




Module - 1

Basic Concepts , Demand and Supply Analysis



Economics

- Economics is a social science which studies economic behavior of the people and economic phenomena.
 - **“It is a scientific study of how individuals, organizations, societies or nations deal with the problem of scarcity”**
 - The word Economics originates from the Greek word **“Oikonomia”** which means **Household Management**.
 - Adam Smith is considered to be the founding father of modern economics.
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Classification of economics

Economics is divided into two:

1. Micro economics and
2. Macro economics.

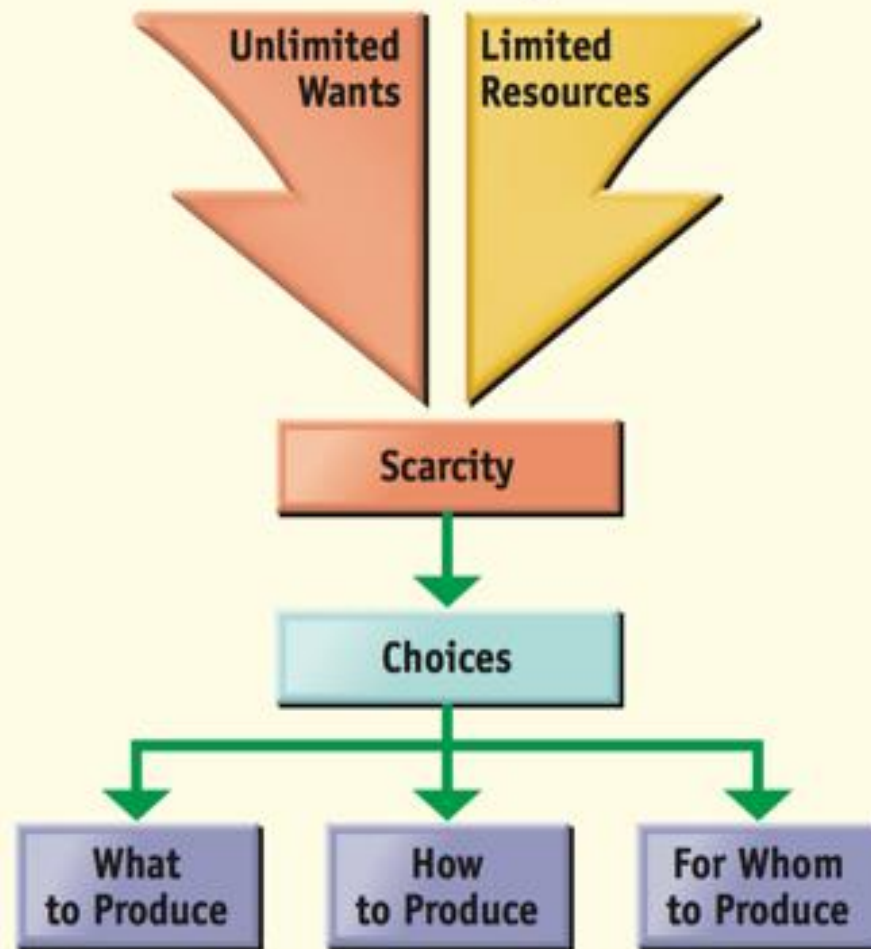
➤ Micro Economics:

It may be defined as that branch of economic analysis which studies the economic behaviour of the individual unit, may be of a person, a particular household or a particular firm.

➤ Macro Economics:

It may be defined as that branch of economic analysis which studies the economic behaviour of not only one particular unit, but of all the units combined together. ie, we study economic system as a whole.

Scarcity



Basics concepts in economics

- Scarcity
- Choice
- Resource allocation.

Scarcity:

- ✓ Human wants are unlimited. No individual can fully satisfy his wants.
- ✓ Wants of all the members of a society cannot be fully satisfied in a given time.
- ✓ Most of the goods and services satisfying human wants are scarce or limited.
- ✓ These goods and services are called scarce because their demand is more than supply. i.e. $D > S$.

Choice:

- Having scarcity of resources, we need to choose which resources to use and how to utilize them.
- For instance, wood may be used for making items of furniture or sports goods or doors and windows etc.
- **Alternative uses of the means give rise to the problem of choice.** Therefore we have to choose what is best for us.

Resource Allocation:

- **The allocation of scarce resources among alternative uses is called resource allocation.**
- The scope of economics involves the identification of basic economic problems and find out different possible ways to solve those problems.

Basic Economic Problems or Central Problems of an Economy

Since the resources are limited and have alternative uses, the economy should allocate its resources properly. While allocating the scarce resources the economy should answer the following questions.

(1) What to produce and in What quantities?

(2) How to produce?

(3) For whom to produce?

What to produce and in what quantities ?

Infinite goods and services are needed by the economy. But resources are limited. Since the resources are limited , **economy must decide what combination of goods and services to be produced and in what quantities.**

How to produce?


This Implies the technology to be adopted in the production process. There are two alternative techniques for producing a good. They are labour intensive technology and capital-intensive technology. In labour-intensive technology, more labour and less capital is used to produce a good. While in capital intensive technology, more capital and less labour is used.

For whom to produce?

This question indicates the distribution of goods that are produced in the Economy. This involves the decision about who gets what and how much.



Trade off

- Scarcity forces us to make choices. Because of scarcity, every choice involves a trade off – a comparison of costs and benefits.
 - **This will lead to giving up something to get something else.**
 - Eg. The government has to decide whether to use more of its resources on agriculture or on defense. So there exists a trade off between agriculture and defense. If the government decides to use more of its resources on defense, then it can be said that the government trade off agriculture for defense.
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Opportunity cost

- After determining trade off, a cost can be assigned to what you have given up.
- **Opportunity cost is the value of the alternative you gave up.**
- Opportunity cost of decision is the cost of sacrificing the alternatives to that decision.
- The question of sacrificing arises because of the fundamental economic problem of scarce resources which forces an individual to choose the best out of the available alternatives.
- Eg. a person who keeps Rs. 10,000 in his hand denies himself the interest he could have earned by depositing the 10,000 rupees in a bank account instead.



Production Possibility curve (PPC)

Production possibility curve is a hypothetical representation which shows various combination of two goods that can be produced with given level of resources and a given level of technology when they are fully and efficiently utilized.

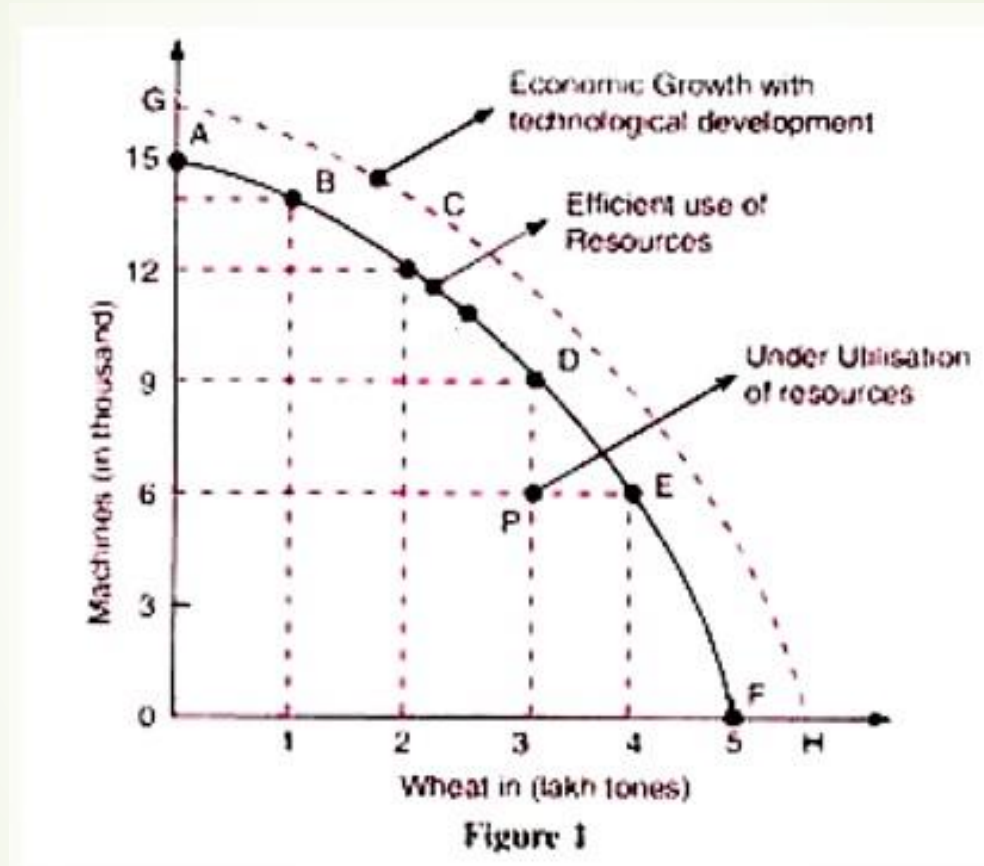


- The following table gives production possibility schedule
- Production possibility schedule is that schedule which shows alternative production possibilities of two sets of goods with the given resources and technique of production.


Combinations	Machines	Wheat
A	15	0
B	13	1
C	8	2
D	11	3
E	5	4
F	0	5

- In the above schedule A and F are possibilities where the economy either produces 100 percent of machines or 100 percent of wheat. Possibilities B,C, D and E lie in between.
- It can be seen that for an economy to have more machines, it must be willing to sacrifice more of wheat.

- For instance, to reach possibility B from A, the economy produces 5 more units of wheat by sacrificing 1 unit of machine.



- The curve represents production possibilities of an economy and shows the various possible combinations of the two goods.

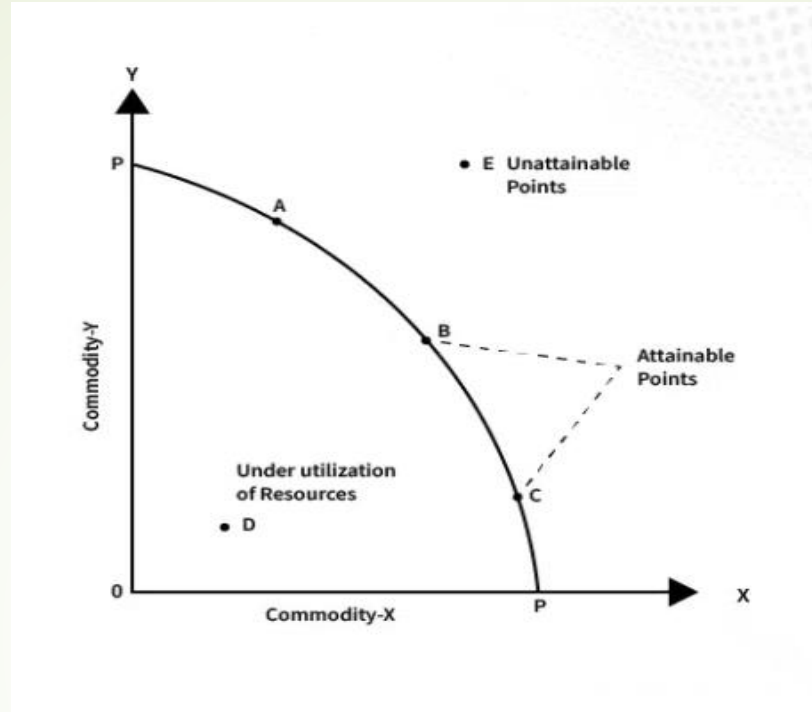
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- All possible combinations lying on the production possibility curve show the combinations of the two goods that can be produced using the available resources.
 - Any combination lying inside the production curve such as P in the figure indicates that resources are not being fully employed in the best-known way
 - Any point outside the production possibility frontier, implies that the economy does not have adequate resources to produce this combination. (unattainable output)

Shift of the PPC

A shift of the production possibility frontier indicates economic growth and development.

In the above graph, the production possibility frontier has shifted to GH on account of improvements in technology or due to an increase in the resources available to the economy.

- The PPC is an important tool that can be used to understand basic concepts like scarcity, choice, resource allocation, opportunity cost and trade off



The production possibility curve is based on certain assumptions:

- (a) The economy produces two commodities only.
- (b) The quantities and qualities of factors of production viz., land, labour capital etc. are fixed.
- (c) The techniques of production are constant.
- (d) There is full employment in the economy and
- (e) The prices of factors of production are constant.

Marginal analysis

- Marginal analysis examines the effects of additions to or subtraction from a current situation.
- Marginal analysis is concerned with finding out the change in the total arising because of one additional unit.
- For **example**, a bakery might use **marginal analysis** to determine the potential benefits of an increase in bread production. This decision-making tool is useful for helping people and businesses decide how to allocate their scarce resources in order to minimize costs and maximize benefits.

Concept of marginal analysis deals with a unit increase in cost/revenue/utility.

- The change in the total revenue due to one additional unit sold is known as **Marginal Revenue**.
- The change in total cost on account of one additional unit produced is known as **Marginal Cost**.
- The change in total utility on account of one additional unit utilized is known as **Marginal Utility**.

Firms and it's objectives

A firm is a specialized organisation devoted to managing the process of production. It utilizes the factors of production like land, labour, capital and organisation to produce various goods and services.

Objectives of a firm

Each firm decides its own objectives and evolves strategies to fulfil it. The different objectives that firm pursue are:


1. **Profit Maximisation:** The primary objective of most firms is the maximisation of its profit. Profits bring in the resources needed for expansion and diversification. Profit is defined as the difference between total revenue and total costs. $\text{Profit} = \text{Total Revenue} - \text{Total Costs}$.
2. **Sales Maximisation:** Firms often try to maximise their sales and increase their share of the market.



3. **Growth Maximisation:** Firms also work towards maximising their growth rate. A higher rate of growth automatically increases the level of output of the firm.

4. **Welfare Maximisation:** A firm may also aim to maximise the welfare of the society. Such a firm tries to supply good quality products at fair prices.

5. **Stability:** Stability is essential for the firm's survival in the long run. A stable firm can easily handle the changing market dynamics and will have a high level of customer and employee satisfaction.



Types of firms

Sole Proprietorship: It is the type of firm owned, managed and controlled by a single individual or the proprietor. Most of the small businesses are of this type. The debts of the firm are the personal responsibility of the owner.

e.g. handicrafts, jewelry, tailoring etc.

Advantages

- a. They require low capital investment and offers personalised service.
- b. Such firms are able to take quick decisions and have flexible operations.
- c. The partners share profits in the ratio as agreed.
- d. There are less legal formalities

2. Partnership firms: These are firms owned by two or more individuals who share profits as well as liabilities of the firm. It comes into existence through a legal agreement in which terms and conditions governing the relationship among partners, the manner of conducting the business and sharing of profits and losses are specified.

e.g. retail trade, small manufacturing units, professional services etc.


Advantages

- a. Such firms are able to collect more resources than the proprietorship.
- b. Persons with different skill, expertise, managerial talent and resources can come together to form a business.
- c. The partners share among themselves the responsibility of decision making.
- d. The partners share profits in the ratio as agreed

3. Joint Stock Company: It is a business organization owned by a number of individual stockholders. Today most of the business activity in the country is carried out by joint stock companies. It has a separate legal identity and can borrow money and make investments on its own behalf. The ownership of a company is determined by the ownership of the company's shares. The shareholders get dividends in proportion to the shares owned by them.

e.g. Infosys, Microsoft, Tata Motors

A company has two basic forms. (a) Private Limited Company and (b) Public Limited Company.




(a) Private Limited Company: The maximum number of shareholders is limited to fifty. The shares of the company are transferable only among the members and it cannot raise capital by selling its shares to outsiders.

(b) Public Limited Company: There is no limit on the maximum number of members. It has to annually submit its balance sheet to the Registrar of Joint Stock Companies. It can invite the public to buy shares by issuing a prospectus.

Advantages

- a. A company is a legal person that can conduct business.
- b. The owners have only a limited liability.
- c. The shareholders own the corporation but the managers run it, hence decision making is very quick and precise.
- d. Since the number of shareholders is very large, they can collect huge financial resources.




4. The Cooperatives: The cooperative society is a voluntary association of persons who join together for the welfare of the members. Their objective is to protect their economic interests and prevent exploitation. The profit generated is distributed among the members as per the legal agreement. Here decisions are taken by an elected managing committee

e.g. AMUL, Kerala State Cooperative Bank, KCMMF etc.


Advantages

- a. Each member has only one vote irrespective of the amount of capital contributed.
- b. The liability of the members is limited to their capital contribution.
- c. Since the producers themselves are members of the society cost of production can be minimised.
- d. The cooperatives enjoy governmental support



5. The Public sector undertaking (PSU): It refers to a government owned company. The primary objective is to provide services to improve the welfare of the people. In most countries it includes services like police, military, public roads, infrastructure, education and healthcare.

Advantages



- a. Not guided by profit motive.
 - b. Creation of employment opportunities.
 - c. Access to huge governmental finances.
 - d. Investment can be made in sectors which are socially desirable.
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Utility

- ❑ People demand goods and services in an economy to satisfy their wants.
- ❑ **The want satisfying power of a commodity is termed as utility in Economics.**
- ❑ Utility or the level of satisfaction is different from person to person.
- ❑ **There is two concepts in utility one is total utility and other is marginal utility**
- ❑ **Total Utility (TU)** which is a measure of the overall satisfaction. And the change in total utility on account of one additional unit utilized is known as **Marginal Utility**.
- ❑ Marginal utility =
$$MU_n = TU_n - TU_{n-1}$$

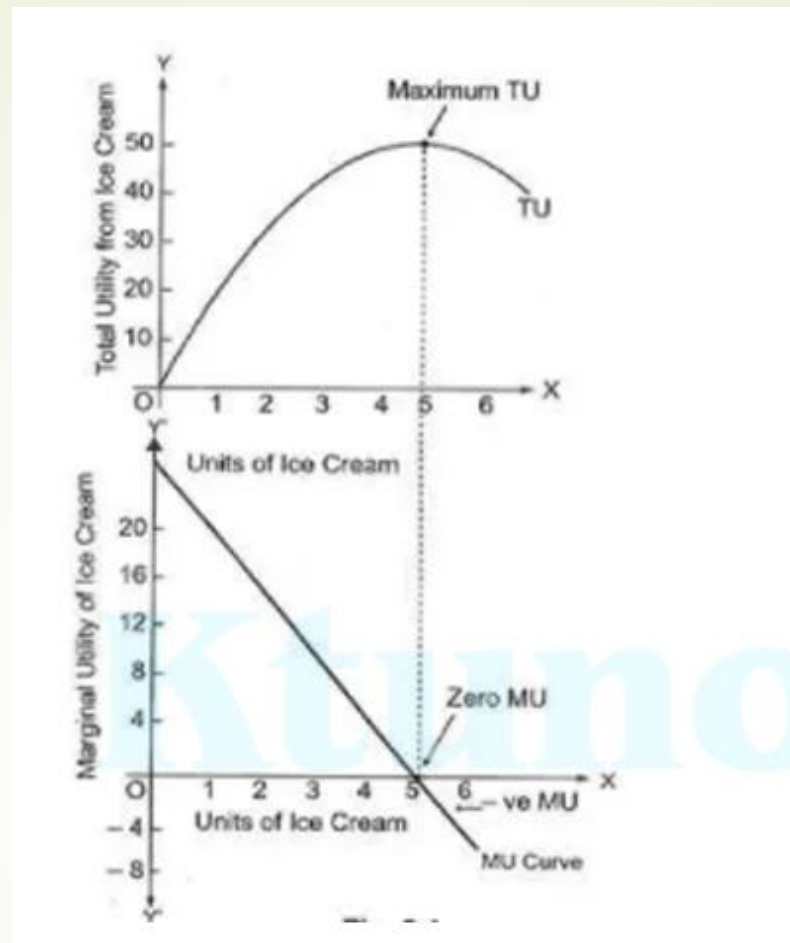
Law of Diminishing Marginal Utility

- The law of Diminishing Marginal Utility was perfected and popularized by Alfred Marshall.
- The law states that as the stock of a commodity increases with the consumer, its Marginal Utility to the consumer decreases. Which means **when we consume more and more units of a good, its marginal utility goes on diminishing. It can eventually fall to zero and become negative**
- Suppose Mr. X purchases the same product one by one continuously. The first unit gives him higher utility, when he buys the second, the extent of his utility will reduce. If he continues to take additional units, the utility derived from the third unit will be less than that of the second one. In this manner, the marginal utility from the extra units will go on decreasing. If the consumer continues to take more units, marginal utility falls to zero and then becomes negative.



Quantit y	Total Utility	Marginal Utility
1	20	20
2	30	10
3	38	8
4	45	7
5	45	0
6	41	-4

- From the table it is clear that the marginal utility goes on declining when successive unit of the same product is consumed. The consumer derives 20 units of utility from the first unit that he consumes. When he consumes the product continuously, the marginal utility falls to 7 unit for the fourth and becomes zero for the fifth unit. The marginal utility is negative for the 6th unit. Thus, marginal utility declines at first, reaches zero and then becomes negative.



The relationship between Marginal and Total Utility can be summarized as:

- When marginal utility declines, total utility is increasing.
- When marginal utility reaches zero, total utility is a maximum.
- When marginal utility becomes negative total utility starts declining.



Meaning of Demand


- **Demand is the desire backed by ability and the willingness to pay for a commodity.**
- Mere desire cannot buy goods.
- A beggar may have desire to buy a car. However, he doesn't have the purchasing power. Therefore, beggars desire is not a demand.
- If a rich person desires to buy a car, his desire is considered as demand. Because he has the capacity to buy a car.
- So, a desire will become demand only if there occurs willingness to pay and ability to pay

Determinants of Demand/Factors influencing Demand

- **Nature of the product:** it indicates the attributes and functionalities of the product.
- **Price :** The relationship between price of good and its demand is negative.
- **Income of the buyer:** Income has an important role in determining the demand for a commodity. Goods are classified into two based on the relationship between income of the consumer and demand. *They are : (1) Normal goods and (2) Inferior goods*

Normal goods : If the relationship between income of the consumer and demand for a good is positive such goods are known as normal goods. As the income of the consumer increases the demand for the good also increases and vice versa.

Inferior goods : If the relationship between income of the consumer and demand for the product is negative such goods are known as inferior goods. As the income of the consumer increases The demand for the good decreases.

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- **Price of related goods:** The demand for a good depend upon the price of related goods. Related goods are of two types. *They are: (1) substitute good and (2) complementary good*


Substitute good : If we can use one commodity in place of another and get the same level of satisfaction such goods are known as substitute goods. Eg: tea and coffee. If the price of one substitute good increases the demand for the other will increase.

Complementary good: If two or more goods needed at the same time to satisfy a want such goods are known as complementary goods. Eg. Printers and Ink Cartridge. If the price of one of the complementary good increases the demand for other will decrease.

- **Consumer's taste and preferences:** Consumers will demand goods and services based on the taste and preferences.



Law of Demand

- The law of demand explains the inverse relationship between price and quantity demanded.
 - It explains “ when other things being equal, the price of a good increases its demand decreases and vice versa.”
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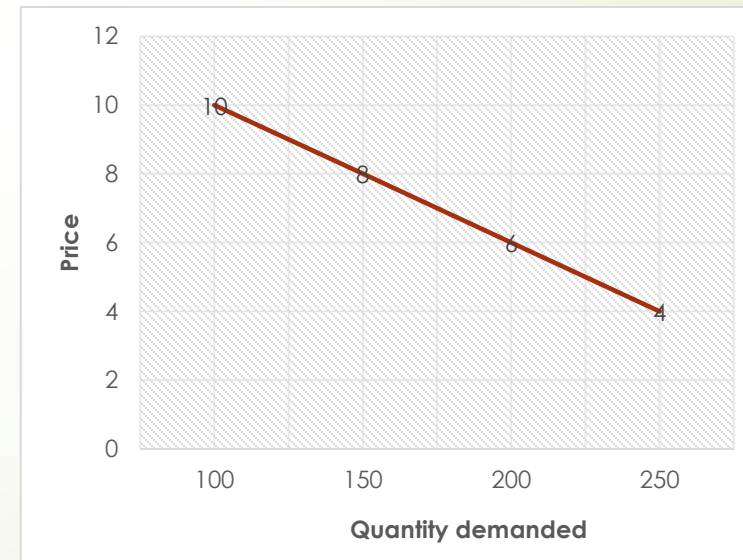
There are two versions.

- Demand schedule
- Demand curve

Demand schedule

Demand schedule is referred to as a tabular representation which shows various quantities of commodities that are demanded at different price levels at a specific time period.

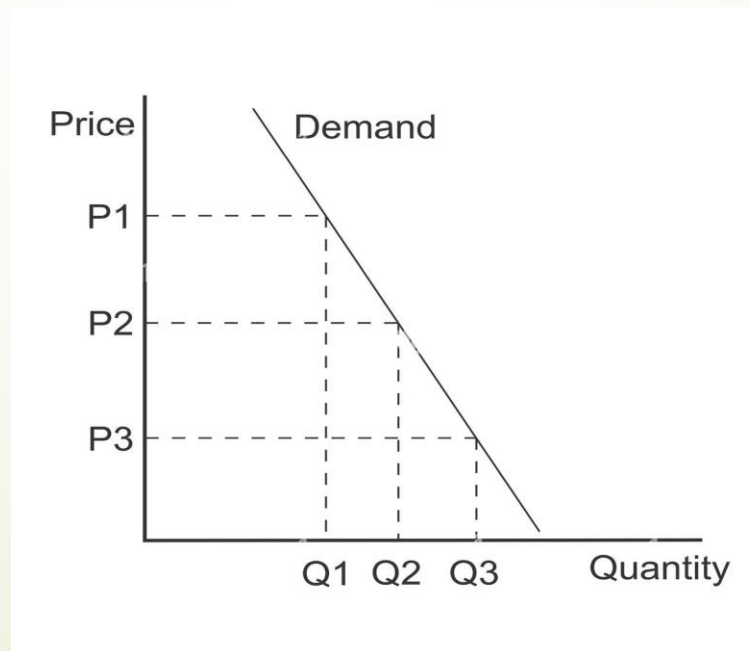
Price	Quantity demanded
Rs 10	100 units
Rs 8	150 units
Rs 6	200 units
Rs 4	250 units



Demand curve:

The demand curve is plotted by using the data from demand schedule.

- **Price** is marked in the 'y' axis and **Quantity demanded** is marked in the 'x' axis
- The demand curve slopes downwards from left to right indicating that when price rises, less is demanded and when price falls, more is demanded.
- This kind of slope is called negative slope.



Reasons for Law of Demand

Income effect:

It is the change in demand for a good or service caused by a change in consumer's purchasing power.

Substitution effect:

Change in demand for a commodity due to change in price of relative good. When a price of tea rises people buy coffee as a substitute. So demand for tea decreases

Elasticity of Demand

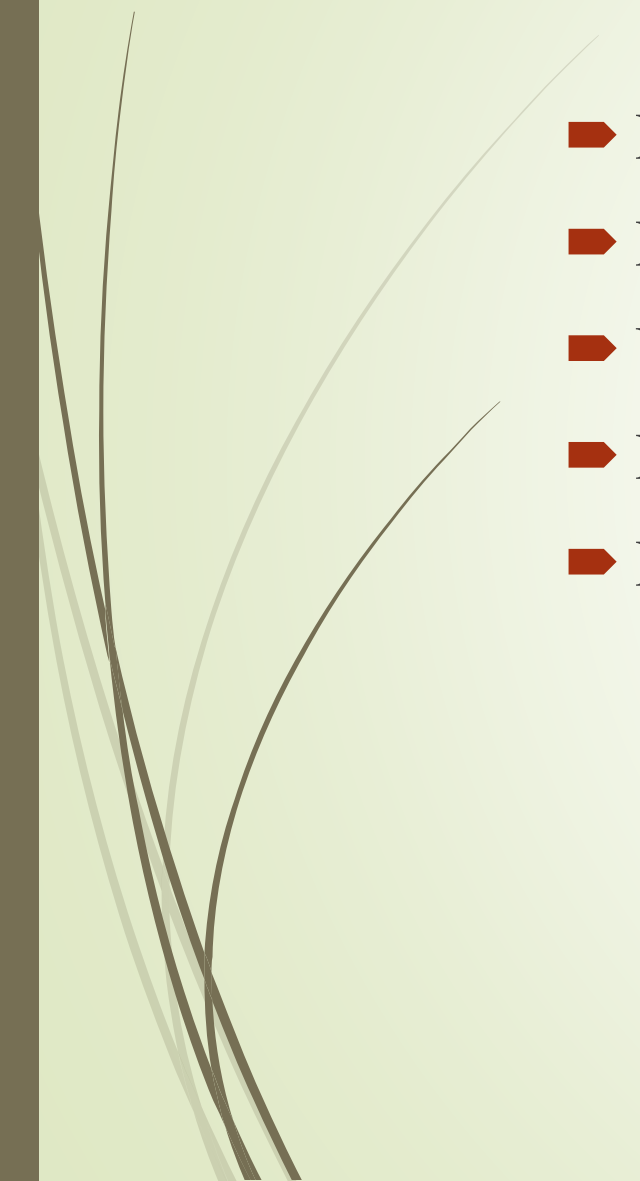
- **Elasticity** is the ratio of percentage change in the dependent variable to the relative change in an independent variable.
- **Elasticity of demand** is defined as the ratio of percentage change in demand to the percentage change in one of the determinants of demand.

There are three elastics of demand.

- *Price elasticity of demand*
- *Income elasticity of demand*
- *Cross elasticity of demand.*



Types of Price Elasticity of Demand/Degrees of Price Elasticity of Demand

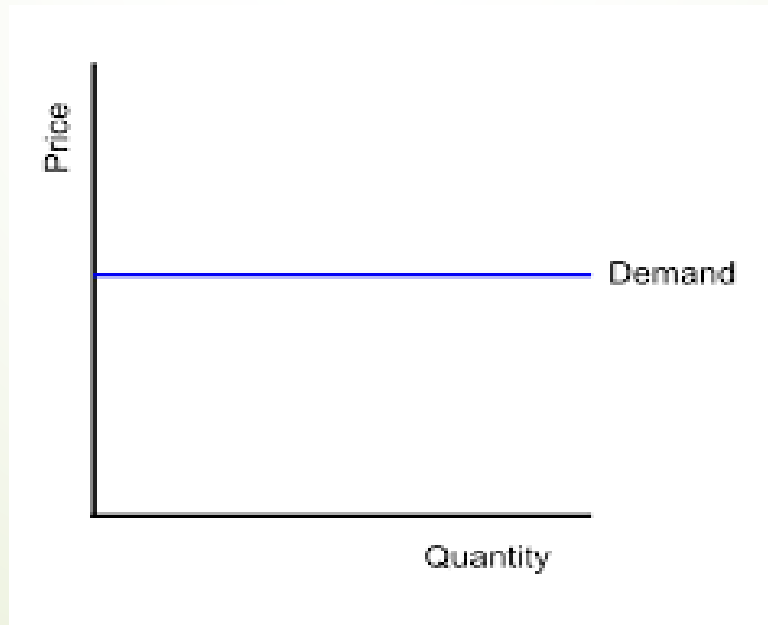
- Perfectly elastic demand
 - Perfectly inelastic demand
 - Unit elastic demand
 - Relatively elastic demand.
 - Relatively inelastic demand.
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Perfectly Elastic Demand

- A small change in price leads to infinite change in quantity demanded. Here the demand curve will be parallel to X axis.
- A slight fall in price can cause an infinite increase in demand.
- Also a slight rise in price will cause great fall in demand.

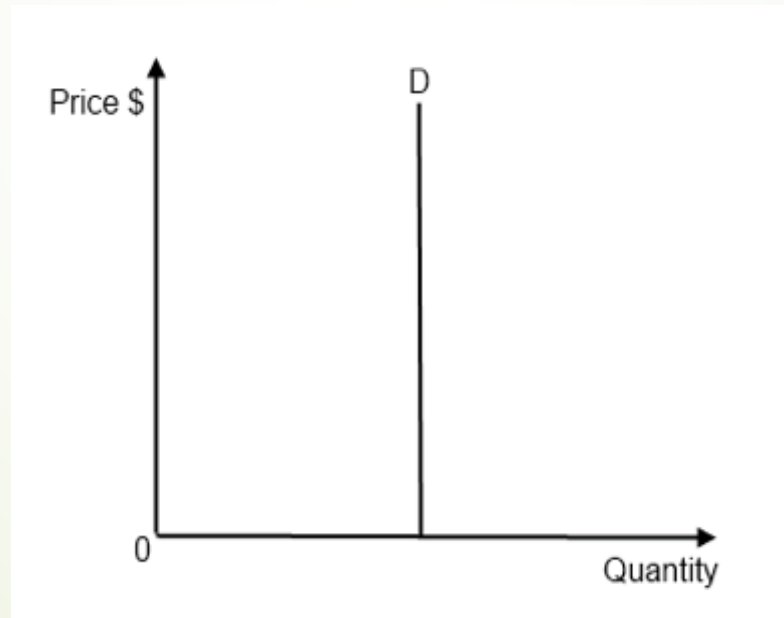
Perfectly elastic demand $e = \infty$

Shape of demand curve is horizontal.



Perfectly Inelastic Demand

- Here, even if the price increases or decreases quantity demanded will be same. Then the demand is said to be perfectly inelastic.
- **Perfectly inelastic demand $e=0$**
- **Shape of demand curve is vertical.**



Unit elasticity demand

- If a proportionate change in price leads to equal and proportionate change in quantity demanded, then demand is unit elastic demand
- Eg. if 10% is the increase of price, then 10% will be the decrease of quantity demanded.
- **Unit elasticity demand $e=1$**
- **Shape of Demand curve is Rectangular hyperbola.**

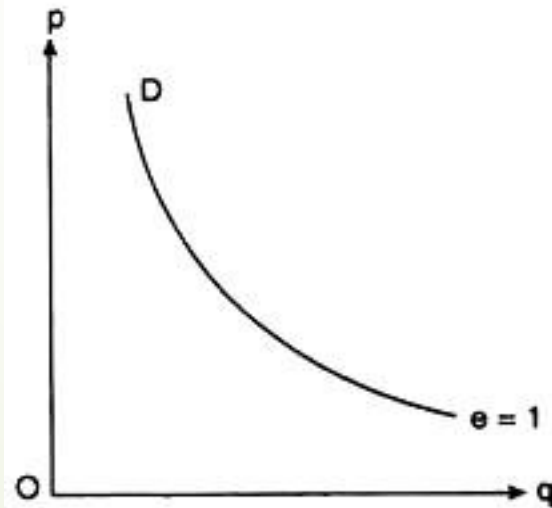
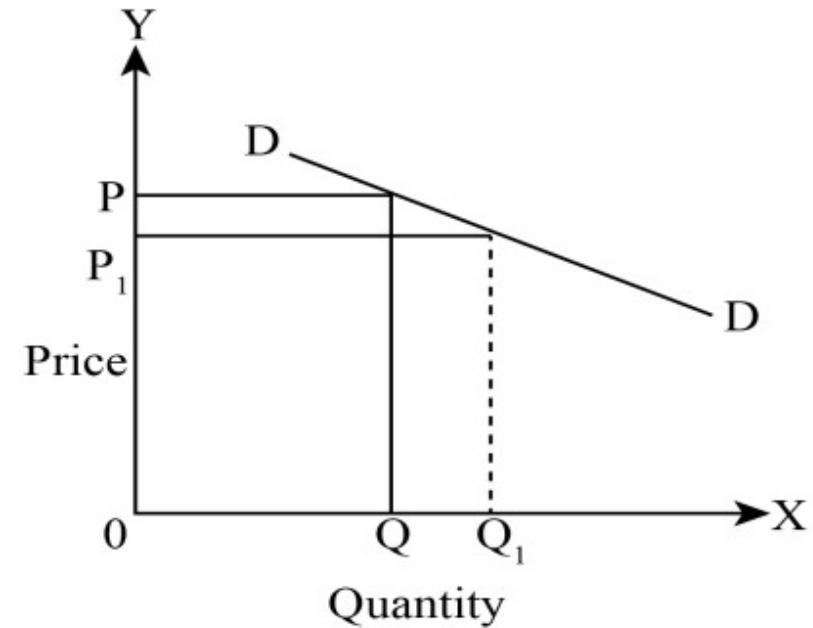


Fig. 2.2 Rectangular hyperbola demand curve ($e = 1$)

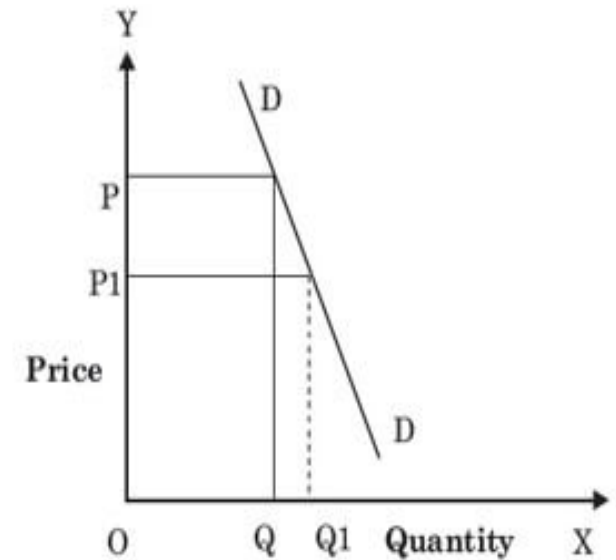
Relatively Elastic Demand

- If the **proportionate change in price leads to more than proportionate change in quantity demanded**, it is the case of elastic demand. Here price elasticity of demand is greater than 1.
- For Eg. If price changes by 10% then the change in quantity demanded will be 30%.
- Here the demand curve will be flatter.
- **Relatively elastic demand $e > 1$**
Shape of demand curve is flatter



Relatively Inelastic Demand

- If a proportionate change in price leads to less than proportionate change in quantity demanded, then it is the case of inelastic demand. Here price elasticity of demand is less than one.
- For. Eg. If price change by 10% , the change in quantity demanded will be 5%. Here the demand curve will be steeper.
- **Relatively inelastic demand $e < 1$**
Shape of demand curve is more steep.



1. Price Elasticity of Demand

- It is defined as the degree of response of quantity demanded to a change in price.
- Price Elasticity of demand represents the rate of change in the quantity demanded due to change in price.

$$\text{Price Elasticity} = \frac{(\% \text{ Change in Quantity})}{(\% \text{ Change in Price})}$$

- It is calculated using the equation $= \left(\frac{P_0}{Q_0} \right) \times \left(\frac{\Delta Q}{\Delta P} \right)$

Where,

P_0 – initial price

q_0 – initial quantity

$\Delta q = q_1 - q_0$ – change in quantity

$\Delta P = P_1 - P_0$ – change in price

Numerical example

Q) A mobile manufacturing company sells its mobile phones at a price of Rs:4500 per unit and in a year the company sells 10000 hand sets. When they decrease the price to RS: 4000 sales increase to 12000 units. What is the price elasticity of demand for his mobile phone?

Ans) $E_p = \left(\frac{P_0}{Q_0} \right) \times \left(\frac{\Delta Q}{\Delta P} \right)$

$P=4500$, $q= 10000$, $\Delta Q = 12000-10000=2000$, $\Delta P=4000-4500=-500$

$$\begin{aligned} \text{Therefore } E_p &= \frac{4500}{10000} * \frac{2000}{-500} \\ &= -1.8 \end{aligned}$$

I.e. Price elasticity of demand is 1.8

Since $E_p > 1$ the product has more elastic demand

2. Income Elasticity of Demand

- It is defined as the degree of responsiveness of quantity demanded to a change in income.
- A change in income influences the change in demand.
- Suppose a consumer's income is Rs. 30,000/- per month and he purchases 1 kg of fruits per month for his children. If his income increases to Rs 60,000/- per month then he is prepared to purchase 2 Kg of fruits per month.
- The income elasticity can be measured by using the following formula.

$$e_i = \frac{\% \text{ change in demand}}{\% \text{ change in income}}$$

$$\text{ie, } E_i = \frac{Y}{Q} * \frac{\Delta Q}{\Delta Y}$$

Where,

Y=initial income , Q= initial quantity , ΔQ = Change in quantity

ΔY =Change in income

Types of Income Elasticity

- Zero income elasticity
- Negative income elasticity
- Positive income elasticity.
- Zero Income elasticity

What ever may be the increase of income, some persons (misers) will not increase the purchase of goods and some products (salt) will not be affected by the increase or decrease of persons income.

- Negative Income elasticity

It is a condition in which demand for a commodity decreases with a rise in consumer income and increases with a fall in consumer income. Eg: inferior goods

- Positive Income elasticity

A positive income elasticity of demand associated with normal goods. An increase in income will lead to a rise in quantity demanded.

Numerical example

Suppose a consumer purchases 10 units of a commodity when his monthly income is Rs.20000. When his monthly income increases to Rs.25000, he purchases 12 units of it. Estimate income elasticity of demand and interpret its result.

Ans) income elasticity of demand = $\frac{Y}{Q} * \frac{\Delta Q}{\Delta Y}$

$$\begin{aligned} Y &= 20000, \quad Q = 10, \quad \Delta Y = 25000 - 20000 = 5000, \quad \Delta Q = 12 - 10 = 2 \\ &= \frac{20000}{10} * \frac{2}{5000} \\ &= 0.8 \end{aligned}$$

As the sign of income elasticity is positive, it is a normal good.

3. Cross Elasticity of Demand

- It is the degree of responsiveness of demand of a commodity due to a change in the price of another commodity.

$$\text{Cross elasticity of demand}(e_c) = \frac{\% \text{change in quantity demanded of X}}{\% \text{change in price of Y}} = \frac{P_y}{Q_x} * \frac{\Delta Q_x}{\Delta P_y}$$

- Where,

P_y = initial price of good Y

Q_x = Initial quantity demanded of good X

ΔQ_x = Change in quantity demanded of good X

ΔP_y = Change in price of good Y

- For Eg: If there is an increase in price of Coffee, then the demand for Tea will increase. Therefore, Coffee's price affects the Tea's demand.

- If cross elasticity of demand between commodity X and Y is zero, it means that commodities are not related.
- If cross elasticity of demand between commodity X and Y is positive, it means that the two commodities are substitute goods .
- If cross elasticity of demand is negative, then the commodities will be complementary goods.

Numerical example

Q) A consumer purchases 50 units of commodity X when its price is Rs.8/-per unit. In the next month he purchased 60 units at the same price. This was due to an increase in the price of another commodity Y from Rs.10 to 12. Calculate the cross elasticity of demand and interpret its result.

Ans) Cross elasticity of demand $= \frac{P_y}{Q_x} * \frac{\Delta Q_x}{\Delta P_y}$

Where, $P_y = 10$, $Q_x = 50$, $\Delta Q_x = 60 - 50 = 10$, $\Delta P_y = 12 - 10 = 2$

$$\frac{10}{50} * \frac{10}{2} = 1$$

Since $E_c = 1$ indicates it is unit cross elastic demand. As the sign is positive X and Y are substitute goods.

Supply

- Supply means the quantity of goods, which is offered for sales at a given price.
- The demand analyses the buyer side of the market and the supply analyses the seller side of the market.

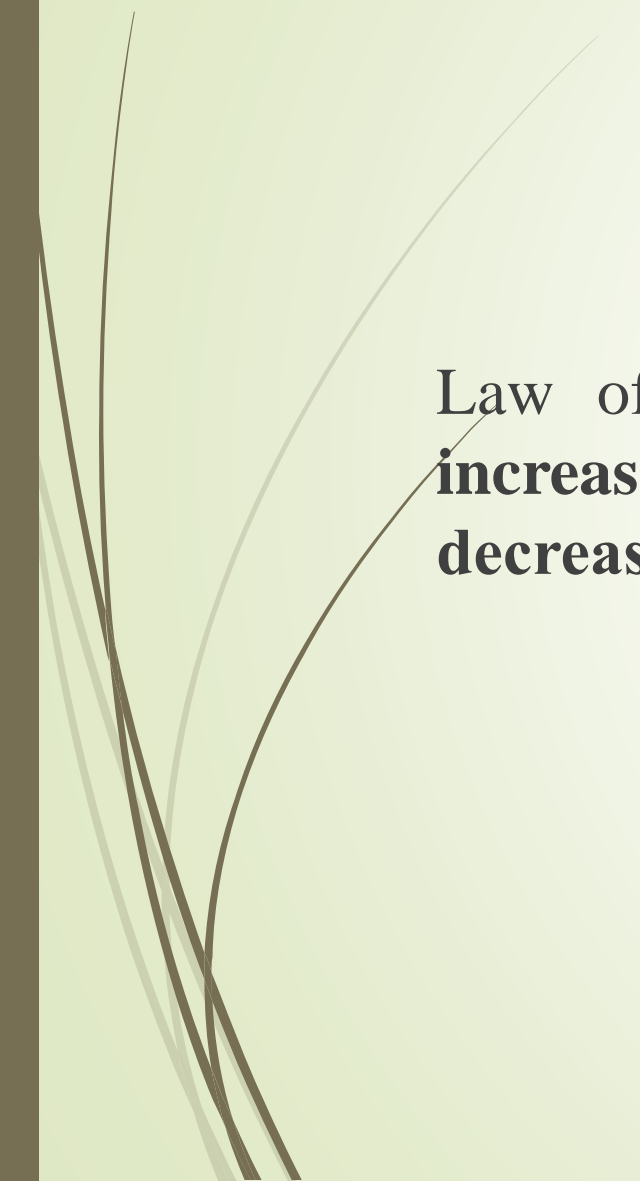
Factors influencing Supply

- **Price** :Positive relationship with price and quantity demanded. When price increases quantity supplied also increases. When price decreases quantity supplied also decreases.
- **Cost of production** : Higher cost of production discourages the producers to produce the goods and services. Lower cost of production encourages them to produce more.
- **Price of related goods**: Price of substitute and complementary good could also affect the supply of a product. For Eg. when the price of wheat increases, the farmers would tend to grow more wheat than rice. So this would potentially decrease the supply of rice in the market.
- **Natural causes**: rain, storm, earthquake etc.
- **Technology Development**: Advancement in technology boost the production. It helps the producers to produce more amount of goods and services in less time efficiently.
- **Government policy**.



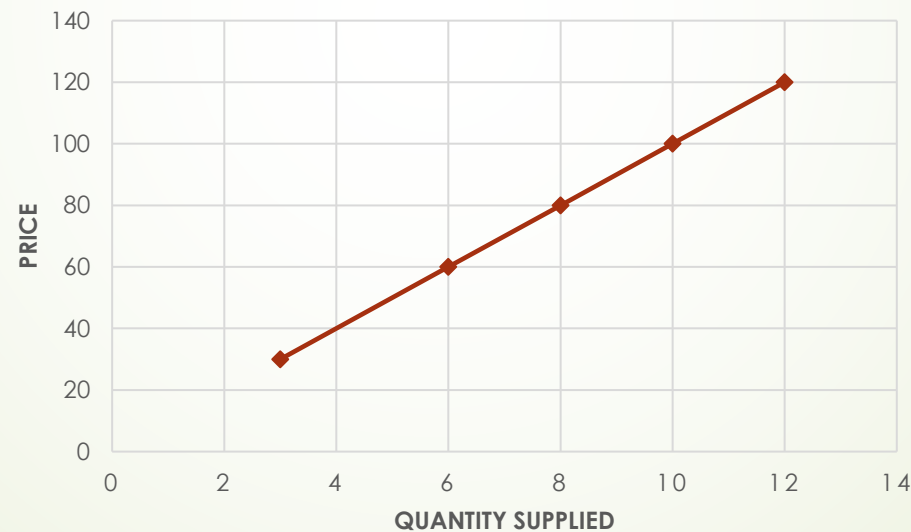
Law of Supply

Law of supply states that, “Other things being equal when price increases supply also increases. When price decreases supply also decreases”



Supply Curve

- ▶ Quantity supplied is plotted on the x-axis and Price is marked on the y-axis. For different price, different quantity will be supplied.
- ▶ Supply curve shows the relationship of supply with respect to price.
- ▶ Supply curve is upward sloping or it has a positive slope. It indicates the positive relationship between price and quantity supplied.



Price Elasticity of Supply

- The responsiveness of change in supply to the change in price is called as Elasticity of supply.
- If supply is perfectly elastic, slight change in price lead to infinite change in supply
- If supply is perfectly inelastic, change in price does not affect supply.
- Elasticity of Supply =
$$\frac{\% \text{ Change in Supply}}{\% \text{ Change in price}}$$

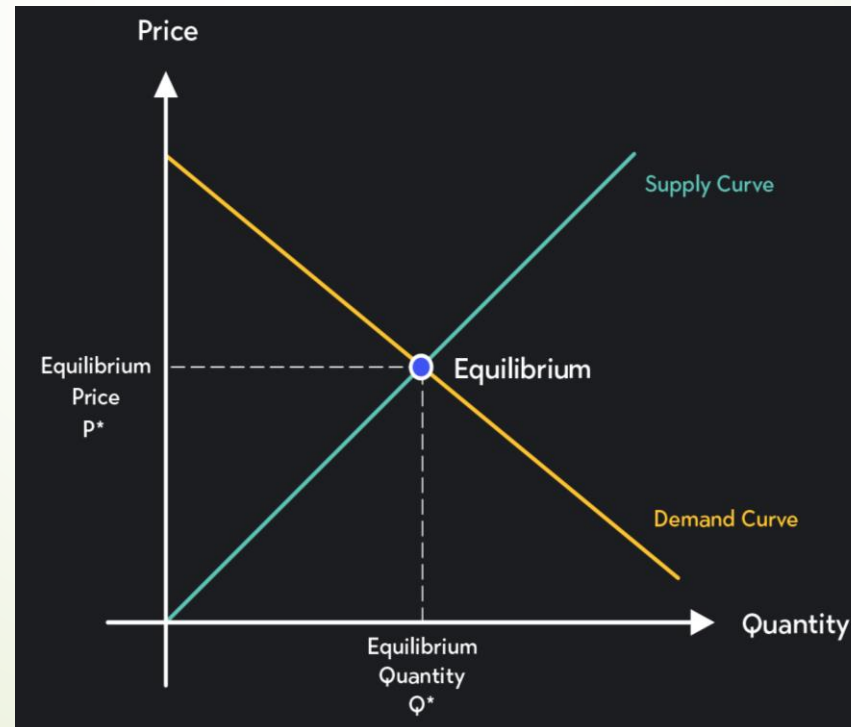
Equilibrium

- Equilibrium is the state of a system wherein the opposing forces balance each other and hence the system by itself continues to be in that state.
- The two forces which determine price of any commodity in market are demand and supply.
- At equilibrium the quantity that every consumer is willing to buy and every producer is willing to sell will be equal. i.e., at equilibrium, market demand and market supply will be equal.

Consider the following demand and supply schedule.

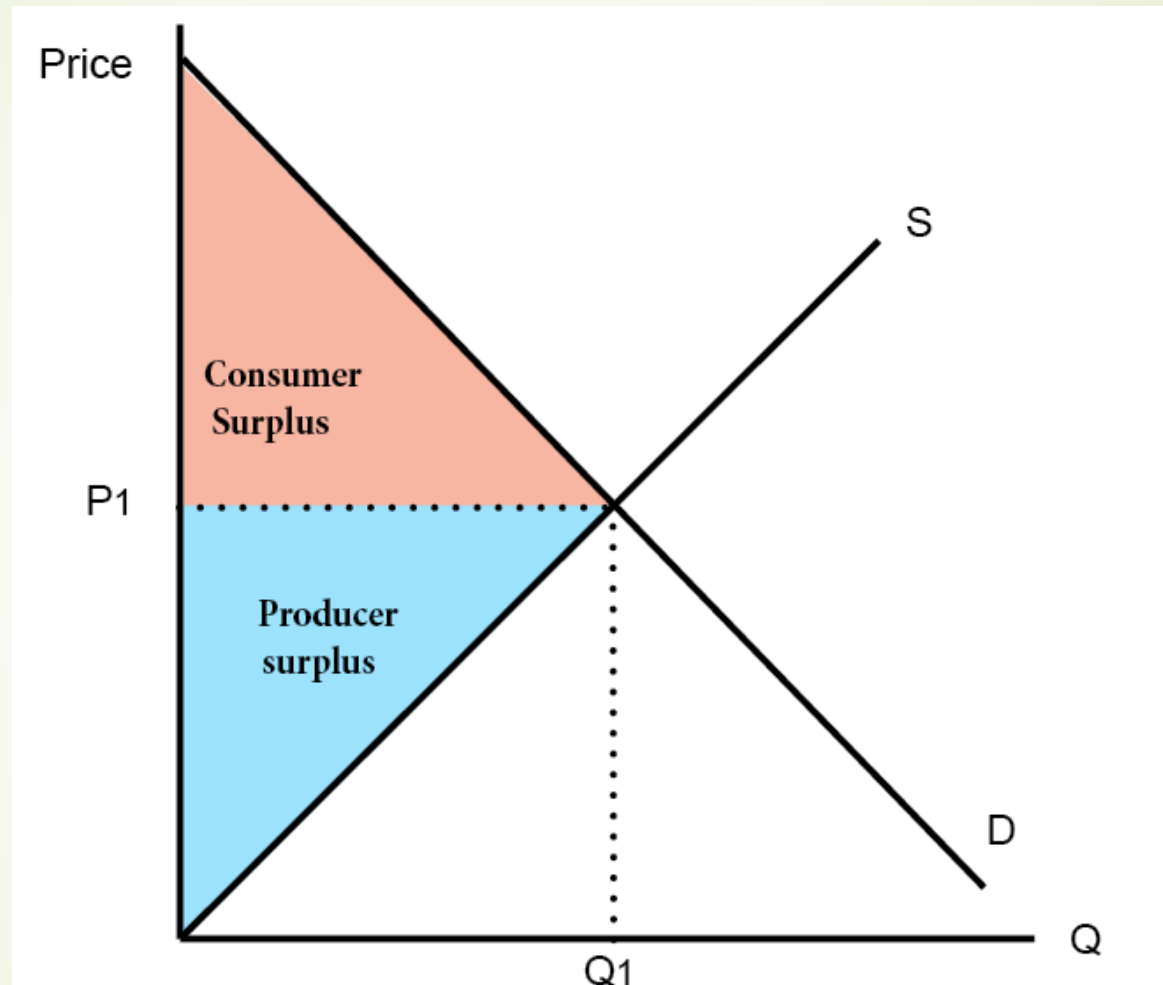
Price	Quantity demanded	Quantity supplied	
10	50	30	} excess demand
20	45	35	
30	40	40	→ Equilibrium
40	35	45	} excess supply
50	30	50	

- The price at which quantity demanded equals quantity supplied is known as **equilibrium price**. The quantity demanded and quantity supplied at equilibrium price is known as **equilibrium quantity**.
- If at a particular price quantity demanded is greater than quantity supplied, there exists **excess demand**. If at a particular price quantity supplied is greater than quantity demanded, then there exists **excess supply**.
- Thus, equilibrium is a situation where there is no excess demand and excess supply. When there is excess demand in the market, the price will increase and the market will reach the equilibrium. When there is excess supply, price will fall and equilibrium will be maintained.



Consumer surplus and producer surplus

- **Consumer surplus** is an economic measurement of consumer benefits resulting from market competition. A consumer surplus happens when the price that consumers pay for a product or service is less than the price they're willing to pay.
- For eg: Consumer surplus is the benefit or good feeling of getting a good deal. For example, let's say that you bought an airline ticket for a flight to Disney World during school vacation week for \$100, but you were expecting and willing to pay \$300 for one ticket. The \$200 represents your consumer surplus.
- **Producer surplus** is the difference between how much a person would be willing to accept for a given quantity of a good versus how much they can receive by selling the good at the market price. The difference or surplus amount is the benefit the producer receives for selling the good in the market.
- Producer surplus plus consumer surplus represents the total economic benefit to everyone in the market from participating in production and trade of the good.



Taxation

- Taxes are the most important sources of government income.
- Dr. Dalton defined a tax as “compulsory contribution imposed by a public authority , irrespective of the exact amount of securities rendered to the tax payer in return”

Canons of tax/ characteristics/ Principles of a good tax system

A good tax system depends on the level of government expenditure, role of the government and the level of economic development.

Canon of Equity:

Every person should be taxed according to his ability to pay that is the rich should pay more and poor should pay less so that taxes should be progressive in nature.

Canon of certainty:

The amount, time and method of tax should be clear and certain.

Canon of convenience:

While imposing tax, the time and method of tax payment should be convenient to the tax payers.

Canon of economical:

A good tax system should be economical to the government in the sense that the cost of collection of taxes should be small in proportional to the revenue from them.

Canon of elasticity:

The tax system should be elastic.ie, the national income increases as a result of economic growth the govt. revenue from taxes should also increase.

Canon of productivity:

A good tax system should be such as to bring in sufficient revenue in the treasury.

- Mainly taxes are of two types they are:

(1)Direct Tax (2)Indirect Tax

Direct Tax

- Direct tax is the tax imposed by government directly on the income of individuals and firms. Here impact and incidence of tax falls on the same person. Here , the burden of the tax cannot be shifted to other persons.
- **Impact of the tax- first resting place of the burden of the tax**
- **Incidence of the tax- Final resting place of the burden of the tax**
- The tax payer knows what to pay , why to pay and when to pay the direct tax.
- e.g income tax, wealth tax, property tax, corporate tax etc.

Merits of direct tax

Elasticity

Economy

certainty

Equity

Demerits of Direct tax

Inconvenient

Evasion of taxes

Narrow coverage

Indirect Tax

- Taxes on commodities are generally called indirect taxes
- They are those falls indirectly on individuals. Here the impact and incidence of tax falls on different persons. Here the burden of tax can be shifted to other persons.
- When we buy a TV from the market, we have to pay the sales tax to the shopkeeper in addition to the price of TV.
- Thus, the buyer has to pay the tax indirectly to the government, through the shopkeeper . Such taxes are called indirect tax.
- E.g GST.

Merits

Convenient

Less evasion

Wide coverage

Elastic

Universality

Demerits

Regressive

Evasion

High cost of collection

Uncertainty

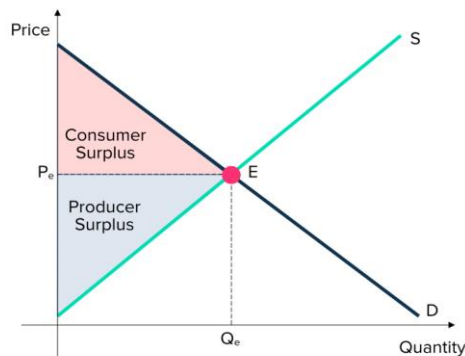
GST

- Goods and service Tax or GST is an indirect tax levied on the supply of goods and services. GST launched with effect from 1st July 2017,
- Earlier before GST was implemented, state Government levied sales tax on Value Added Tax (VAT) on the sale of goods. In addition, central sales Tax (CST) was levied on inter state sale of goods by the Central Government. This multiplicity of taxes at the state and central levels had resulted in a complex indirect tax structure in the country. Also, there was no uniformity of tax due to tax on tax.
- GST is the new unified, multi stage and consumption-based tax levied on manufacture, sale consumption of goods and services at national level to replace all the existing national and state tax systems like VAT, sale tax, service tax, excise duty, import duties. The collection of tax is done at the time of supply of goods. GST is charges on the value or selling price of the products at the prescribed rate of tax. The GST scheme consists of different slab structure under which the proposed goods and services will be taxed accordingly.

Dead Weight Loss

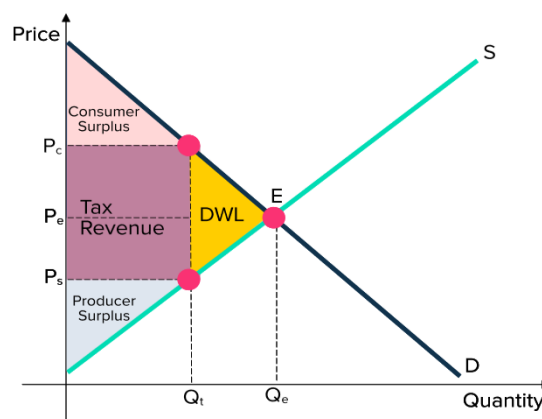
Deadweight loss refers to the loss of economic efficiency when market equilibrium is disrupted, typically due to a tax, price control, or other market inefficiencies. A deadweight loss is also called efficiency loss.

Figure 1 shows that the red shaded area is the consumer surplus and the blue shaded area is the producer surplus. When there is no inefficiency in the market, meaning the market supply is equal to the market demand at E, there is no deadweight loss.



Let's say the government imposes a tax on your favorite brand of sneakers. This tax increases the cost for the manufacturer, who then passes it onto the consumers by hiking the price. As a result, some consumers decide not to buy the sneakers because of the increased price. The tax revenue the government gains does not make up for the satisfaction lost by the consumers who could no longer afford the sneakers, or the income the manufacturer lost due to fewer sales. **The shoes that weren't sold represent a deadweight loss – a loss of economic efficiency where neither the government, consumers, nor manufacturers benefit.**

When the government decides to place a per-unit tax on a good, it makes a difference between the price that consumers have to pay and the price that producers receive for the good. **In Figure 2 below**, the per-unit tax amount is $(P_c - P_s)$. P_c is the price that consumers have to pay, and the producers will receive an amount of P_s after the tax is paid. The tax creates a deadweight loss because it reduces the quantity of the goods being bought and sold from Q_e to Q_t . It reduces both consumer and producer surplus.



- When a new tax is introduced, the price paid by the buyers rises and the price received by sellers falls. There is a loss in the real income of both buyers and sellers.
- As the price of a good increases due to the introduction of a new tax, buyers reduce their purchases and the sellers are able to sell less of the good than before. Thus, the size of the market shrinks.

In economics, **deadweight loss** is defined as the inefficiency resulting from a divergence between the quantity of a product or service produced and the quantity consumed, including government taxation. This inefficiency signifies a loss that no one recovers, and thus, it's termed as a 'deadweight'.