

PRICE THEORY

Price refers to the exchange value of a commodity in money terms or

It is the relative value in money terms of a product in a given period of time OR

The amount of money that one has to give out in order to obtain a good or service

TYPES OF PRICES

Prices can be classified as; market price, equilibrium price, normal price or reserve price.

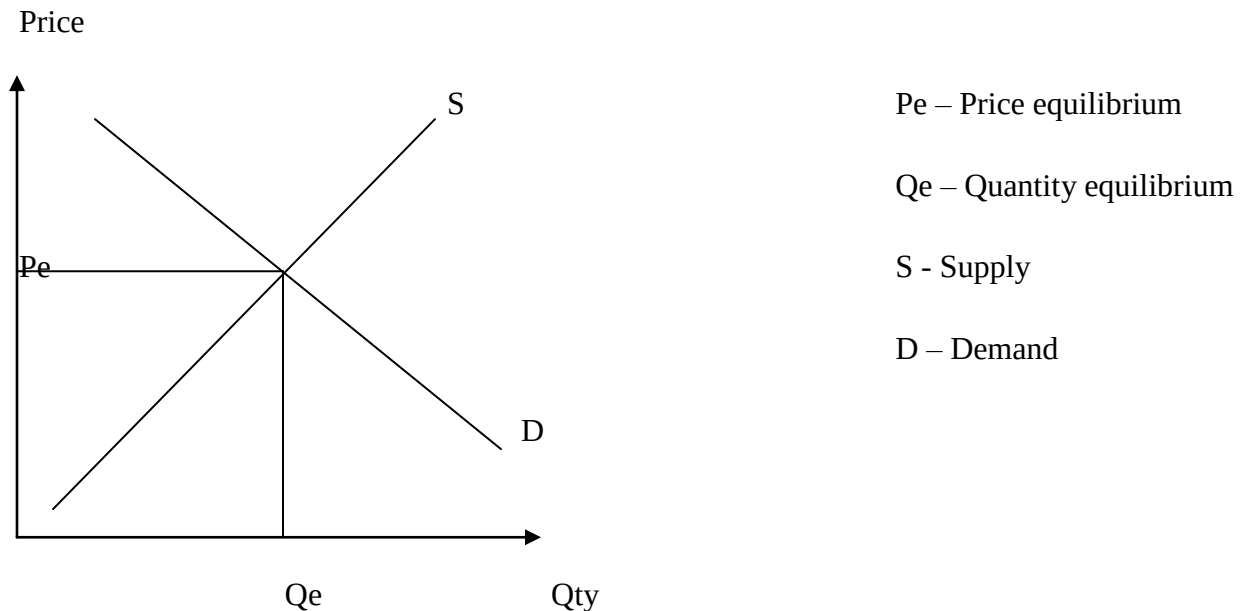
Market price

Is defined as the ruling / prevailing price in the market for a short period of time

Equilibrium price

This is the price that prevails in the market when quantity supplied is equal to quantity demanded. This implies that the market clears.

Illustration of equilibrium price



Normal price

It is along run equilibrium price that persists in the market when supply and demand conditions are stable.

It is the price obtained when quantity demanded is equal to quantity supplied in the long run period.

Reserve price

It is the least possible acceptable price to the seller of a particular product or the price below which a seller can not accept to sell his or her product.

Determinants of reserve price (factors determining, affecting, and influencing the reserve price)

1. The number of consumers in relation to producers where there are many consumers competing for a given product yet supply is low, the reserve is high compared to where there are few consumers and high supply.
2. The costs of production, where production costs are high, the reserve price is high compared to where production costs are low.
3. Nature of the product, where the products of high quality are durable and high quality, the reserve price is always high compared to that of poor quality.
4. The level of taxation by the government, where producers or sellers are highly taxed, the reserve price tends to be high compared to where the producers are subsidized by government.
5. Future market expectation, here the product is expected to be scarce and expensive in future, the reserve price tends to be high today compared to where the product is expected to be abundant in future.

THE CONCEPT OF MARKET

A market can be defined as a situation where buyers and sellers negotiate for the exchange of a defined good OR

Refers to the interaction between sellers and buyers where negotiation for exchange of a commodity is made.

It's a set of arrangement through which a particular good is produced and exchanged.

Features of a market

1. Consists of buyers and sellers
2. The relationship between buyers and sellers is through negotiations of a commodity.
3. Presence of buyers and sellers
4. Presence of goods and services
5. There is a medium of exchange

Types of markets

1. Factor and product / commodity market

A factor market is one where factors of production are traded while a product market is where final goods and services are traded.

2. Perfect and imperfect markets

A perfect market is one with many buyers and sellers dealing in a homogeneous product and there is perfect knowledge in the market.

An imperfect market is one with few sellers and many buyers for a given product and hence limited competition.

3. Free and controlled markets

A free market is one where there is no government control over the market activities. The consumers and the producers have freedom of choice and enterprise respectively.

A controlled market is one where the government exerts a high degree of control over the market activities e.g. price legislation, setting of quarters, taxation etc.

4. A forward market and a spot market

A forward (future) market is one where negotiations are made and transactions carried out at a later time.

A spot market is one where negotiations are made and the product is traded there and then.

5. Hyper market

This is one where very large products are traded e.g. trains, aeroplanes and jets.

6. Black market

This is where products are traded at a price that is against the government legislated price.

Methods of price determination in the market (how prices are determined)

1. Bargaining / haggling
2. Auctioning / bidding
3. Signing treaties / agreements / collusion
4. Forces of demand and supply
5. Government price legislation
6. Price leadership
7. Independent pricing
8. Resale price maintenance
9. Offers at fixed price

Bargaining

This is where the seller keeps on reducing the price is willing to sell at and the buyer increases the price he is willing to pay until an agreed position is reached.

Advantages

1. It enables consumers to retain some balance if they bargain and buy the product at a lower price.

2. It enables the seller to get more profit if he has strong bargaining power.
3. It enables consumers to practice their bargaining skills.

Disadvantages

1. Consumers may be cheated if they have low bargaining power
2. Some sellers may get very low profits if they have low bargaining power.
3. It is time consuming before the agreed price is reached
4. Tiring

Signing treaties / collusion

This is where buyers and sellers meet and fix the price for a given product by signing an agreement or treaty e.g. international coffee agreement ICA, OPEC (oil producing countries).

Advantages

1. The price agreed upon is always fair for both producers and consumers.
2. It reduces competition between producers
3. Producers are able to plan properly since they are assured of stable income
4. Prices tend to be stable for a long period of time

Disadvantages

1. It is difficult and expensive to implement
2. It is difficult to anticipate change in the market
3. It does not consider differences in the production costs

Auctioning / bidding

This is where there are many intending buyers and one seller and the product is brought by the highest bidder (the one offering the highest price). The intending buyers compete for the commodity and this is called bidding.

Under this method, the seller has a reserve price

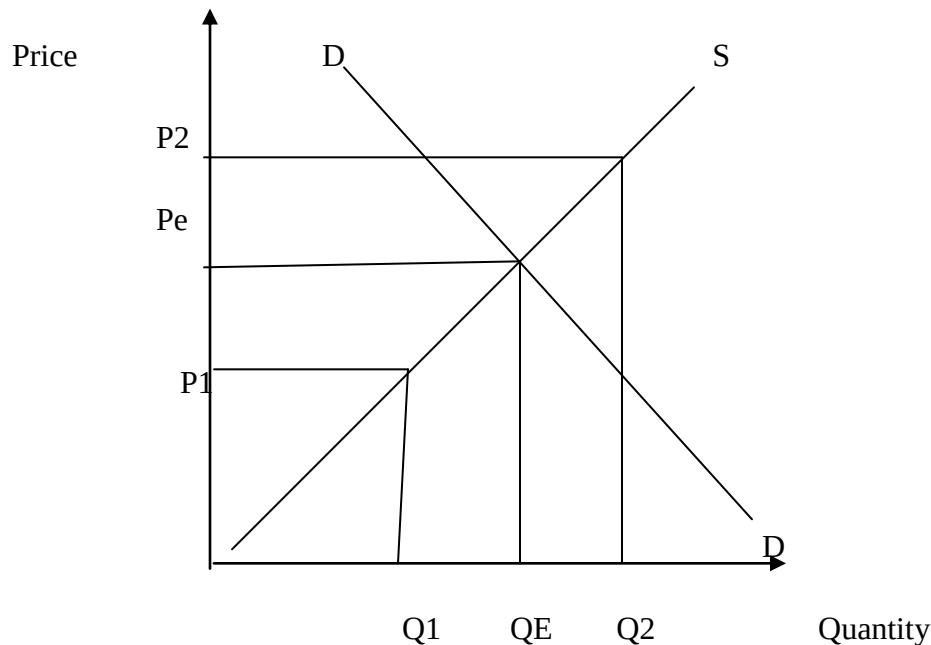
Advantages

1. Since the product is taken by the highest bidder, it enables the seller to get revenue and profit.
2. It enables some consumers to buy the product at a very low price especially where there is limited competition.
3. It gives consumers a chance to determine the price of a given product since they compete among themselves.
4. Poor consumers are not given a chance to buy the product even if they would have liked to have it.

Forces of demand and supply

This occurs in a free market economy where there is free interaction of market forces of demand and supply to determine the prices of the product. Price changes according to supply and demand conditions, where demand is more than the supply, price increases and when demand is less than supply, price reduce.

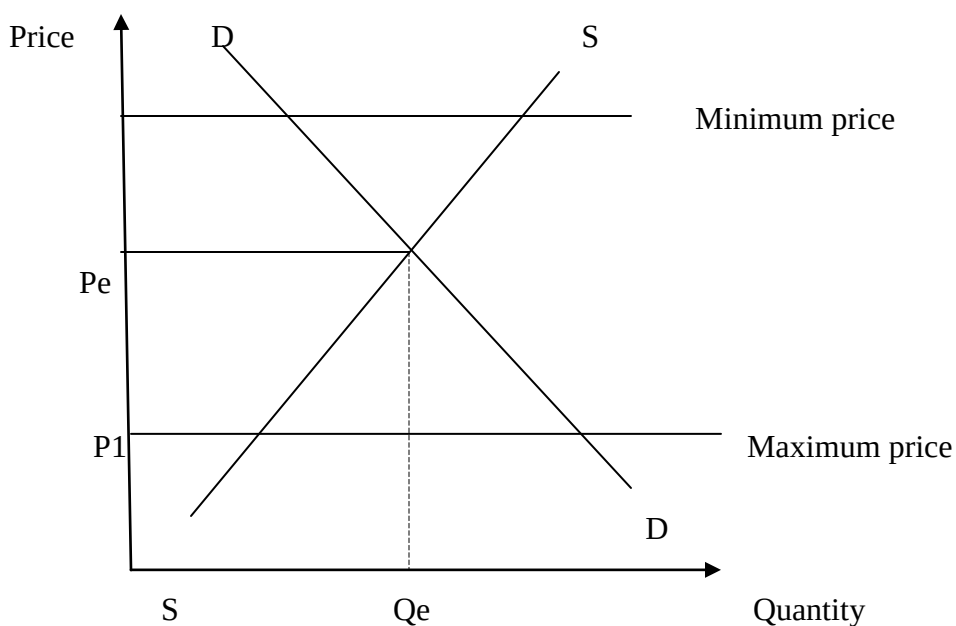
Illustration



Government price legislation

This is where the government fixes or sets prices for a particular product above or below the equilibrium and it is illegal to sell the product at a different price. This is by setting a maximum price to protect consumers or a minimum price to protect the producer.

Illustration



Resale price maintenance

This is where manufacturers or producers of a product fix a price for that product at which it should be sold to the final consumers.

OR

It is a system of price determination where the manufacturers of a given product insist on fixing price up to the last stage of distribution e.g. manufacturers of newspapers, magazines, airtime, post office stamps. E.g. UTL, MTN, New Vision, African Woman Publishers, The Independent Publishers.

Advantages

1. It creates price stability
2. Consumers are protected from being over charged since prices are indicated on the product
3. It creates the manufacturers sale and profit, since they determine the prices
4. It is time saving since there is no bargaining involved
5. It reduces competition between large scale and small scale retailers.

Disadvantages

1. The consumers bargaining skills are minimized
2. Less profits are made by middlemen since prices are fixed by producers
3. In case the price is high, some consumers are denied consumption of such products.

Independent pricing

This is where individual firms / business people determine their own prices.

Price leadership

This is where a firm with a large share (dominant / low cost firm) determines the price for a given product and other firms must follow. Any firm charging a price higher than this, loses the customers to the dominant firm. Any firm which sells at a lower price makes losses.

THE DEMAND THEORY

Demand is the amount of a product that one is able and willing to buy at a given price in a given period of time.

OR It refers to the human desire of a given product backed by the ability to pay for it in a given period of time.

Effective demand: This is the actual buying of a given product which is backed up by the necessary money.

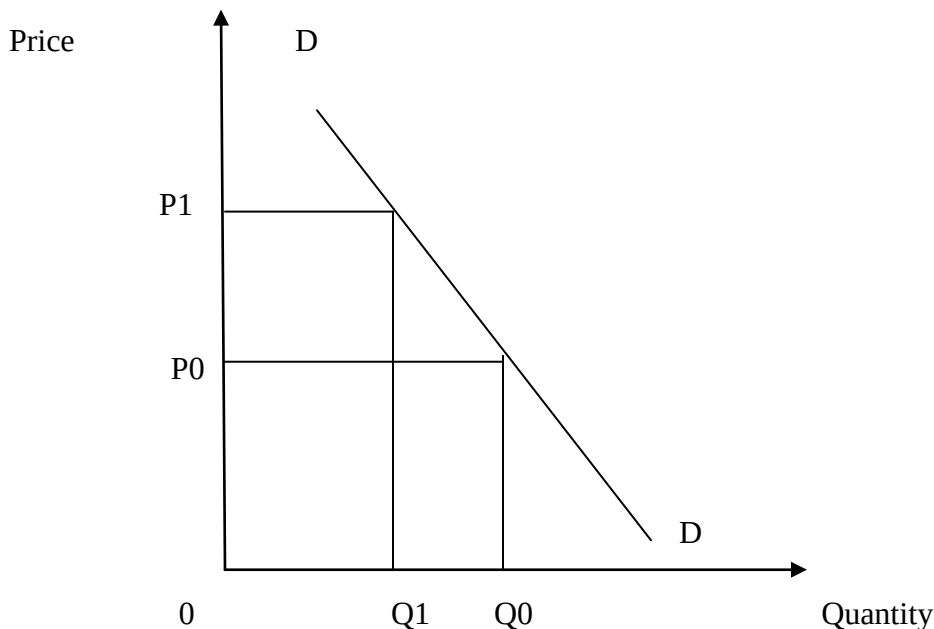
Quantity demanded: This is actual amount of the product buyers are willing and able to buy at various prices in a given period of time.

Individual demand: This refers to the quantity of a given product that an individual is willing and able to buy at various prices in a given period of time.

THE LAW OF DEMAND

It states that “Holding other factors constant, the higher the price, the lower the quantity demanded of a commodity and vice-versa”

Illustration



Price and quantity demanded are inversely related i.e. as price increases from OP_0 to OP_1 , quantity demanded decreases from OQ_0 to OQ_1 and vice-versa.

Market size

The bigger the market (population) the more the quantity demanded of the product and vice-versa.

Level of advertising

High levels of persuasive advertisement increases quantity demanded of a product compared to where there is poor advertisement.

Quality of the product

High quality products are highly demanded and vice-versa.

DEMAND FUNCTION

The quantity demanded of a given product, can be expressed as a function of the factors that determine its demand therefore, quantity demanded of a given period of time is a function of the determinant of an individual's demand for it. It can be expressed as; quantity demanded of

$$x = f(P_x, P_R, Y, T, A, \dots \dots \dots)$$

Where P = Price

Y = Income

PR = Price related goods

T = Tastes and preferences

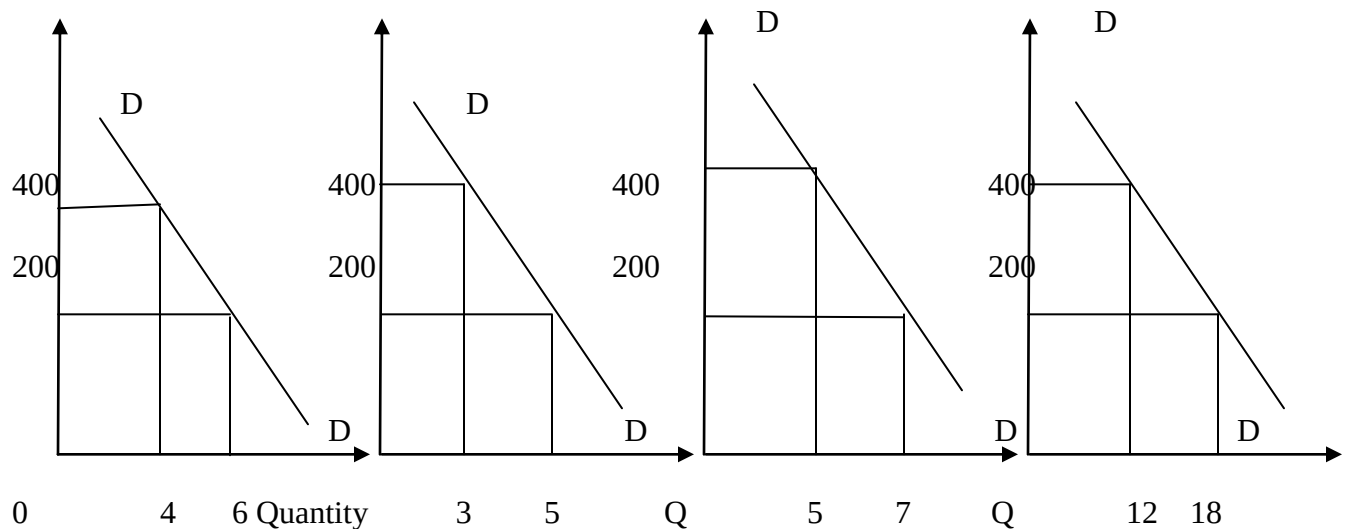
A = Advertisement

Market demand / aggregate demand

This is the total demand for a given product by all the consumers in the market at the same price in a given period of time. It is attained by horizontal summation (addition) of all individual demand for the product deriving the market demand curve.

Individual B C Market demand (A+B+C)

Price



NOTE:

The market demand curve is more elastic / gentle because it contains more quantity demanded than the individual demand curves.

FACTORS THAT INFLUENCE MARKET DEMAND

1. The general price level of the product
2. The total household income
3. The price of other related products
4. Income distribution among the consumers
5. Market size
6. Amount of money in circulation
7. Government policies of taxation and subsidization
8. Seasonal factors
9. Price expectations / speculation

THE DEMAND SCHEDULE

This refers to a table that shows the quantity demanded of a given product at different prices. It can also be referred to as a numerical representation of the quantity demanded of the product at various prices.

An individual demand schedule shows the range of the prices and corresponding quantities that are demanded by an individual while a market demand schedule shows the range of prices and the corresponding total quantity demanded by all the consumers.

Determinants / factors affecting / factors influencing demand

Demand is affected by the following;

Price of the product

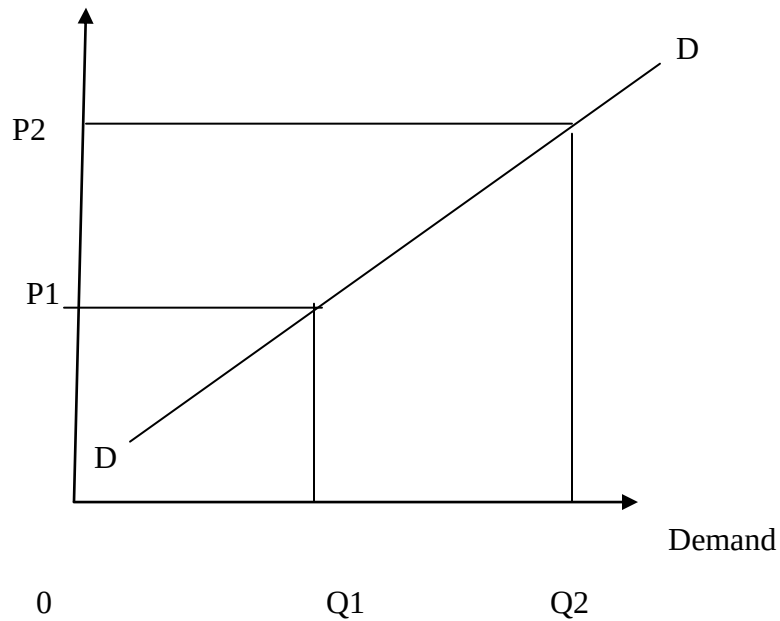
The higher the price, the lower the quantity demanded and the lower the price the higher the demand.

Price of related products

In case of substitutes when the price of the product increases and that of its substitute remains constant, less of the commodity is demanded and more of the substitute. These include detergents like Omo and Aerial, beverages like tea leaves and coffee.

Illustration of demand for a substitute

Price of commodity

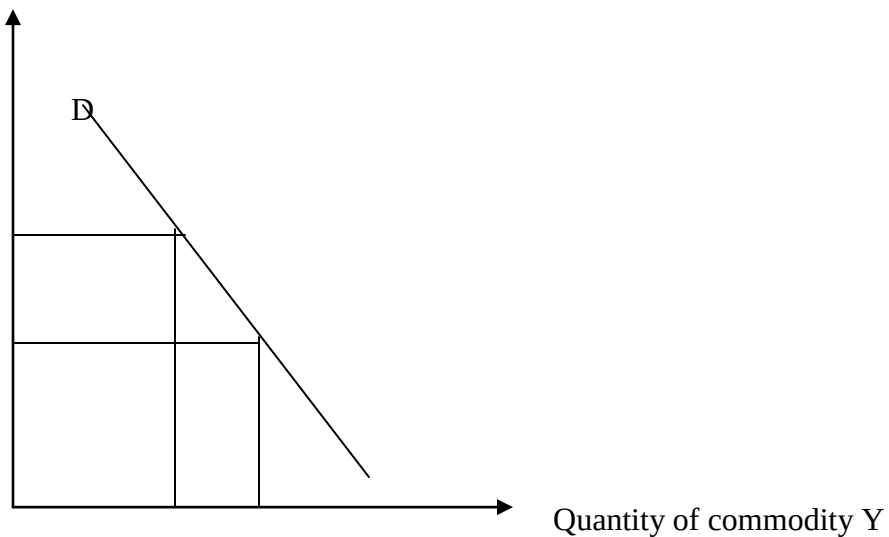


In case of compliments, when the price of one product increases, the quantity demanded of the other decreases and vice-versa. Compliments include pen and ink, car and fuel.

Illustration of complimentary goods

Price of commodity

X



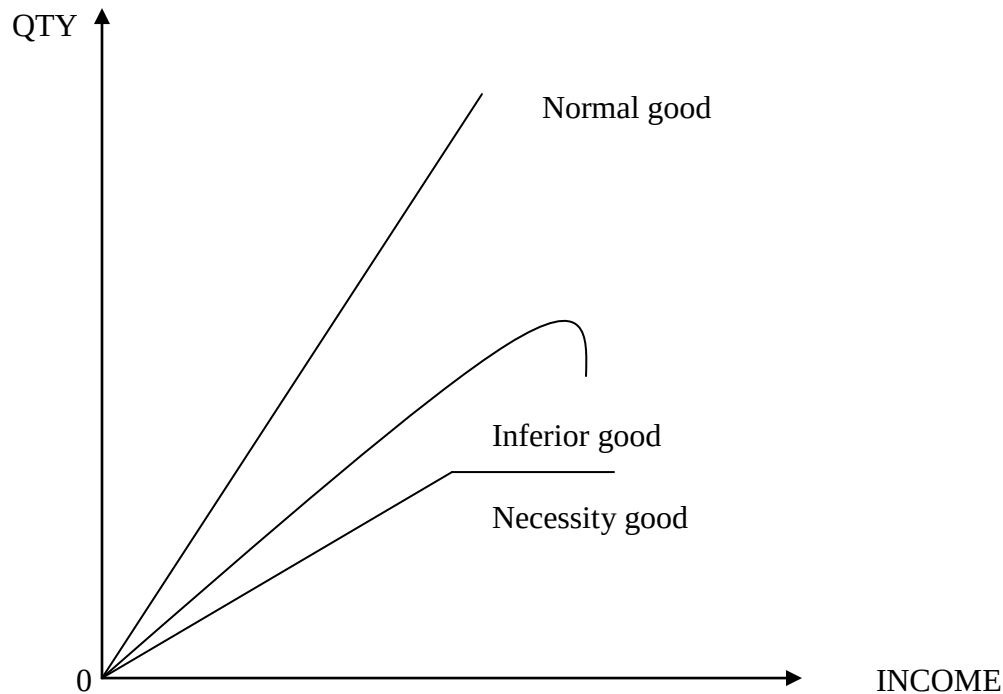
Level of consumer income

For the case of normal goods, as one's income increases, the quantity demanded also increases and vice-versa.

For the case of inferior goods, as one's income increases, the quantity demanded decreases because the consumer considers it too cheap and shifts to a more expensive one.

For a necessity good, even if one's income increases, beyond a certain level, the quantity demanded remains the same.

Illustration of quantity demanded and change in income



Income distribution

Where there is equitable or fair income distribution, quantity demanded is high and where there is wide spread income inequality, quantity demanded tends to be low.

Tastes and preferences

Where there are positive tastes and preferences for product, its quantity demanded is high compared to where a product has negative tastes and preferences.

Seasonal / climatic factors

Some products are demanded for particular seasons or periods, favourable seasons increase quantity demanded for a product and vice versa. e.g. umbrellas during rainy days, roses for valentines.

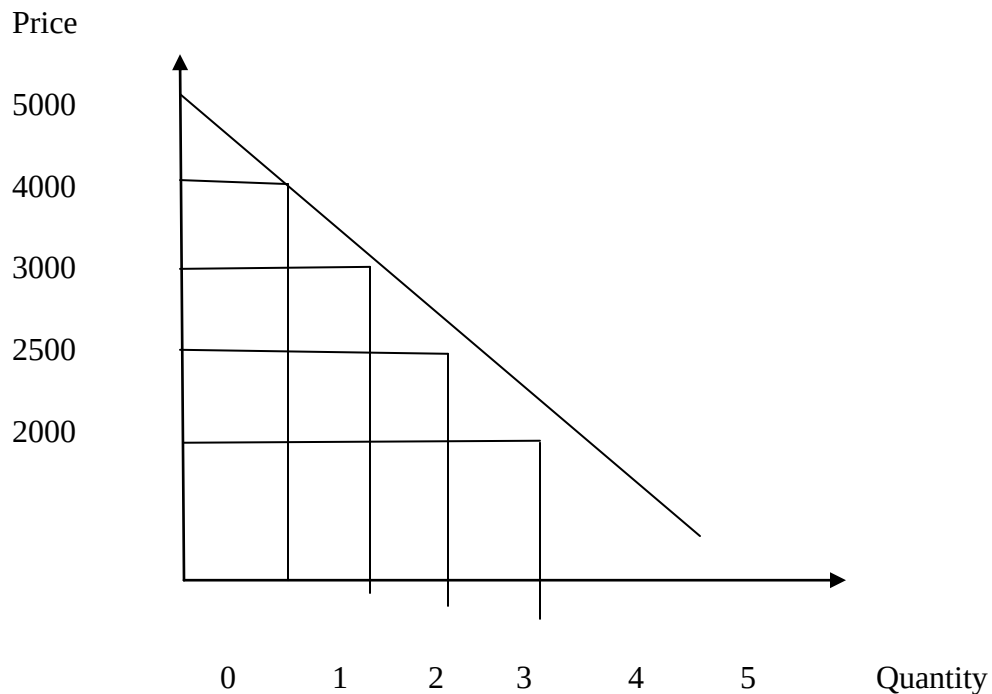
Price speculation

Where the prices of a given product are expected to reduce in the future

Geraldine's demand schedule for juice

Price	Quantity
2000	4
2500	3
3000	2
4000	1
5000	0

Geraldine's demand curve



THE DEMAND CURVE

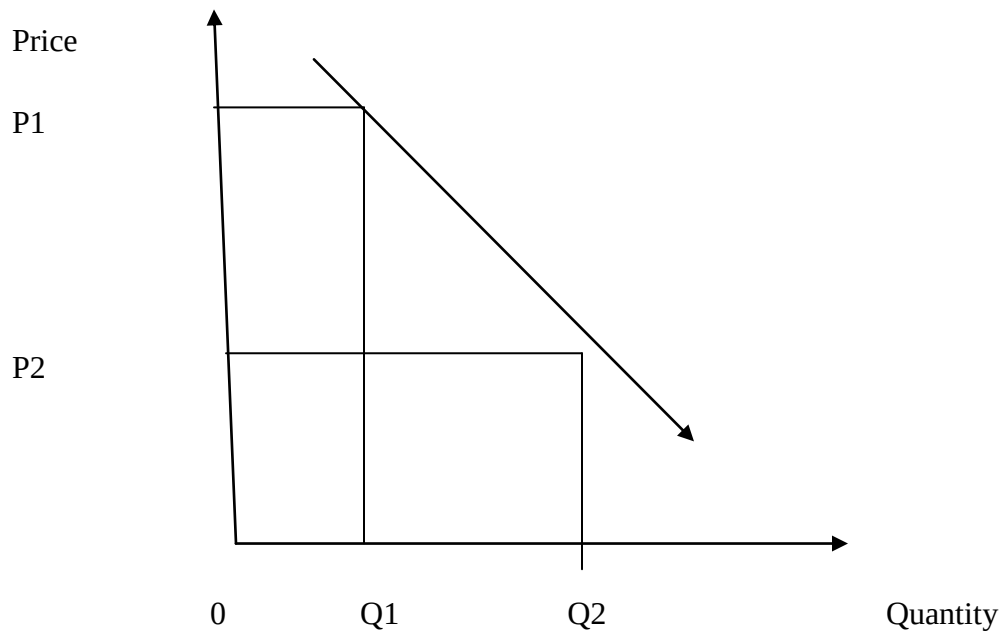
It is a locus of points which shows the relationship between quantity demanded of a given product at various prices in a given period of time. It can also be defined as a curve that shows the quantity demanded of a given product at various prices in a given period of time. It is a graphical representation of the demand schedule. It is drawn on the assumption that,

Holding other factors constant, the higher the price, the lower the quantity demanded and the lower the price, the higher the quantity demanded.

Slope of the demand curve

A normal demand curve slopes downwards from left and therefore has a negative slope. This illustrates the law of demand which states that *ceteris paribus*, the higher the price, the lower the quantity demanded and the lower the price, the higher the quantity demanded.

Illustration



Reasons why the normal demand curve slopes downwards / has a negative slope / slopes from left to right / expressing law of demand

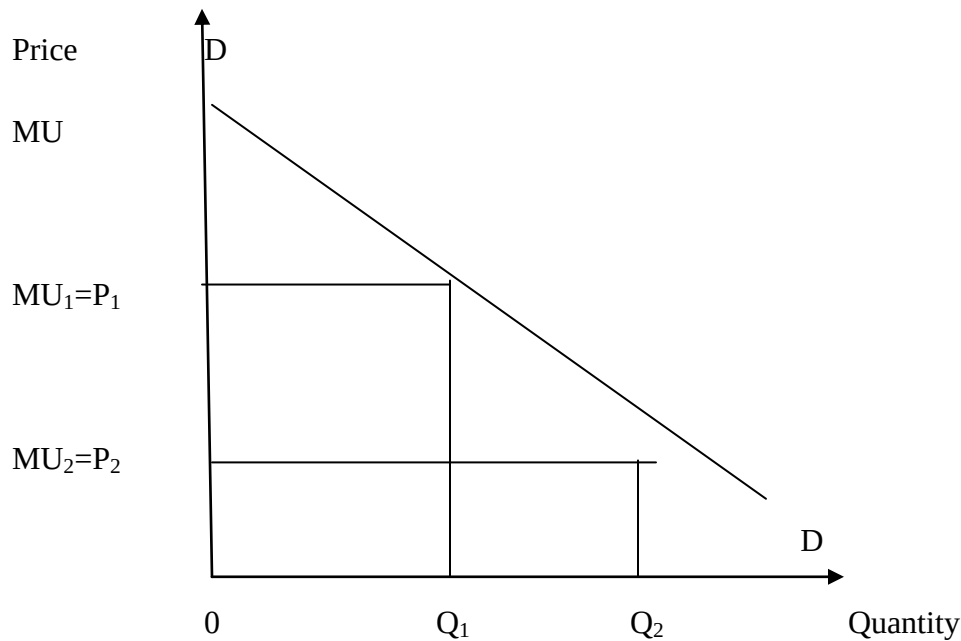
The slope of normal demand curve explains the law of demand in the following ways;

1. The law of diminishing, marginal utility
2. Substitution effect
3. Real income effect
4. Price effect
5. Behavior of low income earners
6. Different uses of a given product / number of uses a product can be put to

The law of diminishing, marginal utility

The law states that, as one consumes more and more successive units of a given product, the additional satisfaction derived from the consumption of an additional unit keeps on declining therefore as one consumes more of a given product, the marginal utility decreases and the willingness to pay also reduces. This explains why one consumes less of a given product at a higher price and more units only if the price is reduced.

Illustration



ABNORMAL/EXCEPTIONAL DEMAND CURVES.

An abnormal demand curve is the one which does not conform to or obey the law of demand which states that, holding other factors constant, the higher the price, the lower the quantity demanded and the lower the price the higher the quantity demanded.

The abnormal demand curves are due to the following conditions.;

1. Where demand is for a Giffen good
2. **When the demand is for a necessity product**
3. **In case the product is an article of ostentation (luxury)**
4. **In case the product is demanded at a fixed price**
5. **When there is price speculation**
6. **In case there is an economic boom / depression**
7. **If the demand for the product is due to band wagon**
8. **When the product demand is due to Veblem effect**
9. **In case the demand for the commodity is due to ignorance effect**

Where demand is for a Giffen good

Giffen goods are commodities consumed by poor people and as their prices increase, the quantity demanded for the commodity increases up to a certain level.

Illustration of the demand for giffen goods

When the demand is for a necessity product

For a necessity good like salt, quantity demanded remains the same, regardless of the price change.

Illustration

Incase the product is an article of ostentation (luxury)

This is demanded by the rich people to emphasize their status in society such that as prices increase, more of such a product is demanded and vice versa e.g. diamond rings, black berries, iPhones etc.

Illustration

Incase the product is demanded at a fixed price

Where the government fixes the price for a given product or where agreements are signed the price does not change but quantity demanded can continuously change.

Illustration

When there is price speculation

When prices are expected to increase further in future, people buy more today even when prices are increasing and vice versa.

Illustration

Incase there is an economic boom / depression

During an economic boom, more of a given product is demanded even when its price is high because the consumers have high income. During an economic depression less of a given product even when prices are low because consumers are unable to buy.

If the demand for the product is due to band wagon

Some consumers buy more of a given product regardless of its price because other people are buying it

When the product demand is due to Veblen effect

This occurs where people demand more of a given product even if its price is high just because they want to be so exclusive in society. They buy less of it when the price reduces because the commodity becomes cheap and common.

Incase the demand for the commodity is due to ignorance effect

At times, because of attractive packaging, labeling etc some consumers mistake some products and tend to buy more even when their prices are high. Also the high price may be mistaken for good quality hence more of such a product being demanded. On the other hand, due to ignorance, low price maybe mistaken to mean poor quality and less is bought.

Give any six reasons why / circumstances where a buyer may buy less of a product when its price decreases. (leave space for six points).

Reasons why people demand for goods and services

- To satisfy wants (functional demand); some products are demanded because of their role in life.
- Due to speculative effect; some products are demanded because of what is expected to happen in the near future.
- Due to impulsive demand. This is demand for products as a result of a sudden desire for them after seeing them.
- Due to veblen effect, this is where one buys a product because he wants to appear exclusive and when other people buy the product, such an individual buys less of it and instead buys another unique product.
- Snob effect / to show off, some individuals buy products just to show off their financial power and social status.
- Due to band wagon effect (to be like others); some people buy some products because other people are buying.
- Due to complementary demand; some people buy products because they already own other products that go hand in hand.

TYPES OF DEMAND

Composite demand, this is the total demand for a product that serves many purposes such that its total demand is got by adding up total quantity demanded for it for all several uses of it. E.g. demand for water, electricity, cotton, steel, timber, etc.

Joint / complementary demand, this refers to the demand for goods that go hand in hand such that an increase in demand for one, leads to an increase in demand for others e.g. cars and fuel, guns and bullets, mobile phones and sim-cards.

Competitive demand, this refers to demand for products which serve the same purpose such that increase in demand for one reduces demand for the other e.g. coffee and tea, nomi and Omo,.

Derived demand, this refers to the demand for a product not for its own sake but as a result of the demand for another product it is used to produce e.g. demand for factors of production like land, labour and capital is derived from the demand for commodities which such factors are used to produce.

Independent demand, this refers to demand for a given product whose demand does not / is not affected by the demand for other products.

Change in quantity demanded and change in demand

Change in quantity demanded refers to increase or decrease in the quantity demanded of a given product in the market due to a change in its own price, holding other factors constant.

it is illustrated by the movement along the same demand curve either upwards or downwards.

Illustration of change in quantity demanded

NOTE: Change in quantity demanded can either be a contraction or extension in demand.

- **Contraction in demand** refers to a decrease in quantity demanded of a commodity brought about by increase in price holding other factors constant.
- **Extension in demand** refers to increase in quantity demanded of a commodity brought about by decrease in price holding other factors constant.

Change in demand refers to an increase or decrease in the demand of a given commodity brought about by changes in other factors that affect demand when its own price is constant.

It is illustrated by a shift of the demand curve either to the left or to the right indicating an increase or decrease in demand respectively.

Illustration (leave space)

A decrease in demand is therefore a reduction of the demand of a given commodity when its price is constant due to other factors that influence demand being unfavorable.

Decrease in demand is caused by;

1. Decrease in consumer's income
2. Decline in advertisement
3. Price speculation for its reduction

4. Unfavourable seasonal changes
5. Decrease in population / market size
6. Unfavourable tastes and preferences
7. Decrease in price of substitute product
8. Unfavourable economy / economic depression
9. Decline in the quantity of products

EXERCISE (LEAVE 2 Pages)

- Define the term increase in demand
- Give any 10 factors for increase in demand
- Define the term change in demand
- Give any 10 factors that may cause change in demand at constant price

THE THEORY OF SUPPLY

Supply refers to the quantity of a given product that is offered for sale at a given price in a given period of time.

It also refers to quantity of a given product, producers are able and willing to put in to the market at various prices in a given period of time.

The law of supply

It states that all factors held constant, the higher the price, the higher the quantity of a commodity supplied and the lower the price, the lower the quantity of a commodity supplied.

Illustration

Quantity supplied

This refers to the actual amount of a given product producers or suppliers are able and willing to bring to the market at various prices in a given period of time.

Effective supply

This refers to the actual amount of a given product, producers or suppliers bring to the market at a given price in a given period of time.

Determinants of quantity supplied / supply.

- Price of the product, according to the law of supply, i.e. the higher the quantity supplied, the higher the price and vice versa *ceteris paribus*. At higher prices, the product becomes profitable to produce / supply and more of it is supplied and vice versa.
- Price of other related product, for substitutes, when one of them increase in price, the quantity supplied of the other product reducer and vice versa e.g. beans and peas, Omo, Nomi clear and bic-pens etc.
- For complements, or jointly supplied products, increase in the price of one product leads to an increase in the quantity supplied of the other product and vice versa e.g. beef and hides, mutton and wool etc. competitive supply compete for raw material i.e. milk, beef, marriage and primary school. If you supply one, you cannot supply the other.
- Price of the factors of production, where the factors of production are expensive, or they go for higher price, it means the production costs are expensive or they go for a higher price, it means the production costs are high and hence few units of the factors of production are employed thereby leading to low quantity supplied. The opposite is also true.
- Availability of the factors of production, when the factors of production are available in abundance, supply is always high as a number of them can be employed and they are cheap as well. On the other hand, where the factors of production are scarce, supply becomes low because a few of them are employed and are also expensive.
- Level of technology in use / production techniques, advanced or efficient technology leads to more of a given product to be supplied within the shortest time possible while outdated / inefficient technology leads to less of a given product to be supplied.
- Goals / objectives of the firm, each firm has got its own objectives / goals e.g. sales revenue maximization and market revenue maximization, such goals have an effect on supply when a firm's goal is to maximize profits, supply is restricted so as to sell at a higher price and when its goal is sales revenue maximization, quantity supplied is more.
- Number of producers / suppliers of a given product, a big number of producers means more quantity supplied and vice versa, *ceteris paribus*.
- Government policy concerning supply, subsidization and taxation of supply and vice versa. High taxation of suppliers of a given product reduces its supply as high taxes increase production costs and vice versa. Favorable policy on supply of a given product increases its production or supply and vice versa.
- The level of demand or market size, high demand for a commodity increases supply or production and vice versa.
- Gestation period of a product, this refers to the production i.e. time taken to produce a given product. A short gestation period means that supply can easily be increased within the shortest time possible and vice versa.
- Degree of entry and exit of firms in the industry, freedom of entry of new firms in the market increases supply and restricted entry limits production and thus leads to low supply. A high degree of exit of firms reduces supply and vice versa.
- Availability of excess capacity, where there is excess capacity, supply can easily be increased and vice versa.

THE SUPPLY FUNCTION

This is a statement which shows the relationship between quantity supplied of a given product and major determinants of the quantity supplied of that product.

Algebraically, it is expressed as $Q_{ss} = f[P_1, P_n, G, T]$

THE SUPPLY SCHEDULE

It is a numerical representation that shows the amount of a given product brought to the market at various prices in a given period of time e.g.

Supply schedule for

Price	Quantity supplied

The supply schedule can be for an individual or market. An individual supply schedule, shows the quantity supplied of a given product at various prices by one firm/individual person.

THE SUPPLY CURVE

It is a locus of points showing different quantities of a commodity those producers are able to offer to the market for sale at given prices in a given period of time.

It can also be defined as a graphical representation of the supply schedule, a normal supply curve is upward sloping from left to right as shown below;

Normal supply curve

Exceptions of the law of supply

There are circumstances under which the law of supply is violated / disobeyed such that the price of the commodity increases and the quantity supplied remains low or constant.

The following are the circumstances under which the law of supply may be violated.

- **In case of supply for labour**

In some circumstances, if the price of labour (wages) increases, the supply of labour in terms of working hours decreases and hence the law of supply is violated as illustrated below;

SUPPLY CURVE FOR LABOUR

The regressive supply for labour may come about because of the following reasons;

- **Preference of leisure by workers;** When workers are paid a high wage, they tend to use their excessive earnings for leisure activities other than work hence violating the law of supply.
- **Presence of target workers,** these are workers who get employed in order to achieve certain targets e.g. to construct a house and when such workers are paid a high wage, they easily acquire their targets and as a result they may stop working even when promised higher wages hence violating the supply law.
- Cultural factors; when workers have several family responsibilities reduce the number of hours worked even when the wage rate is increased due to the need to fulfill the family obligations.
- Reduction in the real income due to high rates of inflation, this reduces purchasing power of the money wage in terms of the goods and services bought by the workers.
- Progressive tax system, increased rate of taxation as the income of the workers increases discourages workers hence reducing the number of hours worked even when the wage is high.

- **Supply of a fixed commodity**

In such a circumstance, even when the price of the commodity increases the quantity supplied may not increase and the supply curve of this commodity is said to be perfectly inelastic.

ILLUSTATION

- **Speculation by producers**

At times producers tend to predict that the price of a commodity may increase in future and as a result, even if the price of the commodity increases currently, they may supply less so as to wait and enjoy very high prices and violate the law of supply.

CHANGE IN SUPPLY AND CHANGE IN QUANTITY SUPPLIED

Change in supply is an increase or decrease in the supply of a given product when its price is constant due to changes in other factors which influence supply.

It is illustrated by a shift in the supply curve either to the left or to the right of the shape of the original curve meaning a decrease or increase in supply respectively.

Illustration of change in supply

A decrease in supply is illustrated by a shift of the original supply to the left S_0 to S_2 . A decrease in supply is influenced by the following factors;

- Increase in the price of its substitute
- Shortage of the factors of production
- Profit minimization as an objective of the firm
- Decrease in subsidies
- Increase in taxes
- Reduction in market size, level of demand
- Increase in taxation
- Unfavourable seasonal factors

- High exit and restricted entry of firms in the industry
- Decrease in the number of suppliers
- Scarcity of production
- Outdated / inefficient technology

Also from the above illustration, arrow B shows an increase in supply at a constant price of the product due to the other factors that influence supply being favourable.

An increase in supply is illustrated by a shift of the original supply curve to the right from S0 to S1 i.e. the original supply curve shifts outwards.

- Increase in demand
- Decrease in price of the substitute
- Improved technology
- Decrease in taxation
- Availability of factors of production
- Decrease in cost of production
- Favourable seasonal factors
- Short gestation period
- High sales output
- Increase in subsidies

Change in quantity supplied

This refers to an increase or decrease in the quantity supplied of a product due to a change in its own price *ceteris paribus*.

Illustration of change in quantity supplied

Extension in supply is the increase in the quantity supplied of a product due to an increase in its own price *ceteris paribus*.

Illustration of extension in supply

Contraction in supply on the other hand refers to the decrease in quantity supplied of a product due to a decrease in its own price *ceteris paribus*.

Illustration of contraction in supply

Effects of change in demand on equilibrium price and quantity

A change in demand is illustrated by a shift in the original demand curve either to the left or to the right as illustrated below;

Illustration

From the above illustration, the original equilibrium quantity is OQ_1 and the original equilibrium price is OP_1 . A decrease in demand leads

to a shift in the original demand curve from D_1 to D_2 which leads to a decline in equilibrium quantity from Q_1 to Q_2 and price from P_1 to P_2 .

On the other hand, an increase in demand leads to a shift in the original demand curve to the right from D_1 to D_3 which leads to an increase in the equilibrium price and quantity from Q_1 to Q_3 and P_1 to P_3 respectively.

Effects to change in supply on equilibrium quantity and price

A change in supply is illustrated by a shift of the original supply curve either to the right or to the left as illustrated below;

Illustration

From the illustration, the original equilibrium quantity is OQ_1 and the original equilibrium price OP_1 , a decrease in supply leads to a shift in the original supply curve to the left from S_0 to S_1 which leads to a decline in equilibrium quantity from W_1 to Q_2 and an increase in equilibrium price from P_1 to P_2 .

On the other hand, an increase in supply leads to a shift in the original supply curve to the right from S_0 to S_2 which leads to an increase in equilibrium quantity from Q_1 to Q_3 and a decline in equilibrium price from P_1 to P_3 .

CONSUMERS' SURPLUS

This refers to the difference between the amount of money a consumer is willing to pay and the amount of money one actually pays for a given commodity.

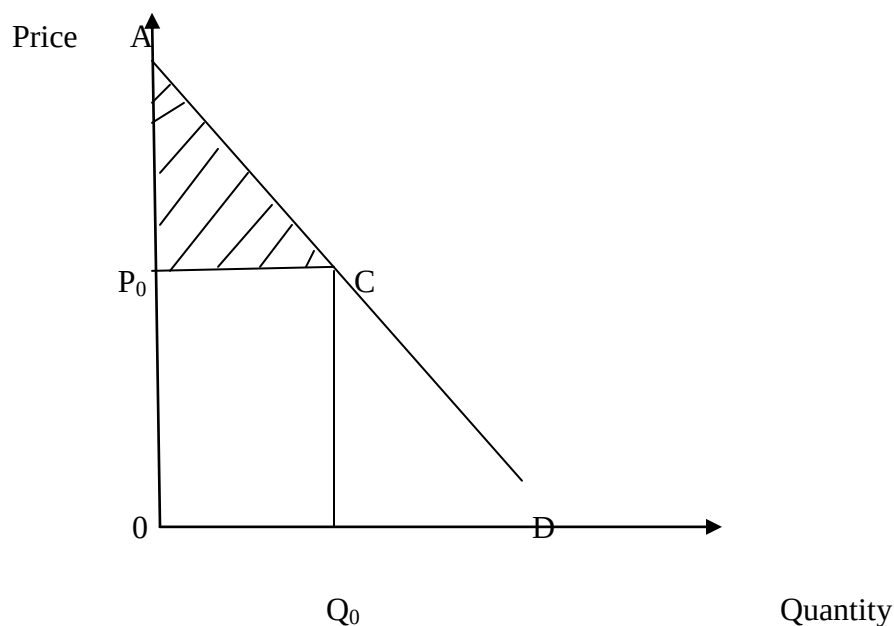
OR

Is the extra utility a consumer enjoys without paying for it because the market price is lower than the price one is willing to pay.

The consumer's willingness to pay is shown by the demand schedule.

Graphically, the consumer's surplus is given by the area below the demand curve but above the market price.

Illustration



From the above illustration, the shaded area shows the consumer's surplus. P_0 ABC shows the consumer's surplus.

NOTE: the consumer's surplus is calculated by the formula

Expected expenditure ($E\mathcal{E}$) – Actual expenditure ($A\mathcal{E}$)

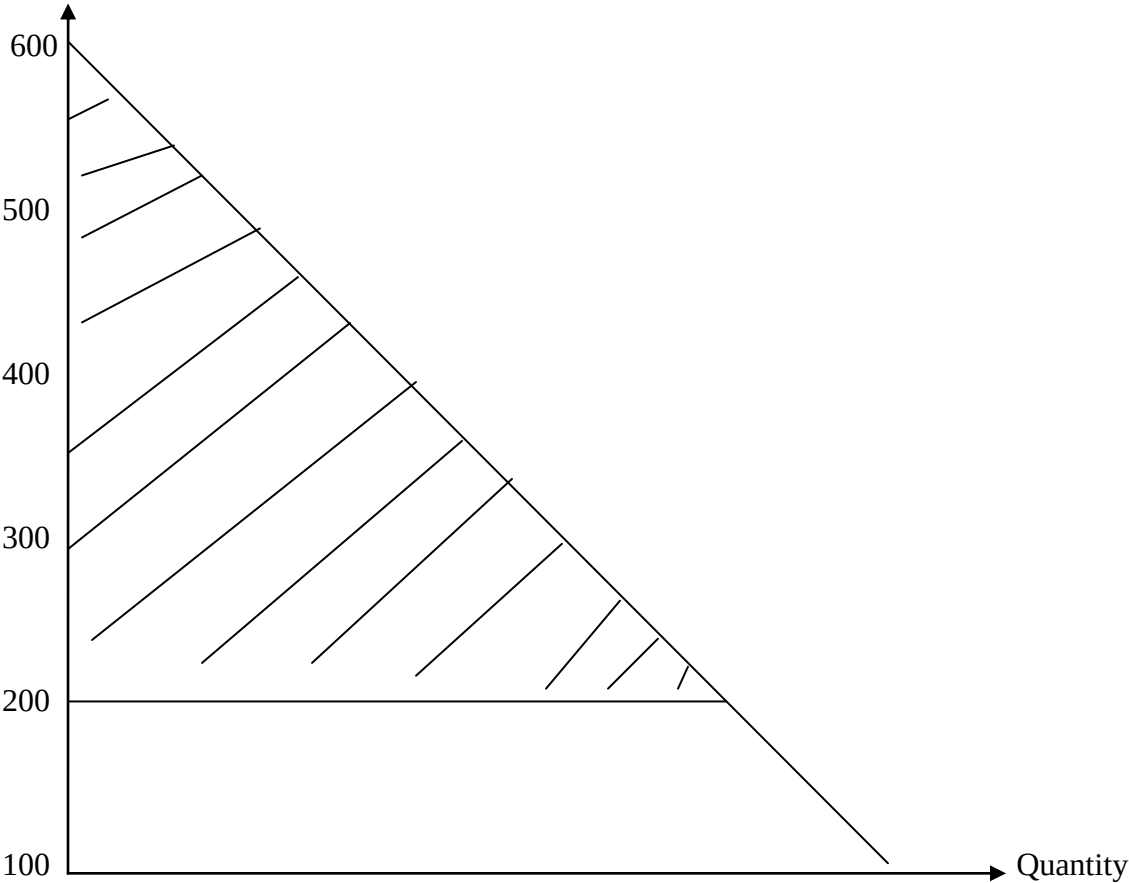
E.g. given that the market price is 200 per unit, calculate the consumer's surplus from the information below;

Price (Shs)	Quantity (units)
800	1 600
700	2 300
600	3 400
500	4 300
400	5 200
300	6 100
200	7
100	8

$$= 600+500+400+300+200+100$$

$$= 2100\text{Shs.}$$

Illustration

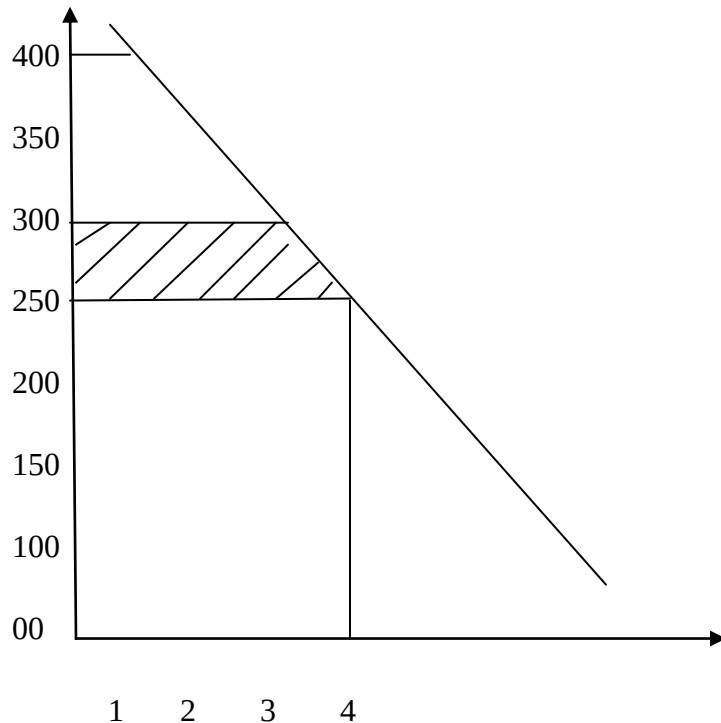


Study the table below;

Price	Quantity
400	1
350	2
300	3
250	4
200	5
150	6

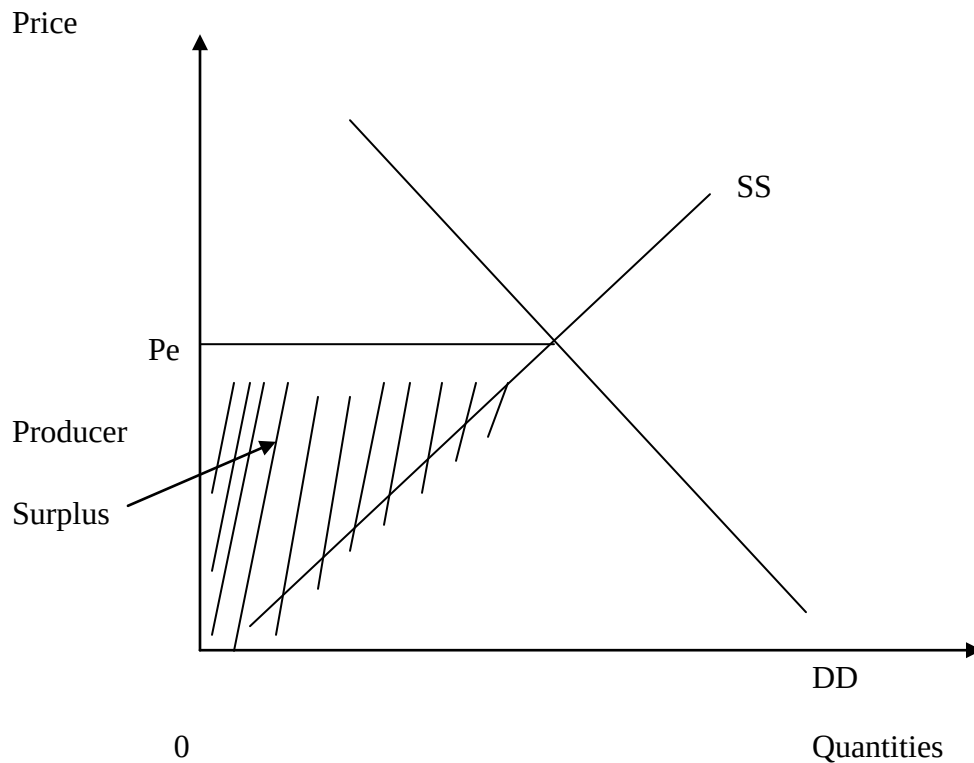
Given that market price is 250 and only 4 units were bought, calculate and illustrate the consumer surplus

Consumer Surplus = $150 + 100 + 50 + 0 = 300$ Shs.



PRODUCER'S SURPLUS

This refers to the excess the producer gets from the sale of a commodity over what / he was expecting to get in the market, is shown by the diagram below;

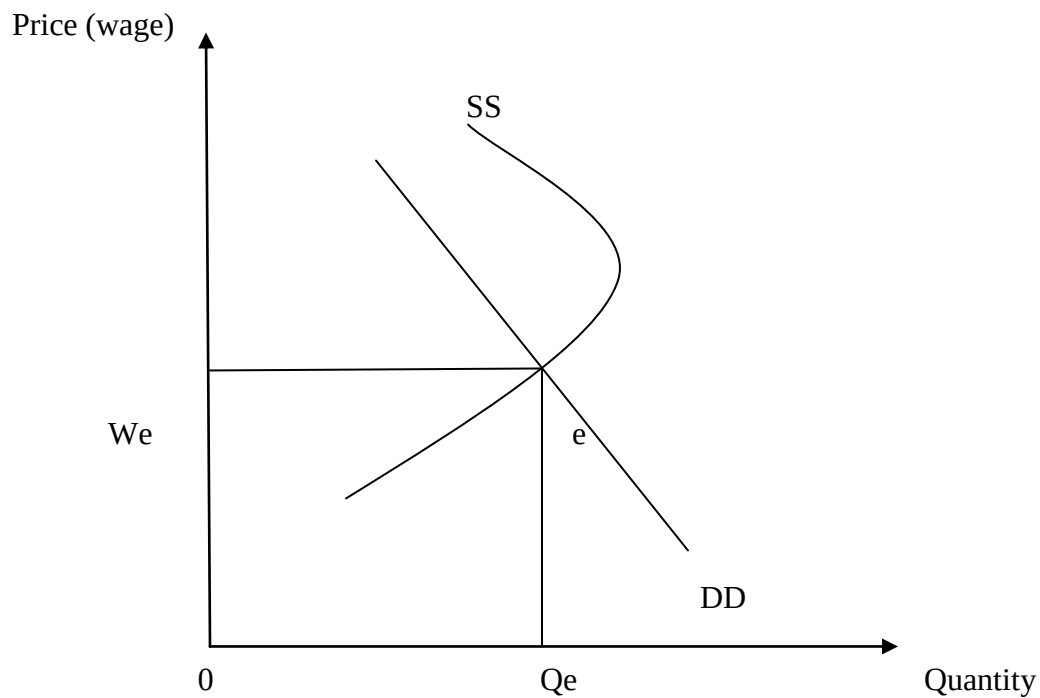


The producer was willing to accept any price above the supply curve and by getting the equilibrium price P_e , the difference between the equilibrium price and the supply curve is his surplus.

Pricing factors of production

In a free market economy, the factor prices are determined by the interaction of the forces of demand and supply for these factors. The prices are determined as shown below;

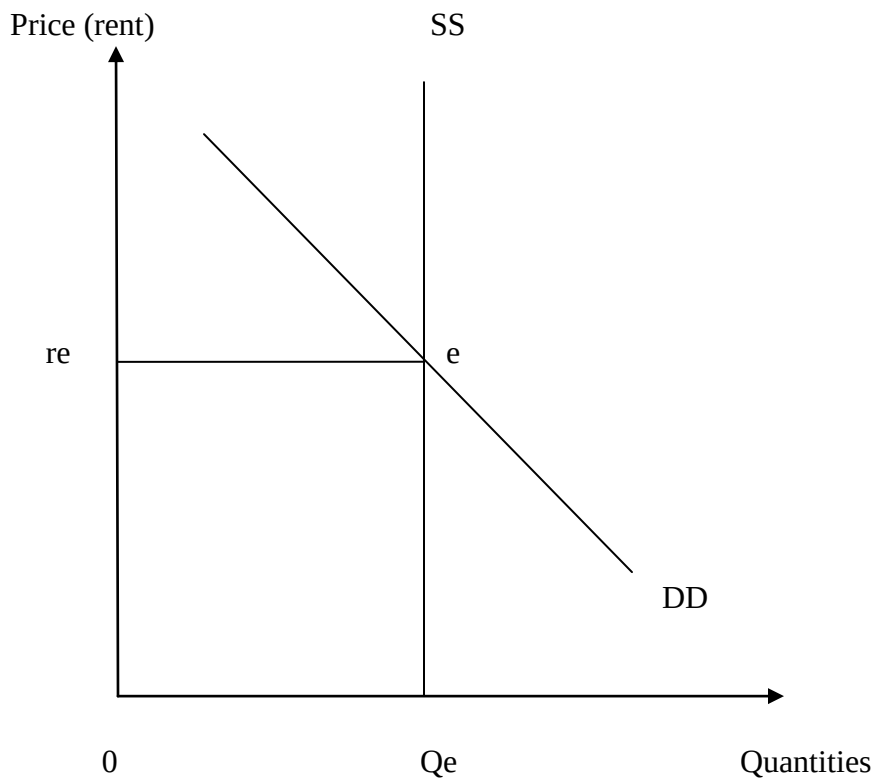
Labour, the equilibrium wage is determined as shown in the diagram below;



The supply curve for labour in nature while its demand curve is normal such that the equilibrium wage W_e is determined from point e where the demand for labour is equal to its supply.

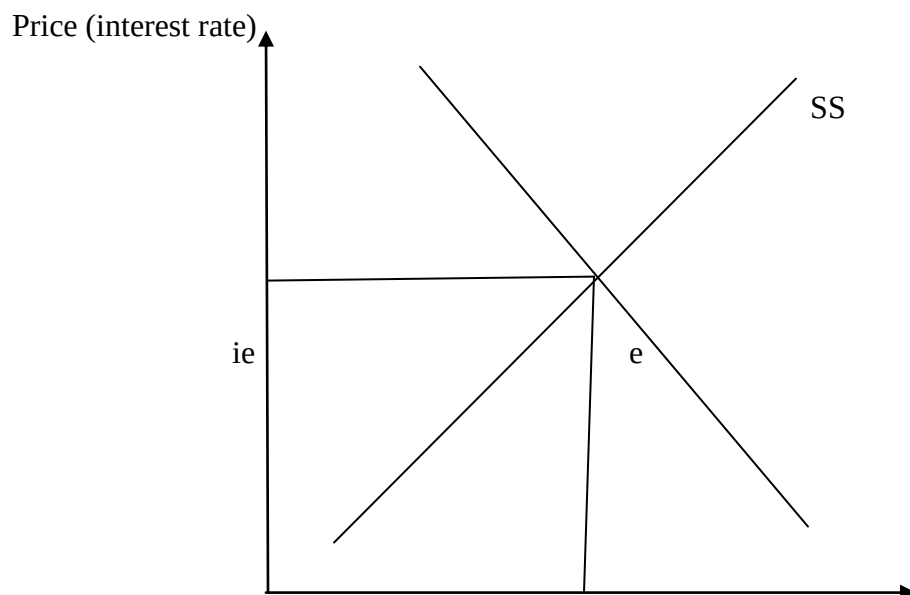
Land: the equilibrium rent is determined as in the diagram below;

Illustration



The supply curve for land is perfectly inelastic (regressive) but the demand curve is normal such that the equilibrium rent r_e is determined from the point e where demand for land equals to its supply.

Capital: the equilibrium interest rate (natural interest rate) is determined as shown in the diagram below;



Qe

Quantity

Both the supply and demand curves for capital are normal such that the equilibrium interest rate i.e. is determined from point e where the supply or capital is equal to its demand.

NOTE: transfer earnings or supply pricing

This refers to the lowest form of payment to retain a factor of production in its present form of employment.

The economic rent is the process payment factor of production lower and above its transfer earning.

Commercial rent: this is the payment made for hire of a durable asset.

Site rent: this is the extra payment to a factor of production especially labour due to its location advantages.

Differential rent: this is the extra payment to a factor of production especially land due to its suitability to perform or support a given task.

Ability rent: this is the extra payment for a factor of production especially labour due to possession of a unique talent.

Quasi rent: this refers to the increase in wages of labour whose training period is long implying a shortage in the short run which leads to increase in the wage.

THE CONCEPT OF ELASTICITY OF DEMAND

Elasticity of demand is the degree of responsiveness of the quantity demanded of a given product due to changes in the factors that influence its demand.

According to the law of demand *ceteris paribus* the higher the price the lower the quantity demanded and the lower the price the higher the quantity demanded, however this law does not tell us by how much demand changes in response to the price of the product.

The different concepts of elasticity of demand include the following price elasticity (PED)

- Cross elasticity of demand (CED / XED)
- Income elasticity of demand (YED)

Price elasticity of demand (PED)

This refers to the degree of responsiveness of the quantity demanded of a given product due to changes in its own price.

$$PED = \frac{(-)\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price}}$$

$$PED = -\left(\frac{DQd}{DP} \times \frac{P}{Qd}\right)$$

Where;

DQd is change in quantity demand

DP is change in price

P is initial price

Qd is initial quantity demanded

NOTE : the negative is always multiplied in the expression because it is a slope or gradient of a normal demand curve so as to make the answer positive since the slope of a normal demand is negative elasticity has no units.

Example 1: Given that the price of a given commodity increased from 950Shs. To 1050Shs. calculate the PED of demand when its quantity decreases from 450 to 380units.

$$= -\left(\frac{D \text{ in quantity demanded}}{\text{change in price}} \times \frac{\text{Inintial price}}{\text{Initial quantity demanded}}\right)$$

$$= -\left(\frac{DQD}{dp} \times \frac{p}{QD}\right)$$

$$DQD = 450 - 380$$

$$= 70 \text{ units}$$

$$= -\left(\frac{70}{100} \times \frac{950}{450}\right)$$

$$= -\left(\frac{133}{90}\right)$$

$$= +1.48$$

Example 2: Given the table below, calculate the elasticity of demand for commodity P

Price (¢)	Quantity demanded (kgs)
160	14
240	08

Example 3: Given that the price of commodity J increased from 400Shs to 500Shs and its quantity demanded decreased by 53%. Calculate the PED of commodity J.

SOLUTIONS

$$PED = \left(\frac{\text{Change in quantity demanded}}{\text{Change in price}} \times \frac{\text{Initial price}}{\text{Initial quantity demanded}} \right)$$

$$= -\left(\frac{8 - 14}{240 - 60} \times \frac{160}{14} \right)$$

$$= -\left(\frac{-6}{80} \times \frac{160}{14} \right)$$

$$= -\left(\frac{-3 \times 2}{7} \right)$$

$$= -\left(\frac{-6}{7} \right)$$

$$PED = 0.857$$

Example 3:

$$PED = \left(\frac{\text{Change in quantity demanded}}{\text{Change in price}} \times \frac{\text{Initial price}}{\text{Initial quantity demanded}} \right)$$

$$\left(\frac{-DQD}{DP} \times \frac{P}{Q} \right)$$

$$-\left(\frac{-DQD}{Q} \times \frac{P}{DP}\right)$$

$$\left(\frac{-53}{25}\right)$$

$$= -(-2.12)$$

$$= 2.12$$

Given that the price in commodity J increased from 400 to 500 and its quantity demanded decreased by 53%. Calculate the PED

$$\frac{-\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price}}$$

$$\frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}}$$

$$\% \text{ change in price} = \frac{500 - 400}{400} \times 100$$

$$= \frac{100}{400} \times 100$$

$$= 25\%$$

$$= -\left(\frac{-53}{25}\right)$$

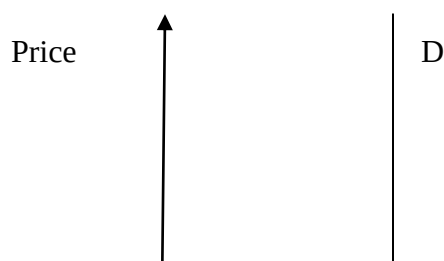
$$= 2.12$$

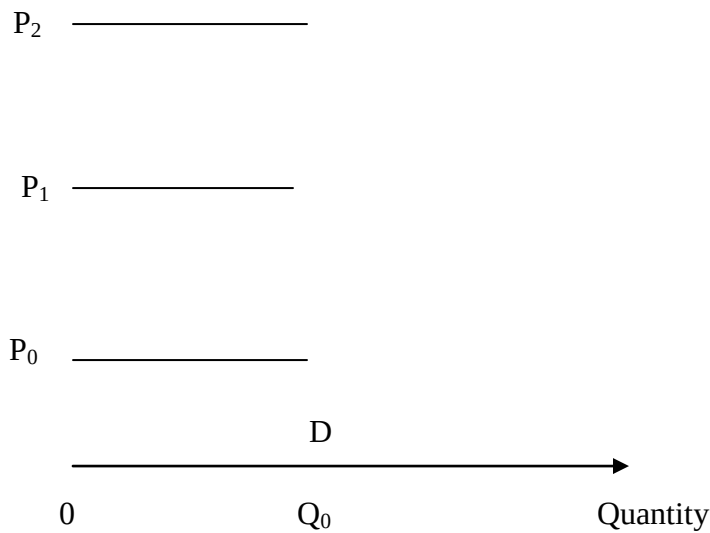
Degree of / types / categories of price elasticity of demand

Perfectly inelastic demand

Under this type of elasticity of demand, a change in the price of a given product does not affect its quantity demanded and its co-efficient of the elasticity of demand is zero i.e. the consumers buy the same quantity of a given product at whatever price. Products of such a demand situation have no substitutes at all and are mostly necessities e.g. salt, land etc.

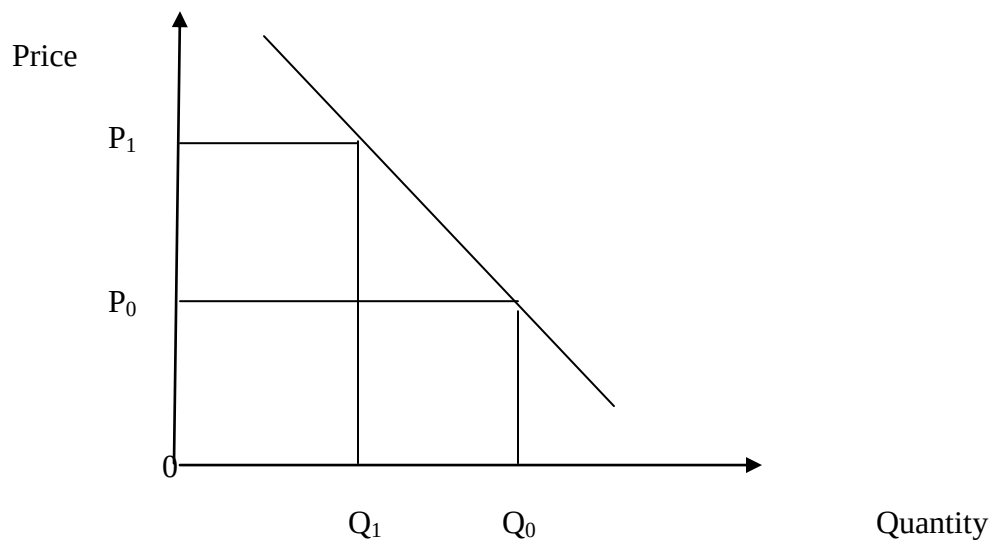
Illustration





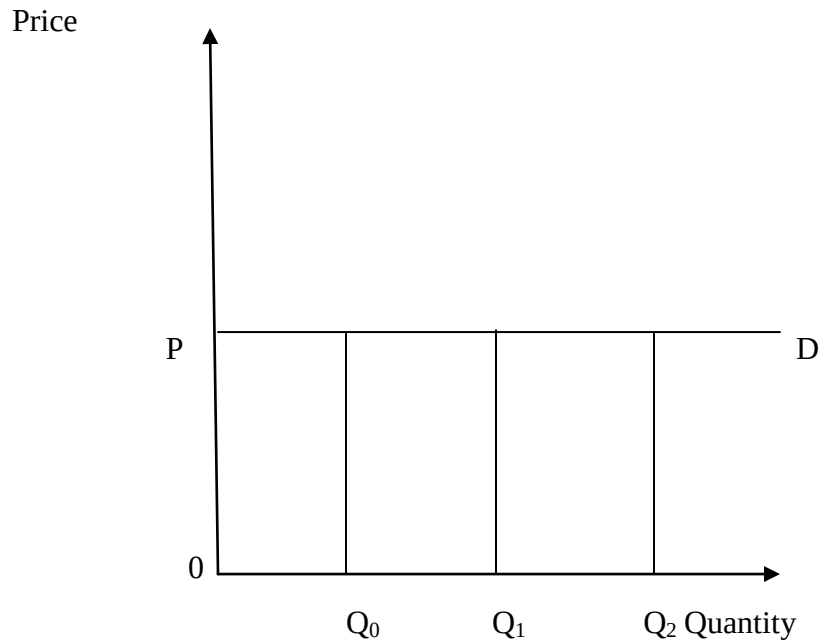
Inelastic / fairly inelastic demand (0 greater than elasticity demand greater than 1)

Under this type of PED, the coefficient is greater than zero but less than one. I.e. a big change in the price of a given commodity leads to a less than proportionate change in its quantity demanded. Products with such a demand situation have limited close substitutes and their demand curve tends to be very steep e.g. water, sugar.



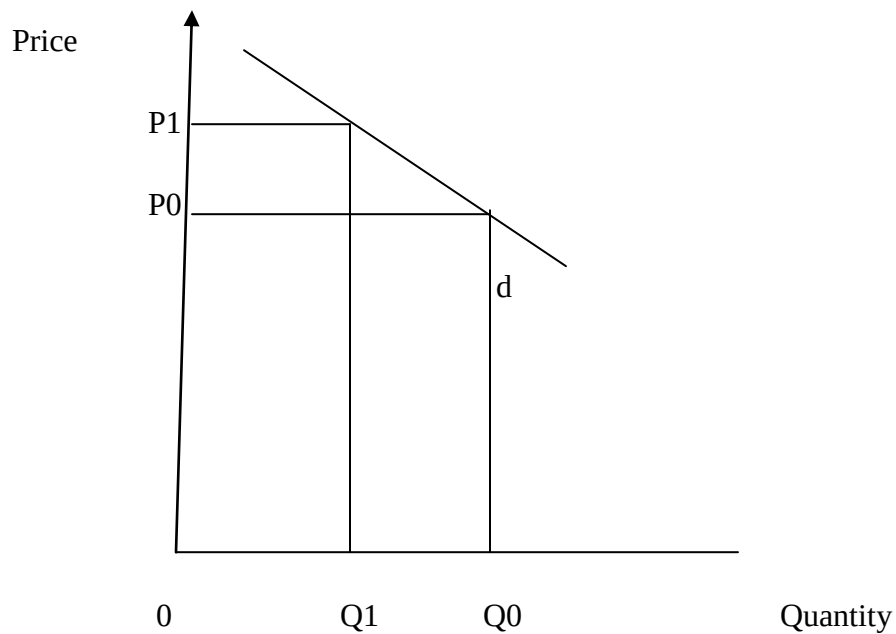
Perfectly elastic demand

Under this type, the coefficient of elasticity of demand is infinity or under-fined. This means that at a constant price, the quantity demanded of a given commodity keeps on changing.



Here consumers are prepared to buy all that they can at a given price but if the price increases, the demand may fall to zero. It is difficult to find an example of a product whose demand is perfectly elastic.

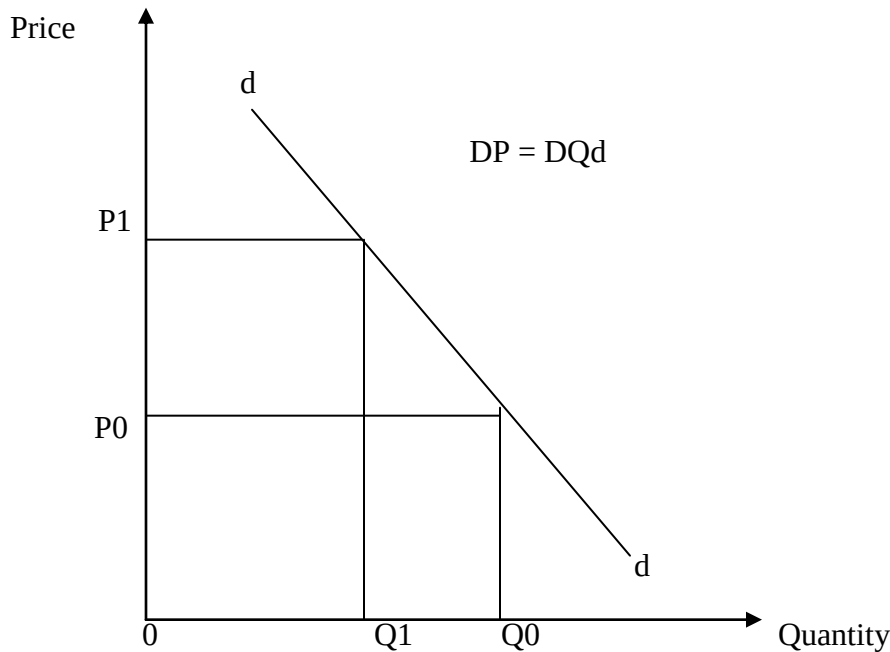
Elastic demand



From the above illustration, a small change in price from OP_0 to OP or OP , to OP_0 , leads to a big change in the quantity demanded either of OQ_0 to OQ_0 , or OQ to OQ_1 to OQ_0 respectively.

Unit / unitary elastic demand

Under this type, the co-efficient of elasticity of demand is one (1) and this means that a given change in price leads to the same / proportionate change in quantity demanded. The demand curve here is evenly sloped.



Factors that determine / affect / influence price elasticity of demand

Availability / possibilities of substitutes for a commodity with many substitutes, its demand is more elastic because when its price increases, consumers shift to its substitutes, its demand tends to be inelastic because consumers almost have no option.

The degree of necessity, for a necessary, a change in price does not affect much, its quantity demanded and therefore it has inelastic demand. This is because people cannot do away with them thus with a price increase, the quantity demanded almost remains the same. For luxuries, their demand is elastic such that any increase in their price affects so much their quantity demanded as people can afford to do without them.

Proportion of income spent on the product, where a product takes a small proportion of one's income, a price change does not affect much of its quantity demanded and therefore it has inelastic demand. This is so because, one buys almost the same amount regardless of the large proportion of one's income, it has elastic demand because any price increase is easily felt.

The level of the consumer's income, the low income earners have elastic demand, given any price change or any price increase, they buy less or leave the consumption of a given product

while the high income earners have low elasticity of demand / are demand inelastic because they can afford to buy almost the same amount at any price even if it increases.

The degree of complementarity, complements are goods that are demanded hand in hand with each other, in this case, increase in price or price change of one, the consumers buy more of the product because one can't work or be used without the other hence inelastic demand for products that are jointly used, their demand tends to be price inelastic because one cannot do away with the other product e.g. fountain pens' and ink where even if the price of ink increase, its demand does not reduce much provided continue using fountain pens.

The nature of the product, fragile or perishable products with a short like span have high elasticity of demand and are price elastic because as their prices decrease, people buy more as what they would already demand is inelastic because even if their prices decrease, one does not need to buy another similar product.

Number of uses a product can be put to, a product with several uses / purposes like electricity tends to be price elastic because a price increase leads to it only being used for the most vital purposes. A product with few uses has low / inelastic demand because its consumption cannot easily be reduced.

Time period, in the short run, price is inelastic because consumers rarelyto changes in price in the short run and demanded in the long run is elastic.

Addiction / habit forming products that are consumed as a result of addiction have got low elasticity of demand because one cannot do without them even if their prices increase, for products that are not consumed out of habit their demand is elastic given an increase in their price.

Note: when the coefficient is positive then the two products are jointly supplied. When it is negative, the two commodities are competitively supplied.