

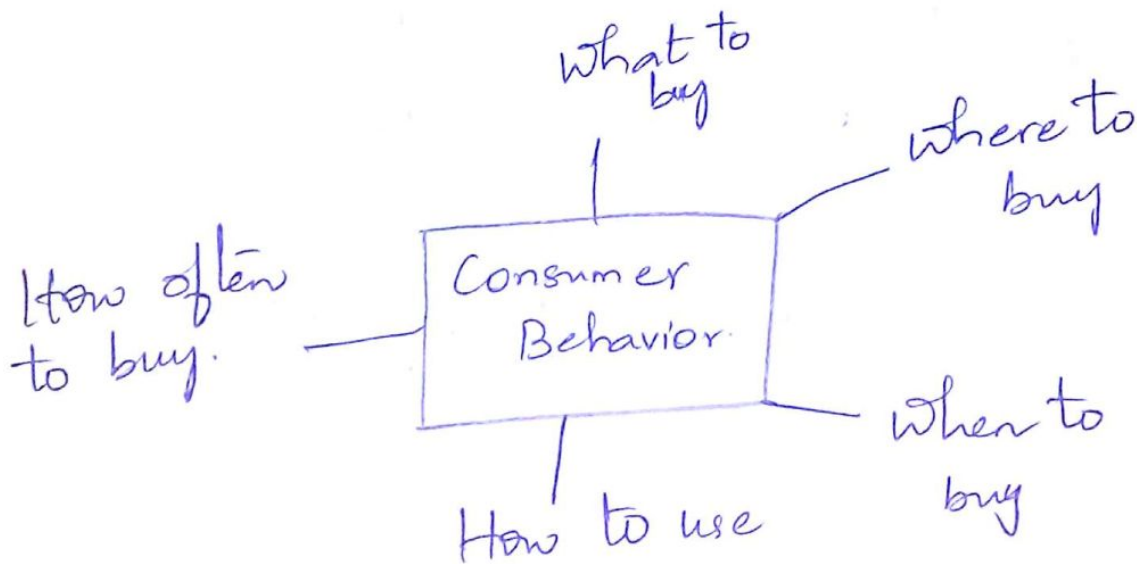
Tues day.

Unit-2

17-Jan-2017.

Consumer Behaviour

The study of consumer behaviour helps in understanding how individuals make decisions to spend their available resources like time, efforts and money while purchasing goods or services. It explains the basic questions that a normal consumer face.



Consumer Behaviour is a complex and multi dimensional process that reflects the consumer decisions wrt acquisition, consumption and disposal of goods and services.

Demand:

The quantity of a particular good or services that a consumer or group of consumers want to purchase at a given price is termed as demand.

• A product is said to be a demanded product when it satisfies the following three conditions

1. Desire to buy.
2. Ability to purchase / purchase power
3. Willingness to pay at given price

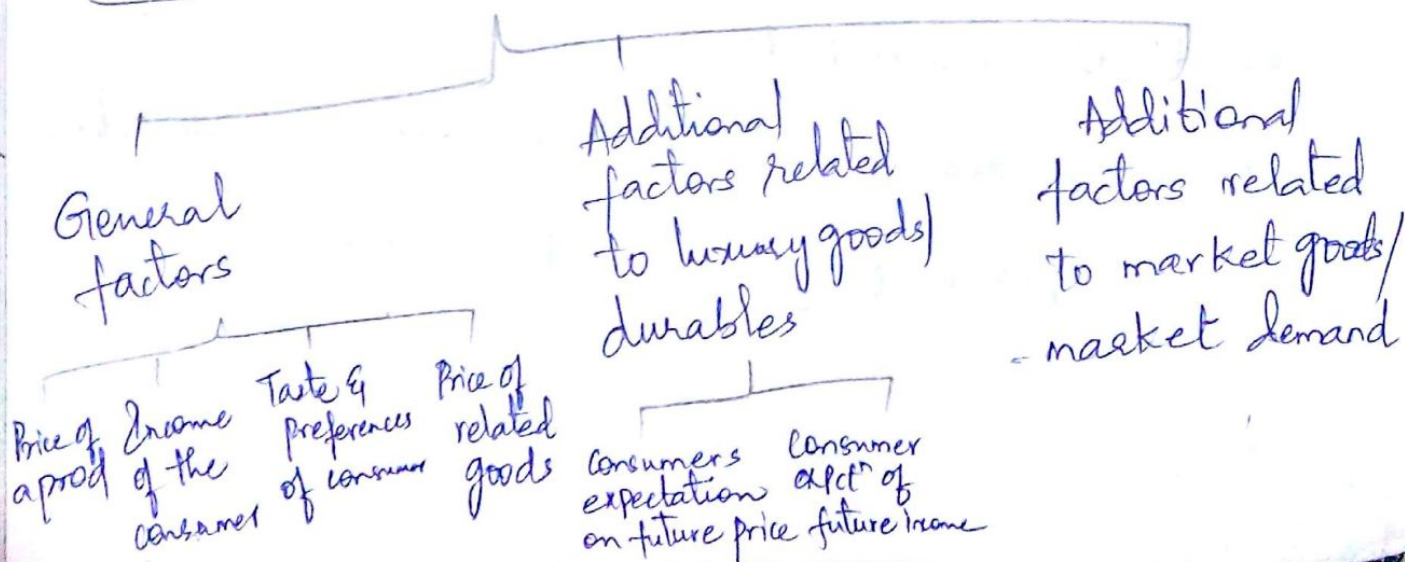
Price $\uparrow$ Demand $\uparrow$

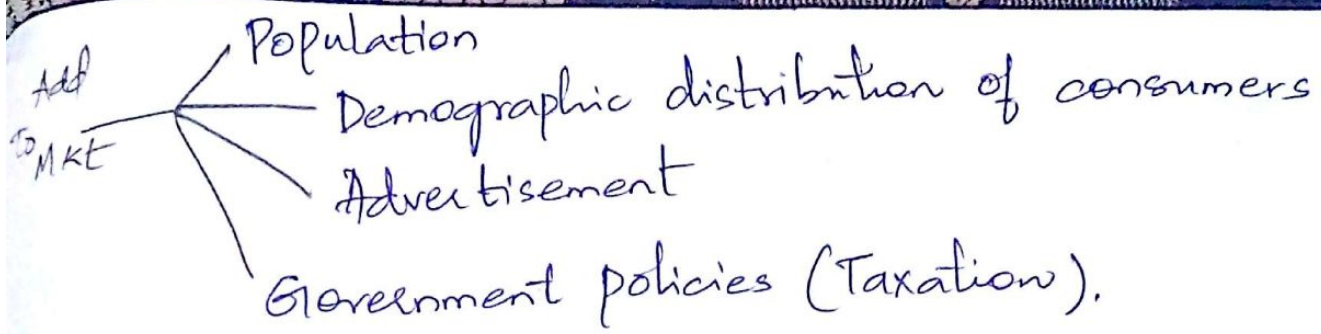
Price $\downarrow$ Demand $\downarrow$

Therefore,

$$\text{Demand} = \text{Desire} + \text{Ability to pay} + \text{Will to spend}$$

Determinants of demand:

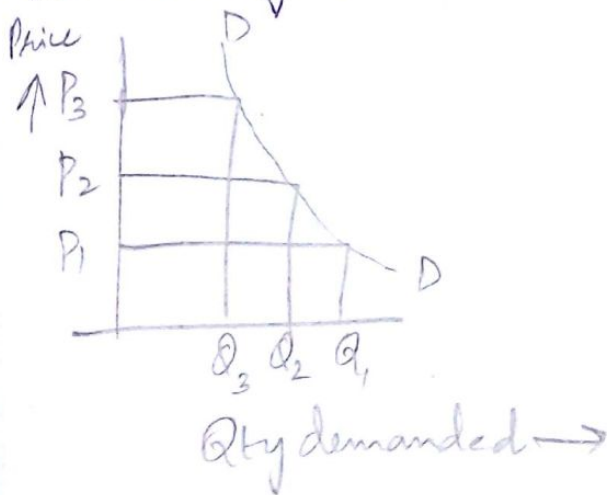




General factors:

1. Price of the commodity:

A consumer buys more of a commodity when its price declines and less of a commodity when its price is more. Therefore, for a normal good the price of a commodity and its demand are inversely proportional, determinants other than the price of the commodity remains the same.

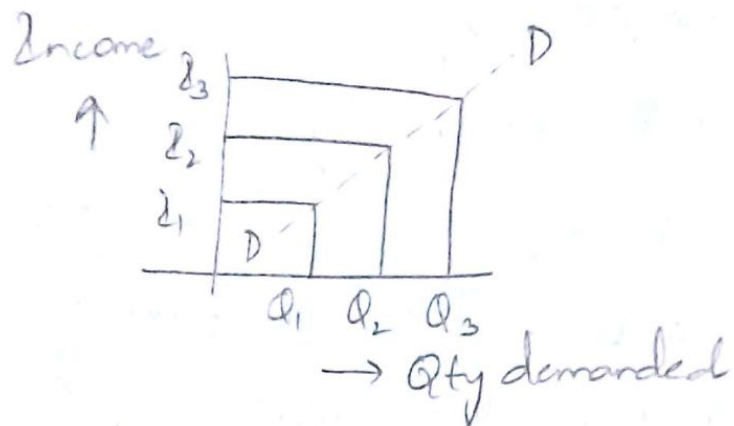


2. Income of the consumer:

Income of the consumer determines the purchasing ability. An increase in the income makes an individual to buy more of a commodity.

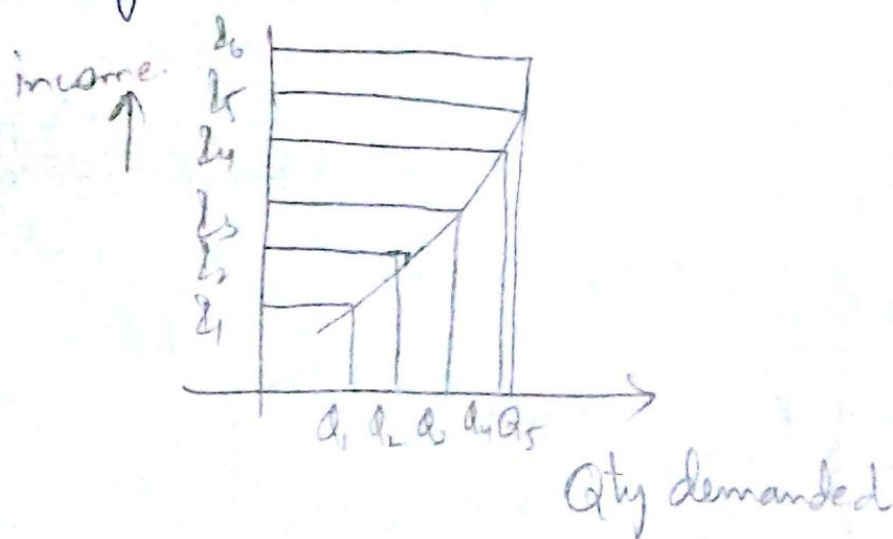
The effect of income on demand can be studied through the following.

1. Normal goods: The demand for normal goods goes in the same direction with the consumers income.



2. Perishable goods:

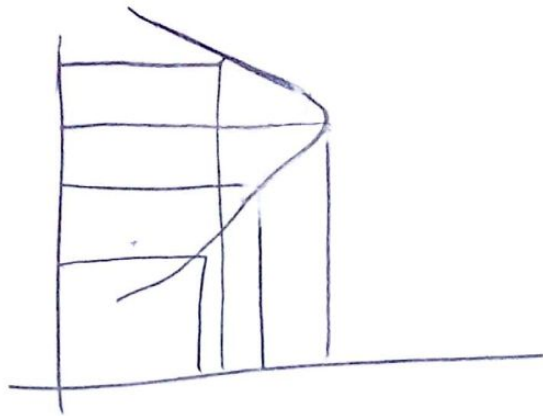
Perishable goods like fruits, vegetables etc. the quantity demanded rises with an increase in the income but after a certain level it remains constant even though income increases.



3. Inferior goods:

The goods for which the demand decreases even

though income level increases are known as inferior goods.



3. Taste and Preferences of consumers: The change in T & P of consumer in favor of a commodity results in greater demand for the commodity while if the change is against the commodity it results in smaller demand in the commodity.

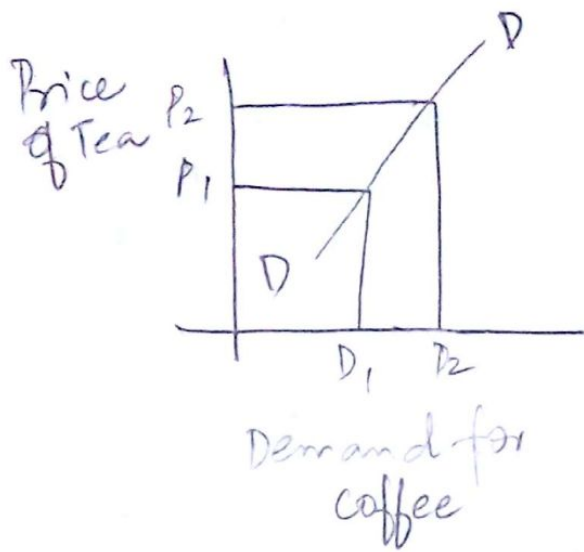
4. Price of related goods:

When a change in the price of one commodity influence the demand of the other commodity then the two commodities are said to be related. These related commodities are of two types.

a. Substitute goods:

When the price of one commodity and the quantity demanded of the other commodity move in the same direction (i.e., both increase or decrease)

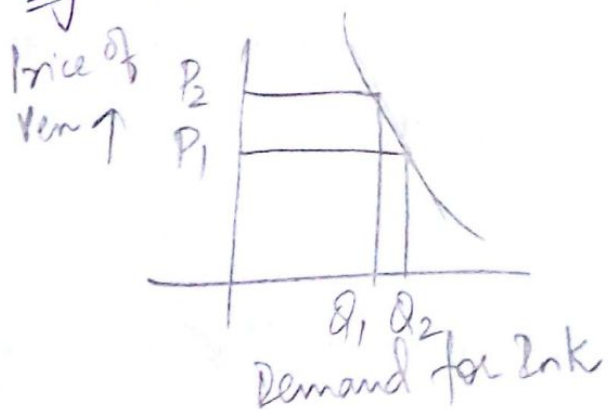
Then the two goods are said to be substitute.
 Eg:- Tea & coffee, Roadways & Railways.



b. Complementary goods:-

When the price of one commodity and quantity demanded of the other commodity move in opp. direction. Then the two commodities are said to be complementary to each other.

Eg:- Pen and Ink, Sugar and Tea.



Additional factors related to luxury goods & durables:

1. Consumers expectation of future price :-

If the consumer expects future price of a commodity to increase, he would rather like to buy the commodity now than later.

This will increase the demand of the commodity. Opposite is the situation when it is expected that price in future will come down.

Eg: Gold

2. Consumers expectation on future income:

If the consumer expects a higher income in future he spends more at present and thereby the demand for the commodity increases. Opposite will be the situation if the consumer expects lower income in the future.

Additional factors related to market goods / market demand.

1. Population:

If the population standard of living is high then

The demand for the commodity increases.

Pop $\uparrow$ Demand $\uparrow$

2. Demographic distribution:

The market demand for a product depends upon the demographic factors like age, gender and ratio of the population. more female, more demand for female products.

3. Advertisement:

In a market the demand for a product has an impact through its promotions i.e., advertisements. Advertisements attracts the consumer. $\therefore$ Demand increases when other things remain constant.

Adv $\uparrow$ Dem $\uparrow$

4. Government Policies (Taxation):

High taxes will increase the price and reduce the demand for the product and low taxes reduces the price and increases the demand for the product. $\therefore$ Govt policies has an impact on the demand for the product.

Tax $\uparrow$ Demand $\downarrow$

Law of Demand:

It explains the relation b/w quantity demanded of a product to the price of the product.

"Alfred Marshall" stated that "when other things remains constant, the quantity demanded rises with fall in price and diminishes with a rise in price".



Price	Demand
5	100
4	200
3	300
2	400
1	500

Jan 24-2017

Assumptions for law of Demand:

The law of demand is based on certain conditions, it is always stated with the statement 'when other ^{things} remains constant, the quantity dem it relates to the change in price variable only assuming other determinants of demand to be constant.

1. No change in consumers income.
2. No change in consumers taste and preferences.
3. No change in price of related goods.
4. No changes in the future prices.
5. No changes in the future income.
6. No changes in the size of population.
7. No changes in the distribution of income and wealth of the commodity.
8. No change in govt. policies.
9. No change in the range of goods available to the consumer i.e., substitute and complementary goods.
10. No change in environment or weather conditions.

Exceptions to the law of Demand:

In some cases law of demand may not be true. The exceptions are as follows.

1. Giffen goods:

Giffen goods are those inferior goods whose demand varies directly i.e., changes directly with the

variations in the price. i.e., there exist a direct relation between quantity demanded and the price of the commodity.

→ Giffen goods are named after an economist 'Robert Giffen'. It is also known as 'Giffen paradox'.

2. Commodities which are used as status symbols.

Some expensive commodities like cars, diamonds etc are used as status symbols to display one's wealth. The more expensive these commodities shows the more value as status and hence greater will be the demand. Therefore, the amount demanded of these products increases with an increase in their price and decreases with a decrease in their price.

3. Expectations of changes in the price of the commodity:

If a consumer expects the price of the

commodity to increase they may start purchasing greater amount of the commodity even at the present increased price. If they expect the price of the commodity to decrease they may postpone their purchases. $\therefore$ The law of demand is violated in above three conditions.

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Changes in demand curve:

Demand curve shows two types of changes

- i) Increase or decrease in demand
- ii) extension or contraction in demand.

(i) Increase or decrease in demand.

When the quantity demanded of a commodity changes when other things being constant the demand curve slopes downward from left to right. When the change in quantity demanded of a commodity caused due to the change in other factors other than price shifts the entire demand curve to right and increase in demand is said to be taken place.

Eg. - If the preference of the consumer for color TV's increases the demand for them become greater and the demand curve shifts to the right.

Eg. - Due to inadequate rainfall agricultural prodn in a year decreases then the cost of the income of the farmer decreases. This give rise to fall in the income of the farmer causes a decrease in their demand for the industrial products and shifts the demand curve towards left.

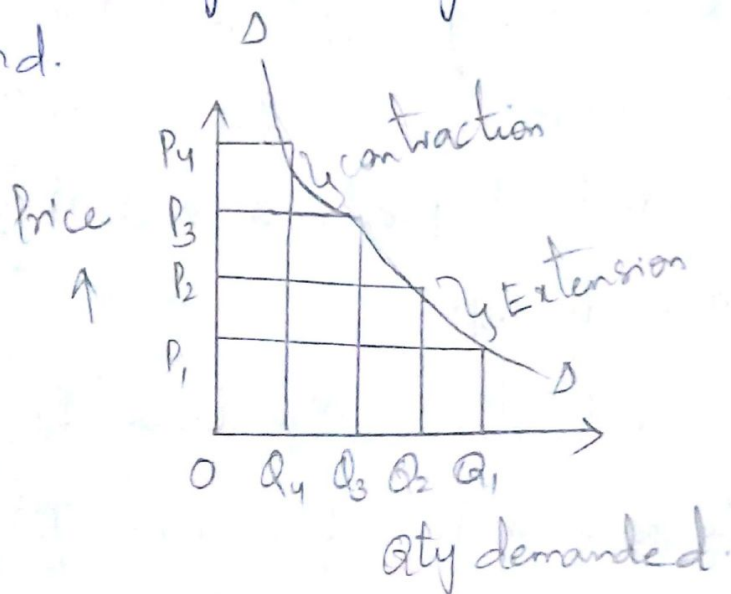
ii) Extension or contraction in the demand:

When the quantity demanded of a commodity increases due to increase in the price then it is called extension in the demand.

When the quantity demanded of a commodity decreases due to increase in the price, it is called contraction of the demand.

Eg. - If prices of mangoes is Rs 15/Kg. Consumer buys 1 kg now other determinants like individual income, quality of the commodity, taste and preference of the consumer etc remain unchanged and

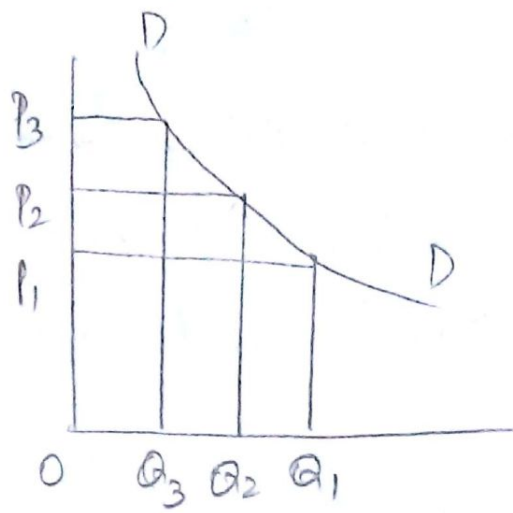
Price of mangoes falls to Rs 10/kg. Now the consumer purchases more than 1 kg results in the extension of the demand. On the other hand if the price of mango rises to Rs. 20 the consumer buys less than 1 kg resulting in the contraction of demand.



Types of demand:

1. Price demand:

It refers to the various quantities of a commodity purchased by a consumer at different prices in a given market. It is assumed that price of a commodity is the only one determinant of demand and other determinants like consumers income, Taste and preferences of the consumer etc remains constant.



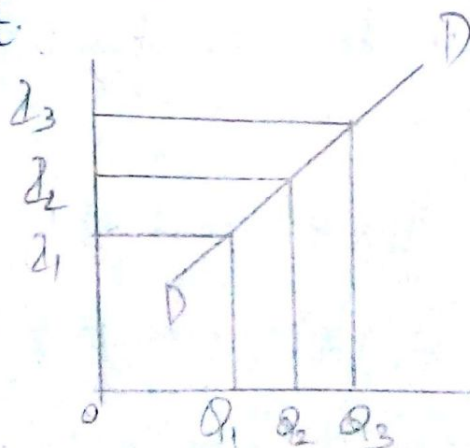
2. Income demand:

Income demand refers to the various quantities of a commodity that a consumer purchases at different levels of his income. The determinant of demand other than consumer's income are assumed to be constant. The income effect changes from different goods.

1. Normal goods:

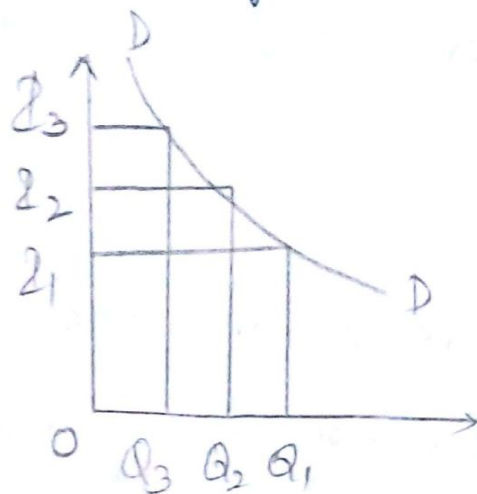
The demand increases if the incomes increases and demand decreases if the income decreases.

The income demand for normal goods shows a +ve effect.



2. Inferior goods:

The demand increases as income decreases and demand ↓ as income increases. The income demand for inferior goods shows the negative effect.



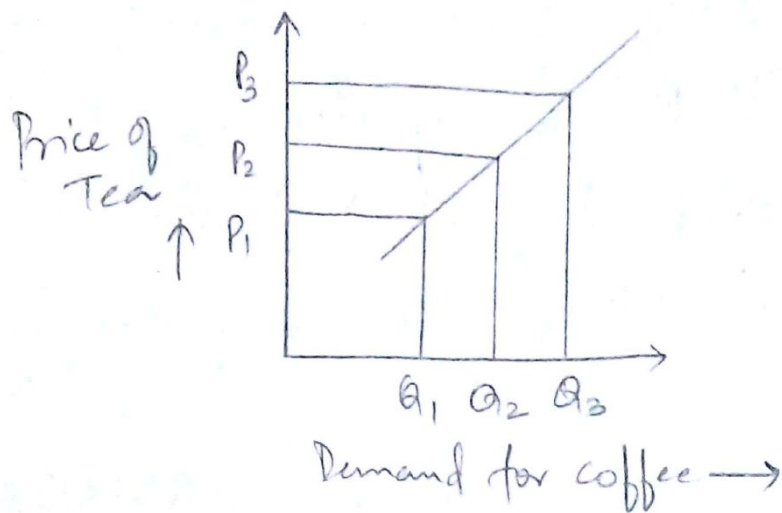
3. Cross demand:

Cross demand refers to the changes in the quantity demanded for a commodity w.r.t changes in the price of related goods (substitute goods and complementary goods).

The determinants other than price of the related goods are assumed to be constant.

1. Substitute goods:

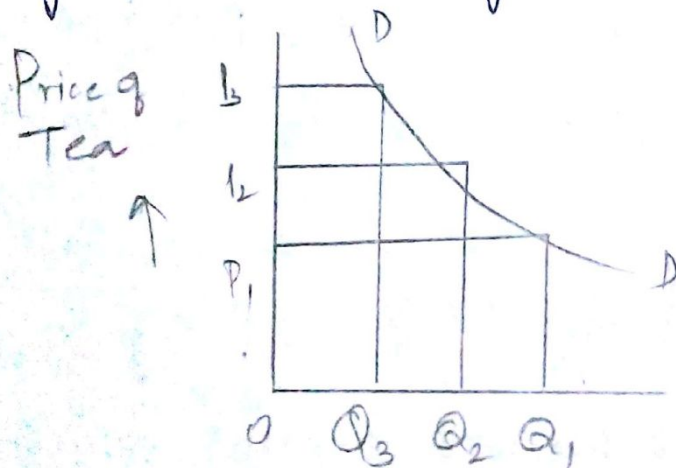
When the price of the given commodity increases the demand for its substitute goods increases.



2. Complementary goods:

When the price of the commodity increases the quantity demanded of its complementary goods decreases.

Eg:- Tea and Sugar.



Quantity demanded for sugar →

4. Derived and autonomous demand:

The commodities which are demanded to help in further production of a commodity are said to be

derived demand.

Eg:- Raw material, Machinery etc

When the commodity is demanded for the direct consumption then it is known as autonomous demand.

Eg:- Food items.

5. Industry and Firm demand:

Industry demand refers to the total product demand for the production of a particular industry.

Eg:- Demand for textile.

Firm demand is the demand for a particular product of a particular firm which is a part of industry.

Eg:- Textiles produced by XYZ company.

6. Total Demand and Market Segment demand.

A particular segment of the market demand is called as market segment demand.

Eg:- Demand for laptops by students.

The total sum of demand by various segments is

The market is called as total market demand or total demand.

eg:- Demand for laptops overall a state.

7. Short run and long run demand:-

According to "Joel Dean" an economist short run demand refers to the demand with its immediate reaction to price changes and income fluctuations.

Long run demand is that which will ultimately exist as a result of the changes in pricing, promotion, production improvement after market adjustments with sufficient time.

8. Durable demand and Non-durable demand:-

Durable goods are those which can be used more than once over a period of time.

eg:- Refrigerators.

Non durable are those goods which are used only once.

eg:- Food items, Band-aids etc.

9. Joint demand and composite demand.

When two goods are demanded with the combination of one another at the same time to satisfy a single want.

eg:- Demand for petrol and vehicles.

A composite demand is one in which a single commodity is required to satisfy several wants.

eg:- Sugar for many purposes.

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Elasticity:

The rate of responsiveness in any object w.r.t the change in the external factors is called as elasticity.

EOD [Elasticity of Demand]:

It is a change in quantity demanded wrt the change demand determinants.

EOD is a technical term used by economist to describe the degree of responsiveness of the demand for a commodity due to fall in the price. A fall in price leads to increase in the quantity demanded and a rise in price leads to a decrease in the quantity

demanded.

Types of EOD:

1. Price Elasticity of demand (E_p)
2. Income EOD (E_i)
3. Cross EOD (E_c)

1. Price Elasticity of demand:

It explains the relation b/w price of the product and demand for the product. Price elasticity can be defined as "the proportionate change in the quantity demanded of a product to the proportionate change in price of the product."

$$E_p = \frac{\% \text{ change in quantity demanded}}{\% \text{ " " price of the product}}$$

$$E_p = \frac{\Delta Q/Q}{\Delta P/P}$$

ΔQ = change in quantity demanded

Q = actual Qty demanded

ΔP = change in the price.

P = actual price.

Ex:- Qty demanded for a product is 20 units at a price of Rs. 500 when there is a fall in price to

Rs. 400. It results in increase in demand to 32 units.
What would be the price elasticity of demand.

Soln

$$\begin{aligned}\Delta Q &= 12 \\ Q &= 20 \\ \Delta P &= 100 \\ P &= 500\end{aligned}$$
$$\frac{\Delta Q/Q}{\Delta P/P} = \frac{12/20}{100/500} = 3$$

Higher the elasticity of demand greater will be the % change in the Qty demanded.

For every % change in price.

If a business man want to decide about price change of his commodity he will use the info on elasticity 'E' of his commodity.

Determinants of Price elasticity of demand:-

A question arises as what makes the demand for the commodity elastic and the demand for another inelastic, the demand for same commodity elastic at one price & inelastic at another price. The following reasons may be pointed out in this connection.

1. The no. and closeness of the substitutes.

The availability of close substitutes of the commodity is the most important determinant of the degree of price elasticity.

→ In case the product has large no. of close substitutes

in the price range under consideration, demand for the product is said to be highly elastic.

→ If the price of the commodity increases consumer buys less of his commodity and buys more of his substitutes.

2. The share of the commodity in buyer's budget:

→ If the proportion of the consumer's income which is spent on the commodity is very small demand will tend to be inelastic.

Ex: Salt, match box etc.

→ Even larger increase in the price will not have any appreciable effect on their quantity demanded.

3. Nature of the commodity:

→ It is generally belief that the demand for necessities is elastic and demand for luxury good is elastic.

4. No. of uses a commodity can be used:-

→ Larger the no. of uses of a commodity greater will be the elasticity uses of a commodity.

Ex:- Washing machine.

5. Habit forming characteristics:

There are some goods which are habit forming like the use of tobacco and alcohol. Since the consumer form a habit with their use the demand for such

goods will tend to be inelastic.

6. Time Period:-

In short run demand will be less elastic but in the long run the demand for commodity are more elastic.

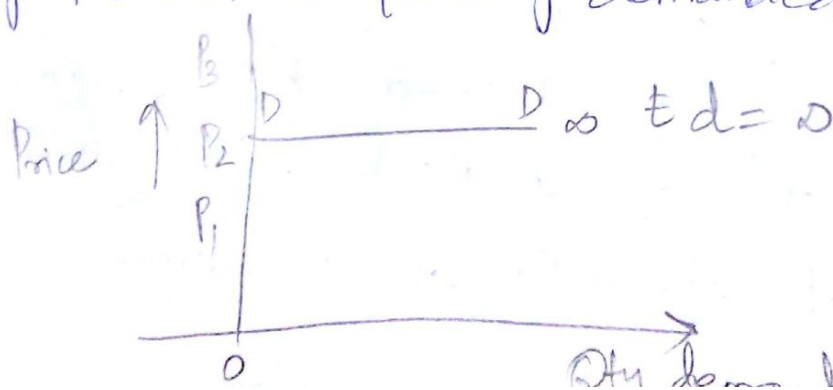
Ex:- If price of diesel increases and the price of coal remains constant, the firm may not reduce demand for diesel in short run but in the long run the firm will replace the diesel by coal. because coal is relatively cheaper in this case.

Types of elasticity of demand:

It is generally classified in following categories.

1. Perfectly elastic $E_d = \infty$
2. Perfectly inelastic $E_d = 0$
3. Relatively elastic $E_d > 1$
4. Relatively inelastic $E_d < 1$
5. Unitary Elastic $E_d = 1$.

Perfectly Elastic Demand:- A small change in the price will change the overall quantity demanded by an infinite amount.



In the above graph a certain product can be sold by an infinite amount at price P_1 .

Perfectly inelastic demand:- ($E_d = 0$)

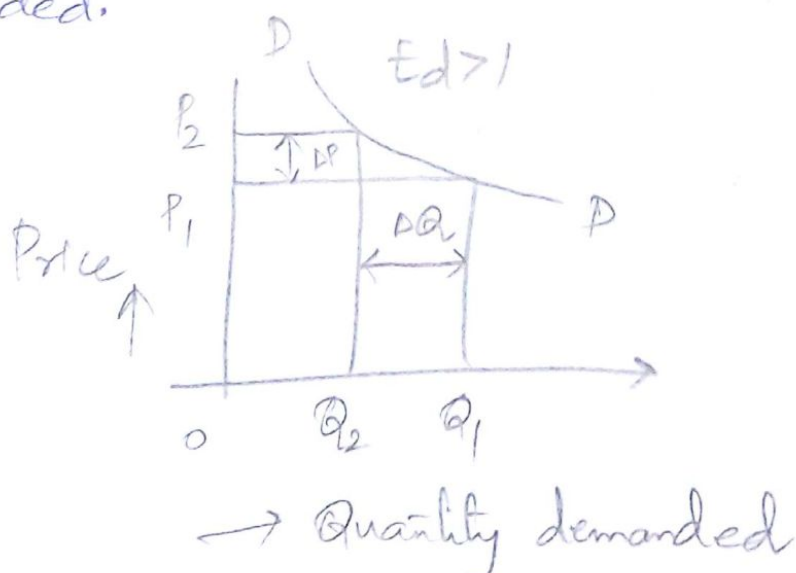
It is an unreluctant market situation where demand for the product is constant for all level of price.



In the above graph shows at all level of price i.e., P_0 , P_1 and P_2 demand will be constant i.e., Q_1 .

Relatively Elastic demand:

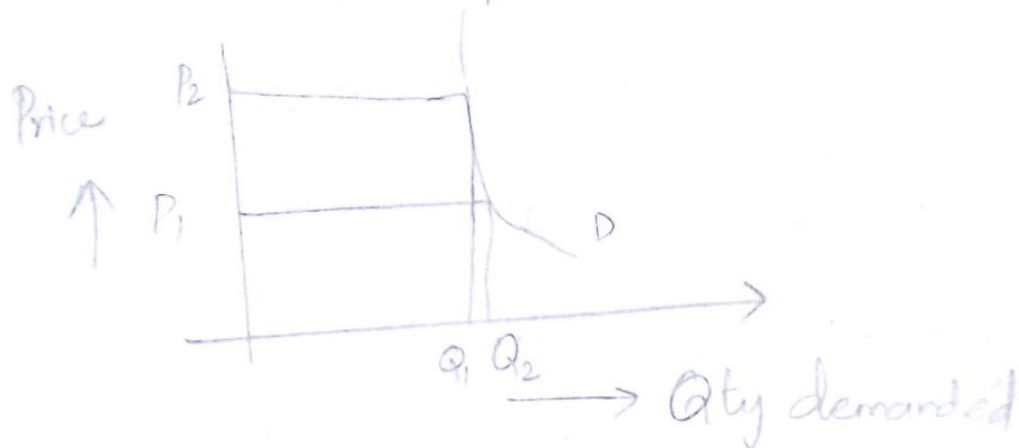
It is a market situation where small change in the price leads to the highest change in the quantity demanded.



In the above graph at price P_1 the product will have a demand of Q_1 . Price increased from P_1 to P_2 which leads to the highest change in the quantity demanded to Q_2 . So ΔQ is greater than change in price.

Relatively inelastic demand:

In this ~~the~~ market situation the change in quantity demanded shows inelastic nature when compared to the change in price i.e., for a maximum change in its price the change in qty demanded is very low.



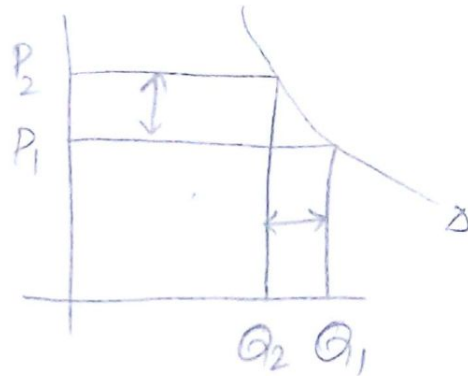
In the above graph at price P_1 the qty demanded was Q_1 . If price rises to max i.e., at P_2 the change in qty demanded will be very low i.e. at Q_2 .

$$\Delta P > \Delta Q$$

$$E_d < 1$$

Unitary Elastic Demand:

in this market situation we observe the same rate of responsiveness in qty demanded wrt the change in price. Δ



$$\Delta P = \Delta Q$$

$$E_d = 1$$

In the above graph at price P_1 the qty demanded is Q_1 , price $\uparrow$ ses to P_2 , demand $\downarrow$ ses to Q_2 , the effect of change in price and change in demand will be equal.

2. Income EOD (E_i):-

It is defined as "a proportionate change in the quantity demanded of a product to the proportionate change in the income of the consumer."

$$E_i = \frac{\% \frac{\Delta Q}{Q}}{\% \frac{\Delta I}{I}}$$

ΔQ = change in the qty demanded

Q = Actual quantity demanded

ΔI = change in the Income

I = actual income.

Ex: If the consumer's income is Rs. 2000 and if the Qty demanded is 100 units. When his income rises to 3000, Qd rises to 200 units. Calculate Income Elasticity of demand

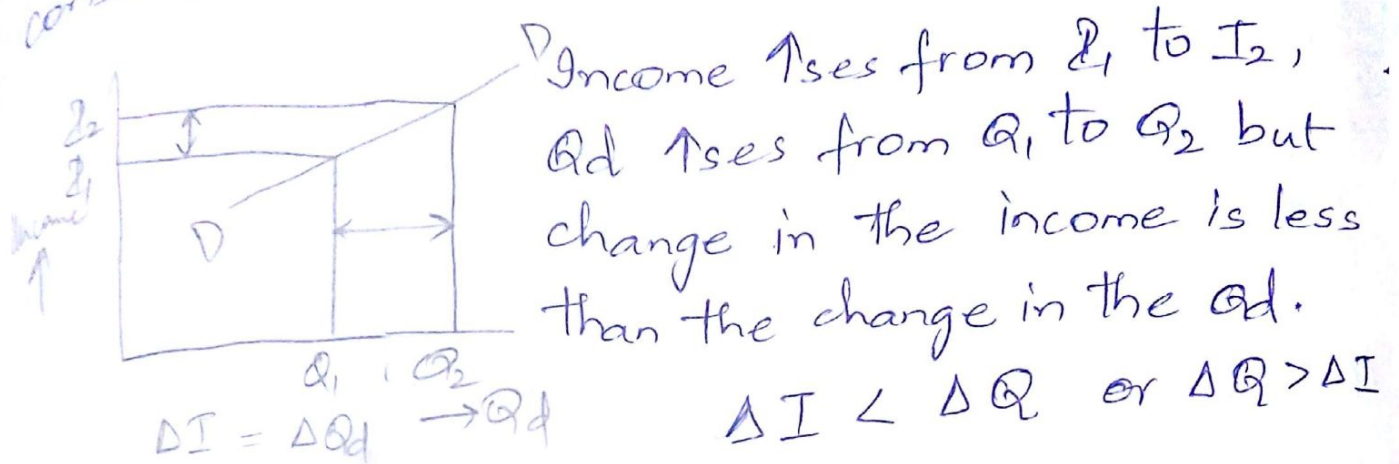
$$E_i = \frac{\frac{100}{100}}{\frac{1000}{2000}} = 2$$

The income EOD is positive for all normal goods because the consumer's demand for a commodity changes in the direction of the change in his income. In case of inferior goods the demand for commodity changes inversely with income. As a result the income EOD is stated to be -ve.

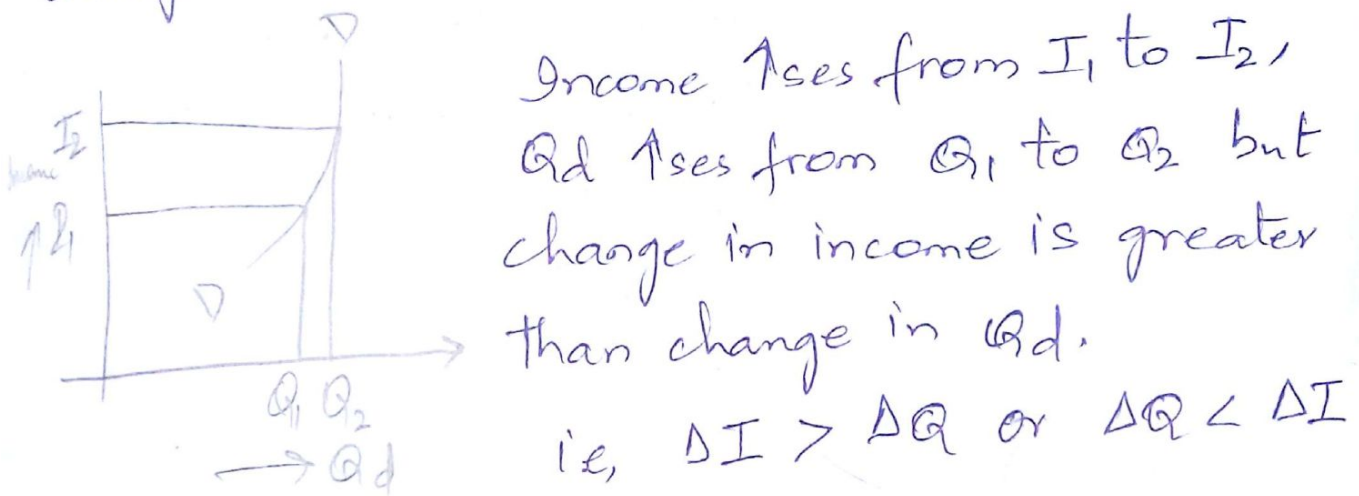
Types of Income EOD:-

1. High income EOD:- Qd for a commodity rises

by a large percentage even if the income of the consumer rises to a small extent.



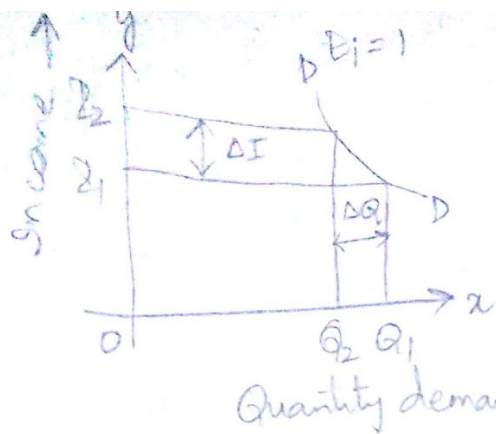
2. Low income EOD:- Income Elasticity is low if the relative change in the Q_d is less than the change in the income of the consumer.



3. Unitary EOD:

It indicates the percentage change in quantity demanded is equal to the percentage income.

Income rises from I_1 to I_2 , Quantity demanded also rises from Q_1 to Q_2 .



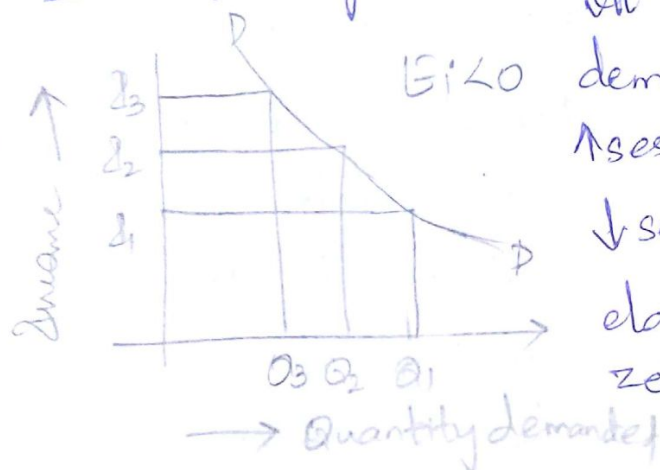
$$\therefore \Delta Q = \Delta I$$

$$E_i = 1$$

4. ~~Unitary~~ Negative Income EOD:-

It explains that less is brought at higher income and more is brought at lower income.

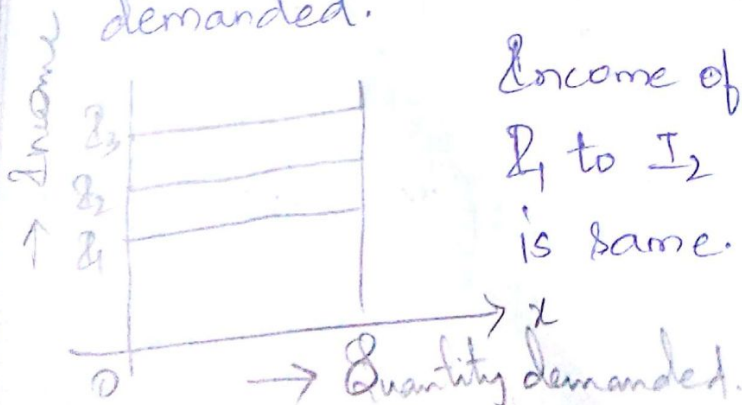
Ex:- Inferior goods.



At income I_1 , the quantity demanded is Q_1 . If the income rises from I_1 to I_2 , then the quantity demanded falls from Q_1 to Q_2 . Income elasticity is zero or less than zero.

5. Zero Income EOD:-

A change in income will have no effect on quantity demanded.



Income of the consumer rises from I_1 to I_2 but the quantity demanded is same. ($E_i = 0$)

3. Cross Elasticity of Demand (E_c):-

cross EOD is defined as "the ratio of percentage change in demand for one commodity to the percentage change in price of some other related goods".

This change of demand for one commodity due to change in price of some other related goods comes because of the fact that two goods may be either substitute or complementary to each other.

$$E_{xy} = \frac{\% \text{ change in quantity demanded of 'X'}}{\% \text{ change in price of commodity 'Y'}}$$

$$E_{xy} = \frac{\% \frac{\Delta Q_x}{Q}}{\% \frac{\Delta P_y}{P_y}} = \frac{\frac{\Delta Q_x}{Q} \times \frac{P_y}{\Delta P_y}}$$

The same formula is used to find cross EOD, irrespective of there being substitute or complementary goods.

Cross elasticity will have +ve sign, if two goods are substitutes.

Cross elasticity will have -ve sign, if two goods are complementary.

It is also possible that X and Y are unrelated, that is neither substitute nor complement. In such case cross elasticity of demand is zero.

* The price of coffee rises from Rs. 50/- to Rs. 70/- and as a result the demand for tea increases from 5 to 10Kgs. Determine the cross elasticity of demand for tea and coffee.

Soln Given $P = 50$
 $\Delta P = 20 \Rightarrow \frac{\frac{P}{P}}{\frac{\Delta Q}{Q}} = \frac{5}{2} = 2.5$
 $\Delta Q = 5$
 $Q = 5$

Demand Forecasting:

Forecast is a prediction or estimation of a future situation under given condition.

All organisations operate in the atmosphere of uncertainty but the decisions must be made today that affects the future of the organisation.

Demand forecast will help the managers of an organisation to take the following decisions effectively. The major short-run decisions are:

1. Purchase of inputs.
2. Maintaining the level of machinery.
3. Setting up sales target.
4. Management of working capital.
5. Pricing policy.
6. Promotion policy.

The major long-run decisions are

1. Expansion of existing capacity.
2. Diversification of product mix.
3. Growth of acquisition.
4. Capital issues.
5. Man power planning.
6. Long-run borrowings.
7. Change of location of plant.

Steps involved in forecasting:

1. Identification of objectives.
2. Determining the nature of product.
3. Selecting a proper method of forecasting.
4. Interpretation of results.

Methods of forecasting :-

1. Survey method / opinion pooling method :-

It is divided into four types.

- a) Survey of Buyer's opinion:- A sample survey of customers may be undertaken questioning them about what they are planning to buy. A questionnaire is prepared for this purpose.
- b) Survey by Sales or seller's opinions: Under this method, the sales person have to report to the head office, by their estimates or expectations of sales in their region. The company can obtain such information from the retailer or the wholesaler.
- c) Survey of Experts opinion:- Obtaining views from a group of specialist outside the firm, will have some positive advantages of speed and less cost.
- d) Test marketing: It is especially used for forecasting sales of new products or existing products in new areas.

2. Trend Projection Method :

The important methods used for trend projection are :

a. The method of moving averages.

b. Time series analysis.

a. Method of Moving averages: The method is based on past scaled data and design to compensate for regular, cyclic or seasonal variations.

Under this method, either 3 years or 5 years moving averages is calculated.

b. Time Series analysis: This method attempts to build seasonal and cyclical variations into the estimated equation. Therefore $Y = a + b + c + d$.

where $a \rightarrow$ trend

$b \rightarrow$ season

$c \rightarrow$ cyclic situations

$d \rightarrow$ unforcing changes.

3. Economic Barometer:

They are classified into

a. leading indicators.

b. coincidence indicators.

c. lagging indicators.

- a. Leading indicators: The leading indicator series move up or down through some other series.
- b. Coincidence indicators: The coincidence indicator series move up or down at the same time as the leading indicator series move.
- c. Lagging indicators: - The lagging indicators move up or down after leading indicators have moved.
Eg: - If a bank interest is a leading indicator and the rate of interest charged by commercial banks is coincidence indicator and rate of interest charged by money lenders is lagging indicator.

4. Statistical methods:

Many statistical goods or techniques are available for estimating the demand of the product.

The parameters of the demand function are estimated with regression analysis.

- a. Simple regression: The relation between two variables one dependent and one independent variable is simple regression.
- b. Multiple regression: The relation b/w one dependent variable and no. of independent variable is multiple.

regression.

Law of Supply:

Supply of a commodity refers to the various quantities of a commodity which a seller is willing and able to sell at different prices in a given market at a point of time, other things remaining the same.

Supply is what the seller is able and willing to offer for sale.

Determinants of Supply:

(i) Price of the good: If the price are high the sellers are willing to supply more goods to increase their profits.

(ii) Price of other goods:- Change in the prices of other goods in the market also has influence on the supply of a commodity.

Ex:- Price of 'Y' goods increases, the producer of 'X' will start considering switching his production to good 'Y' as it has become relatively more attractive to produce 'Y' now than before.

(iii) Price of factors of production: Different commodities use factors in different proportions. An increase in price of a labour may lead to a large increase in the cost of making those commodities that use relatively profit

ability of different commodities and thus their amount supplied.

(iv) Producer's objective:-

There can be many objectives of a firm, Profit maximization, sales revenue maximisation, good will etc.

(v) State of technology:-

A change in technology may result in lower costs and greater supply of the goods.

Law of Supply:-

The law of supply states that "other things remaining constant, more of a commodity is supplied at higher price and less of it is supplied at a lower price".

The elements other things remaining constant means the determinants other than the price of goods remain unchanged.

Supply Schedule:-

Price of cars in MCF (in lakhs)	Qty supplied
8	15
7	12
6	10
5	8
4	6

It is clear from above supply table, that price of cars rises the seller will supply greater no. of cars and vice versa.

The price of commodity and its quantity supplied move in same direction.



The Supply Curve:-

The supply schedule when represented diagrammatically is known as the supply curve.

Concept of Equilibrium:-

The firm is said to be in equilibrium where it has no tendency either to increase or decrease the production when it earns maximum profits.

Assumptions :-

1. The entrepreneur is rational and wants to maximize profits.

2. The firm produces only one product.

Eg:- A firm producing 'X' commodity, it continues the production of 'X' commodity till it reach a certain level of output say '100' units of 'X'.

At this level of output the firm secures the maximum profit.

If we increase production less than '100' units the profit will be reduced or there may be loss.

The firm would not like to change the production from 100 units of output of 'X'.

Thus, the firm is said to be in equilibrium.