Price Mechanism

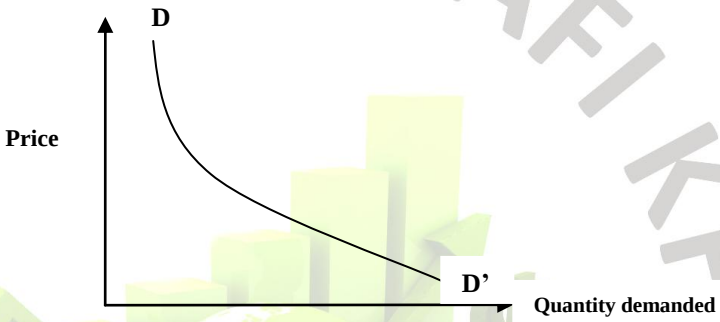
In market economic system all decisions are taken on the bases of price mechanism. Price mechanism is based on two invisible hands i.e. demand and supply forces.

Demand is the amount of goods and services which a consumer is willing and able to buy at certain price in the given period of time. For instance if a consumer is willing to buy 10 units of a commodity at $1 each in a week time, 10 units will be considered as quantity demanded.

For an **effective demand** two conditions are met, first there is **a desire to purchase** and secondly, there is a **power to purchase**. If one of the conditions is missing there is no effective demand.

Under the given circumstances price and quantity demanded are inversely proportional to each others. This relation can be explained with the help of theory of demand. The theory says 'ceteris paribus, as price increases demand decreases and if price decreases demand will be increased'.

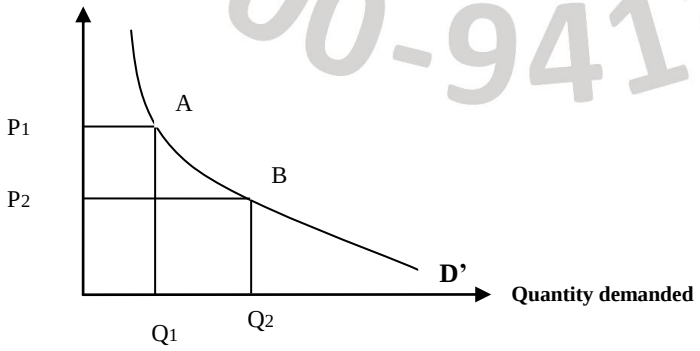
Price	Demand
1	10
2	8
3	6
4	4
5	2



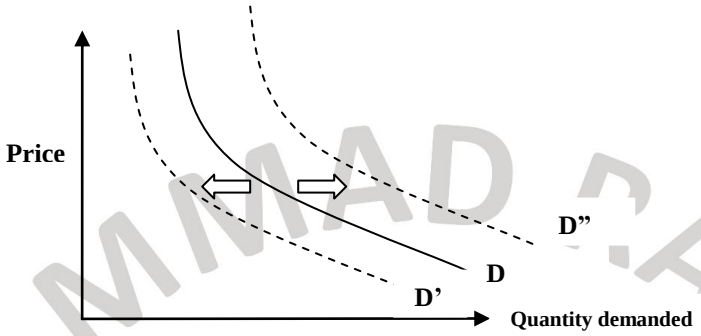
In the above table it is shown as price increases demand decreases and vice versa. This is why demand curve of normal goods is negatively sloped which move from left to right. Theory of demand can be proven only under certain conditions which are called as ceteris paribus factors or exogenous factors. These are: there should not be any change in income, fashion, mind set, number of consumers, prices of related goods, future expectations, weather conditions, government policies, economic conditions etc.

Changes in Demand

Demand changes due to price and non price factors. If demand increases due to fall in price it is called ***extension*** in demand. There is a movement along the curve downwards (A to B). On the other hands if demand decreases due to increase in price, it is called ***contraction*** in demand. There is a movement along the curve upwards (B to A). if demand changes due to change in price, it is called as **change in quantity demanded.**



Due to non price factors there is a complete shift in demand curve. If demand increases due to non price factors, there is a complete ***rightwards shift*** in demand curve. It is also called as ***rise*** in demand. On the other hands if demand decreases due to non price factors, demand curve ***shifts leftwards***. It is called ***fall*** in demand. Due to rise or fall demand changes at each and every price and it is called as **change in demand.**



Determinants of demand

The first important determinant of demand is price. Under the given circumstances price and quantity demanded of normal goods are inversely proportional to each others. That is, as price increases there is a fall in purchasing power of the consumer hence there is a contraction in demand and if price falls purchasing power will be increased hence demand will be extended. In case of **'Giffen goods'** which are special kind of inferior goods, as price falls demand will fall too. Such goods have positively sloped demand curve.

Second important determinant of demand is income. As income changes there is a change in the ability of a consumer to buy. For instance as income increases purchasing power will be increased and consumer buy more of the goods. On the other hand as income decreases, there is fall in demand. Income and demand for normal goods are directly proportional to each other. Whereas, in case of inferior goods as income increases demand for inferior goods will be decreased because people prefer to buy better quality product.

Thirdly, prices of related goods also have affect on the demand for a product. For example, if price of complementary good increases demand for given good will be decreased because complimentary goods are **jointly demanded**. On the other hand if price of the substitute increases demand for given good will be increased and the otherwise. Such goods (substitutes) have **competitive demand**.

Number of consumers is also an important determinant of demand. Individual demand schedule shows demand of an individual consumer for a product at different prices, whereas market demand curve shows demand schedule of all consumers in a market of the given product at different prices. It is calculated by adding individual demands' schedule horizontally. If number of consumers are increased demand curve shifts rightwards otherwise leftwards.

Taste and fashion can also change demand. If there is a change in the taste of a consumer, demand for given good will be changed. For instance if a consumer convenient to use cell phone instead of land lines, demand for cell phone increases and demand for land lines will fall. Similarly if a product is in fashion its demand rises whereas demand for outdated product falls.

Demand also is influenced by ***consumers' expectation.*** If consumers expect a rise in price in future, demand will be increased even price starts rising and if they expect a fall in the price in future demand will fall too even at falling price at present, such as in the stock market.

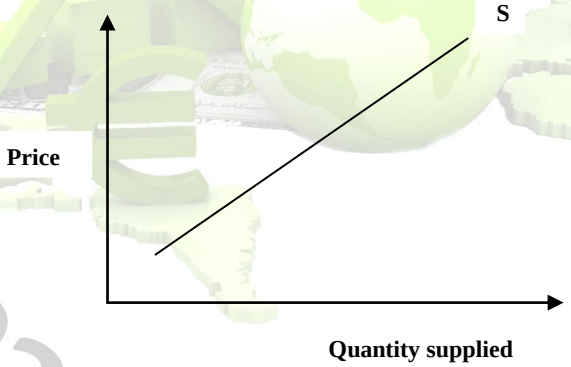
There is another factor which determined demand is ***government policies.*** If government policies are favorable, for instance a fall in direct taxes and interest rates

may cause a rise in demand, otherwise there is a possibility of fall in demand if government makes tight policies like increase interest rate or increase direct taxes.
Economic conditions can also change demand. If economy experiences growth, employment and income rise, therefore demand will be increased. But if economy is in recession, consumers spending power falls hence demand falls too.
Advertising is also a very important determinant of demand. An effective advertisement campaign persuades consumes to buy. Therefore demand will be increased.
Weather conditions also change demand. For example, in summer demand for ice cream increases where as in winter there is an increase in the demand for coffee and tea.

Supply

It is the amount of goods and services which a producer is willing and able to sell at the given price in specific period of time. For an **effective supply** once again two conditions are met. One, ability to sell and secondly, willing to sell. If a firm has the ability to sell but is not willing to sell that it is considered as **stock.**
Under the given conditions price and supply have a direct relation, that is, as price increases supply will be increased and if price decreases supply will be decreased. Producer is willing to produce more at higher prices because now he can afford to employ more factors of production and reap up more profit.
It is also called as ***Law of Supply.***
For instance, in the following table it is cleared that as price increases supply will be increased and vice versa. Similarly if we plot this schedule on the graph, supply curve will be positively sloped and move from left to right, which shows a direct relation between the given variables.

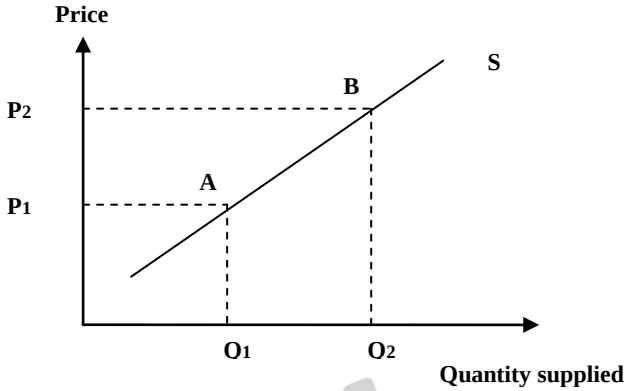
Price	Supply
1	2
2	4
3	6
4	8
5	10



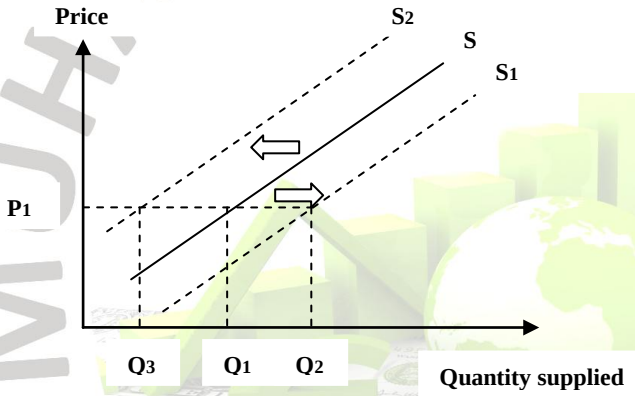
Ceteris paribus factors to prove the law are: No change in number of firms, no change in cost of production, technological changes, weather conditions, future expectations, government policies, economic conditions etc.

CHANGES IN SUPPLY

If supply increases due to increase in price it is called an ***extension*** in supply, there is a movement along the curve upwards (A to B), whereas, if supply decreases due to fall in price it is called ***contraction*** in supply and there is a movement along the curve downwards (B to A). if supply changes due to change in price, it is called as change in **quantity demanded**.



Supply curve will shift rightwards completely if it increases due to non price factors and it is called as **rise in supply**. On the other hands there is a complete leftwards shift in supply curve if supply decreases due to non price factors and it is called as **fall in supply**. Due to rise or fall supply changes at each and every price and it is considered as **change in supply**.



Determinants of supply

The first important determinant of supply is price. Under the given conditions price and supply have a direct relation, that is, as price increases supply will be increased and if price decreases supply will be decreased (law of supply). Producer is willing to produce more at higher prices because now he can afford to employ more factors of production and reap up more profit.

Secondly, number of producers can also change supply. As number of producer increases supply will be increased, and, therefore, supply curve will shift rightwards. In case of decrease in the number of producers supply will be decreased and curve shifts leftwards. Individual supply curve shows supply schedule of and individual firm, whereas, market supply curve shows supply schedule of all firms. Market supply is calculated by adding individual supply schedules horizontally.

Thirdly, cost of production plays an important role in the determination of supply, as cost of production increases supply will be decreased due to fall in the real budget of producer, therefore, supply curve will shift leftwards. However, if cost of production decreases, a firm can increase its supply within the given budget and curve shifts rightwards.

Technological changes have a favorable impact on the production. It changes techniques of production which reduces costs and improves quality as well as quantity of production. Therefore, supply curve will shift rightwards.

Another important determinant of supply is ***weather conditions.*** Usually it applies on agricultural sector. Where a favorable weather conditions increase production and

unfavorable weather conditions decrease production. It also affects other sectors of the economy too. Where, supply of goods and services will fall in unfavorable weather conditions.

Government policies have very much importance in the production. If government forms some favorable policies, like reduction in the rate of taxes and interest rates or increase in subsidies or grants, supply will be increase and supply curve shifts rightwards but in case of unfavorable policies curve shifts leftwards.

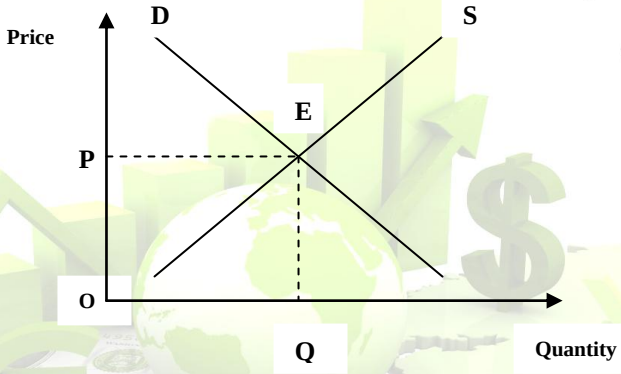
Economic conditions also play their role. If an economy is heading towards boom, producers are encouraged to produce more and supply curve will shift rightward. But on the other hands, if economy is experiencing recession supplier will be reluctant, hence supply falls.

If ***input factors are sufficiently available***, supply will be increased but in case of shortage of these factors supply will be decreased and supply curve will shift leftwards.

Price Determination/ Market Equilibrium

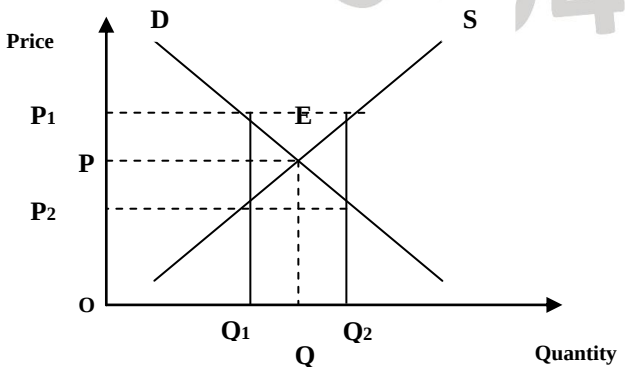
Market is in equilibrium at that point where demand is equal to supply. At this point whatever is produced will be consumed at the given price. This price is also called as market clearing price.

Price	Demand	supply
1	10	2
2	8	4
3	6	6
4	4	8
5	2	10



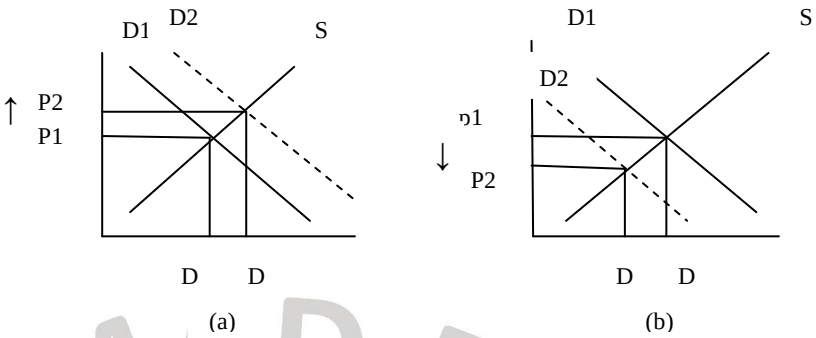
In the above diagram demand and supply forces are equal at point 'E'. Hence OP will be the equilibrium price and OQ will be the equilibrium output.

If price is above than the equilibrium price, market experiences **an excess supply**. If price is below than the equilibrium price there is an **excess demand** as is shown in the following fig. at price OP1 demand will be OQ1 where as supply is OQ2, therefore Q1 toQ2 will be the excess supply. On the other hands if price is OP2 demand will be OQ2 and supply will be OQ1, hence there is an excess demand. In both of the cases there is a state of disequilibria. When there is an excess demand, price will be increased, therefore supply will be extended and demand will be contracted. Once again there is market equilibrium. When there is an excess supply, price decreases, supply contracts and demand extends and market achieve its equilibrium.

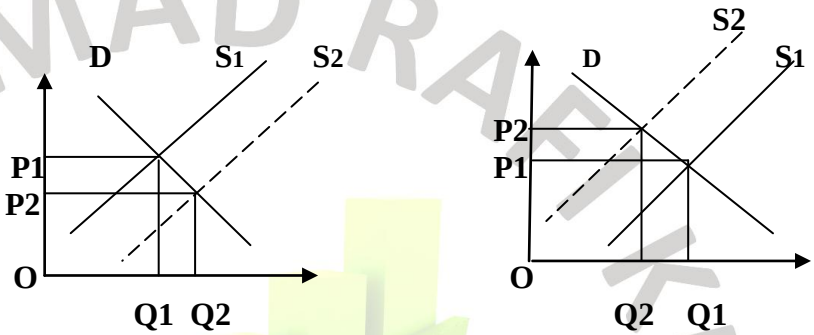


Market equilibrium changes if there is any change occurs in non-price factors due to which there is a complete leftwards or rightwards shift in demand or supply curves.
For instance, if

a) D↑ → P↑
b) D↓ →P↓



c) S↑→P↓
d) S↓→P↑



e) D↑> S ↑→ P↑
f) S ↑> D↑→P↓

g) D↓> S↓→P↓
h) S↓> D↓→P↑

Price Elasticity of Demand

It is the degree of responsiveness in quantity demanded due to change in price.

$$\text{PED}=\frac{percentage change in\ quantity demanded}{percentage change in\ price}=\frac{\%\Delta Qd}{\%\Delta P}$$

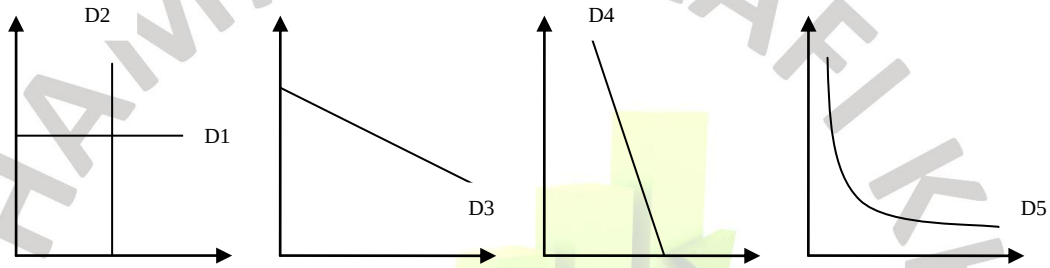
Or

$$\text{PED}=\frac{\Delta Q}{\Delta P}\times\frac{p1}{q1}$$

Price elasticity of demand of normal goods will be negative it shows an inverse relationship between price and quantity demanded.
There are five different concepts of price elasticity of demand.

1. Infinite elastic or perfectly elastic means when there is no change in price but demand changes. In this case demand curve is parallel to X-axis as in D1. (PED=∞)

2. Zero elastic or perfectly inelastic means when there is a change in price but no change in quantity demanded. In this case demand curve is parallel to Y-axis as in D2. (PED=0)
3. Demand will be considered elastic when percentage change in quantity demanded is more than the percentage change in price (%ΔQD>%ΔP). It shows a minor change in price can bring a relatively bigger change in demand. Demand curve will be flatter as in D3 (PED>1).
4. Demand will be considered in-elastic when percentage change in price is greater than the percentage change in quantity demanded. It means even a big change in price unable to bring considerable change quantity demanded (%ΔQD<%ΔP). In this case demand curve will be steeper as in D4 (PED<1).
5. Demand will be unitary elastic when percentage change in quantity demanded is equal to the percentage change in price (%ΔQD=%ΔP). In this case demand curve will be of hyperbola shaped as in D5 (PED=1).



Total outlay method

According to this method elasticity of demand can be observed by the change in total outlay as price changes.

Price($)	Quantity	Total outlay($)
5	10	50
4	15	60
3	20	60
2	25	50
1	30	30

For instance, as price decreases from $5 to $4, demand will be increased from 10 units to 15 units and total outlay increases from $50 to $60. If expenditures or revenue increases due to fall in price demand will be elastic. Similarly as revenue falls due to increase in prices demand will be elastic. On the other hand if total outlay or revenue remains the same even price changes demand will be unitary elastic.

On the other hands if revenue increases due to increase in price or decreases due to fall in prices as, when price falls from $3 to $2, revenue will be decreased from $60 to $50, demand will be inelastic.

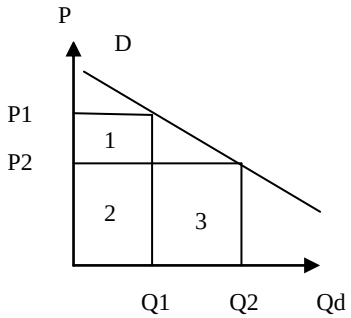


Fig 1

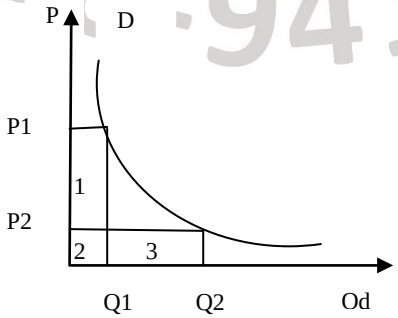


Fig2

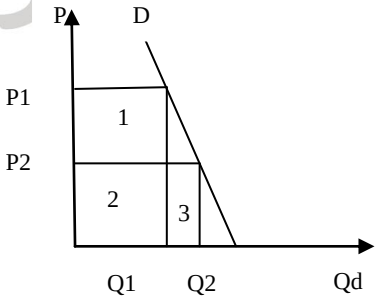
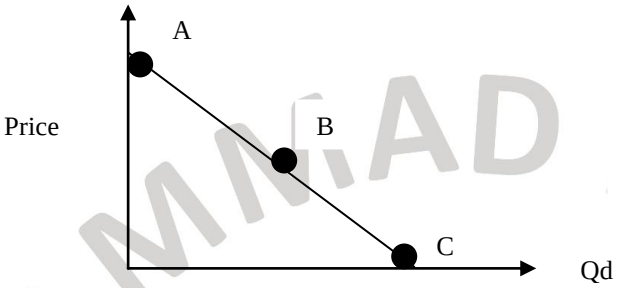


Fig3

In fig1 as price falls P1 to P2, and Δ2+Δ3 is larger than Δ2+Δ1, hence demand is elastic.
In fig2 as price falls P1 to P2, and Δ2+Δ3 is equal to Δ2+Δ1, hence demand is unitary elastic.
In fig3 as price falls P1 to P2, and Δ2+Δ3 is smaller than Δ2+Δ1, hence demand is inelastic.

Price elasticity of demand along the demand curve

PED varies along the demand curve. As we move along the curve downwards PED falls.



At point 'A' PED=∞
At point 'B' PED=1 provided that 'B' is the center of the curve. Between A and B PED>1, between B and C PED<1 and at 'C' PED=0

From the above diagram it can be concluded that at the higher prices demand will be elastic but at low prices demand will be inelastic.

Determinants of PED

PED is different for different goods. For instance, PED for necessities of life is inelastic because consumer has to consume in certain quantity even there is a big change in prices. Similarly, demand for habit forming goods will be inelastic too. People stick to the products even their price changes. Brand loyalty also makes demand inelastic. Demand for luxuries is usually price elastic because as there is a fall in price demand will be increased considerably.

PED depends on number of substitutes available. More the substitutes higher will be PED and vice versa.

PED also depends on proportional spending of income by a consumer. If a consumer spend large proportion of his income on a product demand will be elastic, on the other hand if a consumer spend smaller proportion of his income on a product its demand will be inelastic. For example demand for holidays is more elastic as compare to demand for salt.

Another determinant of PED is the time period. In the short run demand will be inelastic because consumers stick with the certain pattern of consumption whereas in the long run they can change their consumption pattern, hence, demand will be elastic.

Importance of Price elasticity of demand

Concept of PED is very important for a producer. A producer can increase his sales revenue if he knows about the PED of his product. For instance, if his demand is price elastic than by reducing prices firm can generate more sales revenue on the other hand if demand is price inelastic a producer will prefer to increase prices to increase sales revenue.

Secondly, if demand for the product is elastic, then goods may have many close substitutes so firm shouldn't raise price, otherwise it will lose many customers. For example primary products have many close substitutes hence their demand is mostly elastic therefore producers always keep their prices low.

It also helps firms to predict and develop strategy for future. For instance, if a firm knows about the price elasticity of demand of its product, it can develop a strategy that hoe much change should be brought to achieve the given target.

Government also uses concept of PED. When government wants to increase tax revenue, it will levy on those goods which demand is inelastic. Similarly if it wants to discourage consumption of certain goods it will have to see PED. If demand is elastic by levying minor tax objective can be achieved. On the other side some habit forming goods have low PED, therefore government able to generate more revenue without disturbing much of production and employment.
(Also see determinants of demand)

Income elasticity of demand (YED)

It is the degree of responsiveness in quantity demand due to change in income. It can be calculated with the help of following formula.

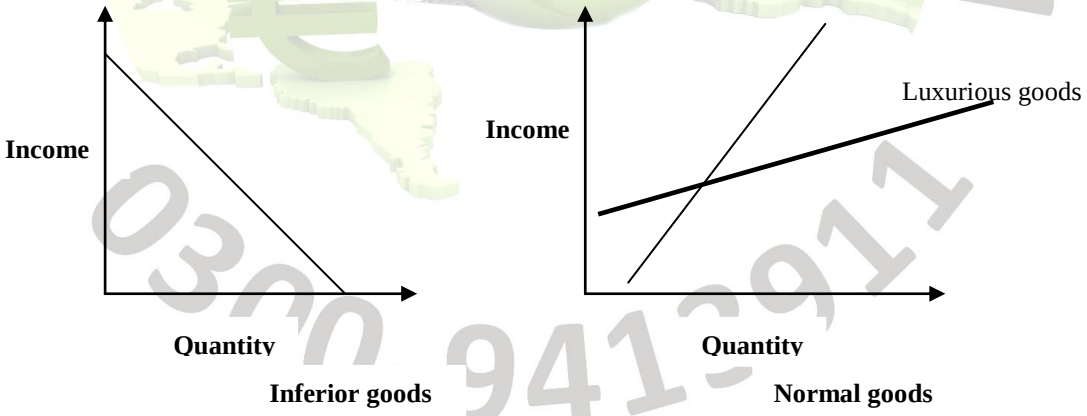
$$\text{YED}=\frac{percentage change in\ quantity demand}{percentage change in\ income}=\frac{\%\Delta Qd}{\%\Delta P}$$

Or

$$\text{YED}=\frac{\Delta Q}{\Delta Y}\times\frac{y1}{q1}$$

Income elasticity of demand for normal goods is positive which shows an increase in income will lead to increase in the consumption of normal goods.
Income elasticity of demand for inferior goods is negative which shows an increase in income will reduce consumption of inferior goods and consumer prefer to buy other goods as there is an increase in real income.

Followings are the Engel's curves which determine relationships between households' income and consumer demand. Engel's curve of inferior good is negatively sloped whereas normal goods are positively sloped. Luxurious goods have flat and positively sloped Engel curve which sows more proportional changes in demand as compare to another normal good even there is an equal change in income.



Importance of Income elasticity of demand

Before production producer will have to consider changes in consumer income. If economy experiences an economic growth which leads to increase in consumers' income, producer should produce more normal goods which have positive income elasticity of demand, but on the other hand if economy experiences recession, producer should produce more of inferior goods which have negative income elasticity of demand.

Similarly producer should also assess his product whether income elasticity of demand for the product is elastic (YED>1) or inelastic (YED<1). If YED>1, more changes

are expected in demand, so firms should give quick response to the change in income for their survival.

The concept of YED is also enable firms to forecast future sales. If they know the value of YED of their product and predict change in income of people, they can easy calculate their future sales revenue.

Firms may also use concept of YED in pricing policy following a change in income. For instance, if a product has +ive YED, and income starts falling, firms reduce prices to compensate consumers for reduction in their demand.

Values of Income elasticity of demand are very important for government also. Government can levy the tax depending on the nature of the product. Usually goods which are commonly used have low income elasticity of demand, therefore government does not levy high taxes but goods which have high elasticity of demand are usually lavish, therefore, government levies high taxes on such goods.

This concept also helps government to make regional policies. More often, different region are specialized in different types of industries. If an area specialize in production of such goods which are inferior by nature, then there is a possibility of unemployment in that area as income grows, so , it helps government to make appropriate policies to avoid severe consequences.

Cross elasticity of demand

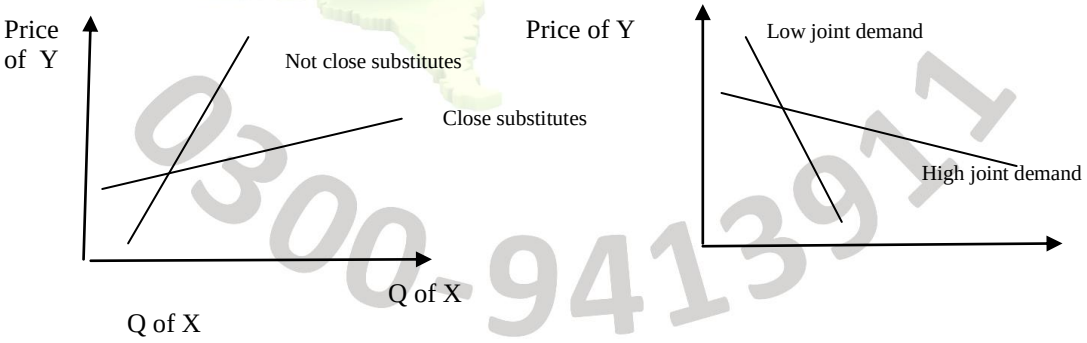
It is the degree of responsiveness in demand for one good due to the change in the prices of related goods, i.e.; substitutes and complementary goods.

$$XED_{xy} = \frac{\text{percentage change in Qdx}}{\text{percentage change in Py}} = \frac{\%\Delta Qdx}{\%\Delta Py}$$

Or

$$XED_{xy} = \frac{\Delta Qx}{\Delta Py} \times \frac{P1}{Q1}$$

Complementary goods have ***negative*** cross elasticity of demand where as substitutes have ***positive*** cross elasticity of demand. Greater the value of negative cross elasticity of demand, goods are highly jointly demanded, similarly, greater the value of positive cross elasticity of demand closer will be the substitutes. If cross elasticity of demand zero there is no relationship between goods.



Importance of cross elasticity of Demand

Usually goods have joint or competitive demand. Therefore, change in the price of one good, definitely affect the demand of another related goods. For example, if there is a change in the price of petrol, there will be change in demand for cars and compressed natural gas as an alternative for petrol. This concept is very helpful in price strategy. If the given good has high positive cross elasticity of demand, it means that good have some very close substitute. If a producer wants to increase his total revenue, he will have to reduce his prices definitely. In case if he increases his prices, he will lose many of his customers. On the other hand if cross elasticity of demand of the product is low, he can increase prices to generate more revenue because of no close substitute.

Similarly, in case of negative cross elasticity of demand, firms not only will have to see availability of complementary goods but also see the changes in their prices. Companies are increasingly concerned with trying to get consumers to buy not just one of their products but a whole range of complementary ones, for example computer printers and printer cartridges. Cross elasticity of demand will identify those products that are most complementary and help companies to introduce that price strategy which generate more revenue.

The knowledge of cross elasticity of demand also allows the firm to develop a strategy to reduce exposures to risk associated with the change in prices of related goods, such as rise in price of complementary goods or fall in price of substitutes.

Firms use these concepts to reduce risk through taking over or integrations. For example, firm which high positive cross elasticity of demand have high tendency to integrate horizontally. Whereas firms with high negative cross elasticity of demand usually involve in vertical integration e.g. a filling station merge with an oil refinery.

The concept of cross elasticity of demand is also important for the state. Usually firms having high and positive cross elasticity of demand are used to integrate or collude to exercise monopoly power which exploit consumers. Therefore regulatory authorities assess the probabilities of formation of such integration and make policies to protect consumers.

Price elasticity of supply

It is the degree of responsiveness in quantity supplied due to change in price.

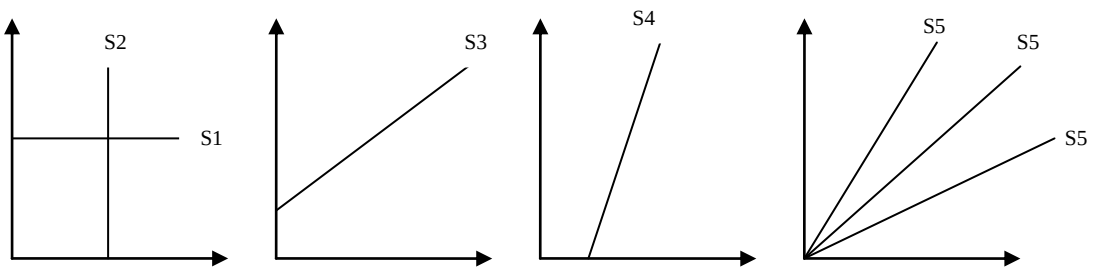
$$\text{PES}=\frac{percentage change in\ quantity \text{sup}\ plied}{percentage change in\ price}=\frac{\%\Delta Qs}{\%\Delta P}$$

Or

$$\text{PES}=\frac{\Delta Q}{\Delta P}\times\frac{p1}{q1}$$

There are five different concepts of price elasticity of supply.

1. Infinite elastic or perfectly elastic means when there is no change in price but supply changes. In this case supply curve is parallel to X-axis as in S1. (PES=∞)
2. Zero elastic or perfectly inelastic means when there is a change in price but no change in quantity supplied. In this case demand curve is parallel to Y-axis as in S2. (PES=0)
3. Supply will be considered elastic when percentage change in quantity supplied is more than the percentage change in price (%ΔQS>%ΔP). It shows a minor change in price can bring a relatively bigger change in supply. Supply curve will be flatter as inS3 (PES>1).
4. Supply will be considered in-elastic when percentage change in price is greater than the percentage change in quantity supplied. It means even a big change in price unable to bring considerable change quantity supplied (%ΔQS<%ΔP). In this case supply curve will be steeper as in S4 (PES<1).
5. Demand will be unitary elastic when percentage change in quantity supplied is equal to the percentage change in price (%ΔQS=%ΔP). In this case supply curve emerge from origin irrespective to its direction. (PES=1)



Determinants of price elasticity of supply

Supply is inelastic in the short run because a producer has to stick with the certain production procedure due to number of reasons but in the long run producer can change his production method to increase its output.

PES also depends on the nature of the product. For instant supply of common consumers' manufacturing goods is elastic like washing machines, vacuum cleaner but production of hi-tech goods is inelastic. For example, nuclear power station cannot be built overnight. Similarly supply of agricultural goods is also inelastic because it can take six months to year to change supply.

PES also depends on the capacity of a plant to produce. If a plant is producing to full of its capacity or near to full of its capacity, supply will be inelastic, but if it produces far below than the capacity supply will be elastic.

Supply will be elastic if factors of production are abundantly available, but, if there is a shortage of input factors, supply will be inelastic.

Price elasticity of supply also depends on the nature of an industry. If an industry has the capacity to expand easily and there is no barrier on the entrance of new firms supply will be elastic, otherwise inelastic.

Similarly if an industry is holding a good stock, supply will become elastic, but on the other hand industry finds it difficult to hold large stock, supply will be inelastic.

For the determination, whether supply is price elastic or price inelastic, more than factors must be considered. For instance, supply of agricultural goods is taken as price inelastic but if there is a sufficient stock is available then its supply can be increased easily as price increases. Hence, it can be elastic. Similarly supply of manufacturing goods is considered as elastic but if sufficient input factors is not available, their supply will be inelastic.

Importance of price elasticity of supply

In price mechanism, if there is any change occur in demand and supply, there are certain changes in price and equilibrium output. If demand for normal goods increases due to any reasons (non-price determinants of demand), there will be a change in prices. If supply is inelastic, there will be a bigger rise in price as compare to elastic supply. So if supply is elastic firms' income will be stable as demand changes but if supply is inelastic, firms' income is vulnerable.

Firm which have high price elasticity of supply are more risk bearing because they are highly responsive to change in prices. It makes them more competitive as compare to their rival firms so they are able to make more revenue and profits.

Similarly if government levies indirect taxes, producer will bear more burdens if supply is inelastic but gain more if state subsidizes the product and vice versa. So this concept is also important for the state. Government prefers to tax such goods which have low price elasticity of supply, because it may not disturb output and employment considerably.

Reliability on the concepts of elasticity

It is assumed that calculating elasticity value is a straight forward process but in fact, there are enormous statistical problems. For example, price not only changes due to the variation of supply but there are many other factors which can influence prices. So during the calculation of PED, we keep all other things constant, but in reality it is not possible. Same is happened when income or cross elasticities of demand are calculated only income or price of related goods are allowed to change and all other factors are kept constant. There are possibilities of sampling errors and even mathematical errors. Time lag is another key factor which is ignored because pattern of consumption or production may be changed during the process. Firms usually calculate this elasticity on guess work with incomplete data.

In order to make a marketing decision, other information is also needed. Information on consumers' taste, government policies on pricing, availability of supply, cost and level of competition in the market etc, are required.

Price as rationing and allocative mechanism

By determining the equilibrium prices and quantities of all inputs and outputs, the market allocate and ration out the scarce resources of the society among the possible uses. The market, through the interaction of supply and demand does the rationing.

What goods are produced will be answered by the signal of market prices. Increase in prices requires an increase in the production of certain goods, whereas, a fall in prices signals that resources should be driven out of the production of certain goods. Those who have the most dollars vote have the greater influence on what goods are produced.

A price also rations the distribution of goods and services. It limits the supply of a good for a consumer. It is the buying power which dictates the distribution of income and consumption. Even the how question is solved by the market forces. For example, if there is a fall in the prices of corn, farmer never be willing to produce corn with the help of expensive tractors and fertilizers, but prefer to use only the best cultivated land.

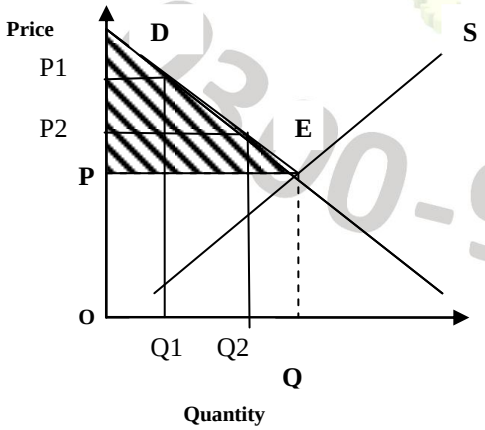
A market economy solves the basic economic problems through the operation of demand and supply forces, that is, market or price mechanism.

Consumer surplus

It is the measure of the welfare which people gain from consuming goods and services. Consumer surplus is the difference between the price which a consumer is willing to pay and he actually pays. According to A. Marshall, it is the additional satisfaction which is driven be a consumer than the price he pays. For example, a consumer is willing to pay $5 for the first unit and $4 for the second unit, but the price which is determined by market forces is $3. He buys there unit at $3 and pays $9 altogether. He was even willing to pay $12 for three units. As a result he drives additional satisfaction of $3, which is his consumer surplus.

Consumer surplus depends on price. If price increases consumer surplus will be decreased and vice versa. This is why due to indirect taxes consumer surplus decreases whereas when goods are subsidized, consumer surplus increases.

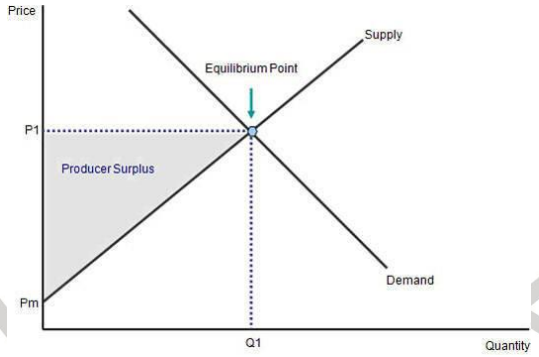
Secondly, consumer surplus also depends upon price elasticity of demand (PED), higher the PED, low will be the consumer surplus. If demand is perfectly elastic, consumer surplus will be zero. If demand is perfectly inelastic, consumer surplus will be infinite.



Consumer surplus can be shown with the help of demand and supply curve. In the following diagram consumer is willing to pay OP1 price for the first unit and OP2 for the 2nd unit and OP for the third unit. Market forces determine price OP for OQ quantity. Therefore OP will be the price paid by the consumer for all three units. As a result shaded area shows additional satisfaction driven by the consumer which is called as consumer surplus.

Producer surplus

An economic measure of the difference between the amount that a producer of a good receives and the minimum amount that he or she would be willing to accept for the good. The difference, or surplus amount, is the benefit that the producer receives for selling the good in the market.



This is shown graphically above as the area (Producer Surplus) above the producer's supply curve that it receives at the price point (P1). The size of this area increases as the price for the good increases.

If indirect tax is levied, producer surplus falls and if subsidies are given producer surplus will be increased. Producer surplus also depends upon price elasticity of supply i.e., high the elasticity less will be the producer surplus and vice versa. If PES= ∞, producer surplus will be zero and if PES=0, producer surplus will be infinite.

For example, say a producer is willing to sell 500 widgets at $5 apiece and consumers are willing to purchase these widgets for $8 per widget. If the producer sells all of the widgets to consumers for $8, it will receive $4,000. To calculate the producer surplus, you subtract the amount the producer received by the amount it was willing to accept, (in this case $2,500), and you find a producer surplus of $1,500 ($4,000 - $2,500).

Relationship between markets

Joint demand

Some goods are jointly demanded; they are complementary in the sense that consumption of one good implies consumption of the other. The demand for petrol is associated with the demand for motor cars. For example, as there is an increase in income, demand for car increases, as a result demand for petrol will be increased. Such goods have negative XED.

Competitive demand

Goods which are close substitute for one another are said to be in competitive demand. Other things being equal, the demand for a commodity will tend to vary directly as the price of its substitute. If price of butter falls we should expect the demand for margarine falls.

Composite demand

The demand for a commodity or product which have multiple uses in different industries.. For example, crude oil can be used as source of energy or as raw material in production of many goods like plastic. So, if there is an increase in demand for the product in an industry, not only there is an increase in price of oil in this industry but also prices of oil will be increased in other industries due to fall in supply.

Joint supply

In joint supply, production of one good automatically leads an output of other goods. For example, lead and zinc are in the same ore, and if one is extracted another will be extracted automatically. It is an interesting relationship which gives a rise to a number of difficult economic problems.

Competitive supply

If a firm wishes to expand its output of one product it produces, perhaps because of rise in its profitability, it may have to shift resources away from making other products, thereby reducing their supply. It is because of limited resources.