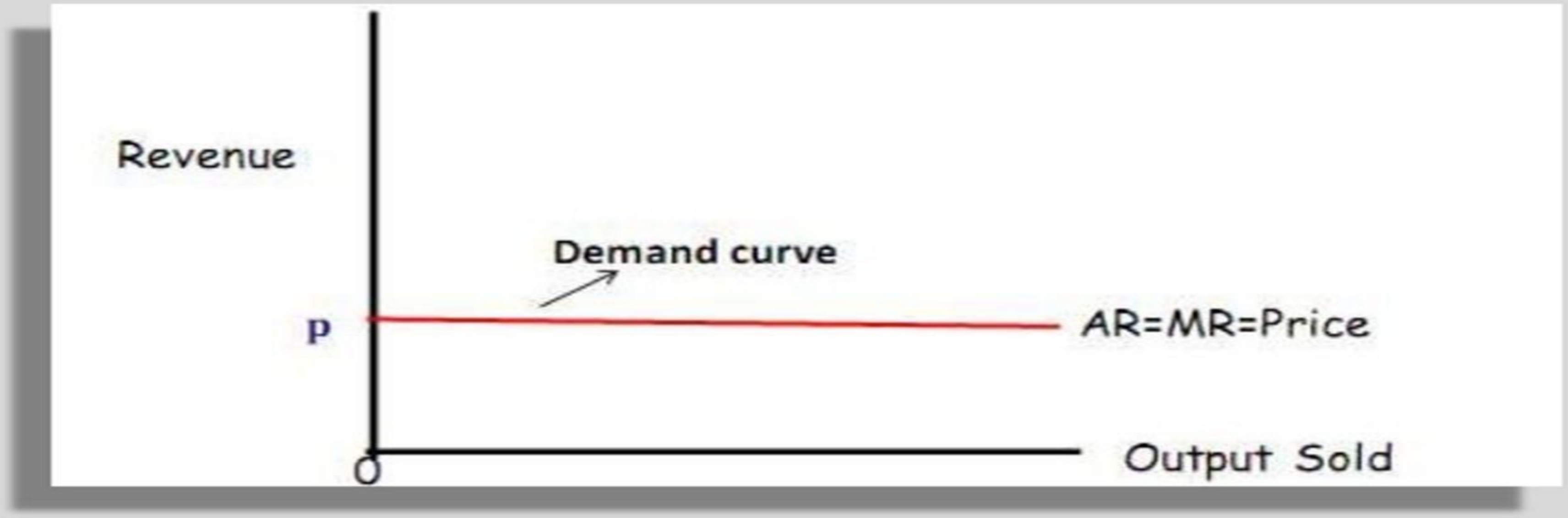
- Large Number of Buyers and Sellers : Under Perfect Competition, there exists a large number of sellers and the share of an individual seller.
- Homogenous Goods : Under Perfect Competition all firms sell homogeneous goods which are identical in quantity , shape, size etc.
- Price is Uniform : The prices is determined forces of demand and supply in the market and accepted by all the sellers are price takers in market.

Perfect Competition

Perfect Competition is a market structure in which large numbers of sellers sell a homogeneous product at uniform price.



Perfect Elastic Demand Curve



Umang’s PPT start from here

Imperfect Competition

Imperfect competition is a prevailing situation in a market in which elements of monopoly allow individual producers or consumers to exercise some control over market prices.

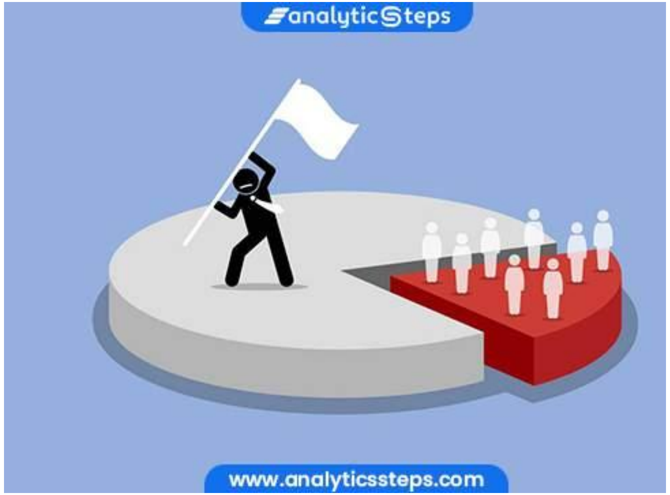
Imperfect Competition markets may be classified as :

1. Monopoly
2. Monopolistic Competition
3. Oligopoly
4. Duopoly

Monopoly

- Monopoly refers to the market situation where there is one seller and there is no close substitute to the commodities sold by the seller.

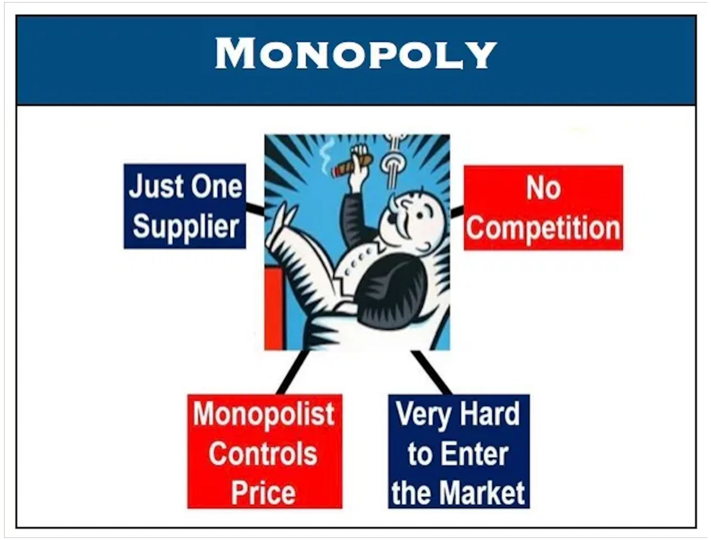
- Monopoly is a form of market structure where there is a single seller producing a commodity having no close substitute.



Features

- **Single seller and large number of buyers** :
  Under monopoly there is one seller and therefore a firm faces no competition from other firms. Though there are large numbers of buyers, no single buyer can influence the monopoly price by his action.

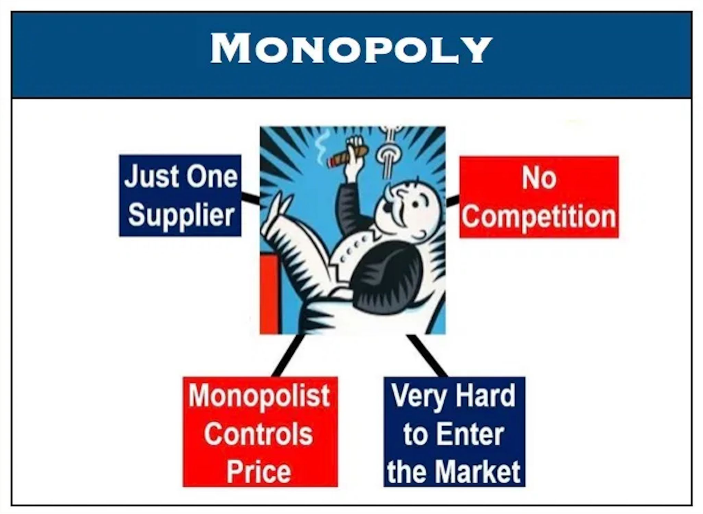
- **No close substitute:**
  Under monopoly there is no close substitute for the product sold by the monopolist.



Features

- **Restriction on the entry of new firms**

- **Price maker :**
  A monopoly firm has full control over the supply of its products and hence it has full control over its price also. A monopoly firm can influence the market price by varying it supply, for e.g., It can make the price of its product by supplying less of it.



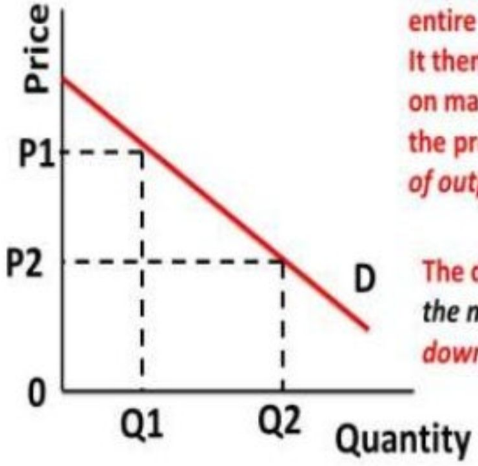
Monopoly: Demand Curve

A monopoly is a *price maker*.

What does this mean?

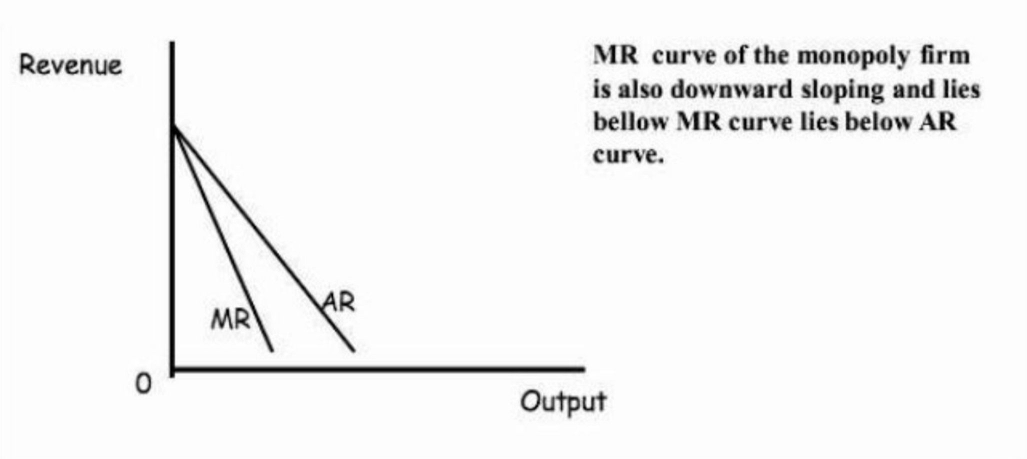
Because the firm is the entire industry, it decides output levels for the entire market.

It then sets price based on market demand for the product *at that level of output*.



The demand curve, *for the monopoly* is *downward sloping*.

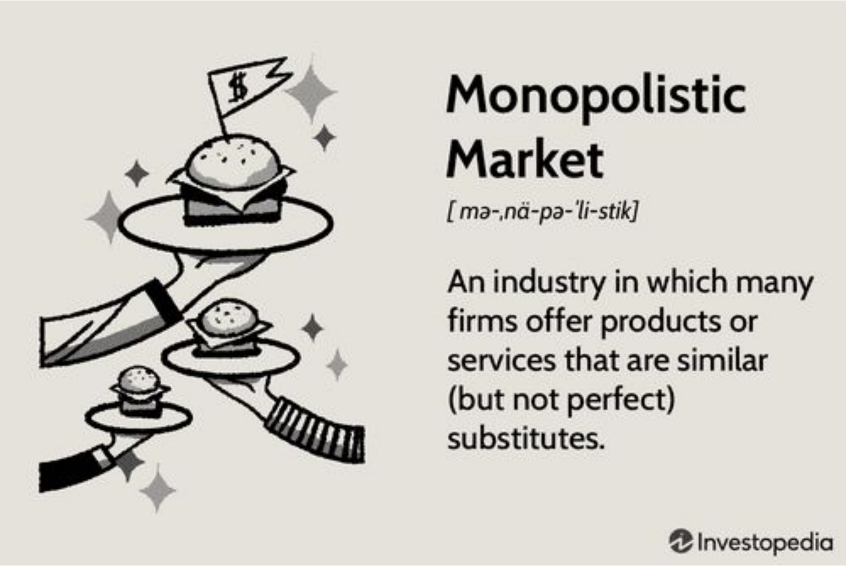
- **Downward sloping inelastic demand curve of a monopoly firm.** Demand curve of a firm reflected by its AR curve under monopoly is downward sloping meaning that the monopoly firm can sell more at a lower price and less at a higher price. The demand curve of the monopoly firm is highly inelastic. This is because the product does not have any close substitute.



Monopolistic Competition

- It is that form of market in which there are large numbers of sellers selling **differentiated** products which are similar in nature but not homogenous, for e.g.., the different brands of soap.

- This are closely related goods with a little difference in odour, size and shape.



Monopolistic Competition

- Monopolistic competition is a market situation in which both monopoly and competitive elements are present.

- The most distinguished features of monopolistic competition which makes it a blending of competition and monopoly is product differentiation.

Monopolistic Competition: Features

- **Large number of sellers and buyers : In monopolistic competition the number of sellers is large** and each other act independently without any mutual dependence. Here the action of an individual firm regarding change in price has no effect on the market price. The firms under monopolistic competition are not price takers.

- **Product Differentiation:** Most of the firms under monopolistic sale products which are not homogenous in nature but are close substitutes.

    - **Real Differentiation: These types of product differentiation arises due to differences in the quality of inputs** used in making these products, differences in location of firms and their sales service.
    - **Artificial Differentiation : It is made by the sellers in the minds of the buyers of those products** through advertisements, attractive packing, etc.

Product Differentiation

Apple differentiates its products from those of its competitors by having more innovative technology, premium prices, design quality and simplicity.

Monopolistic Competition: Features

- **Non-price Competition :** In this case, different firms may compete with each other by spending a huge sum of money on advertisements keeping the product prices unchanged.

- **Selling Cost :** Expenditure incurred on advertisements and sales promotion by a firm to promote the sale of its product is called selling cost. They are made to persuade a particular product in preference to other products. Some advertisements have become so popular that people use a brand name to describe the product, for e.g.., brand name is used to describe all types of washing powder.

Monopolistic Competition: Features

- **Free Entry And Free Exit :** There are no restrictions on the entry of new firms and the firms decide to leave the industry.

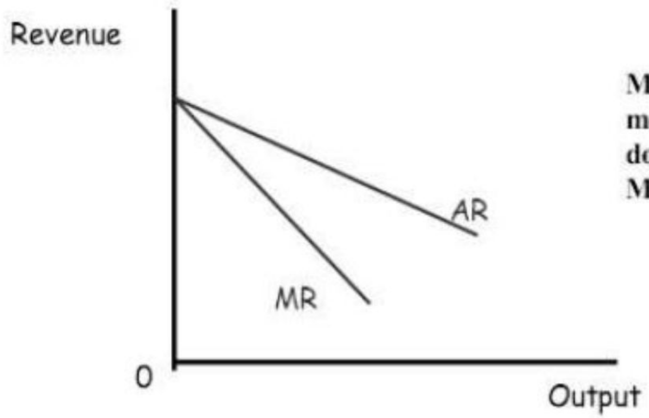
- Every firm under monopolistic competition earns only normal profits in the long run and there arises no supernormal profit nor loss.

- **Independent price policy :** A firm under monopolistic competition can influence the price of the commodity to some extent and hence they face an inverse relationship between price and quantity. In this case the price elasticity of demand would be relatively elastic because of the existence of many substitutes.

Monopolistic Competition: Features

- **Downward sloping highly elastic demand curve of a firm under monopolistic competition**

- **Demand curve of a firm reflected by its AR curve under monopolistic competition is downward sloping.** The demand curve is highly elastic. This is because differentiated products under monopolistic competition has more close substitutes.



MR curve of a firm under monopolistic competition is also downward sloping and lies bellow MR curve lies below AR curve.

Oligopoly

- Oligopoly is a market situation in which there are few firms producing either **differential goods or closely differential goods.** The number of firms is so **small that every seller is affected by the activities of the others.**

- Oligopoly is a market situations in which there are **few (more than two) sellers of a commodity** such that actions of every seller has predictable effect on the other sellers/rivals.

Oligopoly: Features

- **Few Sellers : There are few sellers in oligopoly market, such that number of sellers is small** and each and every seller is affected by the activities of the others.

- **Interdependence : Interdependence among firms is the most important characteristic under Oligopoly.** The number of sellers is so less in the market that each of these firms contribute a significant portion of the total output. As a result, when any one of them undertakes any measure to promote sales, it directly affect other firms and they also immediately react.

- Hence every **firm decides its policy after taking into consideration the possible reaction of the rival firm**. Thus every firm is affected by the activities of the other firms and this is called interdependence of firm.

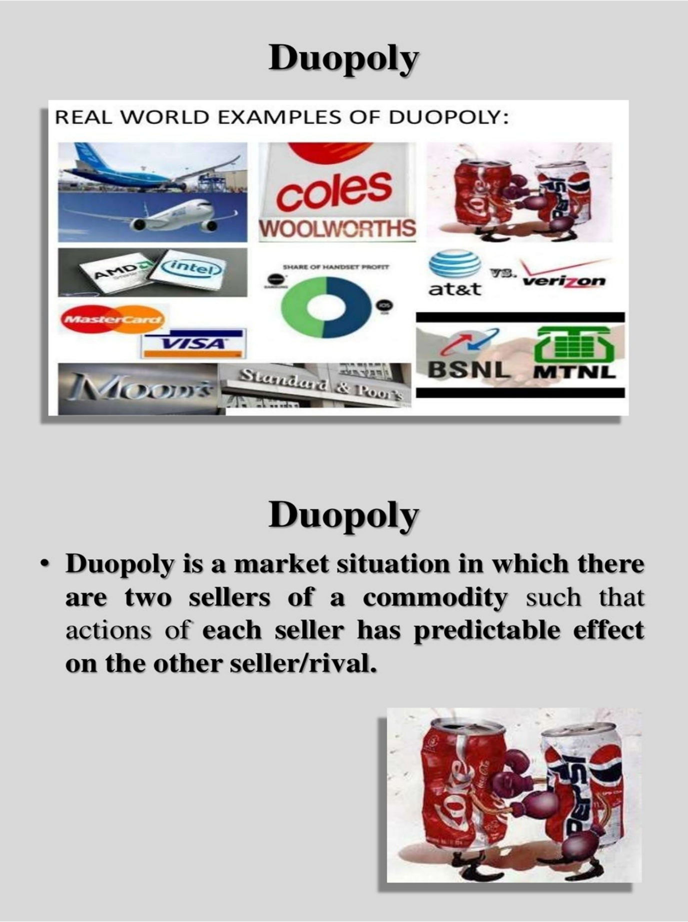
Oligopoly: Features

- **Nature of Product :** A firm under oligopoly may produce homogenous goods which is called oligopoly without product differentiation for e.g.. **Cooking gas supplied by Indian Oil & HP.**

- **Barrier to Entry** : **The existence of oligopoly in the long run requires the existence of barrier** to the entry of the new firms. **Several factors such as unlimited size of the market, requirement of huge initial investment etc.** creates such barrier upon the entry of new firms.

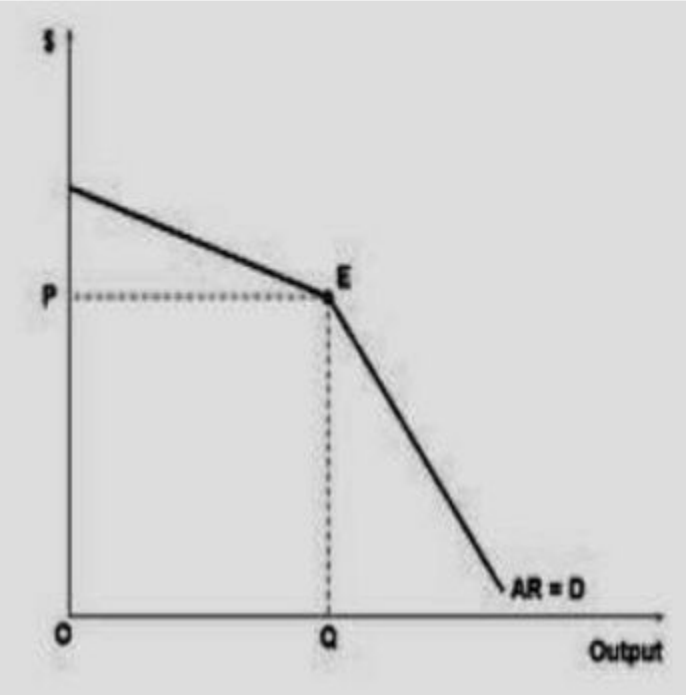
Duopoly

- It is a specific type of oligopoly where only two producers exist in one market. In reality, this definition is generally used where only two firms have dominant control over a market.
- Duopoly provides a simplified model for showing the main principles of the theory of oligopoly: the conclusions drawn from analysing the problem of two sellers can be extended to cover situations in which there are three or more sellers. If there are only two sellers producing a commodity a change in the price or output of one will affect the other; and his reactions in turn will affect the first. In other words, in duopolies there are two variables of interest: the prices set by each firm and the quantity produced by each firm.

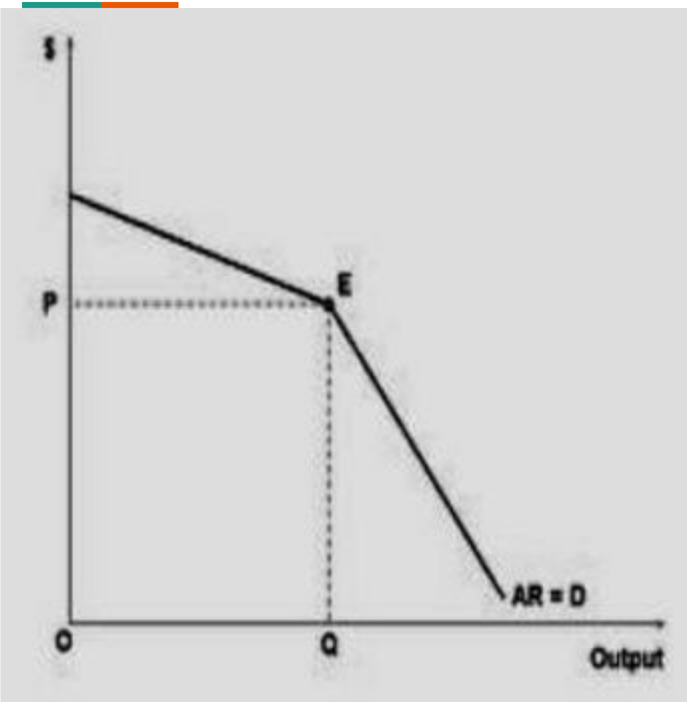


Price-Rigidity And Paul Sweezy's Kinked Demand Curve

- Sweezy argued that an ordinary demand curve does not apply to oligopoly markets and promotes a kinked demand curve.
- Kink demand curve has a kink(E) at the prevailing level of price (P).
- The segment of the demand curve above the kink is highly elastic.
- The segment of the demand curve below the kink is highly inelastic



Price-Rigidity And Paul Sweezy's Kinked Demand Curve



- If the oligopoly firm reduce the price below the prevailing price (at kink), his rivals will follow him and accordingly lower their price. Very little increase in the sale can be obtained by a reduction in price by the oligopolist.
- If the oligopoly firm raises the price above the prevailing price (at kink), his rivals will not follow him. Large fall in sale is expected if the oligopolist by a increase in price.
- Hence the oligopolist has no incentive to raise its price or reduce it. Hence there is price rigidity/stable price in the market.

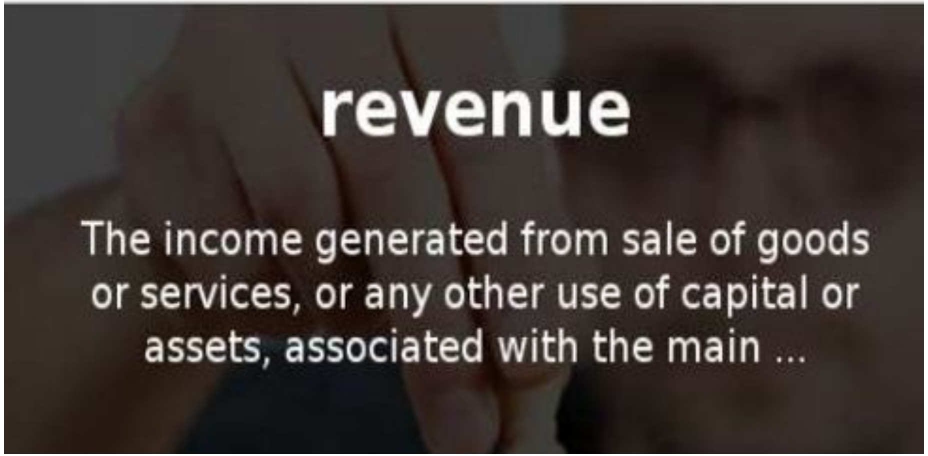
Revenue

- The term revenue refers to the receipts obtained by a firm from the sale of certain quantities of a commodity at various prices. The revenue concept relates to total revenue, average revenue and marginal revenue.

- Revenue is the receipt of money from the sale of output by a firm in a given time period.

Revenue (contd.)

- Concepts of Revenue
    - Total Revenue
    - Average Revenue
    - Marginal Revenue



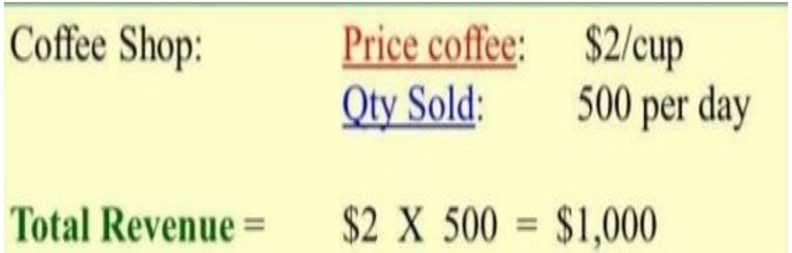
Total Revenue(TR)

- **Total Revenue (TR)- Total revenue is the total sale proceeds of a firm by selling certain units of** a commodity at a given price.
- If a firm sell 10 units of a commodity at 20 each, Them TR = 20 x 10 = 200.00
- Thus total revenue its price per unit multiplied by the number of units sold.
- **TR= P x Q, where P: Price per unit , and Q: Quantity sold.**
- **TR=AR X Q.**

Total Revenue(TR)

- **Total revenue (TR)= Price X Quantity Sold**
  - The total amount of money received by a business selling products.
  - It is <u>NOT</u> profit!

- **Profit = TR - All Expenses (costs)**



Average Revenue(AR)

- **Average Revenue (AR) - Average Revenue is the revenue earned per unit of output.** Average Revenue is found out by dividing the total revenue by the number of units sold.

- AR = TR/Q

- TR = P.Q

- Thus AR = P.Q/Q = P

$$AR = \frac{TR}{output\ Sold}$$

$$AR = \frac{Price\ X\ Output\ Sold}{Output\ Sold}$$

$$AR = Price$$

Marginal Revenue(MR)

- **Marginal Revenue - Marginal Revenue is the change in total revenue resulting from sale of an** additional unit of the commodity.
- **Marginal Revenue (MR)** is the rate of change in total revenue with respect to change in output.
- e.g. If a seller realises 200.00 after selling 10 units and 225 by selling 11 units, we say MR = (225.00 - 200.00) = 25.00.

- Mathematically it can be expressed as **MR = d(TR)/dQ**

  where, d is the rate of change.

$$MR = \frac{d(TR)}{dQ}$$

Where,
Q is output sold

Concepts Of Total Revenue, Average Revenue And Marginal Revenue

The Revenue of a Competitive Firm

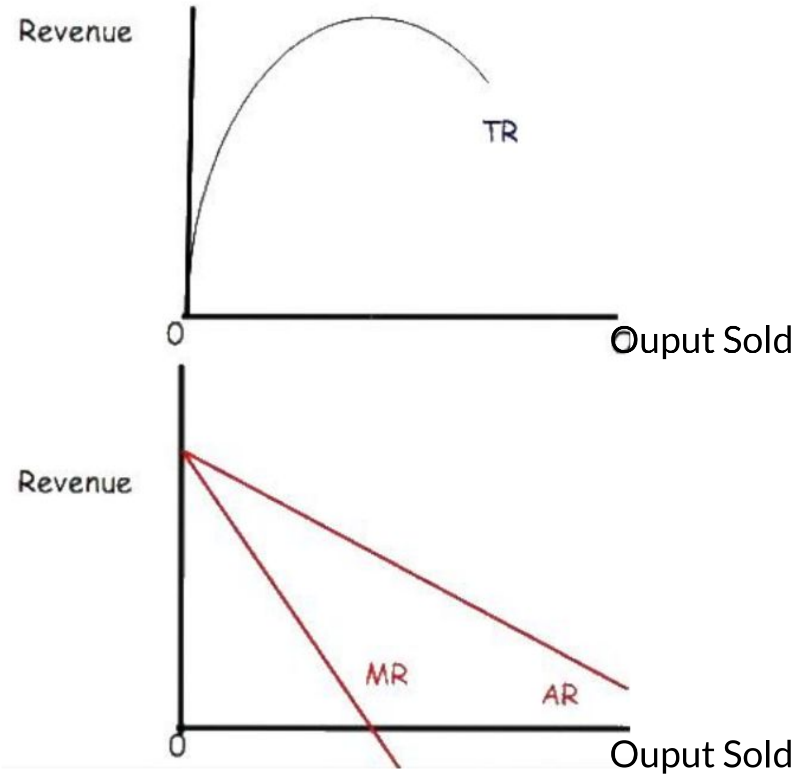
- Total revenue (TR) — **TR = P XQ**
- Average revenue (AR) — **AR= TR/Q = P**
- Marginal Revenue (MR) — **MR = ΔTR/ΔQ**
  The change in TR from selling one more unit

TR, AR And MR Under Imperfect Competition

1. When total Revenue is maximised, MR = 0

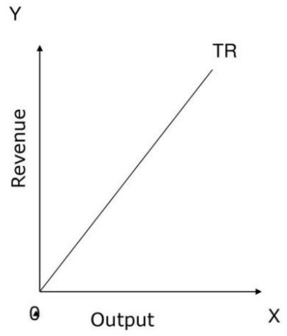
2. AR curve is the demand curve facing a firm in the market

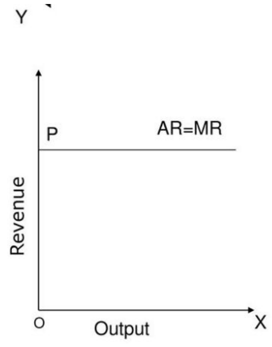
3. AR and MR curves are downward sloping, MR curve lies below AR curve.



TR, AR And MR Under Perfect Competition

- Under Perfect Competition price is uniform and given. As such, AR(price) and MR become equal.





Units of Commodity	Total Revenue	Price= Average Revenue	Marginal Revenue
1	5	5	5
2	10	5	5
3	15	5	5
4	20	5	5
5	25	5	5

- AR and MR curves coincide and become parallel to output axis.
- AR curve ie. the demand curve facing a firm in the market is perfectly elastic.

PROFIT

- **Profit is defined as the gap between total revenue and total cost.**
- Profit(Π) =Total Revenue – Total Cost
- When profit is negative, a firm is said to be suffering from loss.

PROFIT

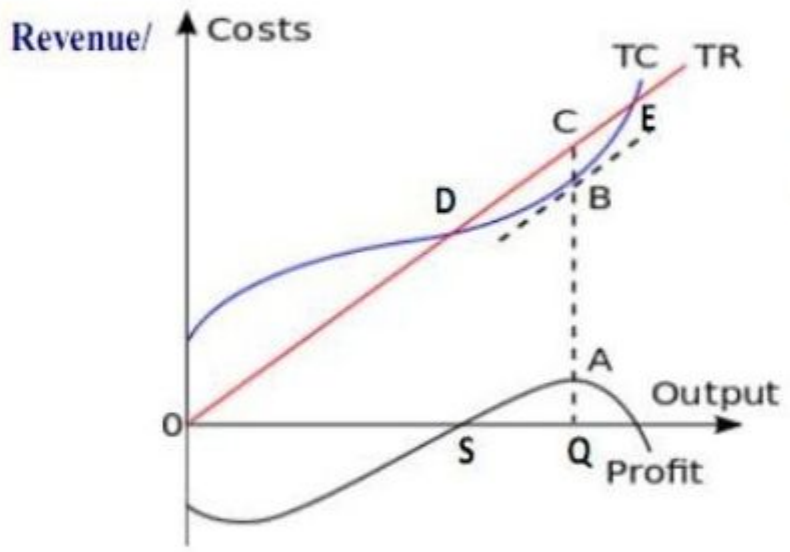
- **BREAK-EVEN POINT**
  - Break-even point indicates the level of output at which Total Revenue just equals Total Cost ,

    Total Revenue=Total Cost

- **EQUILIBRIUM OF A FIRM**
  - A firm is said to in equilibrium when it maximises its profit at given level of output.
  - Thus, at firm’s equilibrium, profit(TR-TC) is maximum.

Break-Even Point and Firm’s Equilibrium(Maximum Profit)

- D(TR=TC) is lower break-even point at output S.
- E (TR=TC) is upper break even point.
- To the left of lower break-even point D(output S), profitis negative.
- When the firm increases its output beyond output §, the positive gap between TR and TC increase and profit accrue to the firm.



Break-Even Point and Firm’s Equilibrium(Maximum Profit)

- **The firm is in equilibrium (maximum profit =CB=AQ) at Q level of output after which the gap between TR and TC goes on narrowing.** TR again becomes equal to TC at upper break even point E.

- **Upper break-even E point is not of much relevance as it lies beyond firm's profit maximizing level.**

- The lower break even point D at output S is much significance as the firm would not plan to expand if it can not sell its output equal to at least S.

Equilibrium Of A Firm

- A firm is said to in equilibrium when it **maximises its profit at given level of output**. Thus, at firm's equilibrium, **profit(TR-TC) is maximum**.

- Conditions For Profit Maximisation/Firm's Equilibrium:

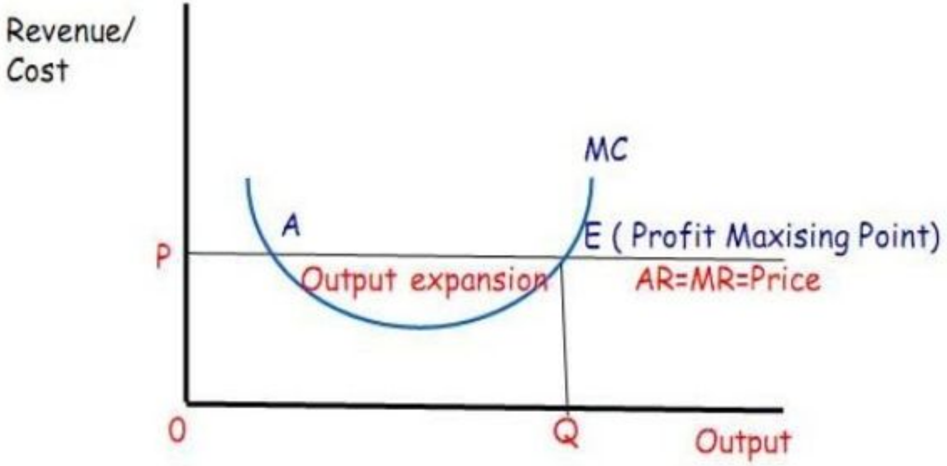
    - MR=MC (Necessary Condition)

    - MC must be rising at the profit maximising/equilibrium point i.e. MC curve must cut MR curve from below (Sufficient Condition)

Equilibrium of a firm /Profit Maximisation by a firm

- Here at point A, MR=MC but MC cuts point A from above. Hence though necessary condition is satisfied, sufficient condition is not. Hence it is not profit maximising point.

- Falling MC induces the firm to produce more and more till MC curve cuts MR curve from below.



Equilibrium of a firm /Profit Maximisation

- At point E , MR=MC and MC curve cuts MR curve from below. **At E, both necessary and sufficient conditions are satisfied.** Hence E is the point of equilibrium at which the firm maximises its profit.

- **Q is the equilibrium or profit maximising output. The firm will not produce beyond point E or output Q .** Because after point E, MR < MC. As a result of which the firm will suffer loss.

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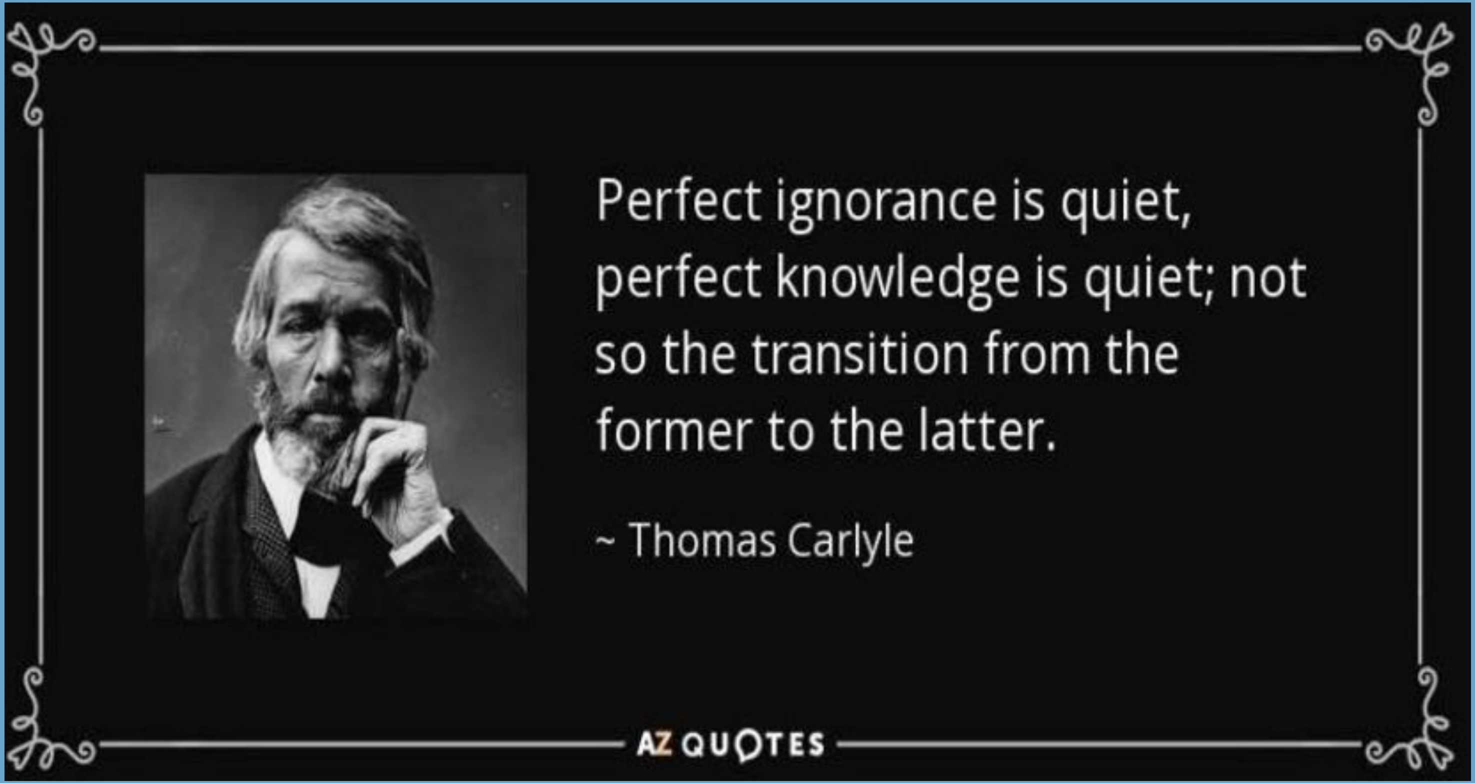
Perfect ignorance is quiet, perfect knowledge is quiet; not so the transition from the former to the latter.
~ Thomas Carlyle
AZ QUOTES

THANK YOU!