UNIT SNAPSHOT

UGC NET COMMERCE

Unit 3

Business Economics

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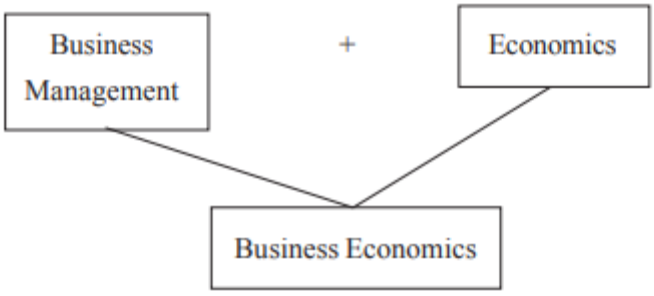
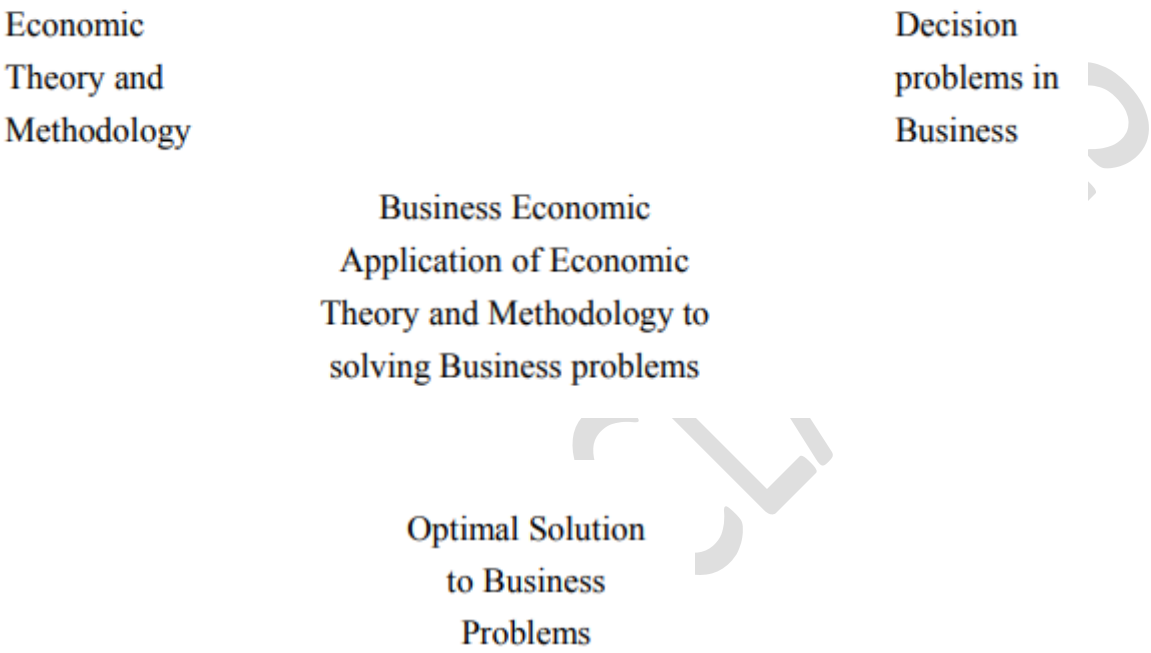
Business Economics

Business economic is that discipline which deals with the **application of economic theory to business management**. It lies on the borderline between economic and business management and serves as a bridge between the two disciplines.Business Economics**, also called Managerial Economics,** and is the application of economic theory and methodology to business.

Managerial Economics was formerly known as "Business Economics." It is also called as "Applied Economics". The world Business Economics is formed from the two worlds Business and Economics.



Business economic meets these needs of the business firm. This is illustrated in the following presentation.



According to **Mc Nair and Meriam**, "Business economic consists of the use of economic modes of thought to analyse business situations."

Siegel man has defined managerial economic (or business economic) as "the integration of economic theory with business practice for the purpose of facilitating decision-making and forward planning by management."

Nature of Business Economics

Nature of Business Economics is explained, as the business economics bridges the gap between economic theories and practical application of economic logic and tools. It eliminates the difference between the proposition of these theories and the real economic conditions.

Business Economics is micro-economic:

Business economics can be said as microeconomic in nature as it is based on the techniques of microeconomics. The decision making situations of single individual establishments are covered in business economics which includes the achievement of organizational goals and long term survival of the firm in the market. These decisions include:

- What determines the budgets of individual firms and households?
- What combination of goods and services will best fit the needs with the given budget?
- How much should be saved for the future?
- What determines how much should be produced or sell?
- How the firm will finance its business operations?

Business Economics is normative:

Business economics is normative as it establishes rules which enable firms to attain their goals. It also provides valid decision rules so that the business environment and its behaviour can easily be understood.

Business Economics is a science:

As science establishes a relationship between cause and effect. Business economics also establishes a relationship between economic theories and decision sciences such as mathematics, statistics and econometrics to form suitable strategies so that overall example, supply is the positive function of the price which means that change in price is the cause but change in supply is the effect. It also adopts scientific methods to test the validity of the results. Thus, It is science its methodology.

Business Economics is an art:

Art is nothing but a practical application of knowledge. If we analyze business economics, we find that it has features of art. As its branches such as production, consumption and finance

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provide a solution to various economic problems. And also, it requires the practical application of rules and principles explained in Economic theories. Thus, it can be said as an art in its application.

Realistic in nature:

Business economics is real science. It deals with all the matters of the organisation considering the real conditions existing in the business environment. It tries to solve real business problems which are faced by firms. Hence, it is pragmatic in nature.

Includes macro analysis:

Macroeconomics deals with the external environment as well which includes inflation, employment and income levels, tax policies, business cycle and foreign trade etc which affects the smooth functioning of the firm. Thus, business economics incorporates these macroeconomic factors to deal with the uncertain changing environment. Following aspects of macroeconomics are covered under business economics:

1. Determination of the level of economic activity.
2. Production of goods and services in a nation.
3. Determination of jobs available in the economy.
4. Causes behind the business cycles.
5. Determination of growth in standard of living.

Interdisciplinary in nature:

Business economics integrates all other disciplines such as mathematics, statistics, accounting and marketing etc. to solve the problems in different fields of business. Therefore, it is interdisciplinary in nature.

Scope of business economics:

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The scope of Business economics covers two areas of decision making.

1) Operational or Internal Issues.

2) Environmental or External Issues.

1) **Operational or Internal Issues:**

The manager of business firm faces the problems, which are related to the internal issues of the firm. They are controlled by the manager with the help of economic theories and principles.

They are as follow.

i) What to produce? i. e. Problem of choice of commodity.

ii) How to produce? i. e. what techniques are to be used? Either capital intensive or labour intensive techniques.

iii) What capital-labour ratio is to be used?

iv) What price is to be levied? v) How to invest? And at what quantity?

vi) How to sale? At what price? How to compete?

vii) How the capital and the profit can be managed in order to make the best use of it?

Such types of problems are faced by every manager of business firm which are solved with the aid of economics. These problems are related to the economic theories and principles as follows.

❖ **Demand Analysis:** The manager thinks about the demand for his firm's product. A firm can survive if it is able to cater the demand for its product in market at the proper time and in

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the right quantity. Demand analysis helps to manager in estimating and manipulating the market demand for his product.

❖ **Theory of production**: Theory of production is also called as the **theory of firm**. Along with the cost of production it also consists the firm's revenue. It includes the relationship between various factors of production, input-output analysis, capital - labour ratio, optimum production, break even analysis etc.

❖ **Cost-Analysis:** Cost estimates are very essential for most sound profit planning. Hence to find out the firms cost of production the knowledge of cost analysis is very essential for business manager. It includes various costs concepts cost output analysis, economies of scale, production function, cost control etc.

❖ **Pricing theories**: The success of the firm can be comprised in a sound pricing policy of its product, how the price is to be determined in various forms of market such as perfect competition, monopoly, monopolistic competition, oligopoly, duopoly etc.

❖ **Theory of profit**: Profit maximization is an aim of business firm making profit in long run is a sign of successful entrepreneur. Knowledge of sound profit earning policy and techniques of profit planning are also important to business manager. Economic theory provides this knowledge.

❖ **Resource Allocation**: Resources are scare, so they should be allocated efficiently to different uses by the manager. In order to solve the problem of resource allocation the manager should possess the knowledge of input-output analysis, linear programming etc. With the help of these economic analysis methods manager arrives to the final conclusions in respect of his decision making.

❖ **Capital-Investment Analysis:** Capital is scare and fundamental factor of production. It is foundation of business.. The knowledge of Capital Theory helps to take investment decisions.

❖ **Inventory Management:** Every firm requires raw material. It would be stored in inventories. What would be the ideal stock of inventories? How the stock of inventories should be maintained and controlled? Knowledge of this stock inventory is achived from economic theory.

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❖ **Advertising**: Advertising is the heart of modern business practices. It is one of the features of modern marketing system. Economic theory helps to busniessmen in solving their problems and to arrive at definite conclusions.

2) Environmental or External Issues:

❖ These issues are related to the general business environment in which the firm or business operates.

❖ These are social, economic and political environments, economic environment includes kinds of economic systems, situations existing in the field of production, income, employment, prices, saving and investment, financial institutions as banks, financial corporations, Insurance companies, and trends in international trade.

❖ It also includes the conditions prevailing in labour and capital markets, government policy, industrial policy, monetary policy consumer's co-operatives etc.

Managerial Economics takes the congnizance of all types of environments affecting the business activity. These external or environmental issues in managerial economics are related with the Macro-Economics. Thus, the scope of managerial economics reaches in the sphere of micro as well as macro-economic theories.

Objectives of the Firm

1. Sales Maximisation: According to prof. baumol the ultimate objective of firm is sales maximisation rather than the profit maximisation. He thinks that when a firm considers sales maximisation as a priority objective, it does not neglect the objective of profit maximisation. The objective of sales maximisation with minimum profit can be easily understood with the Fig. Where: TC- Total Cost. TR- Total Revenue. TP- Total product.

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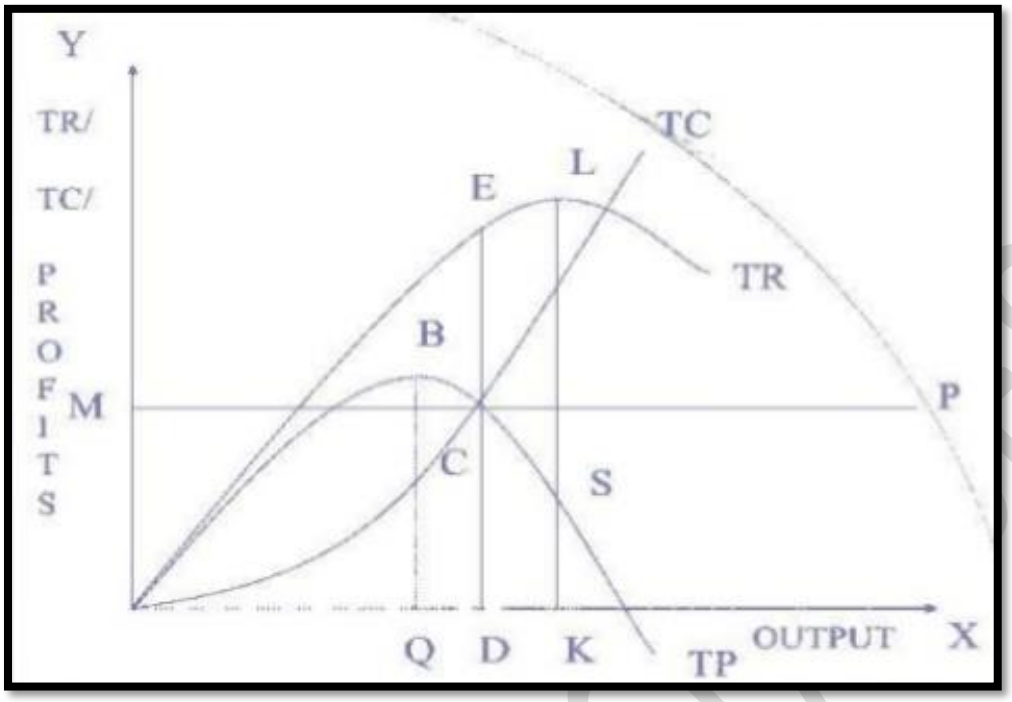

2. Profit Maximisation: It is yet another important objective guiding the entrepreneur for the production of goods. Profit plays crucial role in the production decision taken by the firm. According to the traditional theory that level output which the maximum difference between the total revenue (TR) and total cost (TC) will help an entrepreneur maximize his profit. It is depicted in the Fig.

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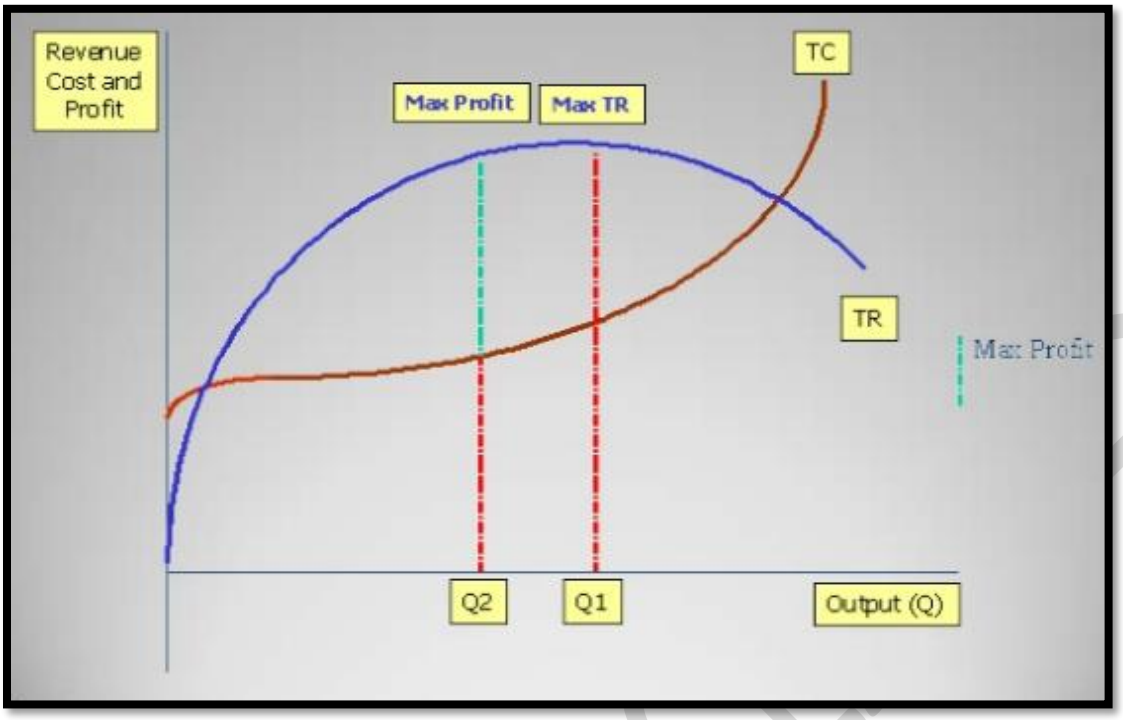

3. Utility Maximisation: Utility or satisfaction remains the end objective of human behavior. Taking this idea into account, economists like Benjamin higgins was of the view that small firms pursue the objective of utility maximisation. It is also called as preference function maximisation. According to this view the satisfaction to the entrepreneur does not come only from the maximisation of profit, but he may get this satisfaction from the leisure which he is able to enjoy. The figure help us…

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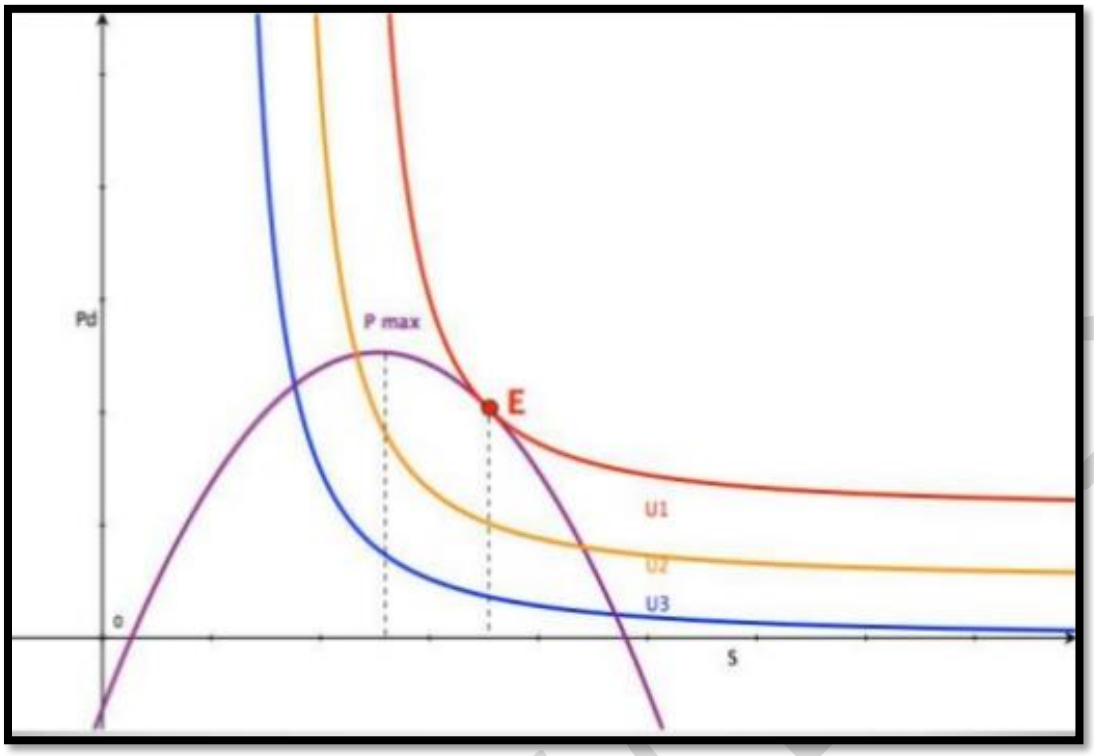

4. Welfare Maximisation

Personal Welfare: - The people who make decisions for a business are, in fact, people. They have likes and dislikes. They have personal goals and aspirations just like people who do not make decisions for firms. On occasion these people use the firm to pursue their own personal welfare. When they do, their actions could enhance the firm's profit maximization or, in many cases, prevent profit maximization.

Social Welfare: - The people who make decisions for firms also have social consciences. Part of their likes and dislikes might be related to the overall state of society. As such, they might use the firm to pursue social welfare, which could enhance or prevent the firm's profit maximization.

5**. Growth Maximisation**: A famous U.S. economist J.K.Galbraith made an empirical study of big corporation and came to the conclusion that managers pursue not single but multiple goals such as sales maximisation, utility maximisation etc. along with these objective, managers keep the prime objective to achieve the top level or the highest possible level of

growth in output. They also try to improve their prestige, technical superiority and market power. They take the help of effective advertising on a large scale to influence the consumer in order to attain the above mentioned objective.

Demand analysis

- Demand analysis is a research **done to estimate or find out the customer demand** for a product or service in a particular market.
- Demand analysis is one of the important consideration for a **variety of business decisions** like determining sales forecasting, pricing products/services, marketing and advertisement spending, manufacturing decisions, expansion planning etc.
- Demand analysis **covers both future and retrospective analysis** so that they can analyse the demand better and understand the product/service's past success and failure too.

Individual Demand

The individual demand is the demand of one individual or firm. It represents the quantity of a good that a single consumer would buy at a specific price point at a specific point in time. While the term is somewhat vague, individual demand can be represented by the point of view of one person, a single family, or a single household.

Market demand

Market demand provides the total quantity demanded by all consumers. In other words, it represents the aggregate of all individual demands. There are two basic types of market demand: primary and selective. Primary demand is the total demand for all of the brands that represent a given product or service, such as all phones or all high-end watches. Selective demand is the demand for one particular brand of product or service, such as the iPhone or a Michele watch.

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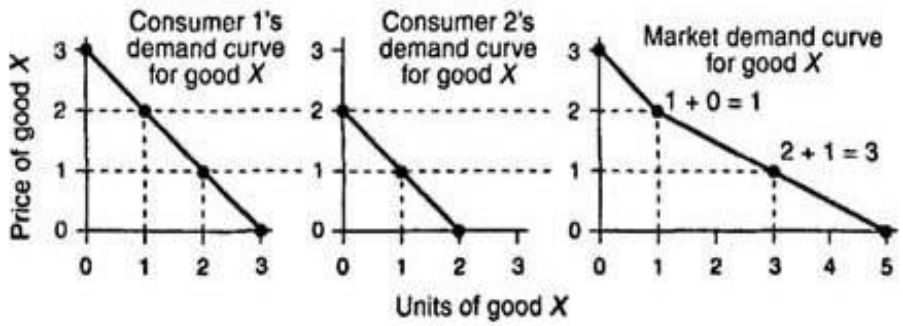

Types of Demand

1. Price demand:

- Price demand refers to the different quantities of the commodity or service which consumers will purchase at a given time and at given prices, assuming other things remaining the same.

- As the price of commodity increases its demand falls and as the price decreases, its demand rises.

2. Income demand:

- Income demand refers to the different quantities of a commodity or service which consumers will buy at different levels of income, assuming other things remaining constant.

- Usually the demand for a commodity increases as the income of a person increases unless the commodity happens to be an inferior product.

3. Cross demand

When the demand for a commodity depends not on its price but on the price of other related commodities, it is called cross demand. Here we take closely connected or related goods which are substitutes for one another.

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For example, tea and coffee are substitutes for one another. If the price of coffee rises, the consumer will be induced to buy more of tea and, hence, the demand of tea will increase.

4. Direct demand:

Commodities or services which satisfy our wants directly are said to have direct demand. For example, all consumer goods satisfy our wants directly, so they are said to have direct demand.

5. Joint demand:

In finished products as in case of bread, there is need for so many things—the services of the flour mill, oven, fuel, etc. The demand for them is called joint demand.

6. Composite demand:

- A commodity is said to have a composite demand when its use is made in more than one purpose.

- For example the demand for coal is composite demand as coal has many uses—as fuel for a boiler of a factory, for domestic fuel, for oven for steam-making in railways engine, etc.

Law of demand

In microeconomics, the law of demand states that, "conditional on all else being equal, as the price of a good increases, quantity demanded decreases; conversely, as the price of a good decreases, quantity demanded increases"

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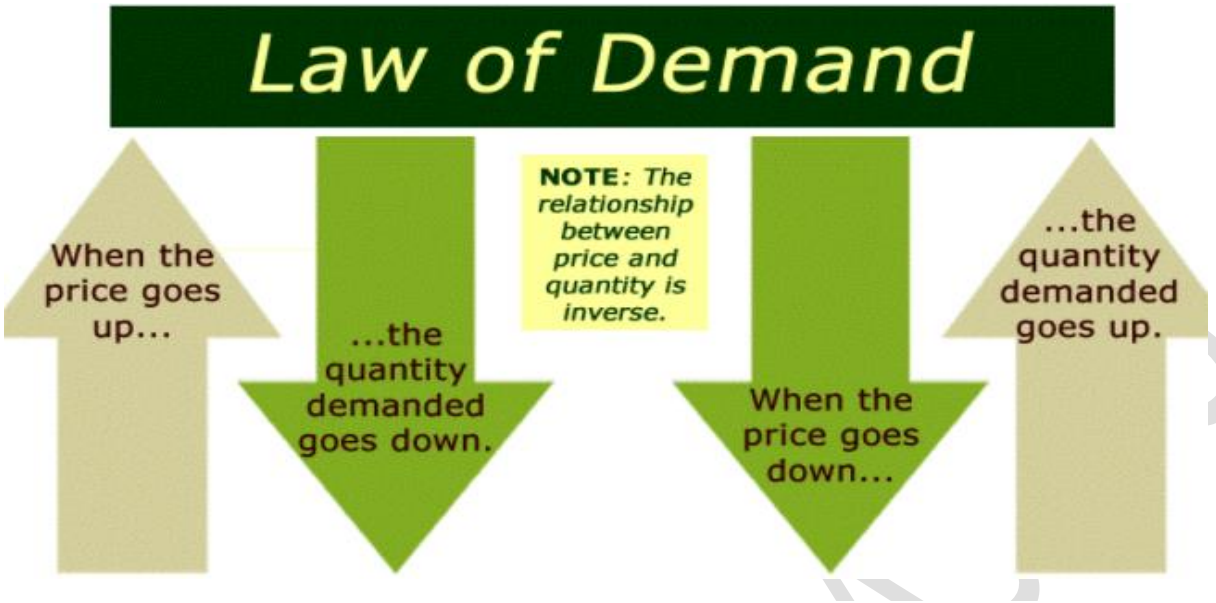
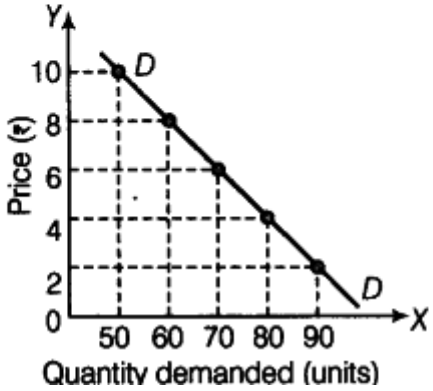


Demand schedule

Price per unit (₹)	Quantity demanded (units)
10	50
8	60
6	70
4	80
2	90



Assumptions

(i) There is no change in the tastes and preferences of the consumer;

(ii) The income of the consumer remains constant;

(iii) There is no change in customs;

(iv) The commodity to be used should not confer distinction on the consumer;

(v) There should not be any substitutes of the commodity;

(vi) There should not be any change in the prices of other products;

(vii) There should not be any possibility of change in the price of the product being used;

(viii) There should not be any change in the quality of the product; and

(ix) The habits of the consumers should remain unchanged. Given these conditions, the law of demand operates. If there is change even in one of these conditions, it will stop operating.

There are at least three accepted explanations of why demand curves slope downwards:

1. The law of diminishing marginal utility
2. The income effect
3. The substitution effect

Diminishing marginal utility

One of the earliest explanations of the inverse relationship between price and quantity demanded is the **law of diminishing marginal utility**. This law suggests that as more of a product is consumed the marginal (additional) benefit to the consumer falls, hence consumers are prepared to pay less. This can be explained as follows:

Most benefit is generated by the first unit of a good consumed because it satisfies all or a large part of the immediate need or desire.

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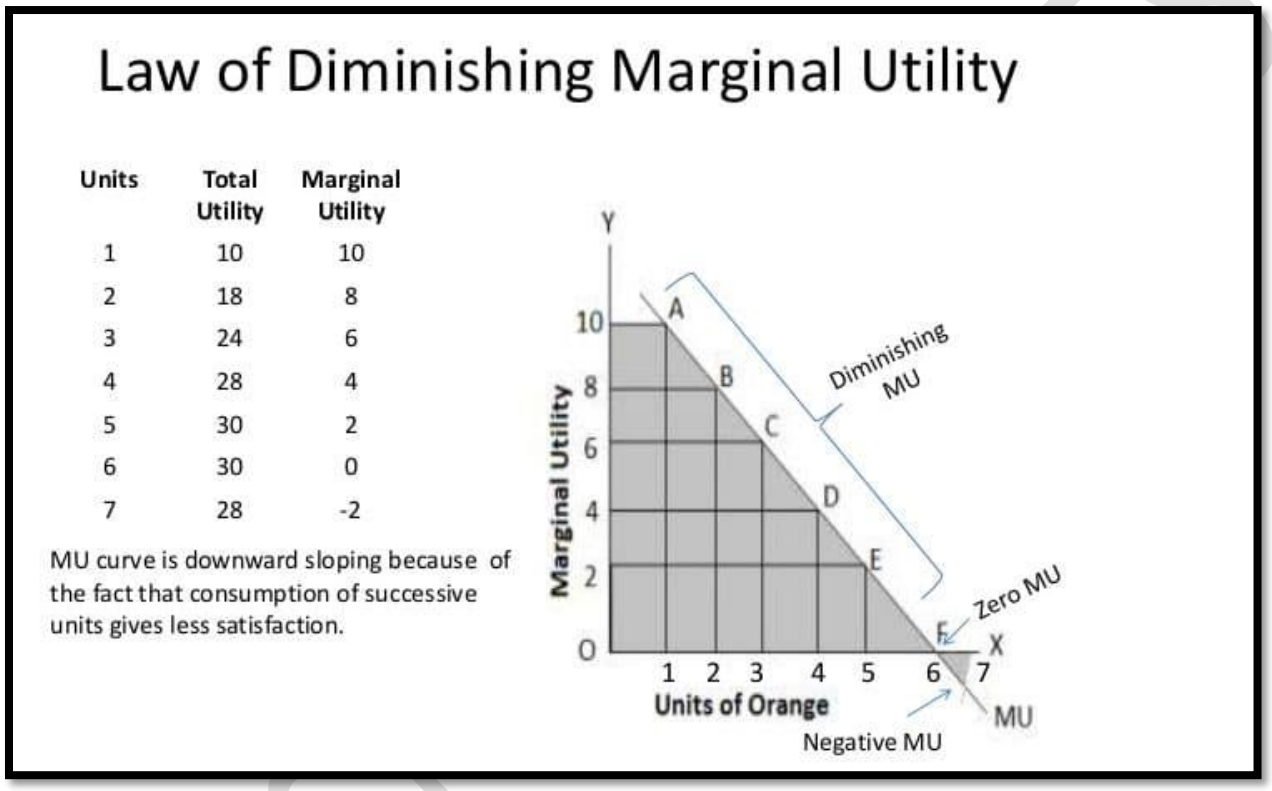
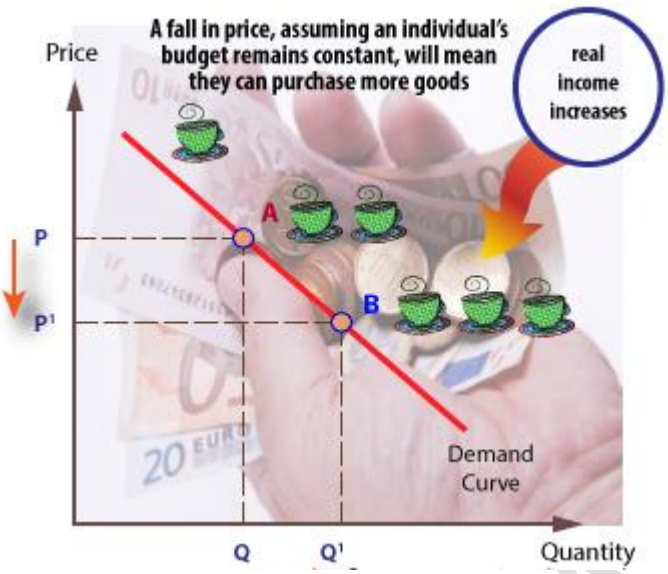
A second unit consumed would generate less utility - perhaps even zero, given that the consumer now has less need or less desire.

With less benefit derived, the rational consumer is prepared to pay rather less for the second, and subsequent, units, because the marginal utility falls.



The income effect

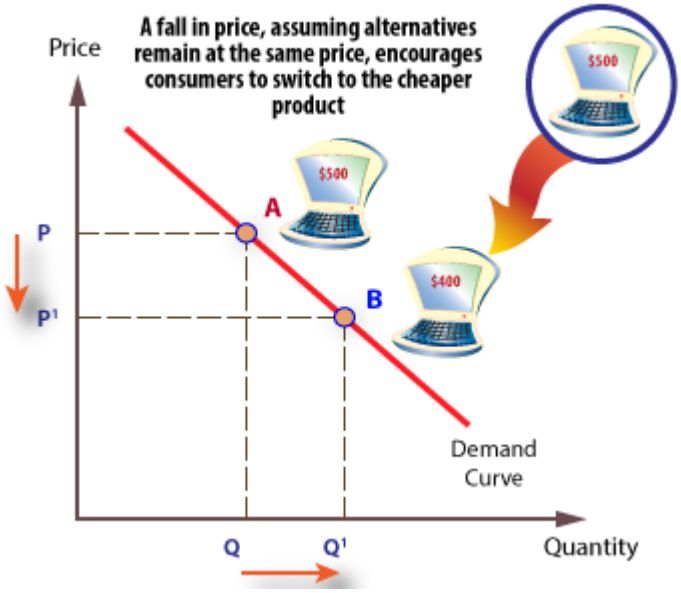
The *income* and *substitution* effect can also be used to explain why the demand curve slopes downwards. If we assume that money income is fixed, the income effect suggests that, as the price of a good falls, *real income* - that is, what consumers can buy with their *money income* - rises and consumers increase their demand.



Therefore, at a lower price, consumers can buy more from the same money income, and, *ceteris paribus*, demand will rise. Conversely, a rise in price will reduce real income and force consumers to cut back on their demand.

The substitution effect

In addition, as the price of one good falls, it becomes *relatively less expensive*. Therefore, assuming other alternative products stay at the same price, at lower prices the good appears cheaper, and consumers will switch from the expensive alternative to the relatively cheaper one.



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It is important to remember that whenever the price of any resource changes it will trigger both an income and a substitution effect.

Exceptions to the Law of Demand:

In certain cases, the demand curve slopes up from left to right, i.e., it has a positive slope. Under certain circumstances, consumers buy more when the price of a commodity rises and less when price falls.

Many causes are attributed to an upward sloping demand curve.

Depression:

During a depression, the prices of commodities are very low and the demand for them is also less. This is because of the lack of purchasing power with consumers.

Giffen Paradox:

If a commodity happens to be a necessity of life like wheat and its price goes up, consumers are forced to curtail the consumption of more expensive foods like meat and fish, and wheat being still the cheapest food they will consume more of it. The Marshallian example is applicable to developed economies.

Demonstration Effect:

If consumers are affected by the principle of conspicuous consumption or demonstration effect, they will like to buy more of those commodities which confer distinction on the possessor, when their prices rise.

Ignorance Effect:

Consumers buy more at a higher price under the influence of the "ignorance effect", where a commodity may be mistaken for some other commodity, due to deceptive packing, label, etc.

(vi) Speculation:

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Marshall mentions speculation as one of the important exceptions to the downward sloping demand curve. According to him, the law of demand does not apply to the demand in a campaign between groups of speculators.

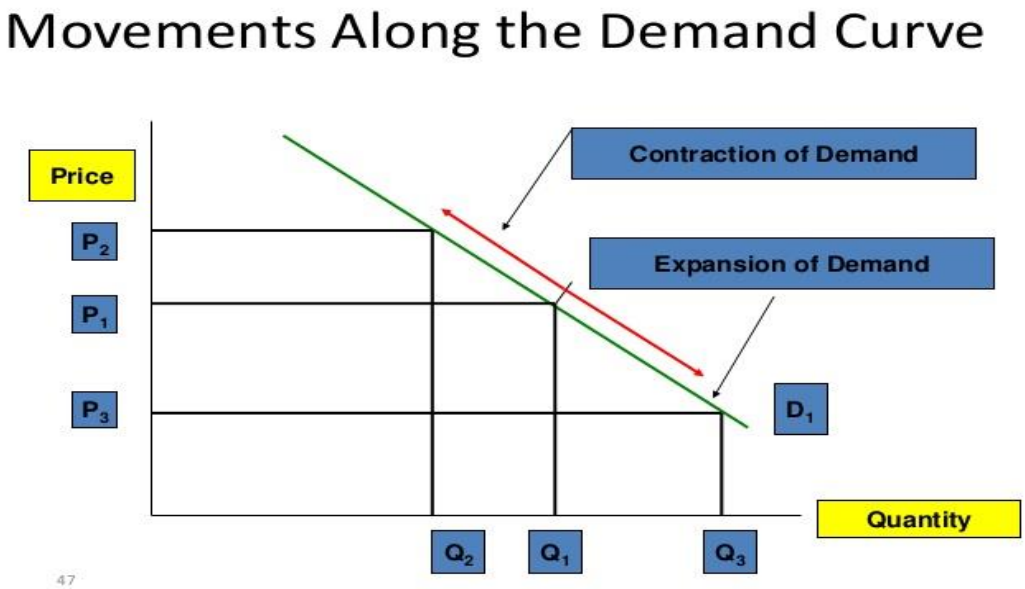
Necessities of Life:

Normally, the law of demand does not apply on necessities of life such as food, cloth etc. Even the price of these goods increases, the consumer does not reduce their demand.

Movement in demand curve and shift in demand curve

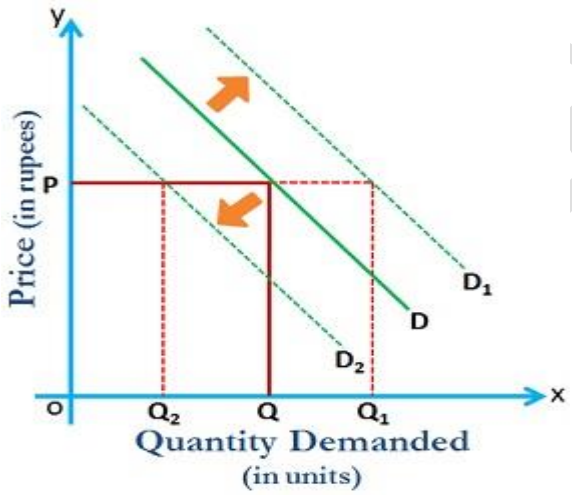
Movement in the demand curve is when the commodity experience change in both the quantity demanded and price, causing the curve to move in a specific direction.

- **Contraction/ Upward Movement**: Indicates contraction of demand, in essence, a fall in demand is observed due to price rise.
- **Extension/Downward Movement**: It shows expansion in demand, i.e. demand for the product or service goes up because of the fall in prices.

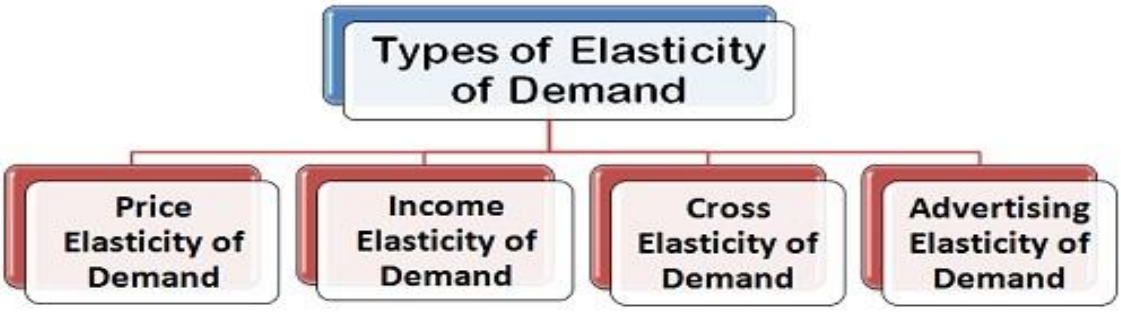


The shift in the demand curve is when, the price of the commodity remains constant, but there is a change in quantity demanded due to some other factors, causing the curve to shift to a particular side.

- **Rightward Shift**: It represents an increase in demand, due to the favourable change in non-price variables, at the same price.
- **Leftward Shift**: This is an indicator of a decrease in demand when the price remains constant but owing to unfavourable changes in determinants other than price.



Types of elasticity of demand



Price Elasticity of Demand is the responsiveness of quantity demanded to changes in price. In other words it is the percentage change in quantity demanded in comparison to the percentage change in price of a product.

Ed = Percentage quantity demanded / Percentage change in price = %ΔQd/%ΔP.

1. **Perfectly Elastic Demand:**

When a small change in price of a product causes a major change in its demand, it is said to be perfectly elastic demand. In perfectly elastic demand, a small rise in price results in fall in demand to zero, while a small fall in price causes increase in demand to infinity. In such a case, the demand is perfectly elastic or ep = 00.

2. **Perfectly Inelastic Demand:**

A perfectly inelastic demand is one when there is no change produced in the demand of a product with change in its price. The numerical value for perfectly inelastic demand is zero (ep=0).

3. **Relatively Elastic Demand:**

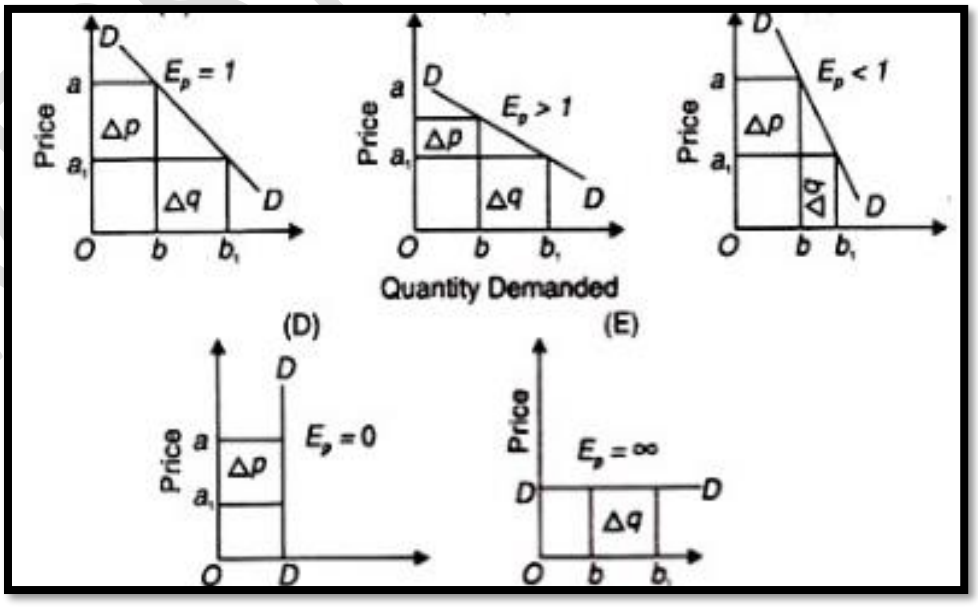
Relatively elastic demand refers to the demand when the proportionate change produced in demand is greater than the proportionate change in price of a product. The numerical value of relatively elastic demand ranges between one to infinity.

4. **Relatively Inelastic Demand:**

Relatively inelastic demand is one when the percentage change produced in demand is less than the percentage change in the price of a product. For example, if the price of a product increases by 30% and the demand for the product decreases only by 10%, then the demand would be called relatively inelastic. The numerical value of relatively elastic demand ranges between zero to one (ep<1). Marshall has termed relatively inelastic demand as elasticity being less than unity.

5. **Unitary Elastic Demand:**

When the proportionate change in demand produces the same change in the price of the product, the demand is referred as unitary elastic demand. The numerical value for unitary elastic demand is equal to one (ep=1).



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Cross Elasticity of Demand

It measures the responsiveness in the quantity demanded of one good to a change in price of another good.

It is calculated by dividing the percentage change in the quantity demanded of one good by the percentage change in the price of another good.

$$EC = \frac{\text{Percentage change in quantity demanded of Good} - X}{\text{Percentage change in the price of Good} - Y}$$

$$= \frac{\dfrac{\text{Change in quantity demanded of X}}{\text{Original Quantity of X}}}{\dfrac{\text{Change in Price of Y}}{\text{Original Price of Y}} \times 100} \times 100$$

$$= \frac{\dfrac{\Delta Q_x}{Q_x}}{\dfrac{\Delta Q_y}{Q_y}} = \frac{\Delta Q_x}{Q_x} \times \frac{P_y}{\Delta P_y}$$

$$EC = \frac{P_y}{\Delta_n} \times \frac{\Delta Q_n}{\Delta P_y}$$

Where

P_y = Original price of good-Y

ΔP_y = Change in price of good-Y

Q_x = Original quantity demanded of X

ΔQ_x = Change in the quantity demanded of X

Types of Cross Elasticity of Demand:

1. Positive:

When goods are substitute of each other then cross elasticity of demand is positive. In other words, when an increase in the price of Y leads to an increase in the demand of X. For instance, with the increase in price of tea, demand of coffee will increase.

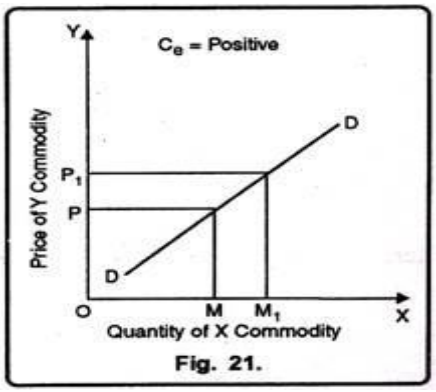

Fig. 21.

2. Negative:

In case of complementary goods, cross elasticity of demand is negative. A proportionate increase in price of one commodity leads to a proportionate fall in the demand of another commodity because both are demanded jointly.

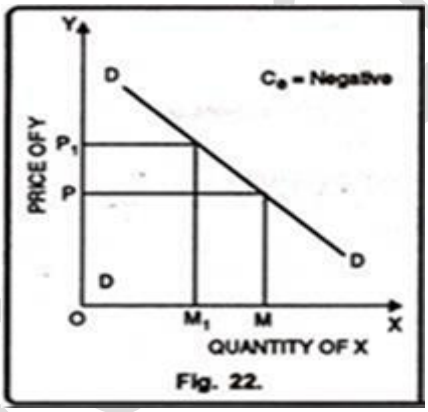

Fig. 22.

3. Zero:

Cross elasticity of demand is zero when two goods are not related to each other. For instance, increase in price of car does not affect the demand of cloth. Thus, cross elasticity of demand is zero. It has been shown in fig. 23.

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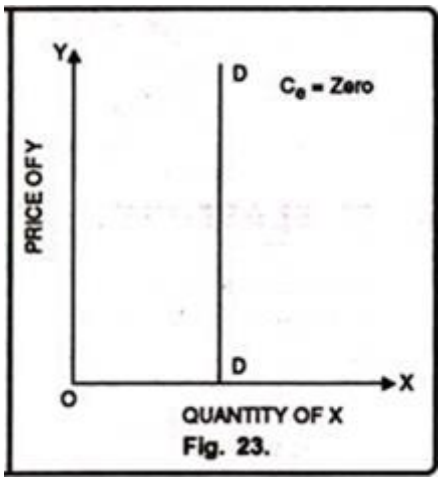

Fig. 23.

Therefore, it depends upon substitutability of goods. If substitutability is perfect, cross elasticity is infinite; if on the other hand, substitutability does not exist, cross elasticity is zero. In the case of complementary goods like jointly demanded goods cross elasticity is negative. A rise in the price of one commodity X will mean not only decrease in the quantity of X but also decrease in the quantity demanded of Y because both are demanded together.

Income Elasticity of Demand measures responsiveness of quantity demanded to a change in income. It is calculated by dividing the percentage change in quantity demanded by the percentage change in income.

On the basis of numerical value, income elasticity of demand is classified into three groups, which are as follows:

1. Positive Income Elasticity of Demand:

Refers to a situation when the demand for a product increases with increase in consumer's income and decreases with decrease in consumer's income. The income elasticity of demand is positive for normal goods.

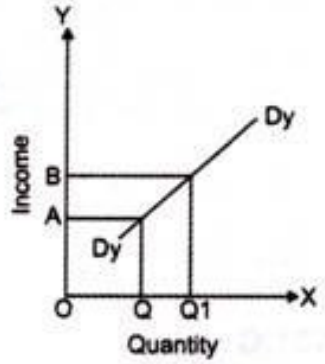

Figure-12: Positive Elasticity of Demand

The positive income elasticity of demand can be of three types, which are discussed as follows:

a. Unitary Income Elasticity of Demand:

Implies that positive income elasticity of demand would be unitary when the proportionate change in the quantity demanded is equal to proportionate change in income

b. More than Unitary Income Elasticity of Demand:

Implies that positive income elasticity of demand would be more than unitary when the proportionate change in the quantity demanded is more than proportionate change in income.

c. Less than Unitary Income Elasticity of Demand:

Implies that positive income elasticity of demand would be less than unitary when the proportionate change in, the quantity demanded is less than proportionate change in income.

2. Negative Income Elasticity of Demand:

Refers to a kind of income elasticity of demand in which the demand for a product decreases with increase in consumer's income. **The income elasticity of demand is negative for inferior goods, also known as Giffen goods**

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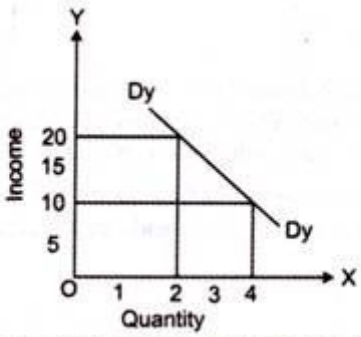


Figure-13: Negative Income Elasticity of Demand

3. Zero Income Elasticity of Demand:

Refers to the income elasticity of demand whose numerical value is zero. This is because there is no effect of increase in consumer's income on the demand of product. The income elasticity of demand is zero (e_y= 0) in case of essential goods.

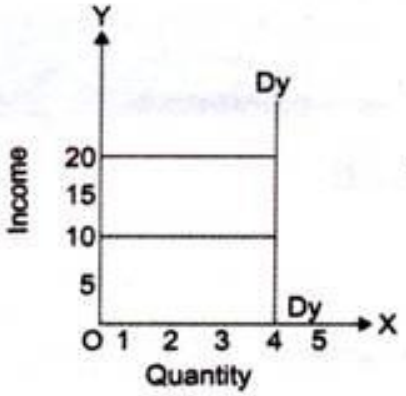


Figure-14: Zero Income Elasticity of Demand

Measurement of elasticity

The Percentage Method:

The price elasticity of demand is measured by its coefficient (Ep). This coefficient (Ep) measures the percentage change in the quantity of a commodity demanded resulting from a given percentage change in its price.

$$Ed = \frac{\%\ \text{Change in Quantity Demanded}}{\%\ \text{Change in Price}}$$

$$Ed = \frac{\%\Delta Q}{\%\Delta P}$$

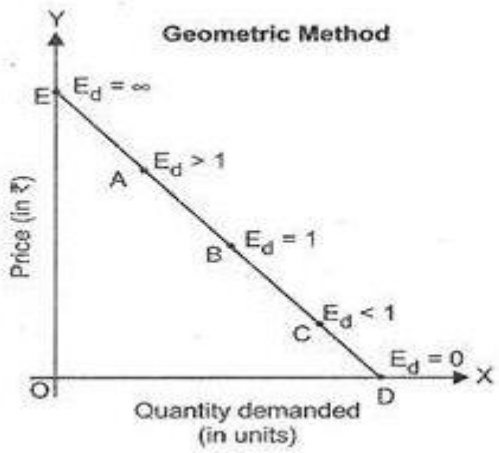
$$Ed = \frac{(Q1-Q)/Q}{(P1-P)/P}$$

The Point Method:

Prof. Marshall devised a geometrical method for measuring elasticity at a point on the demand curve. Let RS be a straight line demand curve in Figure. 2. If the price falls from PB (= OA) to MD (= OC), the quantity demanded increases from OB to OD.

EP = Δq/Δp x p/q

- Where Δq represents change in quantity demanded,
- Δp changes in price level while p and q are initial price and quantity levels.



The Arc Method:

We have studied the measurement of elasticity at a point on a demand curve. But when elasticity is measured between two points on the same demand curve, it is known as arc elasticity. In the words of Prof. Baumol, **"Arc elasticity is a measure of the average**

responsiveness to price change exhibited by a demand curve over some finite stretch of the curve."

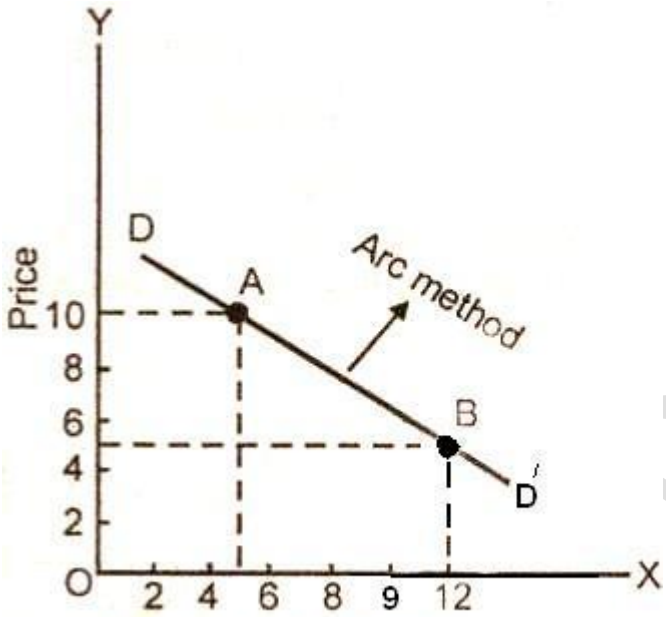


Fig. 6.11

The Total Outlay or revenue Method:

Marshall evolved the total outlay, or total revenue or total expenditure method as a measure of elasticity. By comparing the total expenditure of a purchaser both before and after the change in price, it can be known whether his demand for a good is elastic, unity or less elastic.

Total outlay is price multiplied by the quantity of a good purchased: Total Outlay = Price x Quantity Demanded.

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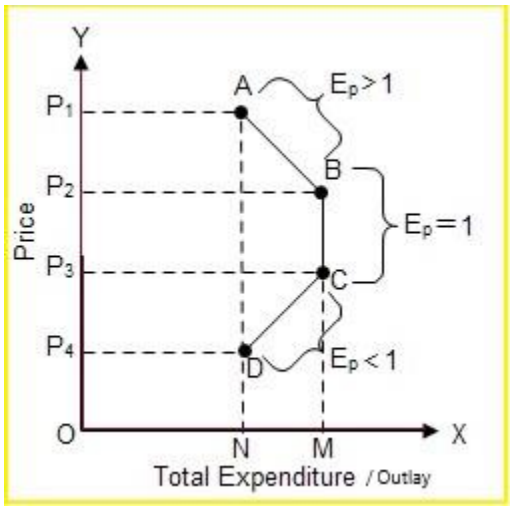

Elasticity and forecasting

The extent of responsiveness of demand with change in the price is not always the same. The demand for a product can be elastic or inelastic, depending on the rate of change in the demand with respect to change in price of a product.

- Elastic demand is the one when the response of demand is greater with a small proportionate change in the price. On the other hand,
- Inelastic demand is the one when there is relatively a less change in the demand with a greater change in the price.

Methods of Demand Forecasting

There is no easy or simple formula to forecast the demand. Proper judgment along with the scientific formula is needed to correctly predict the future demand for a product or service.

1] Survey of Buyer's Choice: When the demand needs to be forecasted in the short run, say a year, then the most feasible method is to ask the customers directly that what are they intending to buy in the forthcoming time period. Thus, under this method, the potential customers are directly interviewed**.**

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- **Complete Enumeration Method:** Under this method, nearly all the potential buyers are asked about their future purchase plans.
- **Sample Survey Method:** Under this method, a sample of potential buyers is chosen scientifically and only those chosen are interviewed
- **End-use Method:** It is especially used for forecasting the demand of the inputs. Under this method, the final users i.e. the consuming industries and other sectors are identified.

2] Collective Opinion Method: Under this method, the salesperson of a firm predicts the estimated future sales in their region. The individual estimates are aggregated to calculate the total estimated future sales.

3] Barometric Method: This method is based on the past demands of the product and tries to project the past into the future. The economic indicators are used to predict the future trends of the business. There are three types of economic indicators, viz. leading indicators, lagging indicators, and coincidental indicators.

4] Market Experiment Method; Another one of the methods of demand forecasting is the market experiment method. Under this method, the demand is forecast by conducting market studies and experiments on consumer behavior under actual but controlled, market conditions.

5] Expert Opinion Method: Usually, the market experts have explicit knowledge about the factors affecting the demand. Their opinion can help in demand forecasting. The Delphi technique, developed by Olaf Helmer is one such method. Under this method, experts are given a series of carefully designed questionnaires and are asked to forecast the demand.

6] Statistical Methods: The statistical method is one of the important methods of demand forecasting. Statistical methods are scientific, reliable and free from biases. The major statistical methods used for demand forecasting are:

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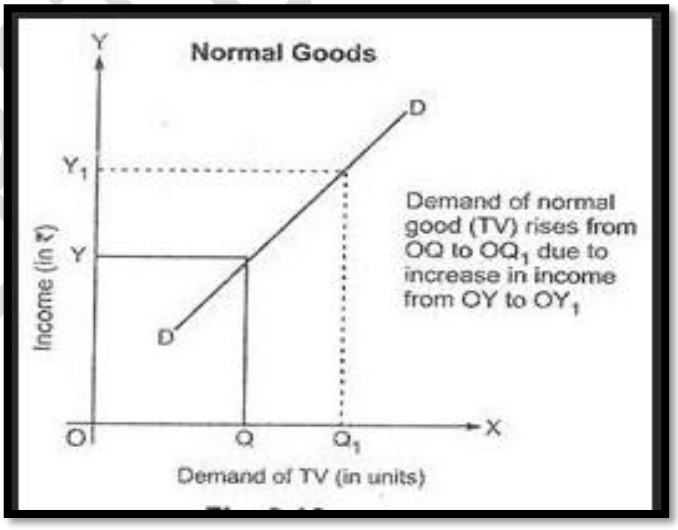
- **Trend Projection Method:** This method is useful where the organization has sufficient amount of accumulated past data of the sales. This date is arranged chronologically to obtain a time series. Thus, the time series depicts the past trend and on the basis of it, the future market trend can be predicted.
- **Regression Analysis:** This method establishes a relationship between the dependent variable and the independent variables. The regression equation is derived assuming the relationship to be linear. Regression Equation: Y = a + bX. Where Y is the forecasted demand for a product or service.

Miscellaneous terms:

❖ **Normal goods:**

Normal goods are any goods for which demand increases when income increases, and falls when income decreases but price remains constant, i.e. with a positive income elasticity of demand.

In other words, other things equal, an increase in income leads to an increase in demand

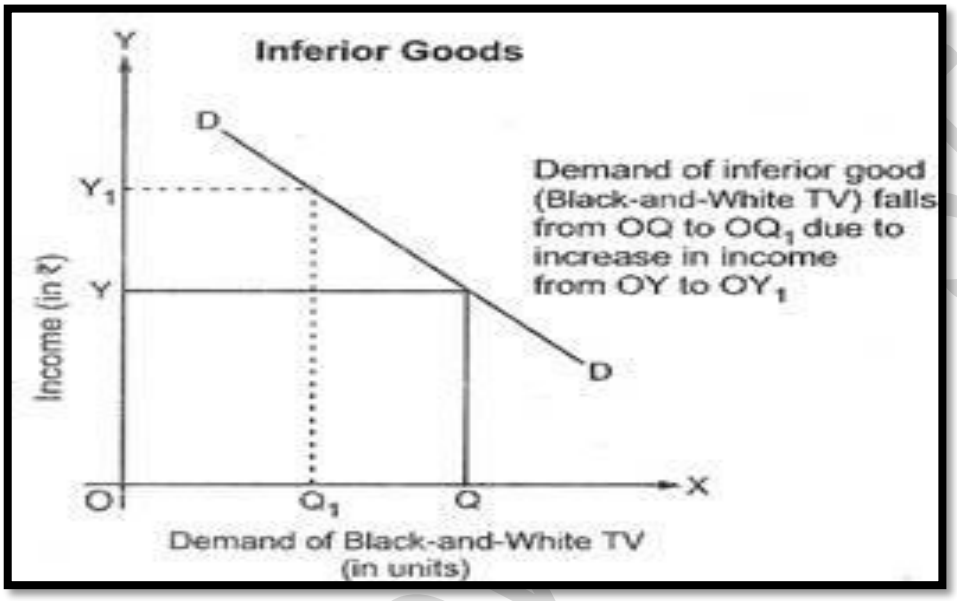


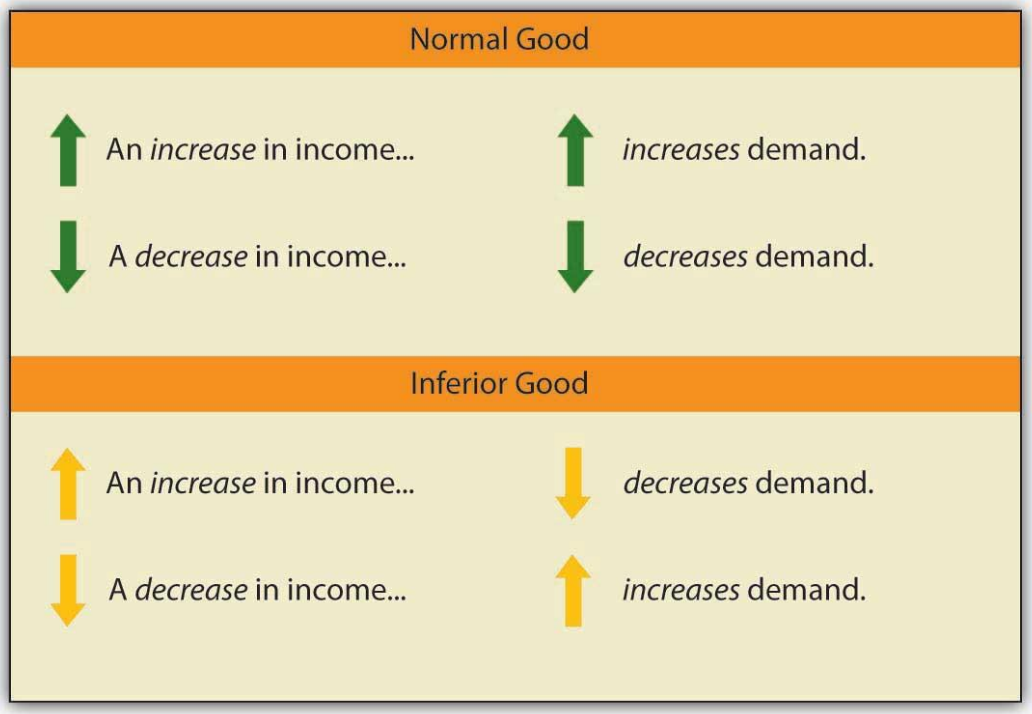
❖ **Inferior goods:**

An inferior good is a good whose quantity demanded decreases when consumer income rises

(or quantity demanded rises when consumer income decreases)

In other words, other things equal, an increase in income leads to a decrease in demand.

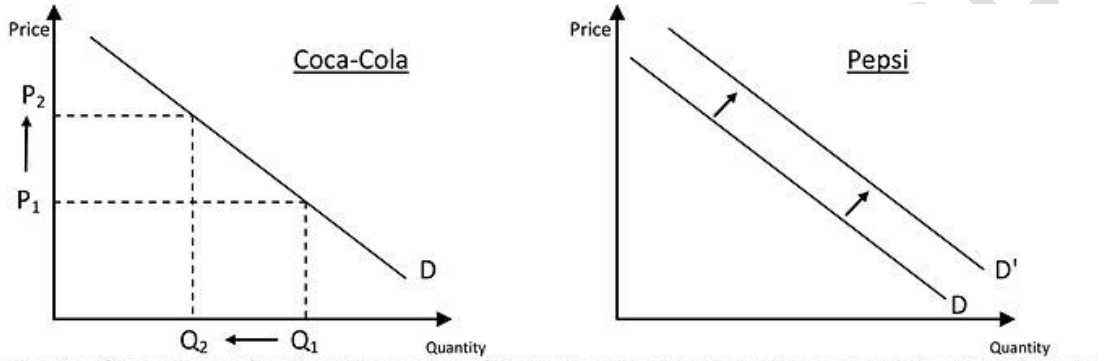




❖ **Substitute good:**

Two goods for which an increase in the price of one good leads to an increase in the demand for the other good

E.g. X and Y are substitutes if the demand for X increases when the price of Y increases, or if there is a positive cross elasticity of demand.



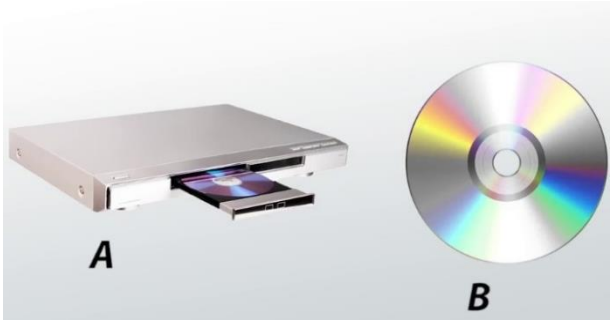
Suppose the price of Coca-Cola rises from P_1 to P_2 because one of the inputs rises in price. This would cause people to consume less coke, quantity decreases from Q_1 to Q_2. For the substitute good Pepsi the demand curve shifts out for all price levels, from D to D', leading to more of the substitute good consumed.

❖ **Complementary good:**

Two goods for which an increase in the price of one good leads to a decrease in the demand for the other good. Complementary goods are products which are used together. If the price of one good increases, demand for both complementary goods will fall. The more closely linked the goods are, the higher will be the cross elasticity of demand

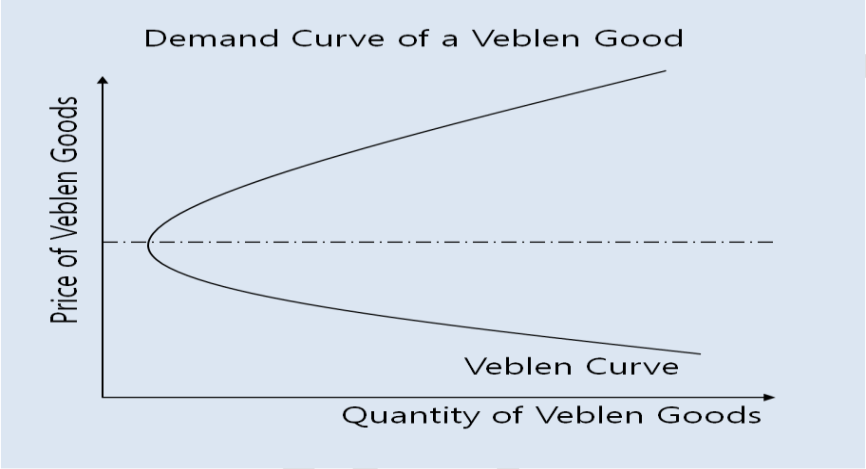
Example:

- DVD player and DVD disks to play in it.
- Tennis balls and tennis rackets.
- Petrol and car



❖ **Veblen good:**

Ostentatious goods for which the quantity demanded increases as the price rises. Individuals who consume these goods do so only because they are very expensive and therefore a sign of their status and wealth.



The utility

- Want satisfying power of a commodity or service
- Psychological feeling
- Subjective concept
- Utility of a good/service varies from person to person

Total utility: Total utility is the sum of the utilities which consumer obtains from consuming certain number of units of commodity per period

Marginal utility: It is the additional utility obtained from the consumption of an additional unit of the commodity. It is the utility from the last unit.

MU = Change in total utility / Change in quantity consumed

Utility analysis is a quantitative method that estimates the dollar value of benefits generated by an intervention based on the improvement it produces in worker productivity. Utility analysis provides managers information they can use to evaluate the financial impact of an intervention, including computing a return on their investment in implementing it.

The concept of utility was originally introduced by **Brogden (1949) and Taylor** (1950) and further developed by **Cronbach & Gleser (1965).** The concept has been researched and extended by **Cascio (1982); Schmidt, Hunter, and Pearlman (1982); and Reilly and Smither (1983)** It was introduced as a method for evaluating the organizational benefits of using systematic procedures (e.g., proficiency tests) to improve the selection of personnel but extends naturally to evaluating any intervention that attempts to improve human performance.

Cardinal and ordinal utility

Cardinal utility is the utility wherein the satisfaction derived by the consumers from the consumption of good or service can be measured numerically.

Two main cardinal laws

1. Law of diminishing marginal utility

The Law of Diminishing Marginal Utility states that all else equal as consumption increases the marginal utility derived from each additional unit declines. Marginal utility is derived as the change in utility as an additional unit is consumed. Utility is an economic term used to

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represent satisfaction or happiness. Marginal utility is the incremental increase in utility that results from consumption of one additional unit.

2. Law of equi-marginal utility

The **law of equi marginal utility** was presented in 19th century by an Australian economists H. H. Gossen. It is also known as law of maximum satisfaction or law of substitution or Gossen's second law. A consumer has number of wants. He tries to spend limited income on different things in such a way that marginal utility of all things is equal. When he buys several things with given money income he equalizes marginal utilities of all such things. The law of equi marginal utility is an extension of the law of diminishing marginal utility.

Assumptions of the Law of Equi-Marginal Utility:

1. There is no change in the prices of the goods.
2. The income of consumer is fixed.
3. The marginal utility of money is constant.
4. Consumer has perfect knowledge of utility obtained from goods.
5. Consumer is normal person so he tries to seek maximum satisfaction.
6. The utility is measurable in cardinal terms.
7. Consumer has many wants.
8. The goods have substitutes.

Ordinal utility states that the satisfaction which a consumer derives from the consumption of product or service cannot be measured numerically.

Two main ordinal theories

1. Indifference curve

- An indifference curve is a graph showing combination of two goods that give the consumer equal satisfaction and utility.

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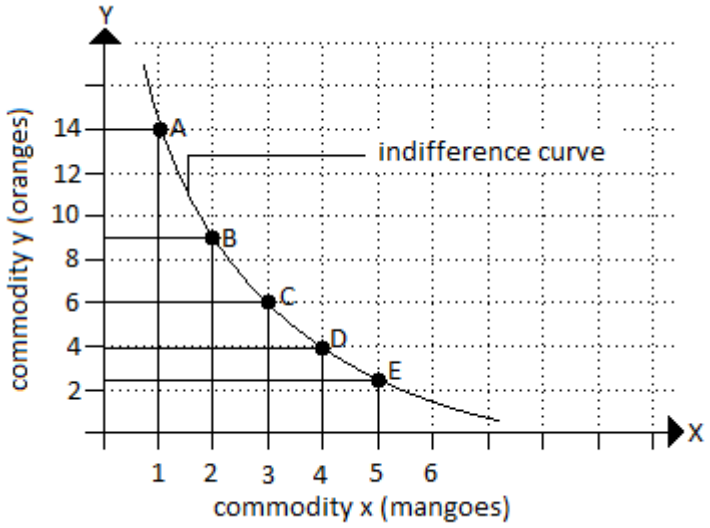
- Each point on an indifference curve indicates that a consumer is indifferent between the two and all points give him the same utility.

Properties of indifference curve

1. Downward sloping
2. Convex to the origin
3. Higher indifference curve represents higher satisfaction
4. Indifference curve never intersects each other



2. Revealed preference hypothesis

- P A Samuelson
- Behaviouralist ordinal utility analysis
- Analyses consumer preference for the combination of commodities on the basis of observed consumer behaviour in the market
- Choice reveals preference

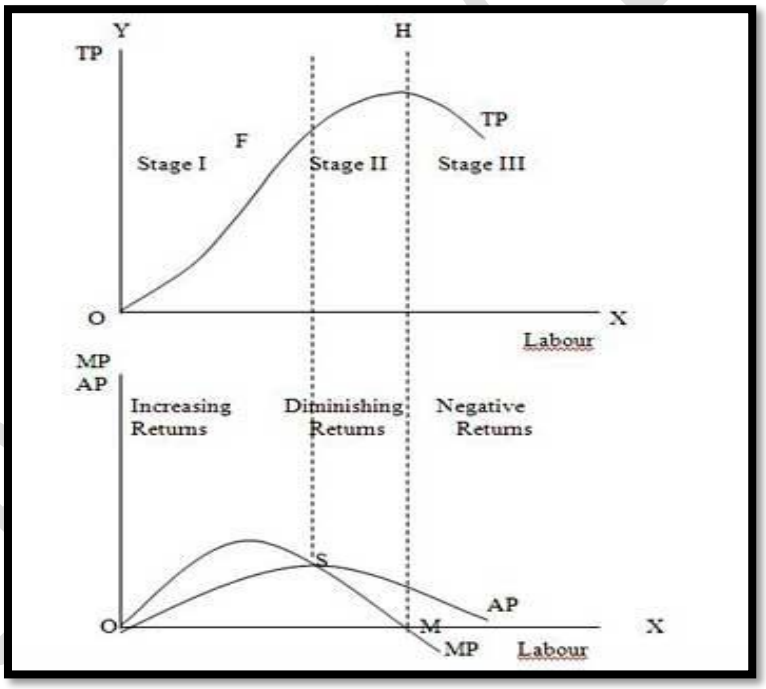
Law of diminishing returns (Law of variable proportions)

- The law of variable proportion shows the production function in the short run

- The law of variable proportions states that as the quantity of one factor is increased, keeping the other factors fixed, the marginal product of that factor will eventually decline.
- Upto the use of a certain amount of variable factor, marginal product of the factor may increase and after a certain stage it starts diminishing.
- When the variable factor becomes relatively abundant, the marginal product may become negative.

Assumptions: The law of variable proportions holds good under the following conditions:

- Constant State of Technology:
- Fixed Amount of Other Factors:
- Possibility of Varying the Factor proportions:



Stages of law of variable proportion

1. Increasing returns

- TP increases at an increasing rate
- MP also rises and then falls

- AP rises
- Stage ends when AP reaches highest point

2. Diminishing returns

- TP increases at diminishing rate
- Both AP and MP diminishes but remains constant
- Stage ends when TP reaches maximum and at the same time MP=0
- It represents the range of rational production decisions

3. Negative returns

- TP declines and TP slopes downwards
- AP also declines
- MP becomes negative

Return to Scale

It is important to realize that the study of production completely differs according to the time frame. Recollect that we take the help of the law of diminishing returns to study production in the short run, whereas in the long run, the returns to scale are at the helm.

Again, the long run is a long enough period in which we can alter both fixed and variable factors. Thus, in the long run, we aim to study the effect of the changes in all the inputs on the production output.

However, these changes are not random. All the factors are increased or decreased together. This is also known as changes in scale, hence the name return to scale.

Thus, in the long run, we proportionately vary the inputs and observe the relative change in production. Of course, the return to scale can be of three types- increasing, decreasing and constant.

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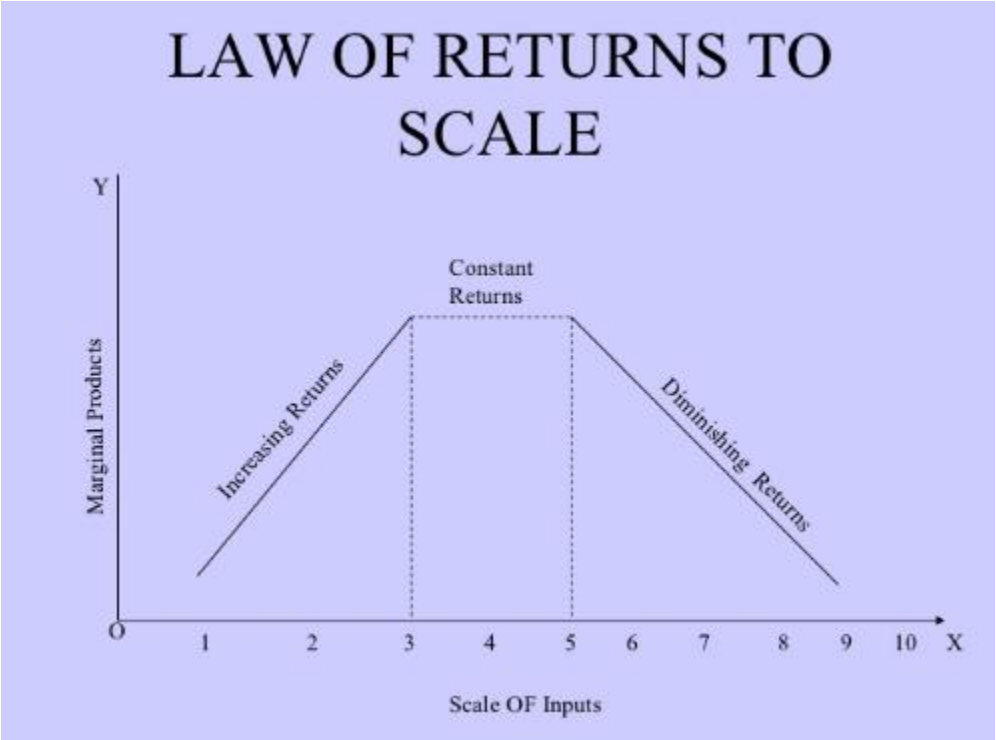
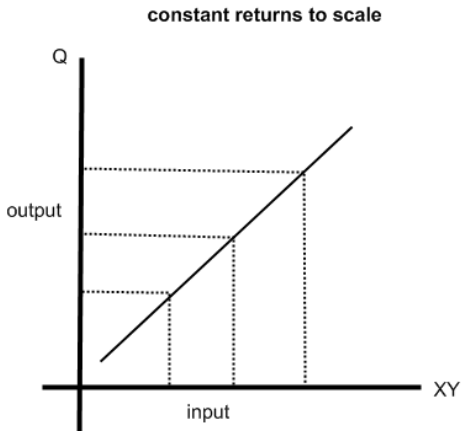


Constant Returns to Scale



For constant returns to scale to occur, the relative change in production should be equal to the proportionate change in the factors. It is also known as the linear homogeneous production function.

Increasing Returns to Scale

Here, the proportionate increase in production is greater than the increase in inputs. Note that upon expansion, a firm experiences increasing returns to scale. The indivisibility of factors is another reason for this.

Decreasing Returns to Scale

An incidence of decreasing returns to scale would mean that the increase in output is less than the proportionate increase in the input. Generally, this happens when a firm expands all its inputs, especially a large firm.

Cobb Douglas Production Function

The Cobb Douglas production function {Q(L, K)=A(L^b)K^a}**,** exhibits the three types of returns:

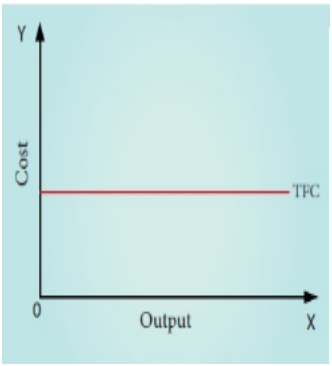
- If a+b>1, there are increasing returns to scale.
- For a+b=1, we get constant returns to scale.
- If a+b<1, we get decreasing returns to scale.

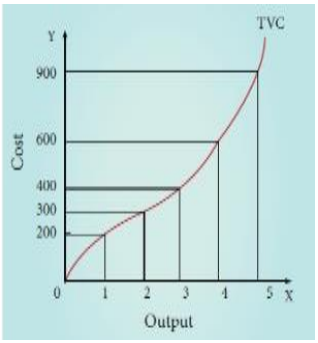
Short Run Cost

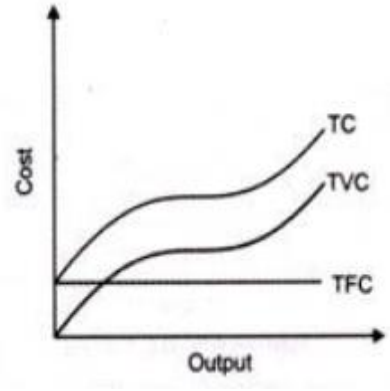
Short run cost is an analysis in which few factors are constant which won't change during the period of analysis. The output can be changed ie., increased or decreased in the short run by changing the variable factors.

Following are the basic three types of short run cost −

Short run fixed cost	Variable cost	Short run total cost
•Fixed cost is a cost which won't change with the changes in the output. •For example, Building rent, Insurance charges, etc	•Variable cost is the cost which changes with the change in the output. •For example, Cost of raw material, Wages, Electricity, Telephone charges, etc.	•The total actual cost that is supposed to be incurred to produce a given output is short run total cost •Total cost = Total Fixed Cost +| Total Variable Cost



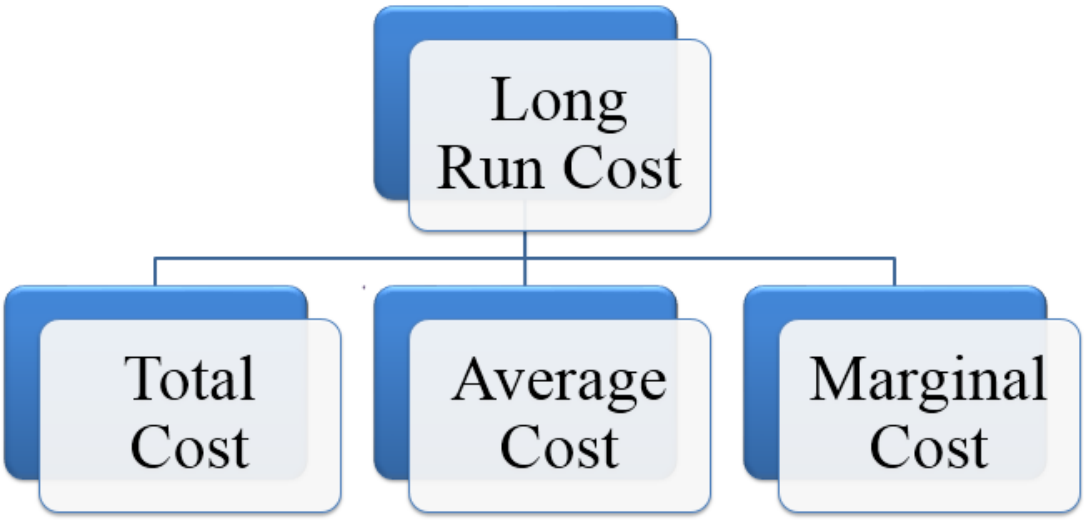




Long run cost

- In the long run, all the factors of production used by an organization vary. The existing size of the plant or building can be increased in case of long run.
- There are no fixed inputs or costs in the long run.
- Long run is a period in which all the costs change as all the factors of production are variable.
- There is no distinction between the Long run Total Costs (LTC) and long run variable cost as there are no fixed costs.

The ability of an organization of changing inputs enables it to produce at lower cost in the long run.



- According to Leibhafasky, "the long run total cost of production is the least possible cost of producing any given level of output when all inputs are variable."

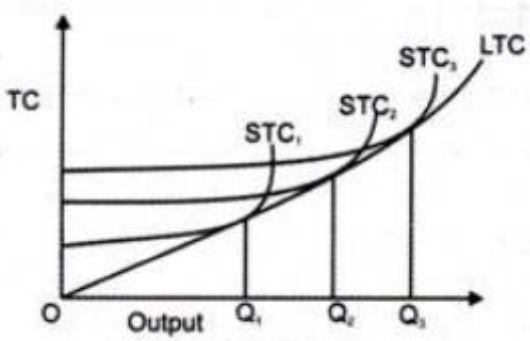
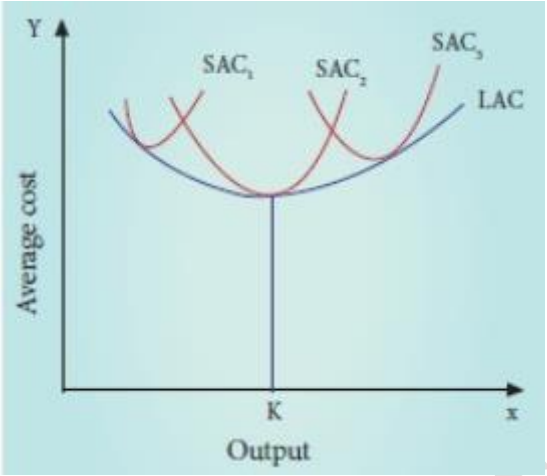
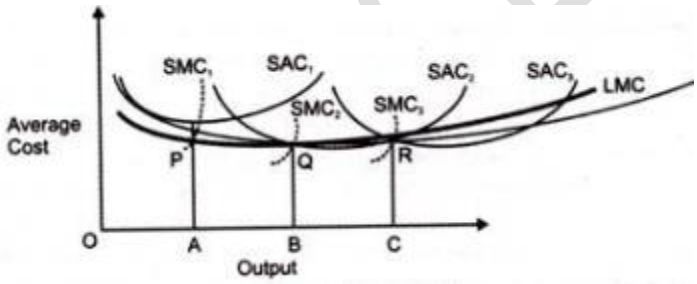


Figure-10: LTC Curve

- Long run average cost (LAC) can be defined as **the average of the LTC curve or the cost per unit of output in the long run.** Graphically, LAC can be derived from the **Short run Average Cost (SAC) curves.**



- Long run marginal cost is defined at the **additional cost of producing an extra unit of the output in the long-run** i.e. when all inputs are variable. The LMC curve is derived by the points of **tangency between LAC and SAC**.



Market Structure

- A market is the area where buyers and sellers contact each other and exchange goods and services.
- When the c
- ompetition is high there is a high supply of commodity as different companies try to dominate the markets and it also creates barriers to entry for the companies that intend to join that market.
- A monopoly market has the biggest level of barriers to entry while the perfectly competitive market has zero percent level of barriers to entry.
- Firms are more efficient in a competitive market than in a monopoly structure.

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Perfect Competition

- Large number of buyers and sellers
- Homogeneous product
- Free entry and exit
- Profit maximisation
- No government regulation
- Perfect mobility of factors of production
- Perfect knowledge

Pricing Decisions

Determinants of Price under Perfect Competition,

- **TR and TC approach**

Seller aims to maximise profit (profit = TR-TC), reaches equilibrium when difference between TR and TC is maximised

- **MR and MC approach**

Profit is maximised when MR=MC. Since only one price in the market P=AR

In the long run, with the entry of new firms in the industry, the price of the product will go down as a result of the increase in supply of output and also the cost will go up as a result of more intensive competition for factors of production. The firms will continue entering the industry until the price is equal to average cost so that all firms are earning only normal profits.

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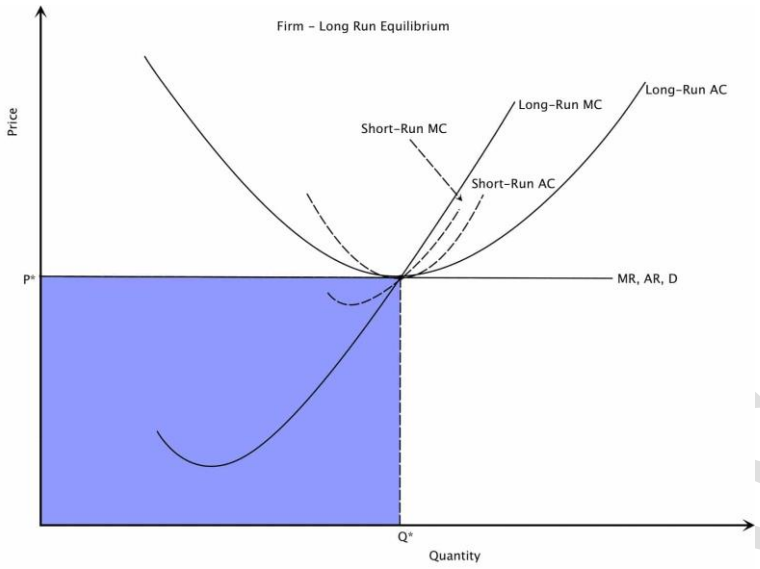

Short-Run Equilibrium of the Firm:

A firm is in equilibrium in the short-run when it has no tendency to expand or contract its output and wants to earn maximum profit or to incur minimum losses. The short-run is a period of time in which the firm can vary its output by changing the variable factors of production.

Monopolistic Competition

Monopolistic competition is a form of market structure in which a large number of independent firms are supplying products that are slightly differentiated from the point of view of buyers.

- Product differentiation
- There are large number of independent sellers and buyers in the market.
- The relative market shares of all sellers are insignificant and more or less equal. That is, seller-concentration in the market is almost non-existent.
- There are neither any legal nor any economic barriers against the entry of new firms into the market. New firms are free to enter the market and existing firms are free to leave the market.

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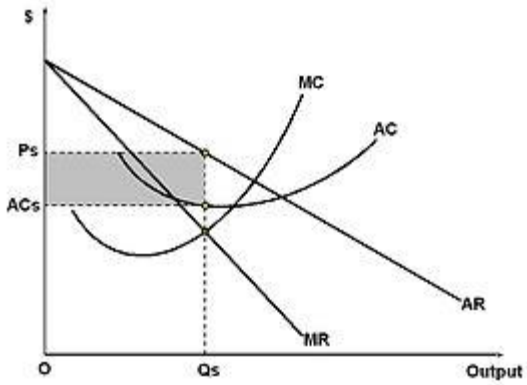
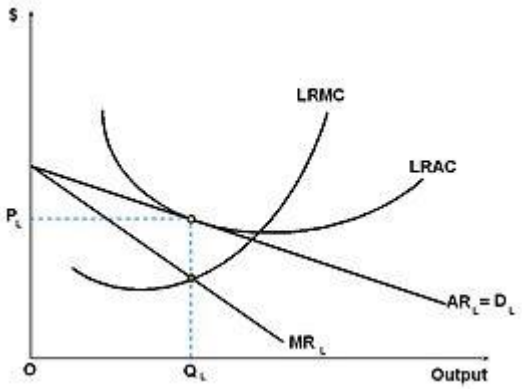
In other words, **product differentiation** is the only characteristic that distinguishes monopolistic competition from perfect competition.

Over the short-run, firms can usually gain some abnormal profit, but over the long run, other firms entering the market due to the low entry barriers will compete and make the price lower.



In the long run, there are no abnormal profits because of the features of Monopolistic competition. There are a few large firms, but many small firms that will compete for profit and thus drive the price down. Also, low entry barriers mean new firms will enter the market and further add competition.



Monopoly

Monopoly is said to exist when one firm is the sole producer or seller of a product which has no close substitutes. According to this definition, there must be a single producer or seller of a product.

- Extreme form of imperfect competition
- One and only one firm produces and sells a particular commodity or a service.
- There are no rivals or direct competitors of the firm.
- No other seller can enter the market for whatever reasons legal, technical, or economic.
- Monopolist is a price maker. He tries to take the best of whatever demand and cost conditions exist without the fear of new firms entering to compete away his profits.

Since all of the firms sell the identical product, the individual sellers are not distinctive. Buyers care solely about finding the seller with the lowest price.

- Monopolist will go on producing as long as MR>MC

Accordingly, the standard definition for market power is to define it as the divergence between price and marginal cost, expressed relative to price. In Mathematical terms we may define it as − **L = (P – MC)**

Concept of Revenue

The revenue of a film together with its cost determines the profits. We therefore, turn to the study of the concept of revenue. Revenue means sales receipts. It is the receipts obtained by action from selling various quantities of its products Revenue depends on the price at which the quantities of output are sold by firm. A firm's revenue may be classified as:

(i) Total Revenue

(ii) Average Revenue

(iii) Marginal revenue.

Total Revenue (TR) :

Total revenue is the total sales receipt of the output sold over a given period of time. Total revenue depends on two- factor (i) Price of the product and (ii) the quantity of the product. It

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is obtained by multiplying the quantity sold (Q) by its selling price (P) per unit. In symbolic terms TR = P × Q.

Average Revenue (AR) :

Revenue obtained per unit of output sold is termed 'average revenue'. It is simply the total revenue divided by the number of units of output sold. Thus AR = TR/Q

Marginal Revenue :

Marginal revenue is the addition made to the total revenue by selling one more unit of the item, or simply, it is the revenue or sales receipt of the marginal (latest addition) unit of the firm's sale. MRn = TRn – TRn

The relationship between AR and MR:

- Depends on the market form, within which the firm under consideration is operating.
- For the purpose of revenue analysis market form can be classified in to perfect competition and imperfect competition.
- The reason behind this classification is that in perfect competition the firm is a price taker hence AR = MR at all levels of sale.
- While in imperfect competition AR and MR are different to the firm under study.

Under Perfect Competition: Under perfect competition a very large number of firms are producing identical product. Hence the market forces of supply and demand determine the price and that price prevails for all the firms in the industry. It is as shown in fig. 1 (A). Each firm can sell as much as it wishes at the ruling market price OP. Thus the demand for the product is infinitely elastic, (Fig .IB). Since the demand curve is the average revenue curve for the firms and AR is unchanged at all levels hence MR is equal to AR at all levels of demand

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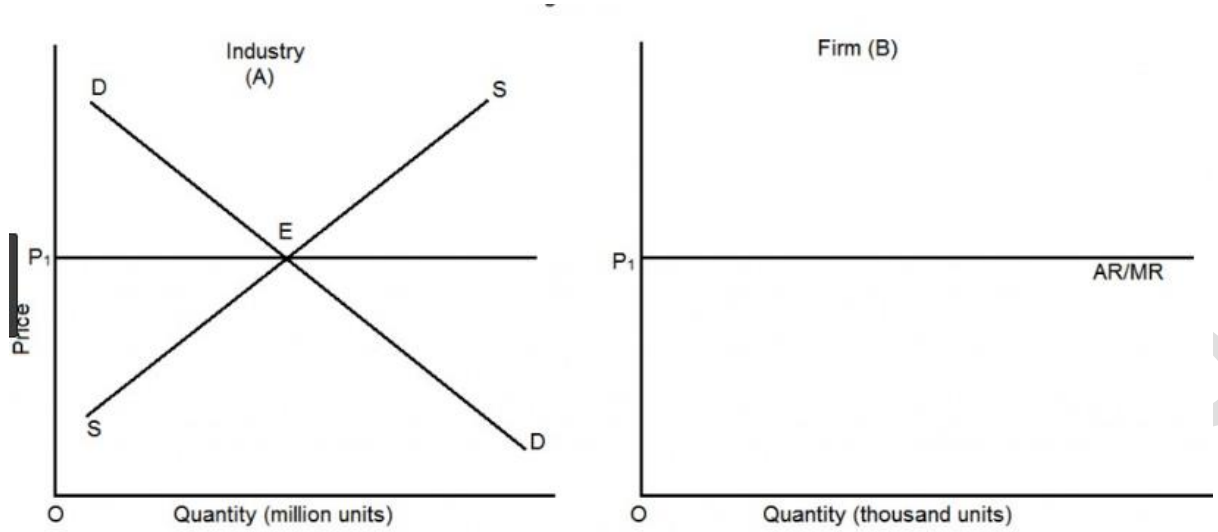
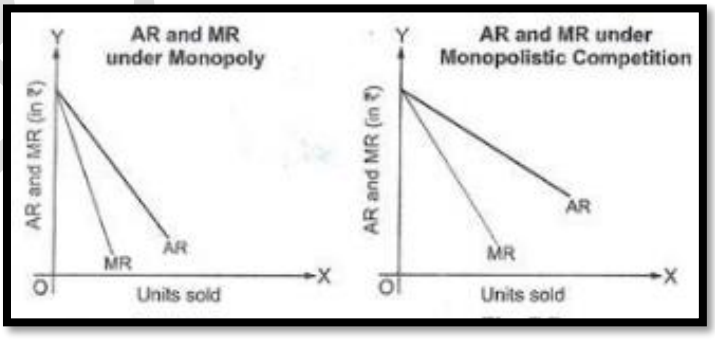


Under Imperfect Competition :

- When competition is not perfect, the firm will face downward sloping demand curve, whether market, form is monopolistic competition, oligopoly or monopoly.
- Downward sloping demand curve means firms' can sell larger quantity of output only lowering the price of the product.
- In other words in imperfect competition AR curve would be downward sloping for the firm. And when average revenue curve is downward sloping marginal revenue curve would be below AR



Oligopoly

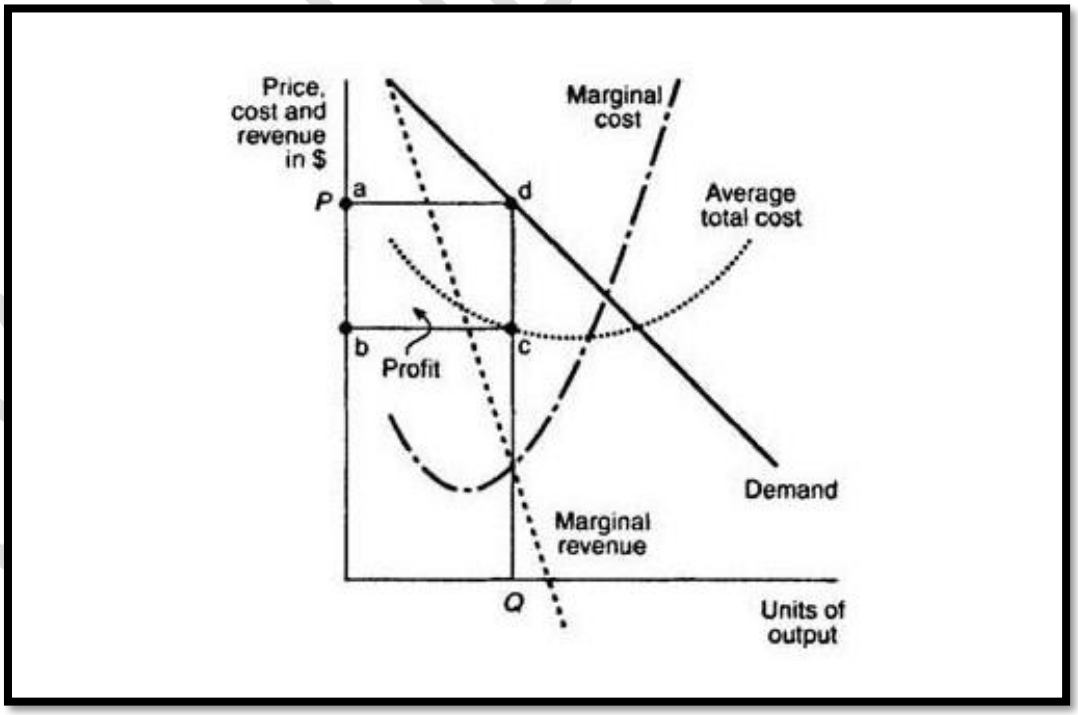
In an oligopolistic market there is small number of firms so that sellers are conscious of their interdependence. The competition is not perfect, yet the rivalry among firms is high.

Main characteristics of Oligopoly are,

- Few firms
- Group behaviour
- Interdependence
- Real world situation
- Advertising and selling cost
- Indeterminateness of demand curve

Kinked demand Curve for Oligopolist:

The oligopolist faces a kinked-demand curve because of competition from other oligopolists in the market. If the oligopolist increases its price above the equilibrium price P, it is assumed that the other oligopolists in the market will not follow with price increases of their own. If the oligopolist reduces its price below P, it is assumed that its competitors will follow suit and reduce their prices as well.



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4 types of Market Structures	*Perfect Competition*	*Monopolistic Competition*	*Oligopoly*	*Monopoly*
Number of firms	Many	Several	Few	One
Freedom of entry	Open Access	Open Acess	Controlled Access	Barriers of entry: Technical, legal & economic
Nature of Product	Uniform	Differentiated	Uniform or Differentiated	Specialized
Implications for demand curve	Horizontal line Perfect elastic	Downward sloping (elastic)	Downward sloping (inelastic) Game Theory	Downward sloping - Control over price and is more inelastic compared to Oligopoly - Straight line demand curve (MR 2x steep)
Average size of firms	Small Firms - Small enough that no firm affects the market price or quantities	Small Firms - Extremely competitive small degree of market control	Large in size - dominated	Large in size - provides all of the market's supply
Possible consumer demand	Price is unrelated to the quanity produced/ sold	Firms have the ability to control the price somewhat- Competitive goods are close substitutes	Non-price competition - consumers determine how much to buy = firm successful	Demand will not remain constant as the firms increase their output
Profit making possibility	MR=MC Marginal profit is zero TR - TC	MR=MC Makes no economic profit	MR=MC (Cartel & Collusion)	MR=MC Maximizes profits - the price the firm will charge a product at the maximum possible price
Government Intervention	Government Intervention	Government Intervention - Entry can be blocked by the government or regulation	Government Intervention - Collusions are illegal in most countries w/ penalties	Government Intervention - By taxation, price setting & nationalization
Criticism	Ideal - not seen in reality	Advertising	Agreements made between few firms that divide the market up. Agree on quota or a fixed price	Being able to make economic profits in short run and long run -using power to increase price -Inefficient in productivity & allocatively -Higher price for a product & producing a lower output

Miscellaneous terms:

Deadweight loss: Deadweight loss refers to the loss of economic efficiency when the equilibrium outcome is not achievable or not achieved. Deadweight loss is the fall in total surplus that results from a market distortion, such as a tax. A deadweight loss is a cost to society created by market inefficiency. Mainly used in economics, deadweight loss can be applied to any deficiency caused by an inefficient allocation of resources.

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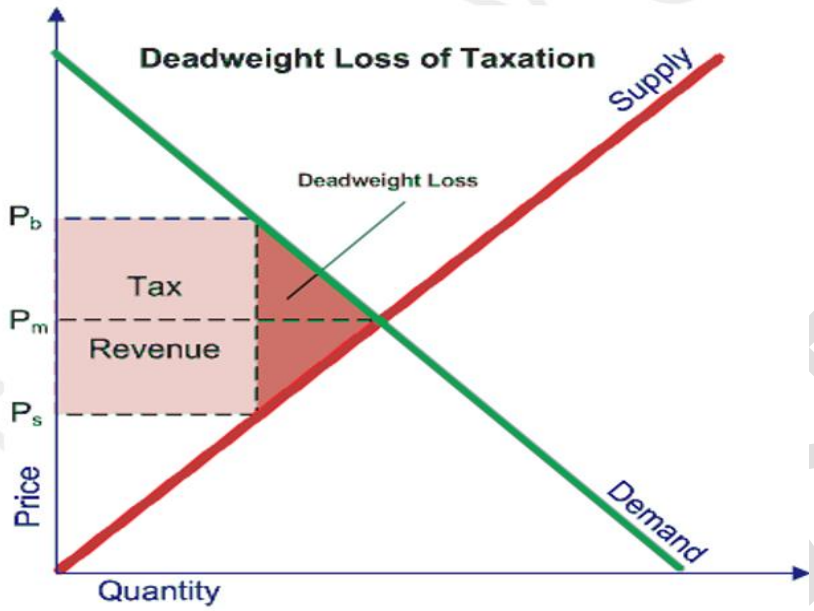
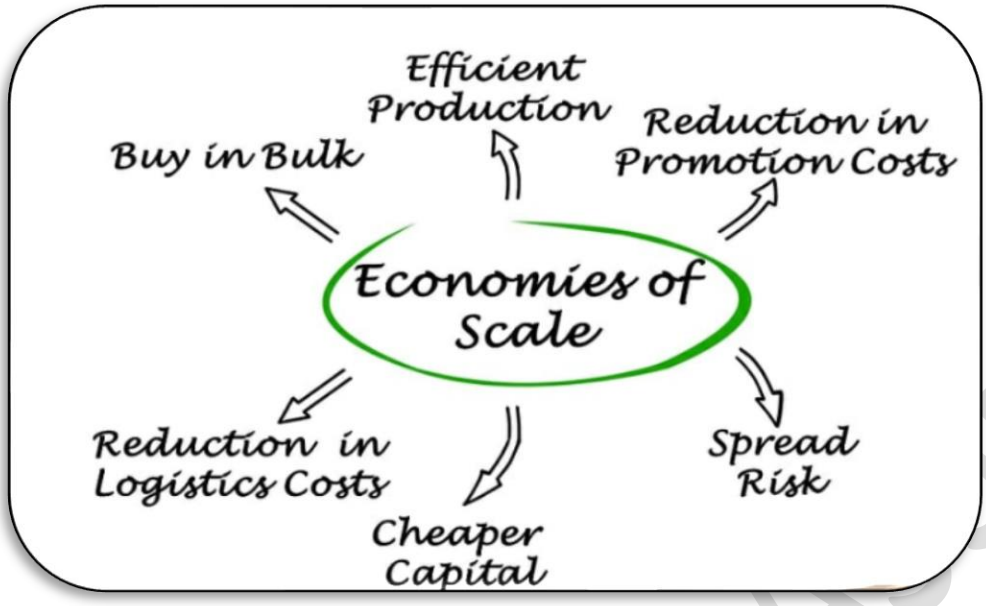


Opportunity cost: The opportunity cost, also known as alternative cost, is the value of the choice in terms of the best alternative while making a decision. Consider the owner of a building who decides that her vacant first-floor space will become a restaurant. The opportunity cost of making such a decision is that the space can no longer be used for a different purpose, such as a retail store or an office space that's rented to another party.

Economies of scale: Economies of Scale refer to the cost advantage experienced by a firm when it increases its level of output. The advantage arises due to the inverse relationship between per-unit fixed cost and the quantity produced. The greater the quantity of output produced, the lower the per-unit fixed cost. Economies of scale also result in a fall in average variable costs (average non-fixed costs) with an increase in output. This is brought about by operational efficiencies and synergies as a result of an increase in the scale of production.



❖ **Internal Economies of Scale:**

They refer to economies that are unique to a firm. For instance, a firm may hold a patent over a mass production machine, which allows it to lower its average cost of production more than other firms in the industry.

❖ **External Economies of Scale:**

They refer to economies of scale faced by an entire industry. For instance, suppose the government wants to increase steel production. In order to do so, the government announces that all steel producers who employ more than 10,000 workers will be given a 20% tax break. Thus, firms employing less than 10,000 workers can potentially lower their average cost of production by employing more workers. This is an example of an external economy of scale – one that affects an entire industry or sector of the economy.

Diseconomies of scale:

The property whereby long run average total cost rises as the quantity of output increases. This is shown as follows:

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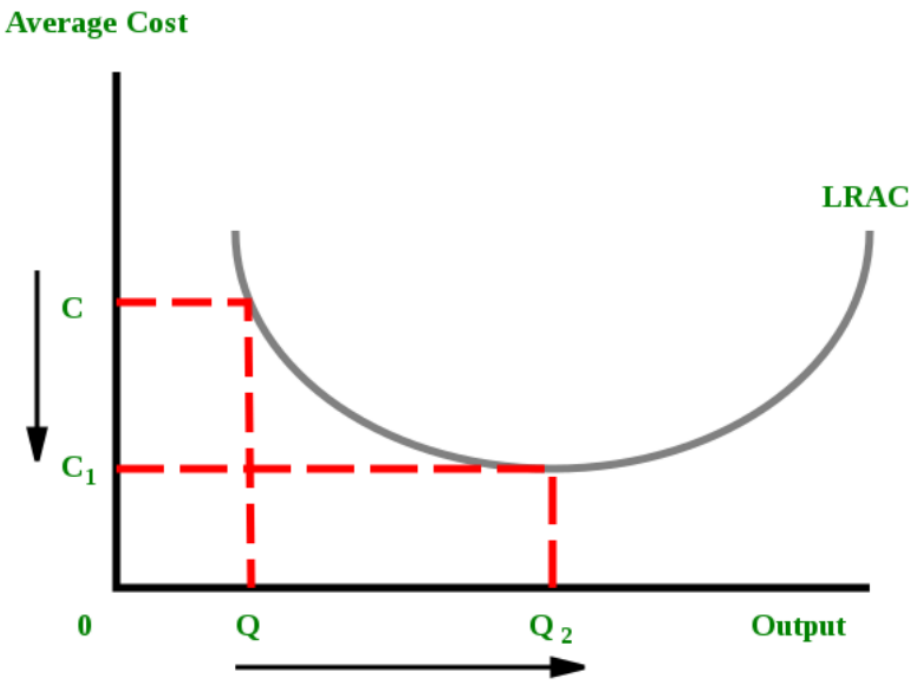
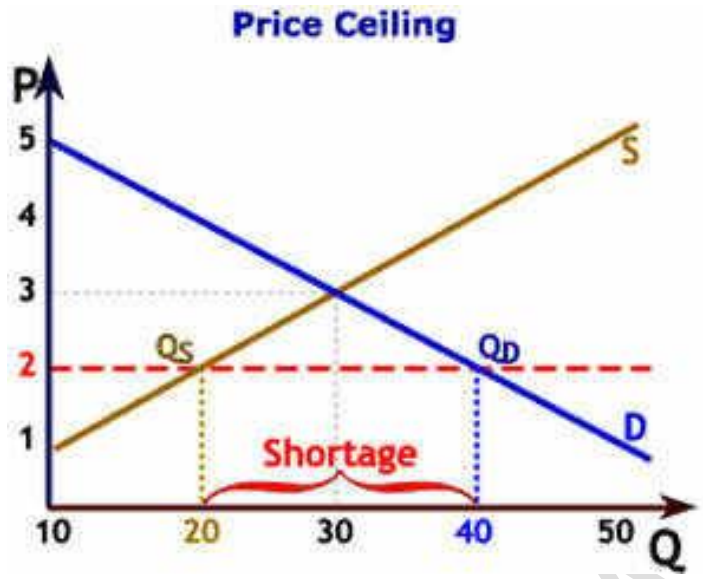
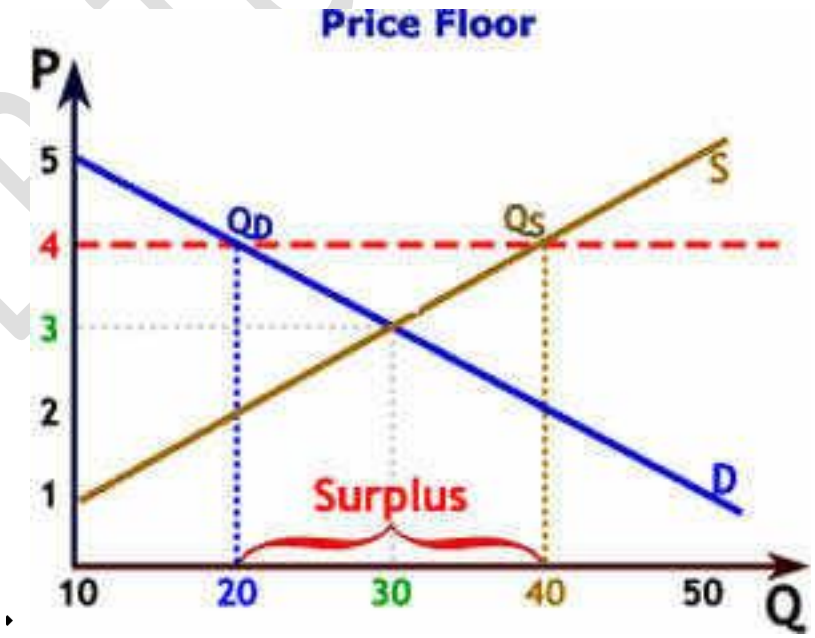


Any increase in output beyond Q2 leads to a rise in average costs. It is an example of diseconomies of scale – a rise in average costs due to an increase in the scale of production. As firms get larger, they grow in complexity. Such firms need to balance the economies of scale against the diseconomies of scale

- **Collusion:** An agreement among firms in a market about quantities to produce or prices to charge. When oligopolistic sellers cooperate on output and price, allowing for a more optimal payoff (profit) that would be achieved under competition.
- **Cartel:** A cartel is a grouping of producers that work together to protect their interests. Cartels are created when a few large producers decide to co-operate with respect to aspects of their market. Once formed, cartels can fix prices for members, so that competition on price is avoided.
- **Price ceiling:** It is a legal maximum on the price at which a good can be sold. Price ceiling is a situation when the price charged is more than or less than the equilibrium price determined by market forces of demand and supply.



- **Price floor:** Price floor is a legal minimum on the price at which a good can be sold. Price floor is a situation when the price charged is more than or less than the equilibrium price determined by market forces of demand and supply. By observation, it has been found that lower price floors are ineffective. Price floor has been found to be of great importance in the labour-wage market.



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Pricing Tactics

❖**Penetration Pricing**- Here the organisation sets a low price to increase sales and market share. Once market share has been captured the firm may well then increase their price.

Example: A television satellite company sets a low price to get subscribers then increases the price as their customer base increases.

❖**Skimming Pricing**- The organisation sets an initial high price and then slowly lowers the price to make the product available to a wider market. The objective is to skim profits of the market layer by layer.

Example: A games console company reduces the price of their console over 5 years, charging a premium at launch and lowest price near the end of its life cycle.

❖**Competition Pricing**- Setting a price in comparison with competitors. In reality a firm has three options and these are to price lower, price the same or price higher than competitors.

Example: Some firms offer a price matching service to match what their competitors are offering. Others will go further and refund back to the customer more money than the difference between their price and the competitor's price.

❖**Premium Pricing**- The price is set high to indicate that the product is "exclusive"
Examples of products and services using this strategy include Harrods, first class airline services, and Porsche.

❖**Psychological Pricing**- The seller here will consider the psychology of price and the positioning of price within the market place.

Example: The seller will charge 999 instead RS1000 or 199 instead of RS200. The reason why this methods work, is because buyers will still say they purchased their product under RS200, even thought it was a rupee away.

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❖**Complementary Pricing-** Complementary pricing is a collective term used to describe `captive-market' pricing tactics. It refers to a method in which one of two or more complementary products (a desk jet printer, for example) is priced to maximise sales volume, while the complementary product (printer ink cartridges) are priced at a much higher level in order to cover any shortfall sustained by the first product.

❖**Product Line Pricing**- Pricing different products within the same product range at different price points.

An example would be a DVD manufacturer offering different DVD recorders with different features at different prices e.g. A HD and non HD version.. The greater the features and the benefit obtained the greater the consumer will pay.

❖**Bundle Pricing**- The organisation bundles a group of products at a reduced price. Common methods are buy one and get one free promotions.

For example most of restaurant menus are in fact a **bundle of appetizer, main course and dessert**. The famous **MacDonald's "Best of" Menu** is the canonic example of bundle pricing.

The **Promotional Pricing** is a sales promotion technique, wherein the firm reduces the price of a product drastically, but for a short period.

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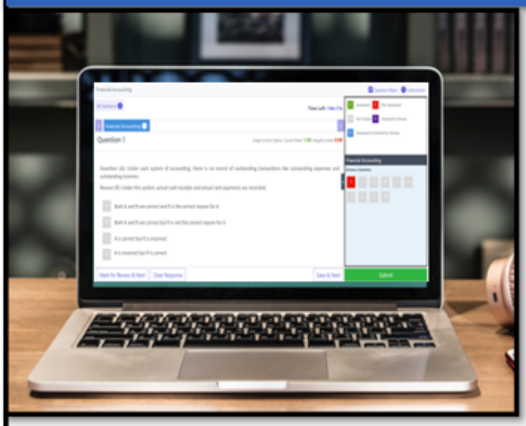

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