MICROECONOMICS AND MACROECONOMICS

Economics is divided into two categories: microeconomics and macroeconomics. Microeconomics is the study of individuals and business decisions, while macroeconomics looks at the decisions of countries and governments.

Though these two branches of economics appear different, they are actually interdependent and complement one another.

KEYPOINTS:

- **Microeconomics**: It is the study of behaviour and decisions of households and firms and the performance of individual markets.
- **Macroeconomy:** It is the study of the whole economy.
- **Markets:** An arrangement which brings buyers in contact with sellers
- **Economic agents:** Those who undertake economic activities and make economic decisions are economic agents
- **Private sector:** Firms owned by shareholders and individuals are included in the private sector.
- **Economic agent examples** Households, firms and government. While households include buyers, savers, workers and consumers, the firms are business concerns that produce goods and services and employ workers and factors of production. Government is involved in ruling the country or a region. Government might be involved in production, providing financial benefits and in general regulates the private sector
- **Aims of decision makers in an economy:**
    - As workers they want good pay and working conditions
    - As consumers: Lower prices and good quality products
    - As savers: To be able to ave more and get good returns
    - As firms: To make great profits
    - As governments: To have a strong economy, full employment of labour, improving the performance of individual markets

DIFFERENCE BETWEEN MACROECONOMIC AND MICROECONOMICS

Points of difference	Micro-Economics	Macro-economics
1. Meaning	It studies economic problems at an individual level	It studies the economic problems at the level of economy as a whole
2.Objectives	It's objectives are allocation of resources and price determination	It's objective is the determination of the national income and the employment of resources
3. Importance	It is helpful in determining the prices of a product along with the prices of the factors of production	It maintains stability in the general price level and resolves the major problems of the economy like inflation, deflation, unemployment, unemployment etc.
4. Examples	Consumer equilibrium, individual income and savings	Unemployment, interest rates, inflation, GDP.
5. Main tools	Demand and supply	Aggregate demand and aggregate supply
6.Economic agents	(a)Consumer/Buyer (b)Producer/Seller	(a) Consumers (b) Sellers (c) Government (d) Foreign Country

ROLE OF MARKETS IN ALLOCATING RESOURCES

KEYPOINTS:

Economic systems: These are the institutions, organisations and mechanisms that influence economic behaviour and determine how resources are allocated.

Planned economic system: An economic system where the government makes the crucial decisions, land and capital are state owned and resources are allocated by directives

Directives: State instructions given to state owned enterprises

Mixed economic system: It is an economy in which, both , the public and the private sector play an important role.

Market economic system: It is an economic system where the consumers determine what is produced, resources are allocated by price mechanisms and land and capital are owned privately.

Price mechanism: It is the way decisions are made by the households and firms to interact to decide the allocation of resources.

Capital-intensive: It refers to the use of high proportion of capital relative to labour.

Labour intensive: It refers to the use of high proportion of labour relative to capital.

DIFFERENT ECONOMIC SYSTEMS

The following are the three types of economic systems:

- Planned economic system
- Mixed Economic system
- Market economic system

PLANNED ECONOMIC SYSTEM:

- It is also called as the planned, centrally planned command or collectivist economy
- State government takes all the major decisions of what to produce, how to produce and for whom to produce.
- Land and capital are owned by the state and it is the state that employs the workers.
- State issues directives for what needs to be produced and how to produce it
- It controls the prices
- It provides the necessities either free of coat or at low prices.

MIXED AND MARKET ECONOMIC SYSTEMS-AN OVERVIEW
[DEALT IN DETAIL IN LATER CHAPTERS]
MARKET ECONOMIC SYSTEM

- Resources are controlled and owned by individuals.
- Economic decisions are made by individuals competing to earn profit.
- Individual freedom is considered very important.
- Economic decisions are made by the basic principles of supply and demand.
- Profit is the motive for increasing work rather than quotas.

MIXED ECONOMIC SYSTEM:

- It has the elements of the market economy and the planned economy.
- It is the most common type of economic system.
- What to produce is partly decided by the government and partly by consumer preferences
- What to produce is partly decided by the producers seeking profit and by the government
- For whom to produce is determined by the purchasing power and partly by the government preference.

PRICE MECHANISMS

- **Price mechanism: This refers to the way the decisions made by the households and firms interact to decide the allocation of resources.**
- **The price mechanism is the means by which millions of decisions taken by consumers and businesses interact to determine the allocation of scarce resources between competing uses.**

Price mechanisms perform 3 functions:

1. Rationing function of the price mechanism

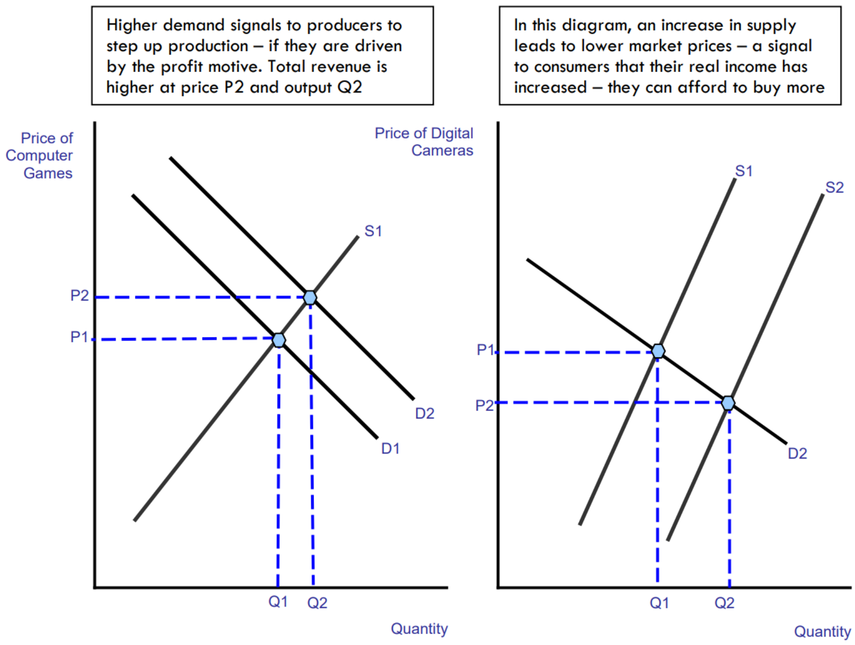
Whenever resources are particularly scarce, demand exceeds supply and prices are driven up. The effect of such a price rise is to discourage demand, conserve resources, and spread out their use over time. The greater the scarcity, the higher the price and the more the resource is rationed.

Example: As oil slowly runs out, its price will rise, and this discourages demand and leads to more oil being conserved than at lower prices. The rationing function of a price rise is associated with a contraction of demand along the **demand curve. Thus the price mechanism rations out products when their supply falls short of demand.**

2. The signalling function of the price mechanism

Prices perform a signalling function .They adjust to demonstrate where resources are required, and where they are not. Prices rise and fall to reflect scarcities and surpluses.

Rising prices give a signal to consumers to reduce demand or withdraw from a market completely, and they give a signal to potential producers to enter a market or the existing producers to expand the production . Conversely, falling prices give a positive message to consumers to enter a market while sending a negative signal to producers to leave a market.



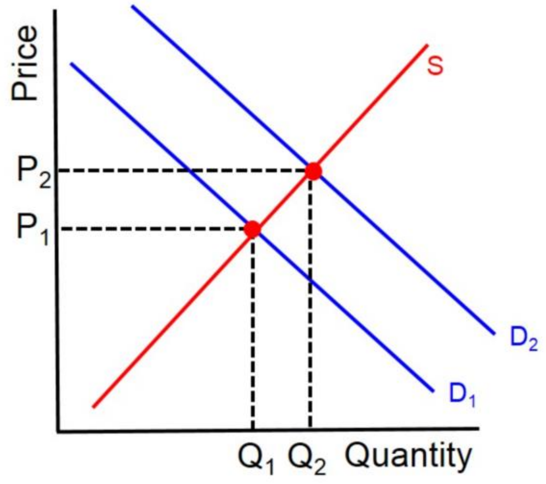
In the example on the right, an increase in market supply causes a fall in the relative prices of digital cameras and prompts an expansion along the market demand curve

Conversely, a rise in the costs of production will induce suppliers to decrease supply, while consumers will react to the resulting higher price by reducing demand for the good or services.

3. The incentive function of the price mechanism:

Rising prices give a signal to consumers to reduce demand or withdraw from a market completely, and they give a signal to potential producers to enter a market. Conversely, falling prices give a positive message to consumers to enter a market while sending a negative signal to producers to leave a market.

Price mechanism in a supply and demand framework:



An increase in demand for a product :

- Forces producers to produce more of the product due to the higher profit incentives. This is because the excess demand (from a positive demand shift) forces the price up and therefore the producer knows that for selling each product they will receive a higher average level of revenue per unit. Therefore the higher demand is signalling to individuals to allocate more resources to producing this type of good.
- So in summary prices serve to ration scarce resources particularly when a disequilibrium exists. If there is excess demand, the price increases - forcing only the consumers who have the absolute desire and willingness to purchase the product. This often occurs for goods such as sporting tickets, where there is a limited supply but high demand.

Possible Disadvantages Of Relying Only On Market Forces To Allocate Resources:

1. **Merit goods may be under-provided**
2. **Demerit goods may be over-provided**
3. **Public goods may not be provided at all**
4. **Externalities may not be taken into consideration**
5. **Some consumers/producers will have more power than others.**

ALLOCATION IN A MIXED ECONOMIC SYSTEM:

The resources in the public sector are allocated by government decisions /directives. The products are produced by state-owned enterprises .Resources are allocated to overcome market failure.
Resources in the private sector are allocated by the price mechanism or market forces or demand and supply or firms or consumer sovereignty .The profit provides an incentive for firms to produce what consumers demand .

DEMAND

KEYPOINTS:

- **Demand**: The willingness and the ability to buy a product.
- **Individual demand**: This refers to the amount of product an individual is willing and able to buy.
- **Market demand**: This refers to the total demand for a product at different prices.
- **Aggregation**: The addition of individual components to arrive at a total amount.

Difference between individual demand and market demand:

Individual demand	Market demand
Individual demand is the quantity of good or service demanded by an individual household, at a given price and at a given period of time.	Market demand is the sum of all the individual demand for the commodity at each possible price, over a period of time.
Example: The quantity of oil purchased by an individual household, in a month, is termed as individual demand.	Examples: There are 10 consumers of oil in the market, wherein their monthly demand for detergent is 10kg, 5kg, 20kg, 2kg, 13kg, 20kg, 10kg, 12kg, 6kg and 2 kg respectively. So, the market demand for detergent is 100kg[10+5+20+2+13+20+10+12+6+2=100kg]

DEMAND CURVE:

- A **demand curve** is a graph representing the relationship between the price of a certain commodity against the quantity of that commodity that is demanded at that price.
- The price of the certain commodity is always taken on the *y*-axis and the quantity demanded at that price is taken on the *x*-axis.
- The demand curve may be used to model the price-quantity relationship for an individual consumer (-called as the **individual demand curve**), or more commonly for all consumers in a particular market (called as the **market demand curve**).

Curve:1

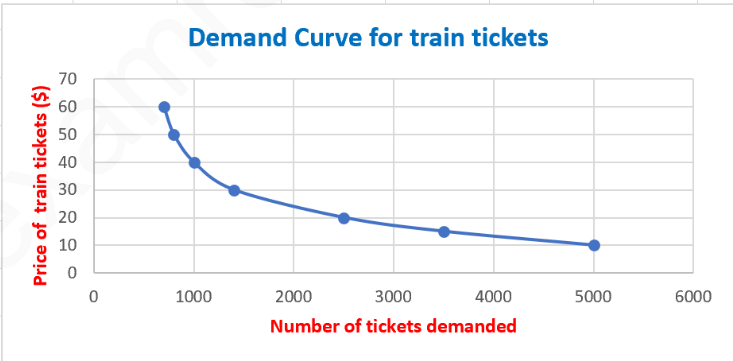
Demand curve are of 2 types:

➢ A curved demand curve

Curve:1

Demand Schedule

Price($)	Quantity demanded
60	700
50	800
40	1000
30	1400
20	2500
15	3500
10	5000

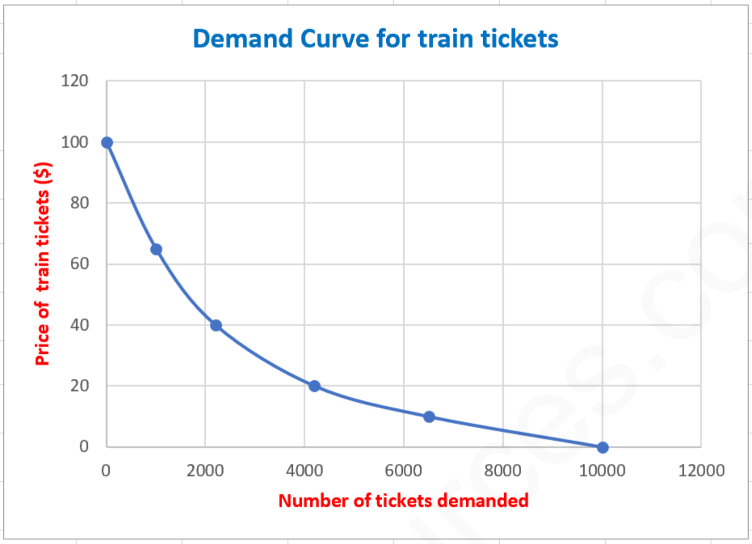


- The above demand curve to the right is based on the demand-schedule shown to the left.
- The demand schedule is a table that shows the quantity demanded of a good or service at different price levels.
- As you can see at higher prices the demand goes on decreasing.
- Demand is the greatest when price is low.

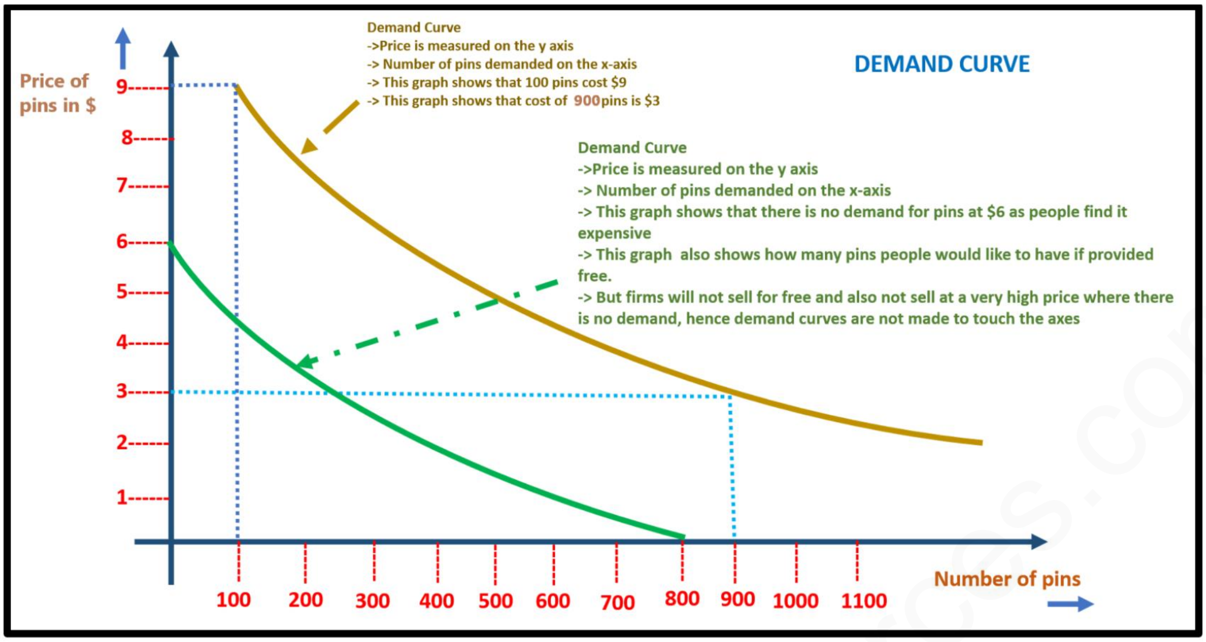
Curve:2

Demand Schedule

Price($)	Quantity demanded
100	0
65	1000
40	2200
20	4200
10	6500
0	10000



- The above demand curve [Curve-2] is based on another demand schedule shown to its left.
- This curve shows the demand for the train tickets over the full range of prices.
- The sellers would not keep the price so high, so that there are no buyers for it. Also they would not keep the tickets absolutely free of cost. Hence for this reason, the demand curves are not taken to the axes.



Curve:3 : Comparing curve 1 and curve 2 on the same graph:**[Different data has been taken]**

As explained in the graph above:

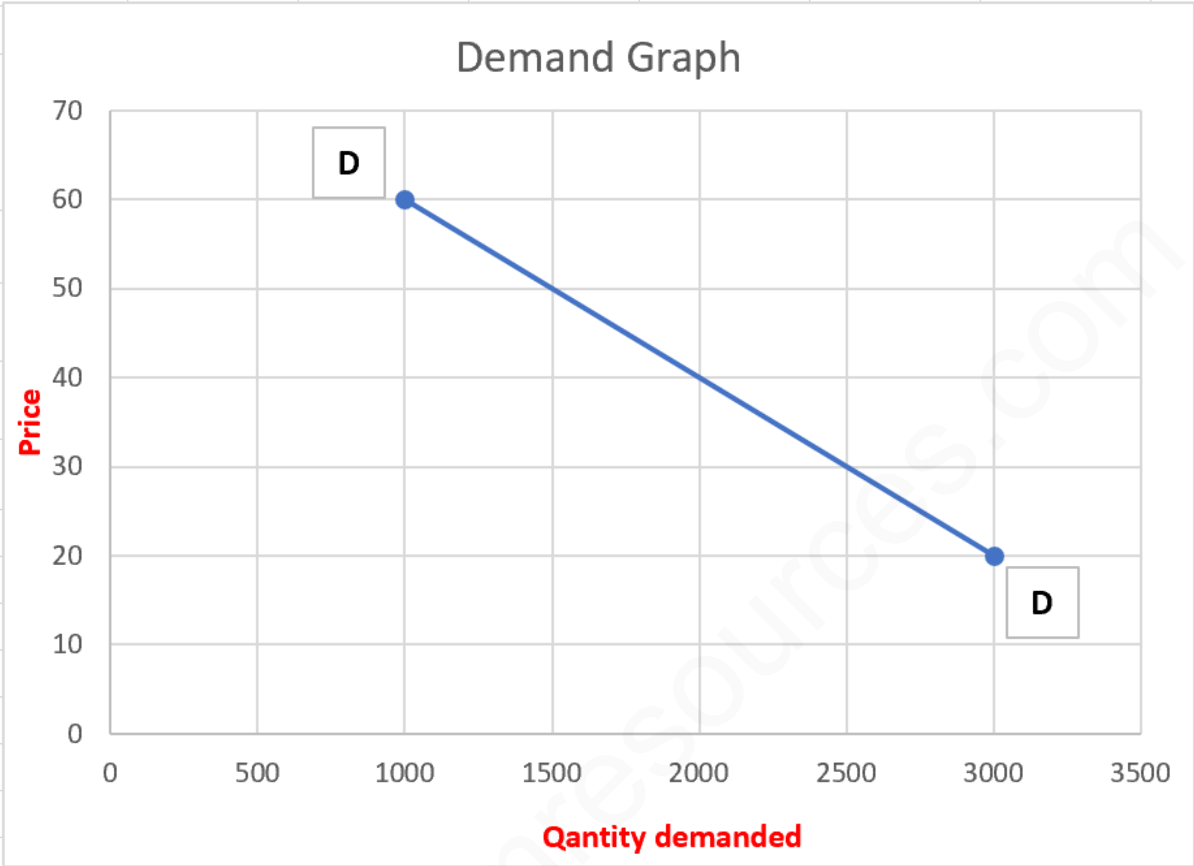
Green graph description:

- The sellers would not want to sell at a price that has no demand.
- The sellers also do not give for free.
- Hence demand supply curves do not touch the x/y-axis

Brown graph description:

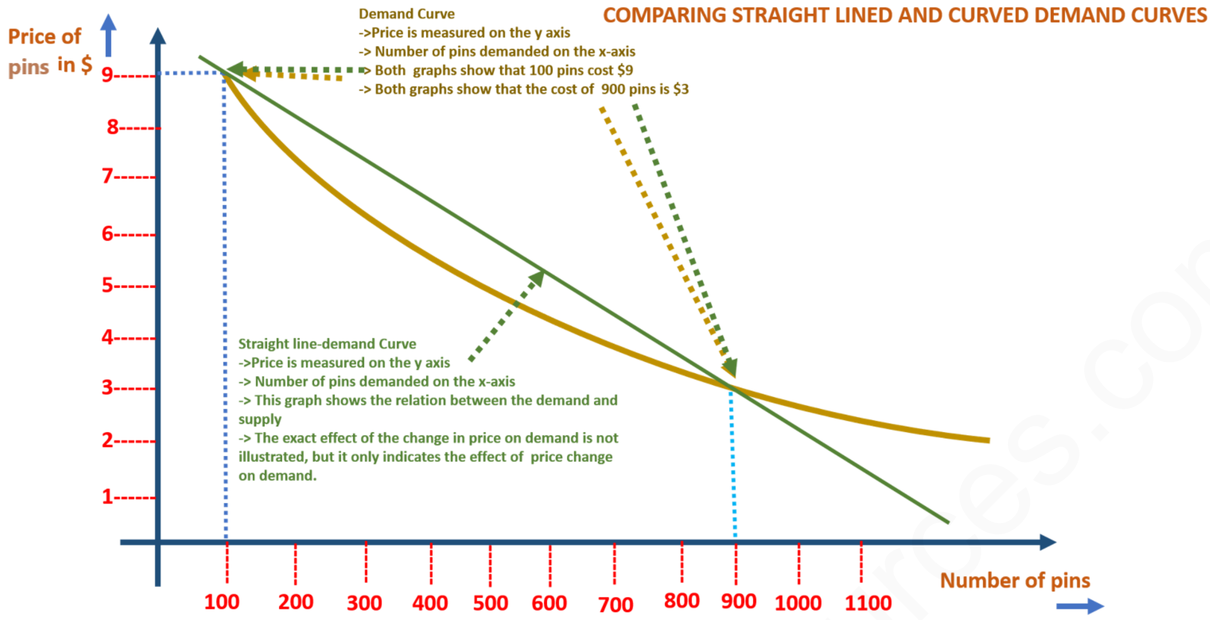
- This shows the demand for very high and very low price and helps sellers to set appropriate prices.

➢ **A straight-line demand curve**



- A straight-line demand curve , such as the one shown above, does not give us the exact quantities demanded for a particular price.
- The curve merely illustrates the effect of change in prices on the demand for the goods and services

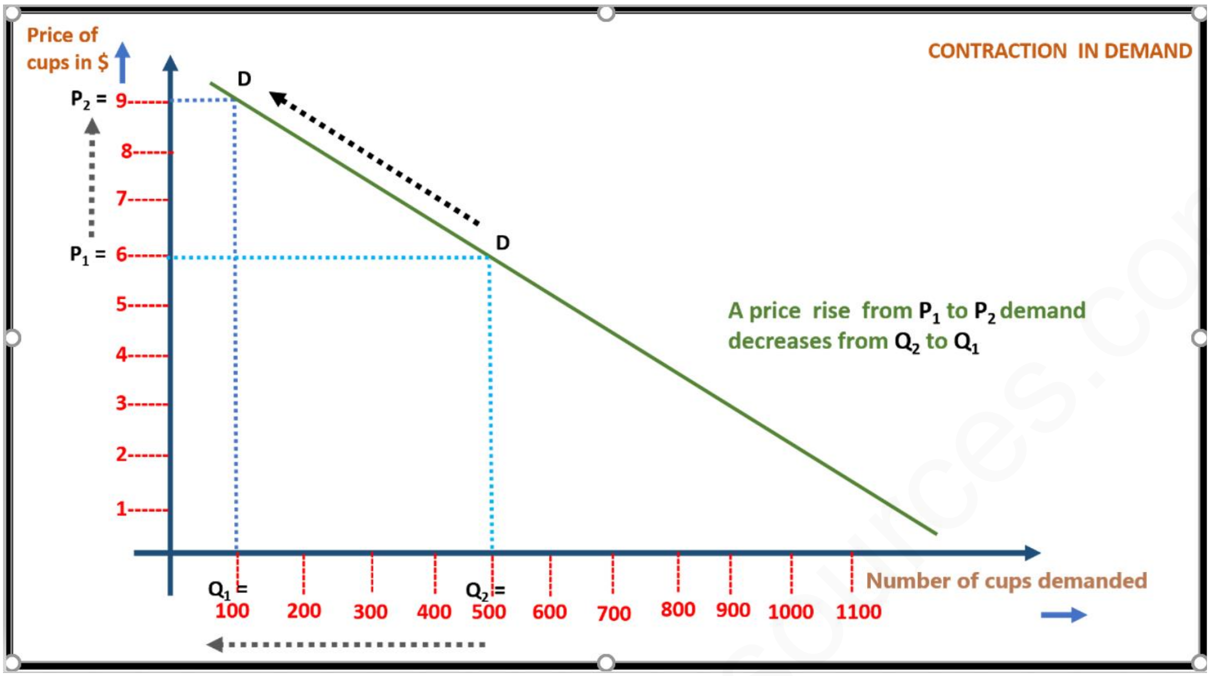
COMPARING STRAIGHT-LINE DEMAND CURVE AND CURVED DEMAND CURVES:



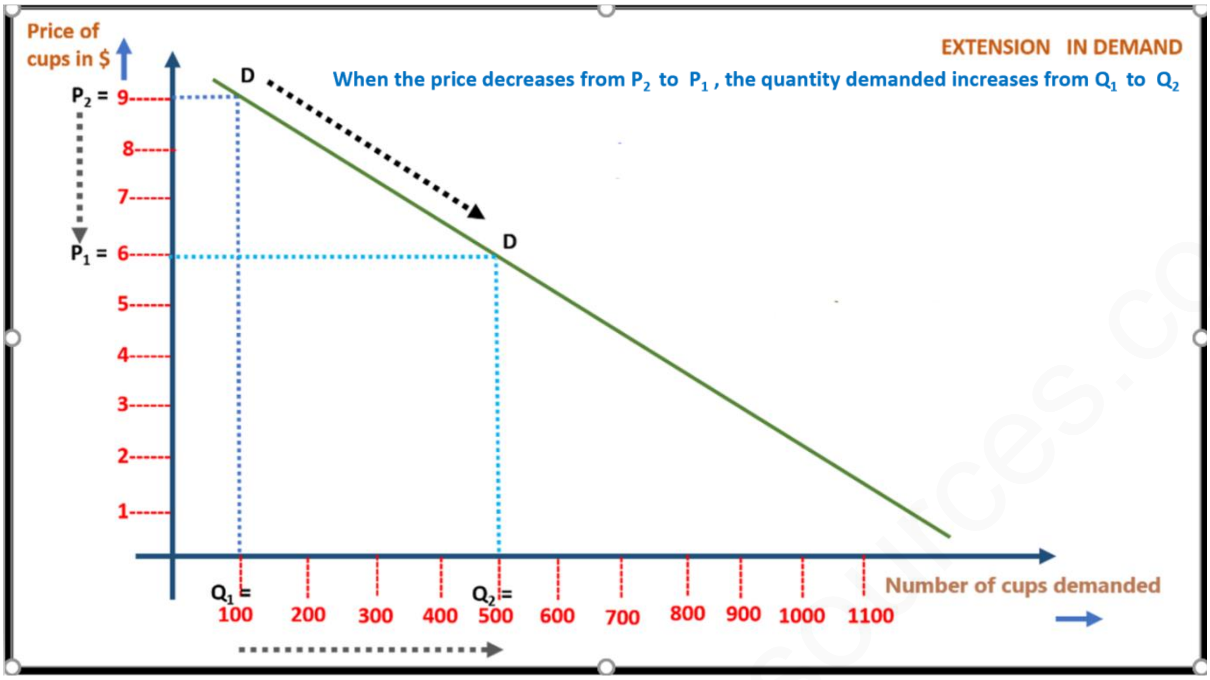
- The above diagram shows a comparison between a straight-lined and a curved demand curve.
- As seen above the straight-line demand curve does not give a detailed idea about the change in the demand due to price changes. It only tells us about the relationship between the effect of price change on demand of pins.

EXTENSION AND CONTRACTION IN DEMAND:

Contraction in demand: When the price increases from \$6 to \$9, then the quantity demanded decreases from 500 to 100. This is known as the contraction in demand.



Extension in demand: When the price decreases, then the demand increases. This is known as the extension in demand.



Following are the factors that can increase the demand for a product:

- Rise in income: With a rise in income, people tend to have a greater purchasing power .The increase in the purchasing power has two effects:
  - ✓ It increases the demand of certain kind of goods. Example: People tend to buy more of high brands and high quality goods, which earlier they couldn't afford to buy. For example, people who had to earlier buy toned milk might switch over to buying full crème milk once their purchasing power increases. This means that there is an increase in demand for certain kind of goods, termed as normal goods.
  - ✓ As mentioned earlier, the demand for certain goods might decrease. Example, less people might opt for the toned milk . And if this decrease is due to the increase in the purchasing power; which in turn is related to their rise in income; then such goods are termed as inferior goods.
- Greater availability of credit to finance borrowing:
- Price of substitute has gone up
- Price of complement has gone down
- Effect of advertising campaign
- Growth in population
- Change in tastes and preferences of consumers in favour of a product

Normal goods and inferior goods comparison:

	Normal goods	Inferior goods
Meaning	Normal goods are the goods whose demand increases with an increase in income	Inferior goods are goods whose demand decreases with an increase in income
Relation	There is a direct relation between income and demand for normal goods	There is an inverse relation between income and demand for inferior goods
Example:	Full milk cream is a normal good if its increases with an increase in income	Toned milk is an inferior good if its demand decreases with an increase in income

Substitute goods and complement goods

	Substitute goods	Complement goods
Meaning	These are the goods that can be used in place of another for the satisfaction of a specific want	These are the goods that are used together to satisfy a specific want
Price-Demand Relationship	Positive relationship between price of a good and the quantity demanded	Inverse relationship between price of the good and the quantity demanded
Price effect	An increase in the price of a commodity increases the demand for substitute goods and vice-versa	An increase in the price of a commodity decreases the demand for the complement goods and vice-versa
Examples	Chrome and Firefox, Camlin and Staedler pencils, Brooke-bond and Red-label tea, Cycling and bus travel	Pencil and eraser, cup and saucer, toothpaste and brush and Television remote.

BOARD QUESTIONS:

1. Explain three likely causes of increase in demand for bicycles.[6]

The three likely causes of increase in demand for bicycles could be any of:

- ✓ With fall in income, people would opt for cycles which might then become an inferior good. While there might be some who might opt for bicycles as with an increase in their income, they can now buy bicycles due to their increase in their purchasing power. Also cycling is a substitute for bus travel.
- ✓ Rise in the price of other forms of transport
- ✓ A greater desire to be fit
- ✓ Rise in population size : A larger population will mean there are more people to buy bicycles
- ✓ A successful advertising campaign will be able to persuade more people to buy bicycles

Note: accept any valid reason which would shift the demand curve for bicycles to the right but do not accept a change in price or a change in supply of bicycles.

2 (a) Giving an example, define 'complements'.[2]

Complement refers to two products that are used or consumed together . As the demand for one product increases, demand for the other product increases e.g. laptops and printers or coffee and milk

3 Explain two causes of an increase in demand for bus transport. [4]

Two causes for an increase in demand for bus transport are:

- ✓ A rise in the price of a substitute for example cars may divert more people for bus transport.
- ✓ An increase in population will mean that there will be more people who will travel.
- ✓ An increase in employment will lead to more people travelling to and from work.
- ✓ An increase in the quality of bus travel if buses are safer or there are bus lanes
- ✓ An increase in price of petrol/tax on petrol
- ✓ An introduction of congestion charges
- ✓ An increased concern for the environment
- ✓ An increased advertising/more effective advertising can persuade some people to travel by bus

[Note: Only 2 causes are needed with explanation]

4. Define a substitute and give an example.

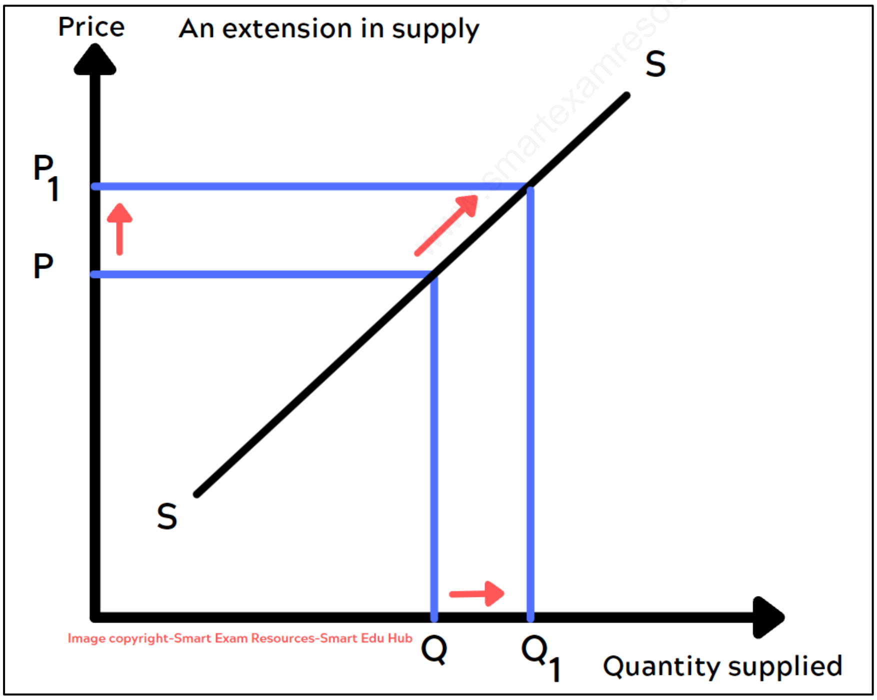
It is a rival product or a product that can be used instead of another .e.g. bus travel and car travel / oranges and apples

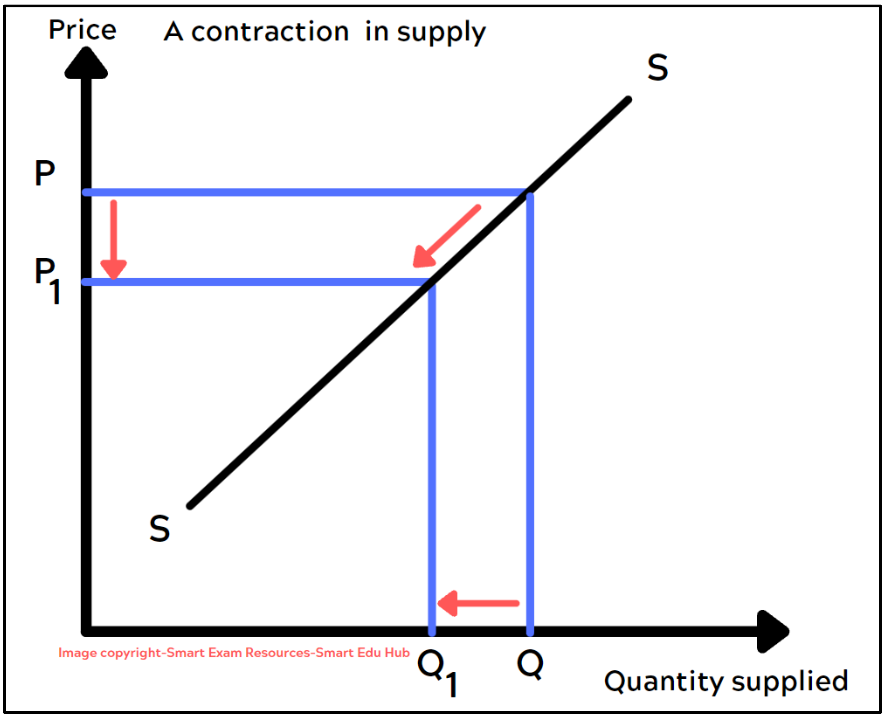
SUPPLY

- **Supply:** It is the willingness and ability to sell a product.
- **Market supply:** It is the total supply of a product.
- **Extension in supply:** It is a rise in the quantity caused by a rise in the price of the product itself.
- **Contraction in supply:** It is the fall in quantity supplied caused by a fall in the price of the product itself.
- **Supply schedule:** It records the different quantities supplied at different prices.
- **Supply curve:** It is a curve plotted based on the supply schedule. These curves slope up from the left to right

Effect of change in price on supply:

- **Extension in supply:** A rise in the price will cause an extension in supply.
- **Contraction supply:** A fall in the price will cause a contraction in supply.





Shifts in the supply curve:

- **Shift to the right:** This indicates an increase in the supply. So for each and every price, more is supplied.
- **Shift to the left:** This indicates a decrease in the supply. So for each and every price, less will be supplied.

Causes of changes in supply:

- **Changes in the cost of production:** This may be due to the changes in the cost of the factors of production or change in their productivity
- **Improvements in technology:** Improvements in technology, raises the productivity of the capital and reduces the cost of production and hence results in an increase in supply.
- **Taxes:** Price of goods increases due to direct and indirect taxes. Continuously increasing taxes, make it more expensive to supply a product and results in its reduced supply.
- **Subsidies:** Subsidy helps the producers to supply more.
- **Weather conditions and the health of livestock and crops:** These change in conditions affect the agricultural products. Favourable weather conditions helps to increase the supply of the product and vice-versa.

- **Prices of other products:** Firms usually produce many products. Firms often choose to divert existing resources to produce a more popular product, thereby decreasing the quantity of unpopular product. This results in an increased supply of the popular product and the decreased supply of the other, not-so-popular product.

  Certain products are jointly supplied. Example: If more sheep are produced than more wool and milk will be available. A rise in the price of one product will cause an extension in supply of the other product. More of the second is being produced not because it is demand, but because the first product is in demand and the second product is a by-product of the first product.
- **Disasters and wars:** Natural disasters such as tsunamis, cyclones, wars can cause a significant decrease in the supply
- **Discoveries and depletion of commodities:** The discovery of new sources of resources, examples, the discovery of more coal fields will increase the supply of coal and vice-versa.

APPLICATION BASED QUESTIONS:

1. Explain three reasons why the supply of bananas may decrease. [6]

Ans: The following could be the reasons as to why the supply of bananas may decrease:

a period of bad weather/natural disasters: a period of bad weather/natural disaster would decrease the crop

a rise in the costs of production an increase in, for example, wages paid to farm workers which would make it more expensive to produce the product

a government tax a government tax provides a disincentive to firms to produce more

- **removal of a subsidy:** the removal of a subsidy will result in less being produced
- **expectations of a change in the market affecting planting bananas** expectations of a change in the market could encourage an increase or decrease in supply
- **change in profitability of other crops** change in profitability could either increase supply (if profits rose) or a decrease in supply (if profits fell)

availability of land more land available would increase supply and vice versa

NOTE:

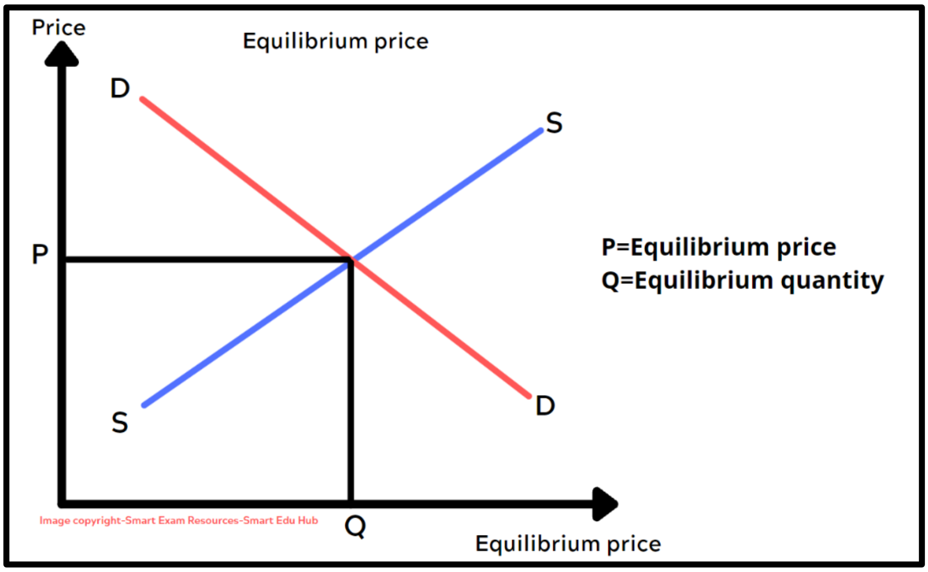
- **Up to 3 marks for identification.**
- **1 mark for each of any three reasons identified.**
- **Up to 3 marks for explanation.**
- **1 mark for each of three explanations.**

2. Reasons why the supply-curve of a product may shift to the right:

- **government subsidy**: a government subsidy will reduce costs of production or provide an incentive to produce more.
- **fall in costs of production:** a fall in costs of production means that firms can produce more at the same price.
- **advances in technology:** advances in technology lower the costs of production.
- **good weather:** good weather can increase the supply of agricultural products.
- **seasonal factors**: when a crop is in season, the supply increases.
- **increased use of pesticides/fertilisers/capital equipment (e.g. tractors) : his is to increase crop yields**
- **reduction in indirect tax**: reduction in indirect tax lowers costs of production
- **changes in the price of other products produced:** if the price of one product firms produce falls, they may move resources to this product.

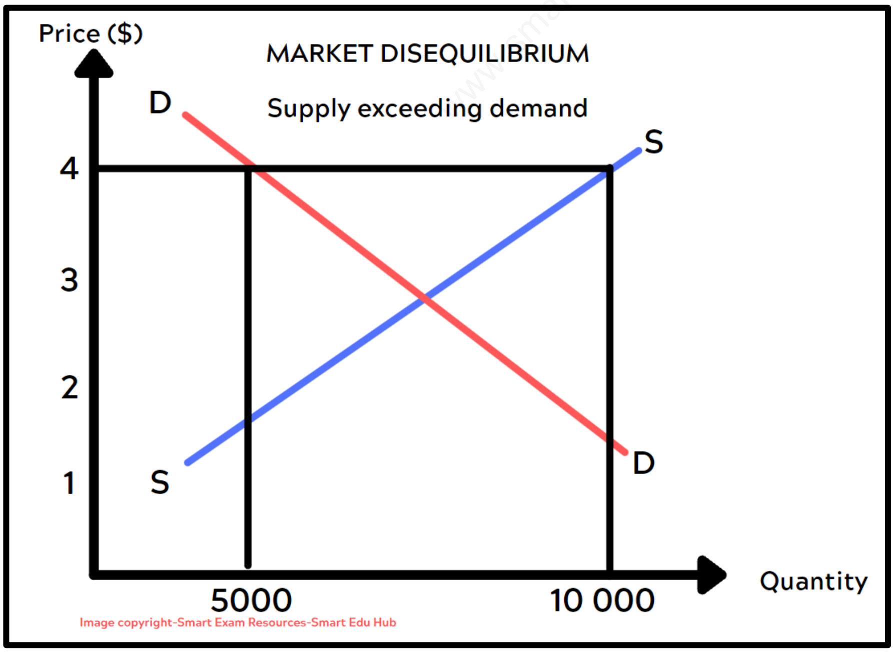
PRICE DETERMINATION

- **Equilibrium price [Market clearing price]:** It is the price where the demand and supply are equal. Here there are no shortages or surpluses of products



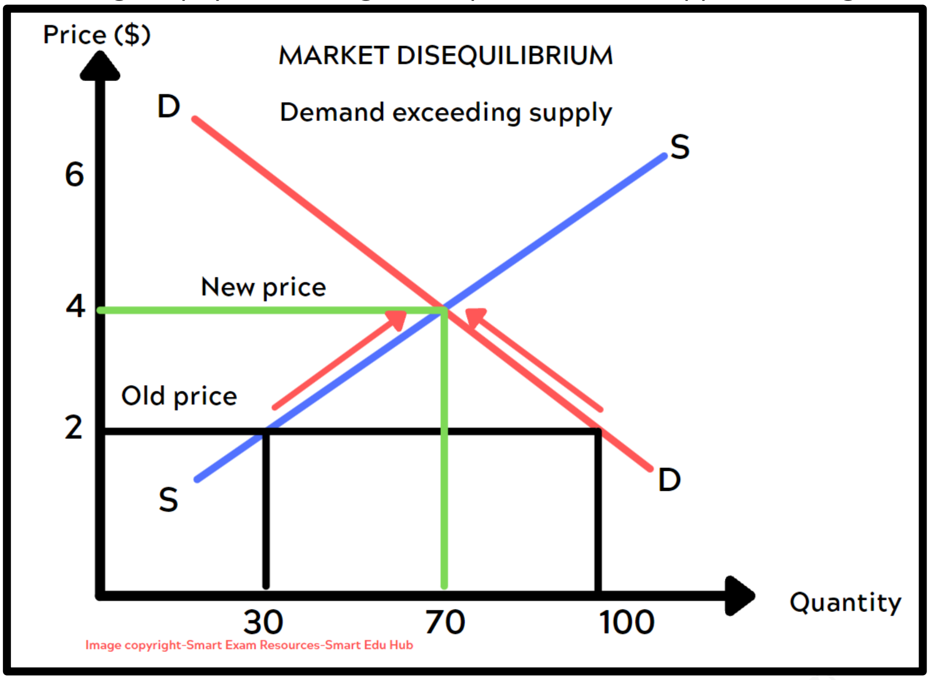
- The point of intersection of the demand and supply curves is the equilibrium price

- **Market disequilibrium: A situation where demand and supply are not equal is called as market disequilibrium. There are two cases of market disequilibrium:**
  - ✓ **Supply exceeds demand:**
  - ✓ **Demand exceeds supply**



Case 1: Supply exceeds demand: At $4, the firm is willing and able to sell 10,000 products, but consumers buy only 5000 products. This results in a surplus of 5000 products. This indicates a market disequilibrium. The firms will then want to reduce the price of the products so that demand for the products increases and the supply will contract until a new equilibrium price is established. The above image shows this new equilibrium price.

Case 2: Demand exceeds supply. This causes a shortage of the product. Some people are willing to pay extra to get the product. The suppliers recognise this excess demand and increase the price of the product and the price is pushed to an equilibrium

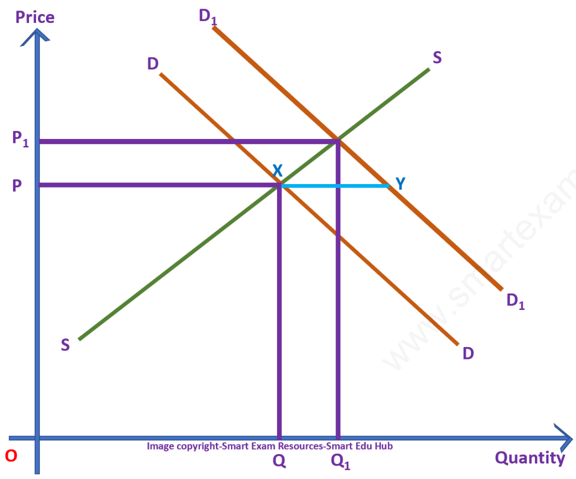
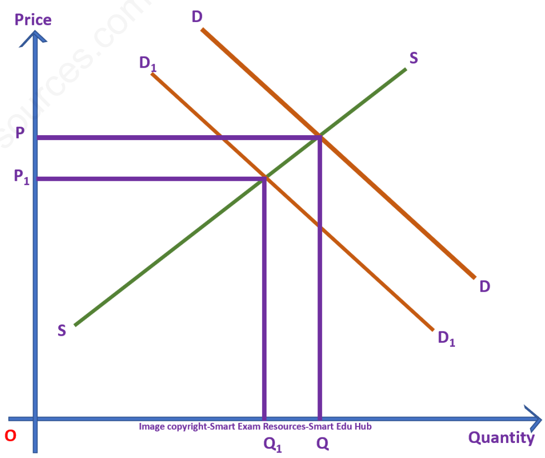


PRICE CHANGES

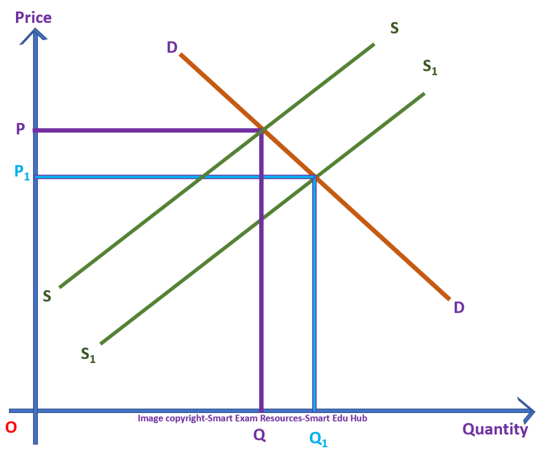
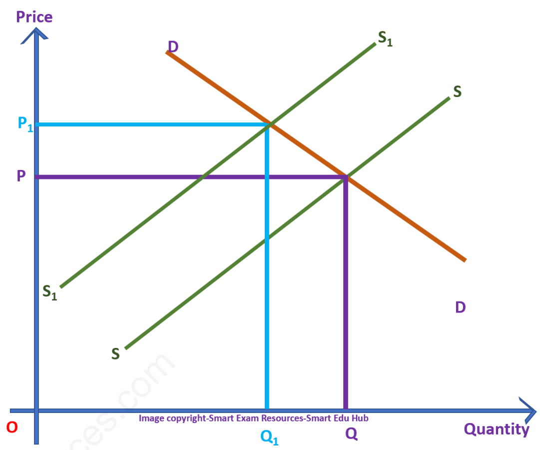
Prices change because of:

- change in the demand
- change in supply
- changes in demand and supply

CASE 1: CHANGES IN DEMAND LEADING TO A CHANGE IN PRICE:

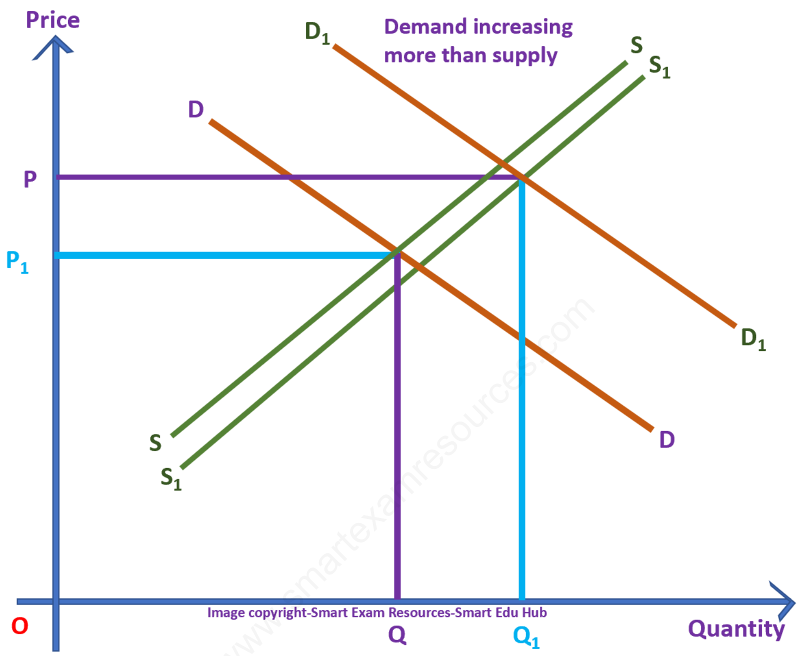
EFFECT OF AN INCREASE IN DEMAND	**EFFECT OF A DECREASE IN DEMAND**
• **Shortage of product[xy] causes the price of the product to increase.** • **The higher price causes an extension in supply until a new equilibrium price [P_1] reached.** • **At this new equilibrium price, the demand and supply are equal**	• **Lower demand [DD D_1D_1] results in the surplus of unsold products.** • **Hence price is lowered and the supply contracts until a new equilibrium price [P_1] is established, which is the equilibrium price.**
DIAGRAM: 	**DIAGRAM:** 

CASE 2: CHANGES IN SUPPLY LEADING TO A CHANGE IN PRICE:

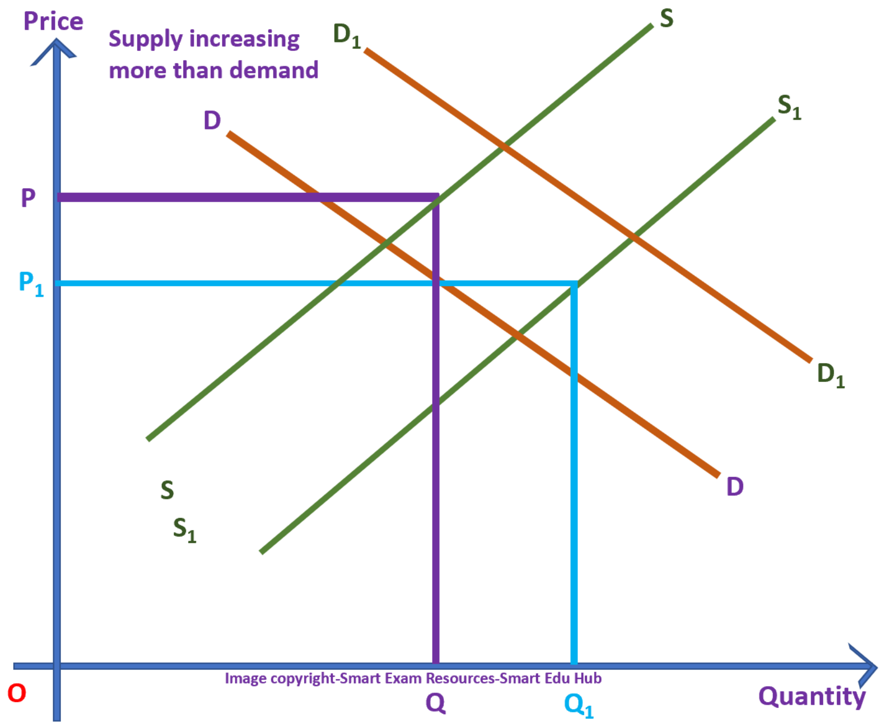
An increase in supply	A decrease in supply
• An increase in supply will result in a surplus product. • The surplus will drive down the price and causing an extension in demand.	• A decrease in supply will cause a rise in price. • This will result in a contraction in demand
DIAGRAM:  	**DIAGRAM:** 

CASE 3: CHANGES IN THE DEMAND AND SUPPLY:

- **It is possible that both demand and supply may undergo changes.**
- **Example: A fruit such as dragon fruit may be in sudden demand due to its assumed health benefits. Favourable weather conditions could lead to a great produce of dragon fruit. So here the demand and the supply both have increased.**
- **The effect on price of the dragon fruit, of the increase in demand and supply will completely depend upon the relative strengths of the shift in demand and supply**
    1. **If demand is greater than the supply, the prices will increase**



2. **If supply is greater than the quantity demanded, then the prices will decrease.**


Price
Supply increasing
more than demand
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Quantity

PRICE ELASTICITY OF DEMAND [PED]

Price elasticity of demand:

- Price elasticity of demand is a measure of the responsiveness of the demand to a change in price of a product.
- It is the percentage change in quantity demanded of a product or the percentage change in price of a product

FORMULA:

PED= $\frac{\textit{Percentage change in quantity demanded}}{\textit{Percentage change in price}} = \frac{\%\Delta QD}{\%\Delta QP}$

Factors that influence the price elasticity of demand of a product:

- the availability of substitutes
- the proportion of income spent on a product
- whether the product is a necessity or a luxury
- whether the product is addictive or not
- whether its purchase can be postponed
- how the market is defined
- the time period.

Calculation of PED:

Percentage change in quantity demanded = $\frac{\text{Change in demand}}{\text{Original quantity demanded}} \times 100$

Percentage change in price = $\frac{\text{Change in price}}{\text{Original price}} \times 100$

Example: Suppose the quantity demanded changes from 500 to 540 due to the decrease in the price from $10 to$ 9, then the PED can be calculated as follows:

Percentage change in quantity demanded = $\frac{40}{500} \times 100$**= 8%**

Percentage change in price = $\frac{-\$1}{10} \times 100$**= -$10%**

PED= $\frac{8}{-10}$**=-0.8**

The negative sign indicates that there is an inverse relationship between the quantity demanded and the price. Hence a rise in price will cause a contraction in demand and a fall in price will cause an extension in demand. The other piece of information is provided by the size of the figure. This indicates the extent by which demand will extend or contract when price changes.

ELASTIC AND INELASTIC DEMAND:

- **Elastic demand:** This is when the quantity demanded changes by a greater percentage than the change in price
- **Inelastic demand:** This is when the quantity demanded changes by a smaller percentage than the change in price
- **Perfectly elastic demand:** When a change in price causes a complete change in the quantity demanded.
- **Perfectly inelastic demand:** When a change in price has no effect on the quantity demanded.
- **Unit elasticity of demand:** When a change in price causes an equal change in the quantity demanded, leaving total revenue unchanged

DETERMINANTS OF THE PRICE ELASTICITY OF DEMAND:

- Availability of substitutes of a similar quality and price.
- The proportion of income spent on the product based on various factors like the necessity of the product, addictive property of the product, whether the purchase of the product can be postponed, how the market is defined and the time period under consideration

DIFFERENCES IN PED:

- **When luxuries change into necessities**
- **Difference in the tastes, income levels and cultural differences.**

PED and total spending on a product and the revenue gained:

- **A rise I price causes the total revenue to rise**
- **For a perfectly inelastic demand, for instance, an increase in price, would have no effect on the quantity demanded, and the revenue will increase by the same percentage as the price.**
- **For an elastic demand, a change in price, causes the revenue to move in the opposite direction. Thus a rise in price will cause the revenue to fall**
- **For a perfectly elastic demand, a rise in price will cause the revenue to fall to zero.**
- **For unit elasticity of demand, the price and the quantity demanded change by the same percentage, so the total revenue remains unchanged.**

Changes in the price elasticity of demand [PED]:

- **A rise in the product price, makes the PED elastic. Consumers become more sensitive to price changes.**
- **A decrease in the price, makes the demand more inelastic.**
- **PED changes with a shift in the demand curve. The more the consumers want a product and the more they are willing to spend for it, makes them less sensitive to price changes.**
- **When demand decreases, the consumers become more sensitive to price changes and demand becomes more elastic.**

Implications of PED for decision making:

Consumers:

- **If demand is elastic, consumers are more likely to benefit from lower prices and higher quality**
- **This is because producers would be reluctant to raise prices fearing a decrease in revenue as demand would contract by a greater percentage.**

Producers:

- **A relatively small increase in demand would not be an ideal situation to decrease the price, as the end result of reducing the price, with a very small rise in demand, would lead to a fall in the revenue**

- **A producer may try to make his firm's product more distinctive. Consumers would then not want to switch from using his company products, as the other company products may not be a perfect substitute.**
- **So, a producer creating a distinctive product would be at an advantage as he would then have the power to increase the price of his product as it would make the demand for his firms product more price inelastic.**

Government:

- **Decision regarding the subsidy and taxation policies need a thorough research with regards to the responsiveness of the quantity demanded to a change in the price.**
- **If the demand for a product is elastic, then the government may be successful in preventing people from consuming a certain product.**
- **However, if a change in price, has little or no effect on the quantity of the product demanded, then placing a tax on such a product will be ineffective in reducing the consumption of a product.**

PRICE ELASTICITY OF SUPPLY [PES]

Price elasticity of supply:

It is a measure of the responsiveness of supply to a change in price.

FORMULA:

PES= $\frac{\textit{Percentage change in quantity supplied}}{\textit{Percentage change in price}} = \frac{\%\Delta QS}{\%\Delta QP}$

Interpreting PES:

- The quantity supplied and price are directly related, indicating that PES is a positive figure.
- The figure indicates the degree of the quantity supplied to a change in price.
- The higher the figure, the more responsive is the supply.

Elastic and inelastic supply:

- **Elastic supply:** It is when the quantity supplied changes by a greater percentage than the change in price.
- **Inelastic supply:** It is when the quantity supplied changes by a smaller percentage than the change in price.

Calculation of PES:

$\textbf{Percentage change in quantity supplied} = =$

$$\frac{\textbf{Change in supplied}}{\textbf{Original quantity supplied}} \times \mathbf{100}$$

$\textbf{Percentage change in price} = \frac{\textbf{Change in price}}{\textbf{Original price}} \times \mathbf{100}$

Example: Suppose the quantity supplied rises from changes from 200 to 216 due to the price increase from in the price from $10 to$ 13, then the PED can be calculated as follows:

$\textbf{Percentage change in quantity supplied} = \frac{\mathbf{16}}{\mathbf{200}} \times \mathbf{100}$**= 8%**

$\textbf{Percentage change in price} = \frac{\mathbf{3}}{\mathbf{10}} \times \mathbf{100}$**= 30%**

PES= $\frac{\mathbf{8}}{\mathbf{30}}$**= 0.26**

Determinants of PES:

- The time taken to produce the product
- The cost of altering its supply
- The feasibility of storing it.

Difference in the PES between different products:

- Products which can be produced quickly will have elastic supply
- Products which can be stored/non-perishable will have elastic supply
- Products which are made with raw materials in short supply will have inelastic
- supply
- Products made by firms with spare capacity/mobile resources/have a low cost of altering production/low cost of attracting resources into the industry may have elastic supply

How businesses can use the knowledge of PES:

- The supply of a product will be price elastic if the change in supply is measured over a long period of time during which producers can increase or decrease production easily; resources are readily available to expand supply in response to an increase in price.
- The supply of a product will be price inelastic if the time period is too short for producers to make significant changes in production; there is a shortage of resources available to expand supply in response to an increase in price.
- If the PED for a product is elastic, the business should reduce the price to increase revenue
- If the PED for a product is inelastic, the business should raise the price to increase revenue.

How government can use the knowledge of PES:

- If the governments want to encourage output and the consumption of a product, it will be helpful to provide subsidy to producers if supply is elastic.
- Flexibility in government laws enabling firms to hire and fire labour with ease in an attempt to make promote flexibility in production

Whether time is the main influence on the PES:

why it might be the main influence:

- at a particular moment in time, it may be very difficult (or impossible) to increase supply. supply may be relatively inelastic
- the longer the period of time, the more responsive supply is likely to be to a price change

, relatively elastic

Other possible influences:

- the ease with which a product can be stored , the easier it is to store the product, the more elastic the supply will be
- the availability of factors of production e.g. supply may be inelastic in periods of full employment
- the cost of adjusting supply, e.g. it is cheaper to adjust the supply of pens than the supply of ships

MARKET ECONOMIC SYSTEM

Definition: It is economic system where the forces of supply and demand, direct the production of goods and services.

Note: Market economies are not controlled by a central authority (like a government) and are instead based on voluntary exchange

Advantages and Disadvantages of market economic system:

Advantages:
- invisible hand to allocate resources through price signals
- no need for government intervention to achieve this
- profit motive should lead to greater efficiency
- importance of consumer sovereignty.

Disadvantages:
- there may be market failures
- some goods may be under-consumed
- some goods may be over-consumed
- problem of externalities.

Disadvantages of relying on market economic system for the allocation of resources

- merit goods may be under-provided
- demerit goods may be over-provided
- public goods may not be provided at all
- externalities may not be taken into consideration
- some consumers/producers will have more power than others

Benefits consumers gain from a market economic system:

- Sovereignty: The consumers decide what will be produced
- Choice: There may be several firms producing a product
- Low prices: Competition may mean that firms have to charge low prices to keep their customers
- High quality: The profit incentive may encourage firms to raise quality to attract more consumers

Is operation of a market economic system harmful to an economy?

Discussion in favour of:
- Poor consumers will have little influence on what is produced because they have limited purchasing power and suffer from inability to afford products
- Monopolies may occur ,charging high prices and producing low quality .
- Products causing external costs will be overproduced and overconsumed
- Products providing external benefits will be underproduced and under consumed
- Income and wealth may be unequally distributed e.g. those on fixed incomes will be disadvantaged

Discussion Against:

- In theory there is consumer sovereignty and consumers determine what is produced
- The firms respond to changes in consumer demand
- Competition between firms and the profit motive increases efficiency leading to low prices and high quality products
- A variety of products may be produced leading to a choice

Relation between market economic system and living standards:

In favour of improving living standards:

- Economic freedom : consumers and producers can make their own decisions on what to consume and produce , with no government intervention
- Enables more efficient allocation of resources and the firms react to the wants of consumers to gain profits for themselves then consumers are fairly likely to get what they want and gain high levels of satisfaction from their income
- The costs are lower and prices are lower and products are more affordable

Against improving living standards:

- Instability and uncertainty : Unemployment especially when there is a recession
- A high inflation could decrease affordability
- Monopolies would exploit consumers
- The workers would be paid low wages
- There would be pollution and other external costs
- There would be an unequal distribution of income and wealth
- There would be an under provision of public goods

Following are the advantages and disadvantages of a government intervening in a market through the use of subsidies:

Possible advantages of subsidies:

• as a result of the subsidy, producers will tend to increase supply at every price
• as supply increases, the market price will tend to fall
• this will benefit consumers who will gain by being able to buy a product at a lower price than would otherwise be the case
• demand will expand and this will increase standards of living
• this is especially the case if it is an essential service/product.

Possible disadvantages of subsidies:

• public money is needed to finance them
• can distort competition
• can be used to support inefficient producers
• can lead to excess supply
• may not be passed on to consumers.

In a market economy, some goods and services are over-consumed and some under-consumed:

- Resources are allocated through a price mechanism without any government intervention, with the market price reflecting demand and supply.
- Goods such as demerit goods/goods that have external costs are overconsumed will have a relatively low market price compared to if there was government intervention)/consumers will not fully appreciate their harmful effects and so there will be over-consumption , e.g. tobacco or alcohol .
- Goods such as merit goods/goods that have external benefits are under consumed, and will have a relatively high market price compared to if there was government intervention)/consumers will not fully appreciate their beneficial effects and so there will be under-consumption e.g. education or health care
- A monopoly may restrict output pushing up the price reducing the amount people can consume
- The private sector firms will have no incentive to provide public goods so these will not be consumed

MARKET FAILURE

Market Failure: It is economic system where the forces of supply and demand, direct the production of goods and services.

Note: Market economies are not controlled by a central authority (like a government) and are instead based on voluntary exchange

Market failure occurs due to the following reasons:

- Market failure is when the market forces of demand and supply result in an inefficient allocation of resources, example pollution
- Market failure may arise if there is a persistent shortage or surplus with market forces not moving towards equilibrium
- Market failure occurs when social costs are greater than private costs.
- The existence of external costs means that consumption/production is too high
- Social benefits are greater than private benefits.
- The existence of external benefits means that consumption/production may be too low
- Abuse of market power: a monopoly may restrict output to drive up price \
- The existence of merit goods: People may not appreciate the true benefit ,example e.g. education
- The existence of demerit goods: People may not appreciate the true cost example e.g. cigarettes

The consequences of market failure are as follows:

- Dealing with externalities
- Dealing with merit and de-merit goods
- Providing public goods
- Dealing with the effects of imperfect competition
- The problem of lack of information
- Distribution of income and wealth.

Can government intervention will correct the market failure caused by a demerit good?

Why it might:

- tax can be imposed/increased
- this will raise price
- consumers better informed about negative impact
- demand would be expected to contract
- a minimum price could be imposed
- this again would be expected to reduce demand
- restrictions could be imposed on the imports of demerit goods

Why it might not:

- demand may be price inelastic, some demerit goods are addictive
- the government may set a tax too high or too low
- the rich may not be dissuaded by the tax
- producers may not pass on the tax to consumers
- a minimum price set below the equilibrium level would have no effect
- a minimum price could result in a surplus which may put downward pressure on price, encourage producers to charge less than the minimum price

Market failure may occur in an economy due to the following reasons:

- Firms may come to dominate and have monopoly power, leading to higher prices and lower levels of output.
- There may be significant differences in income and wealth, which gives some consumers much more power than others.
- Merit goods, which are socially desirable, may be under-provided and under-consumed.
- Demerit goods, which are socially undesirable, may be over-provided and over-consumed.
- Public goods, which cannot be easily provided through a market system, may not be provided at all.
- Resources cannot always easily move from one use to another, e.g. labour may not have the necessary skills and/or information.
- Externalities may not be considered in consumption and production decisions.

Pollution is an example of market failure because:

- Pollution is an external cost/harmful impact on third parties.
- The market forces do not take into account external costs.
- The social costs will exceed private costs.
- The market prices do not reflect social costs/are too low
- The output will be too high.

MIXED ECONOMIC SYSTEM

Mixed economic system: The mixed economic system is defined as an economic system that combines the elements of a market economy and the elements of a planned economy.

Maximum and minimum prices:

- Price controls limit a firms ability to set their own prices for the products
- **A maximum price** is set in order to enable the poor to afford the basic necessities of life. A maximum price is set below the equilibrium price. This might create a shortage if the quantity demanded exceeds the supply
- **A minimum price** is set by the government to encourage the production of a product. The minimum price is set above the equilibrium price. Setting a minimum price on the price of labour in the form of minimum wage is also set sometimes by the government.

Government intervention to address market failure:

- **Subsidies and indirect taxes:**

  Subsidies: A payment in order to increase production and lower price can increase consumption of merit goods . Products with positive externalities which are under-consumed if left to market forces can be paid to private sector firms to produce public goods . These would not be produced if left to market forces .

  Indirect taxes: A tax levied on goods and services rather than on income or profits is called as an indirect tax. Indirect taxes are taxes on expenditure. They increase production costs for producers, so producers supply less. This increases market price and demand contracts. They could be used to discourage the production or consumption of a demerit good or service. For example, the government could impose a £1 tax per packet of cigarettes
- **Competition policy:** This policy seeks to promote competitive pressures and prevent firms from abusing their market power. Examples could be preventing of mergers that might not be in the interest of the consumers., removal of barriers to entry and exit into the markets, regulation of monopolies and prohibition of uncompetitive markets. Examples of uncompetitive practices include predatory pricing and limit pricing
- **Environmental policy:**
- A government may place restrictions on the amount of pollutants that firms emit into the air and the water bodies. Fines may be imposed to law breaking firms .
- Tradable limits: In this , the government permits the firms to pollute up-to certain limits and to sell a part of their allocated limit, if they pollute less. This enable the cleanest firms to sell their limits and thereby reduce their costs, while the worst polluting firms will have to buy more limits , leading to an increase in their costs.
- **Regulation:**
- Regulation involves rules and laws
  - Firms may be banned from producing products that create external costs such as water pollution
  - Firms may be fined if they create external costs air pollution
  - Consumers may be banned from consuming products that create external costs or where there are high private costs, some of which people are unaware of, for example cigarettes
  - Consumption of some products that have external benefits and/or high private benefits some of which people are unaware of may be made compulsory e.g. Primary school education

- **Nationalisation and privatisation:**
  Privatisation is the sale of state-owned assets / state-owned enterprises / nationalised industries to the private sector / individuals
  Nationalisation: Nationalisation refers to moving the ownership and control of an industry from the private sector to the government.
- **Direct provision:**
  Most governments produce some of the essential goods and services such as housing, education, healthcare.
  Such goods and services are sometimes produced and provided to people free of cost or at subsidised prices. Besides being essential products, education and healthcare are also the merit goods.
  To stimulate the consumption of the merit goods, some governments also pay the private sector firms to produce them , provide information about their benefits and in some cases , make their consumption compulsory.
  Private sector firms do not produce certain products as they have no incentive to produce. This also happens in cases where such goods are in demand, but this is largely because such goods get consumed by people free of cost. In such cases governments produce them or pay the private sector firms to produce them . The government raises the finances for the same through taxation.
- **Unfairness:**
- The intervention aim is to ensure equity. Market forces tend to distribute income unevenly. Private sector firms only produce goods and services that people are willing to pay for and may thus not produce goods and services for the poor.
- The government therefore provides the poor with financial assistance. In some countries, state provides free education and healthcare services.
- The unfair income can also tend to become socially divisive and may result in some workers becoming less productive. The elderly and the sick may not be in a position to earn income. Social unrest might result due to the income inequality.
- Also poor people tend to be less healthy, less well educated and consequently less productive.

Should an economy have government intervention?

Discussion for:

- income inequality, some people will have more influence than others because of their greater buying power, there may be a shortage of basic necessities, on grounds of equity everyone should have access to education, health care and housing
- some goods will be over-consumed – demerit goods (term does not have to be used), consumers may be unaware of the harmful effects to themselves/underestimate private costs, may not take into account effects on others/external costs
- some goods will be under-consumed – merit goods (term does not have to be used), consumers may be unaware of the full benefits to themselves/underestimate private benefits, may not take into account the benefits to others/external benefits
- some goods will not be provided – public goods (term does not have to be used), not possible to make consumption dependent on payment/non-excludable
- may be information failure, consumers may not be aware what different suppliers are charging, firms may not know cheapest source of raw materials
- some markets may be dominated by a monopoly, need for regulation.

Discussion against:

- free market forces can promote efficiency, firms that do not produce what consumers want may go out of business, firms that produce at high costs may go out of business, firms that produce what consumers want may enjoy high profits, firms that produce at low costs may enjoy high profits
- consumers should decide on the allocation of resources/be sovereign
- price changes signal changes in demand, automatically allocate resources, quick adjustment to changes in consumer demand government intervention may be slow/bureaucratic, takes time for a government to recognise need for intervention, takes time to introduce policies
- government intervention may be influenced by desire to win political support/may be corruption
- difficult to determine what are merit/demerit goods, quantity of public goods to supply
- difficult to measure