

ECONOMICS 2



- A market can be defined as a situation in which potential buyers and potential sellers (suppliers) of a good or service come together for the purpose of exchange
- Suppliers and potential suppliers are referred to in economics as firms. The potential purchasers of consumer goods are known as households.
- A good or service has a **price** if it is **useful** as well as **scarce**.
- Utility means the pleasure or satisfaction or benefit derived by a person from the consumption of goods.
- Total utility is the total satisfaction that people derive from spending their income and consuming goods.
- Marginal utility is the satisfaction gained from consuming one additional unit of a good or the satisfaction forgone by consuming one unit less.

- The utility was measured in 'utils' and the utility derived from eating each apple was as follows

| Apple Eaten | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-------------------------|----|----|----|----|----|----|----|
| Total Utils | 16 | 30 | 42 | 52 | 60 | 66 | 70 |
| Utils gained from Apple | | | | | | | |



Acting rationally means that the consumer attempts to maximise the total utility attainable with a limited income. When the consumer decides to buy another unit of a good he is deciding that its marginal utility exceeds the marginal utility that would be yielded by any alternative use of the price he pays.

diminishing marginal utility - As additional quantities are added or consumed, their marginal utility diminishes

Cardinal utility

Cardinal utility theory suggests that consumers are able to measure the satisfaction that they derive from consumption of a given quantity of a commodity. This measurement may be in terms of utility itself (utils) or it may be in monetary terms, reflected in the amounts that consumers offer for goods.

Ordinal utility

Ordinal utility theory suggests that consumers cannot measure utility absolutely. Instead they rank different commodities or different baskets of commodities to choose the best one.

Eg: - A customer who is buying lunch, choosing between sandwiches with different fillings being sold at the same price. If, say, a customer chooses a cheese sandwich rather than an egg sandwich, he is demonstrating that he obtains higher utility from a cheese sandwich.



Cheese Sandwich
100/-



Chicken Sandwich
100/-

Advantages of Free Market

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Disadvantages of Free Market

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Demand

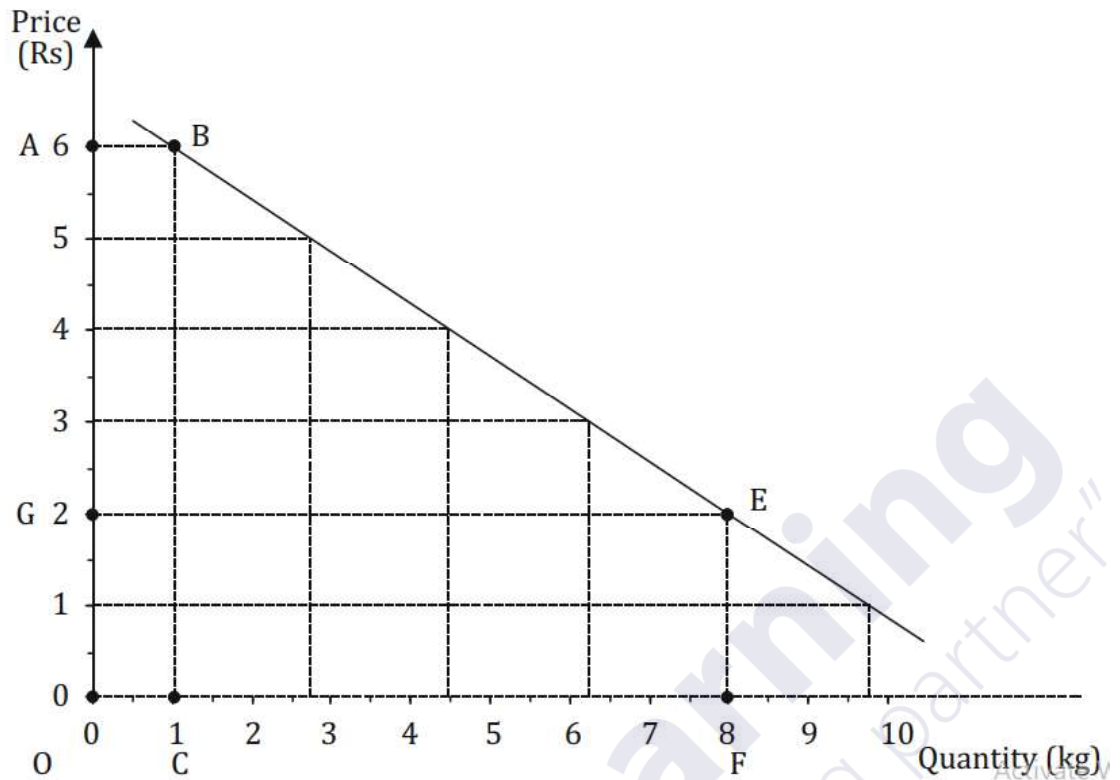
Demand for a good or service is the quantity of that good or service that potential purchasers would be **willing and able to buy**, or attempt to buy, at any possible price.

The demand schedule and the demand curve

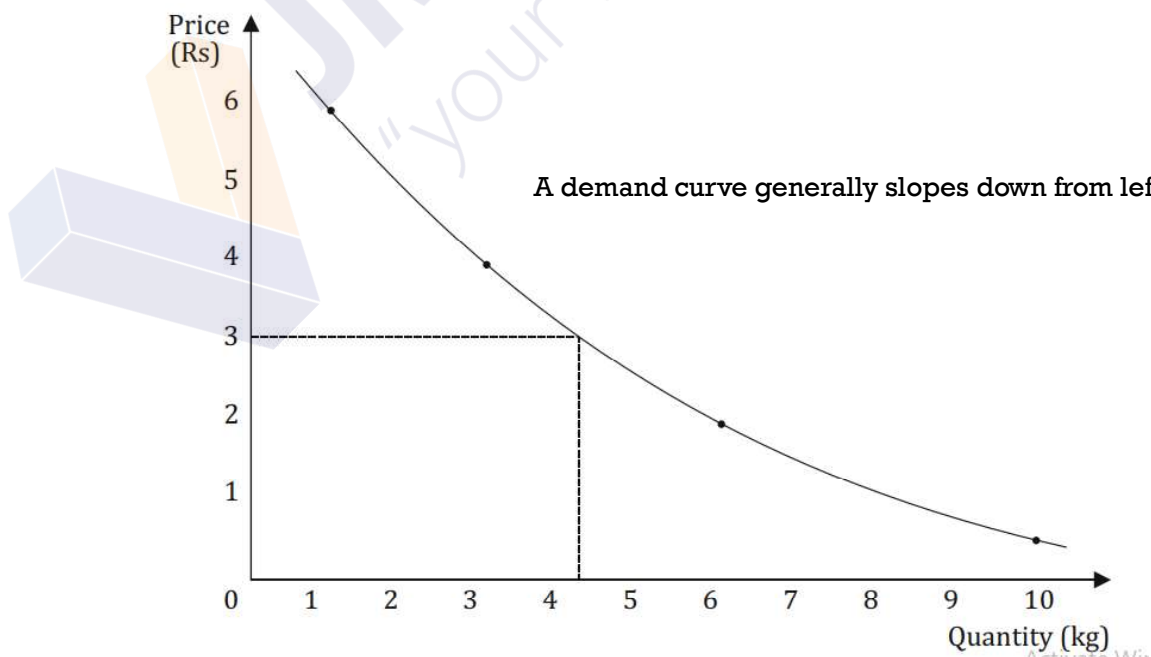
The relationship between demand and price can be shown graphically as a demand curve. The demand curve of a single consumer or household is derived by estimating how much of the good the consumer or household would demand at various hypothetical market prices.

Suppose that the following demand schedule shows demand for biscuits by one household over a period of one month

| <i>Price per kg</i> | <i>Quantity demanded</i> |
|---------------------|--------------------------|
| Rs | kg |
| 1 | 9.75 |
| 2 | 8 |
| 3 | 6.25 |
| 4 | 4.5 |
| 5 | 2.75 |
| 6 | 1 |



In reality, a demand curve is more likely to be a curved line, convex to the origin. As you will be able to appreciate, such a demand curve means that there are progressively larger increases in quantity demanded as price falls. This happens because of the fall in marginal utility experienced as consumption of a good increases.



Market demand is the total quantity of a product that **all** purchasers would want to buy at each price level. A demand curve generally slopes down from left to right.

- (a) The curve is downward sloping because progressively larger quantities are demanded as price falls.
- (b) A fall in the good's price means that it becomes cheaper both in relation to the household's income and also in relation to other (substitute) products. Therefore, the overall size of the market for the good increases. The converse argument applies to an increase in prices; the size of the market will shrink as the good becomes more expensive.

Factors determining demand for a good

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The income effect reflects the impact of a price change on consumers' income. The income effect can also be reinforced by the substitution effect.

• **Price Elasticity of Demand (PED)**

Price elasticity of demand measures the responsiveness of demand after a change in a product's own price. (**PED** is a measure of the extent of change in the market demand for a good in response to a change in its price.)

If prices went **up** by 10%, would the quantity demanded **fall** by the same percentage?

The PED is measured as:

- Since demand usually increases when the price falls, and decreases when the price rises, elasticity has a negative value. However, it is usual to ignore the minus sign, and just describe the absolute value of the coefficient. This can be expressed as:

$$\frac{\frac{\Delta Q \times 100}{Q}}{\frac{\Delta P \times 100}{P}}$$

$$\frac{\Delta Q}{\Delta P} \times \frac{P}{q}$$

We usually ignore the minus sign. **If the PED is higher than 1, it has elasticity Demand and if the PED is less than 1, it has Inelasticity demand.**

1. At the Price Rs.100/-, there will be a demand of 10,000 units. But if the price increase by Rs. 10/- the demand will fall by 1500 units.

- Calculate the Point Elasticity Demand at the price Rs. 100/-
- Calculate the Arc Elasticity Demand

2. At the Price Rs. 100/-, there will be a demand of 10,000 units. But if the price increase by Rs. 10/- the demand will fall by 800 units.

- Calculate the Point Elasticity Demand at the price Rs. 100/-
- Calculate the Arc Elasticity Demand

1.1 Point Elasticity – At the price Rs.100/-

| Price (P) | Quantity (Q) |
|-----------|--------------|
| | |
| | |



1.2 Arc Elasticity

| Price (P) | Quantity (Q) |
|-----------|--------------|
| | |
| | |
| | |

2.1 Point Elasticity – At the price Rs.100/-

| Price (P) | Quantity (Q) |
|-----------|--------------|
| | |
| | |

2.2 Arc Elasticity

| Price (P) | Quantity (Q) |
|-----------|--------------|
| | |
| | |
| | |

3. The price of a good is Rs. 1.20 per unit and annual demand is 800,000 units. Market research indicates that an increase in price of 10 cents per unit will result in a fall in annual demand of 70,000 units.

Required

What is the price elasticity of demand measuring the responsiveness of demand over this **range of price** increase?

Arc Elasticity Method

| P | Q |
|---|---|
| | |
| | |
| | |

4. The price of a good is Rs. 1.20 per unit and annual demand is 800,000. Market research indicates that an increase in price of 10 cents per unit will result in a fall in annual demand for the good of 70,000 units.

Required

Calculate the elasticity of demand at the **current price of Rs. 1.20**.

Point Elasticity Method

| P | Q |
|---|---|
| | |
| | |

5. If the price per unit of X rises from Rs. 1.40 to Rs. 1.60, it is expected that monthly demand will fall from 220,000 units to 200,000 units.

Required

Calculate the price elasticity of demand over these **ranges of price** and output.

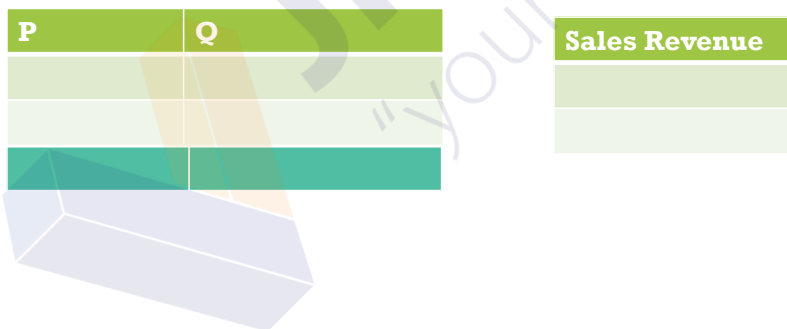
Arc Elasticity Method

| P | Q |
|---|---|
| | |
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| | |

6. A shop sells 100 shirts each month at a price of Rs. 20. When the price is increased to Rs. 24, the total sales revenue rises by 14%. Within which range does the price elasticity (Use Arc Elastic Method) of demand lie?

- A Under 0.15
- B Greater than 0.15 and less than 0.5
- C Greater than 0.5 and less than 1.0
- D Greater than 1.0

Arc Elasticity Method



Income elasticity of demand

It is possible to construct other measures of elasticity than price elasticity. The income elasticity of demand for a good indicates the responsiveness of demand to changes in household incomes.

| | |
|--|--|
| | $\frac{\Delta Q}{\Delta I} \times \frac{I}{q}$ |
|--|--|

Normal Goods - Goods whose income elasticity of demand is positive (demand for them will rise when household income rises. (Necessity Goods & Luxury Goods)

Inferior Goods – Goods whose income elasticity of demand (demand for it falls as income rises)

| Elasticity | Value | Type of good | Example |
|------------|-------|--------------|-----------------------|
| Negative | <0 | Inferior | Inter-city bus travel |
| Inelastic | 0-1 | Necessity | Basic food stuffs |
| Elastic | >1 | Luxury | Yachts, sports cars |

1. Genovia has experienced exceptional growth in recent years. Its GDP per capita has increased from around \$30,000 to \$50,000 in last 5 years. Over the period quantity demanded of personal cars has increased from 450,000 units per year to 600,000 units. Quantity demanded of public transport, however, has declined from 10,000 buses to 7,000 buses. Calculate income elasticity of demand and tell which product is a normal good and which one is inferior.

| Income (I) | Demand (Q) |
|------------|------------|
| | |
| | |
| | |
| | |

| Income (I) | Demand (Q) |
|------------|------------|
| | |
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2. When the real income of the consumer is \$40,000, the quantity demanded economy seats in the flight are 400 seats and when the real income of the consumer is increased to \$45,000 then the quantity demanded decreases to 350 seats. Mr. new wants to study this behavior as an economist student and wants to know the reason as to why the seats demanded decrease even though there was an increase in the real income of the consumer.

You are required to calculate the Income Elasticity of Demand.

| Income (I) | Demand (Q) |
|------------|------------|
| | |
| | |
| | |

Cross Elasticity of Demand (CED)

- Cross elasticity of demand is the responsiveness of quantity demanded for one good following a change in price of another good

$$\frac{\Delta Q (A)}{\Delta P (B)} \times \frac{p (B)}{q (A)}$$

The cross elasticity of demand depends upon the degree to which goods are substitutes or complements.

- (a) If the two goods are **substitutes**, cross elasticity will be **positive** and a fall in the price of one will reduce the amount demanded of the other.
- (b) If the goods are **complements**, cross elasticity will be **negative** and a fall in the price of one will raise demand for the other.

| Cross-elasticity | Value | Example |
|---------------------|-------|-----------------------------|
| Perfect complements | -1 | |
| Complements | <0 | Bread and butter |
| Unrelated products | 0 | Bread and cars |
| Substitutes | >0 | White bread and brown bread |
| Perfect substitutes | +1 | |

Substitute & Complement Goods

- Substitute goods are goods that are alternatives to each other, so that an increase in the demand for one is likely to cause a decrease in the demand for another. Switching demand from one good to another 'rival' good is substitution.
- Complements are goods that tend to be bought and used together, so that an increase in the demand for one is likely to cause an increase in the demand for the other.

Examples of substitute goods and services

- Rival brands of the same commodity, such as Coca Cola and Pepsi Cola
- Tea and coffee
- Some different forms of entertainment

Examples of complements

- Cups and saucers
- Bread and butter
- Motor cars and the components and raw materials that go into their manufacture

1. Demand for Good #1 starts at 1,000 units and ends at 2,000 units. Price of Good #2 starts at \$20 and ends at \$30.

| Price (2) | Demand (1) |
|-----------|------------|
| | |
| | |
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- The government of Thailand is serious about drugs. Possession of drugs is illegal and is severely penalized. However, a black market exists which the government has failed to dismantle despite serious attempts. Khusenichho Chamling, the health minister, is worried about the situation. In early 2019, a consultant working with health ministry suggested that the government should increase the price of a pack of cigarettes from 200 dollars to 600 dollars. A survey conducted in December 2019 suggested that over the year, the quantity demanded of marijuana decreased from 2,000 kgs per day to just 800 kgs. Calculate the cross elasticity of demand and tell why the policy has proved so effective.

| Price (2) | Demand (1) |
|-----------|------------|
| | |
| | |
| | |

Advertising Elasticity of Demand

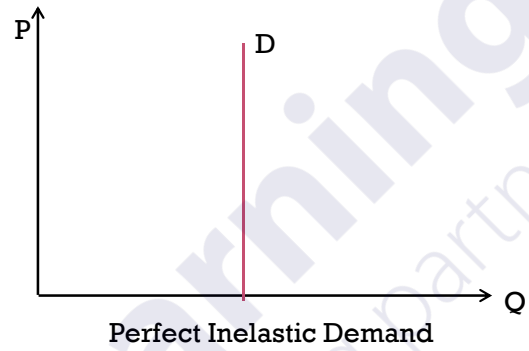
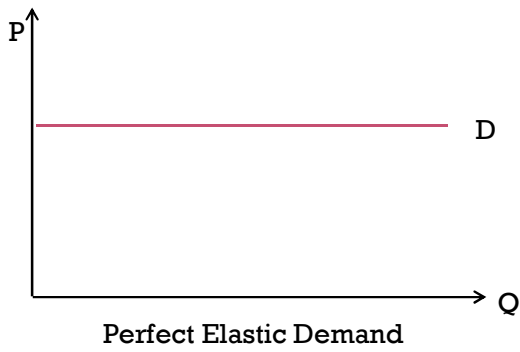
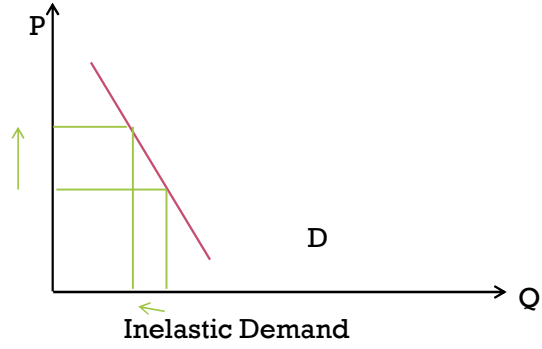
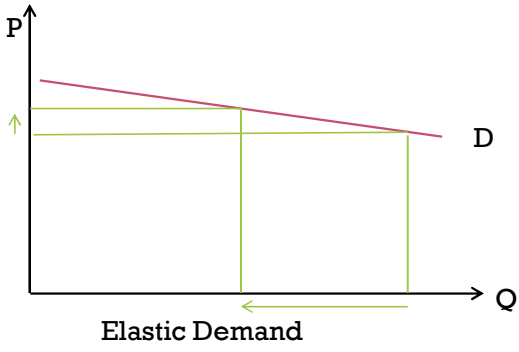
Advertising elasticity of demand means the impact of a rise or fall in advertising expenditure, and measures the effectiveness of advertising strategy. It can be calculated as:

Generally, advertising elasticity should be positive but negative advertising may result in a negative advertising figure

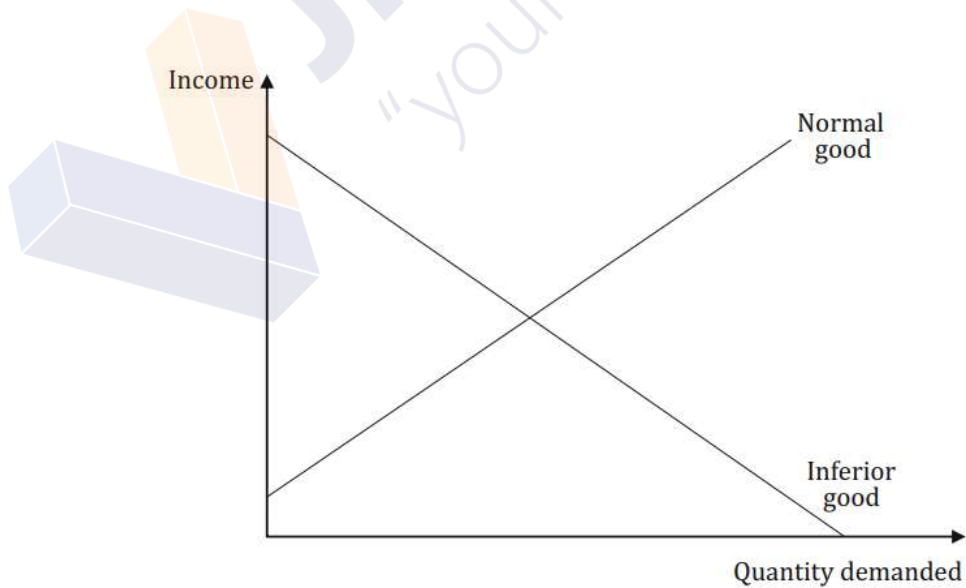
Factors influencing price elasticity of demand (PED) for a good

- Percentage of income spent on the good** – If the expenditure of the goods only a small proportion of a consumer income, then the change of the price of that good will not have much impact. So the demand will be inelastic.
- Availability of substitutes** – When there is more substitutes for a good, especially close substitutes goods are available, then the demand will be elastic.
- Degree of necessity** – The goods which are necessary for everyday goods tend to be inelastic demand whereas luxury goods tends to be elastic demand
- The time horizon** – The demand will be elastic when the time period increase. (Searching for substitutes)
- Habitual purchasing** – Goods which are habit forming tend to be inelastic (Eg: Cigarettes)

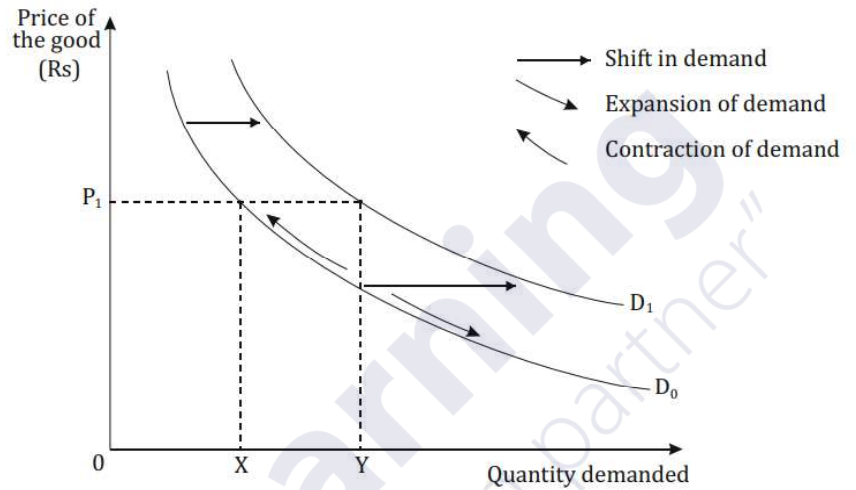
Different Types of Demand Curves



- Household income and demand: normal goods and inferior goods



a rise in demand at each price level, with the demand curve shifting to the right, from D_0 to D_1 . At the price P_1 , demand for the good would rise from X to Y . This shift could be caused by any of the following conditions of demand.



Supply refers to the quantity of a good that existing suppliers, or would-be suppliers, would want to produce for the market at a given price.

The **supply curve** shows the quantity of a good which would be supplied by producers at a given price

| Price (P) | Supply (QS) |
|-----------|-------------|
| 10 | 100 |
| 12 | 140 |
| 14 | 180 |
| 16 | 220 |
| 18 | 260 |
| 20 | 300 |



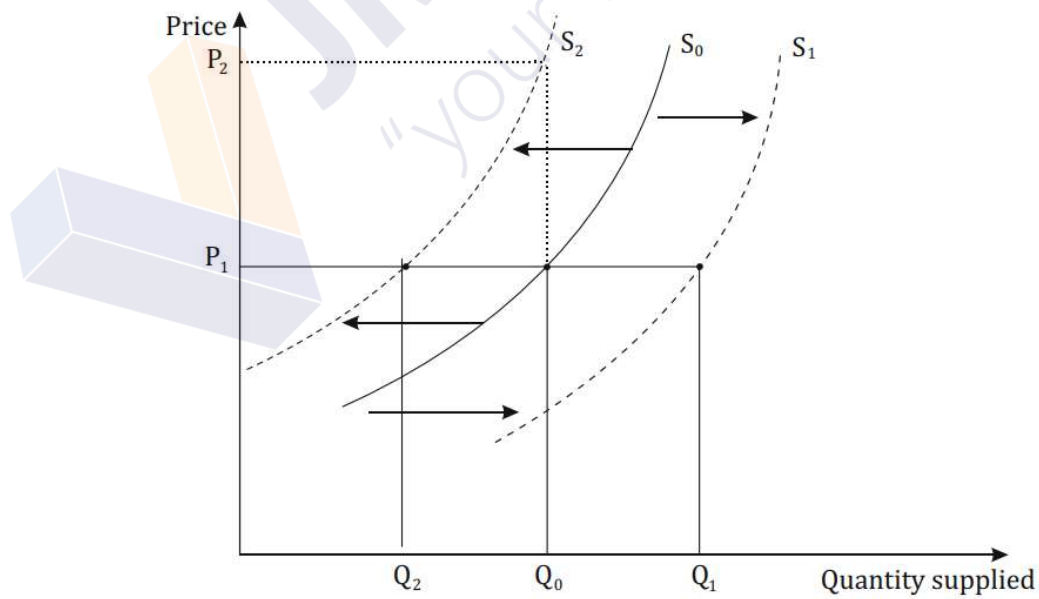
Factors influencing the supply quantity

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Shifts of the market supply curve (Shift to the right)

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- *Shifts in the supply curve*



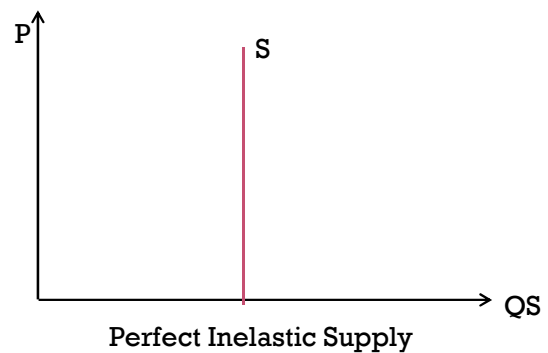
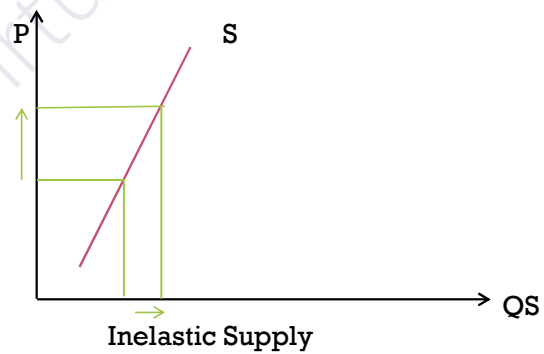
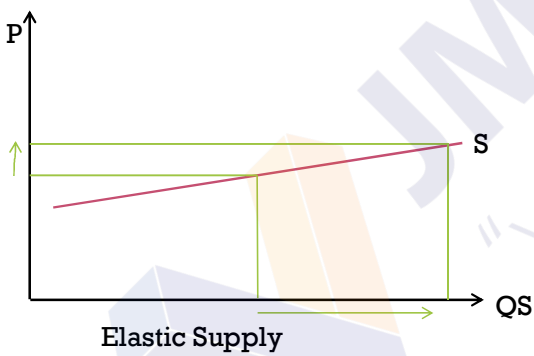
Price elasticity of supply

- The price elasticity of supply indicates the responsiveness of supply to a change in price.



$$PES = \frac{\Delta Q}{\Delta P} \times \frac{P}{q}$$

Different Types of Supply Curves



Factors affecting elasticity of supply

- **Existence of inventories of finished goods.**
- **Availability of labour.**
- **Spare capacity.**
- **Availability of raw materials and components.**
- **Barriers to entry.**

• **Equilibrium Price**

The price which the market demand quantity and supply quantity are in balance. In any market, the equilibrium price will change if the market demand or supply conditions change.

In other words The equilibrium price for a good is the price which the volume demanded by consumers and the volume that firms would be willing to supply is the same. This is also known as the Market clearing price



Equilibrium Price = P1
Equilibrium Qty. = Q1

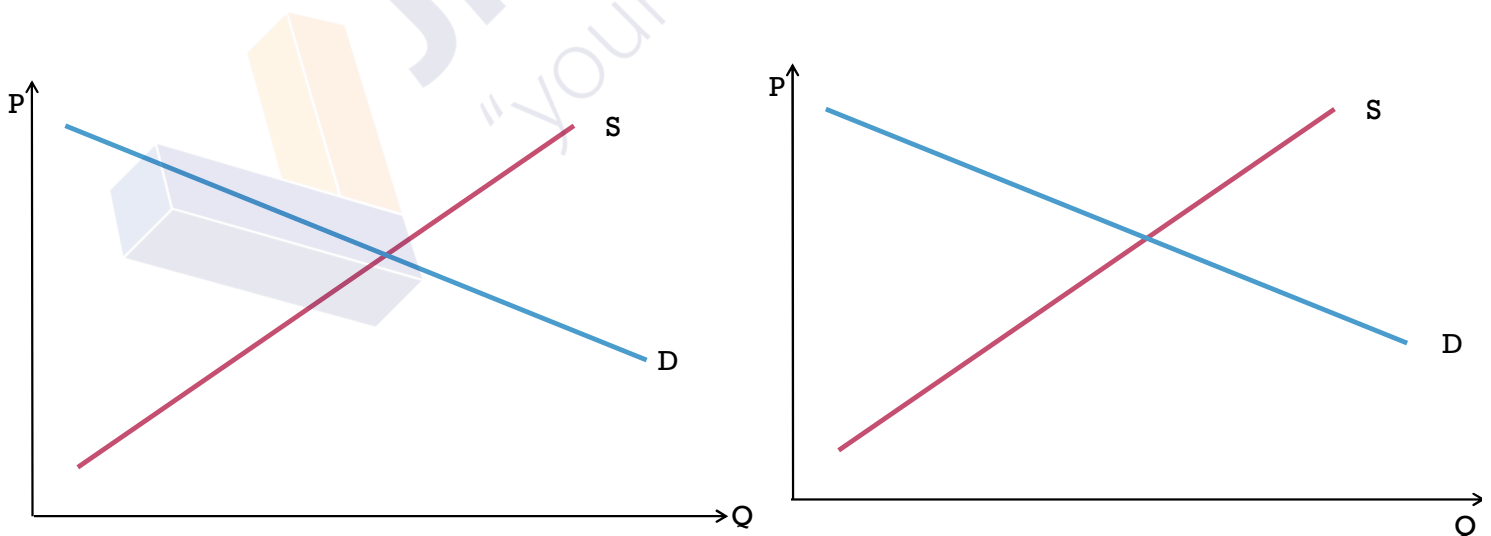
Firms' output decisions will be influenced by both demand and supply considerations.

(a) Market demand conditions influence the price that a firm will get for its output. Prices act as signals to producers, and changes in prices should stimulate a response from a firm to change its production quantities.

(b) Supply is influenced by production costs and profits. The objective of maximising profits provides the incentive for firms to respond to changes in price or cost, by changing their production quantities.

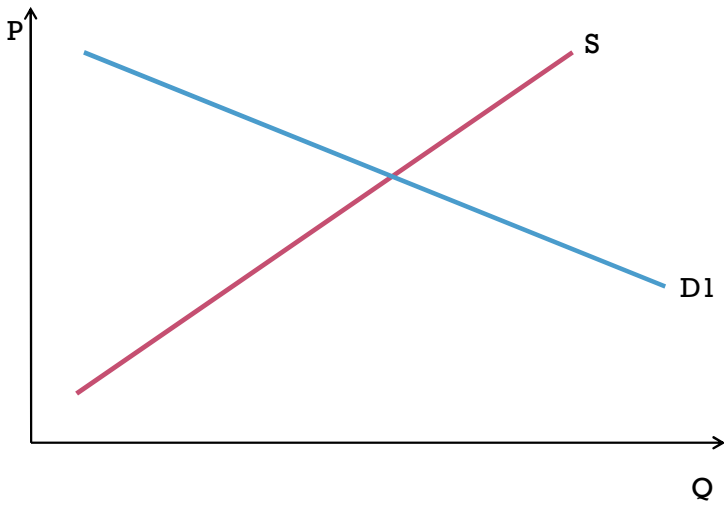
(c) When a firm operates efficiently, responding to changes in market prices and controlling its costs, it is rewarded with profit.

Excess Demand & Excess Supply



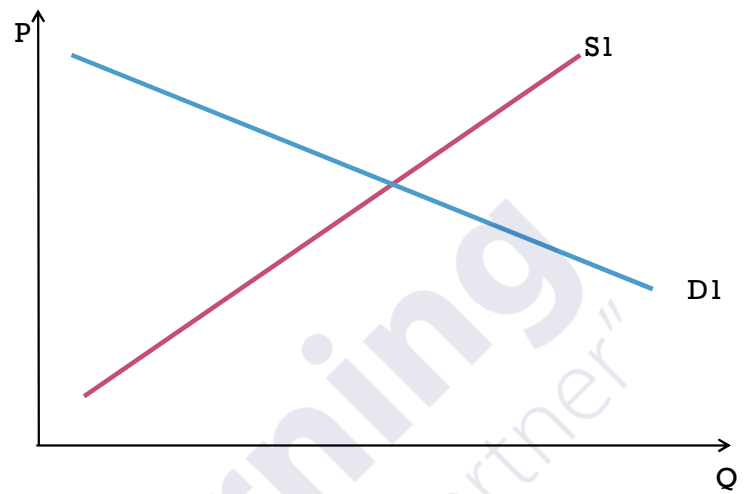
Equilibrium Price = P_1
Equilibrium Qty. = Q_1

- If the Demand curve shifted towards right



Equilibrium Price = New Equilibrium Price =
 Equilibrium Qty. = New Equilibrium Qty. =

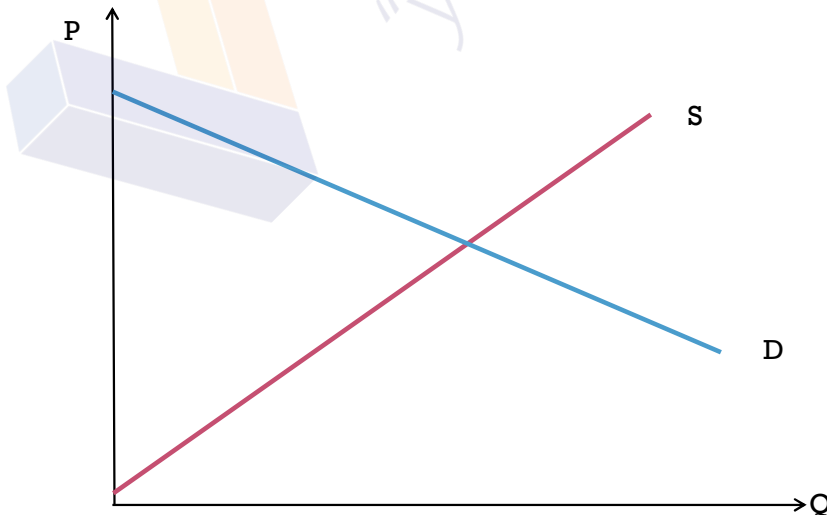
- If the demand and supply curve shifted towards right.



Equilibrium Price = New Equilibrium Price =
 Equilibrium Qty. = New Equilibrium Qty. =

Consumer surplus and producer surplus

- Consumer Surplus - If the consumers are able to buy the good at a prevailing market price, which is lower than the price that they were expected to pay is called Consumer Surplus.
- Producer Surplus – If the producers are able to sell a good at a higher price than they would expect to sell is called Producer Surplus



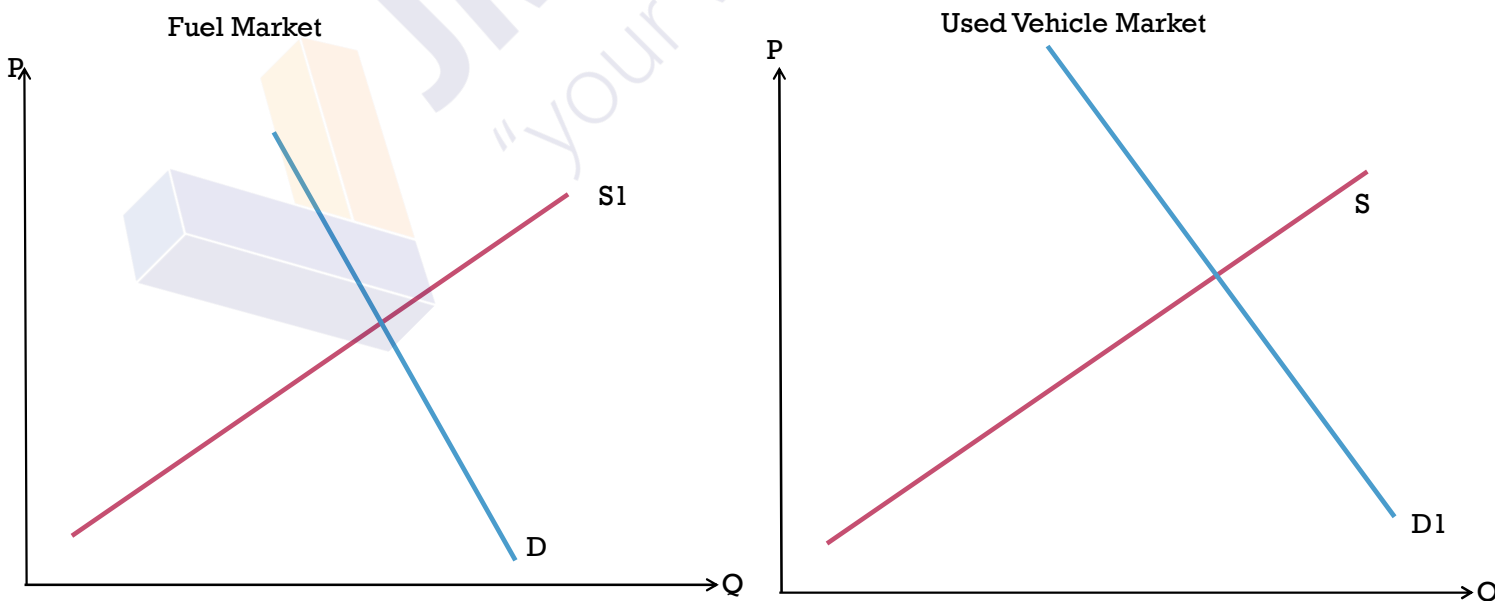
Equilibrium Price =
 Equilibrium Qty. =

QUESTION

How you would examine the likely effects on the price and quantity sold of second-hand cars in the event of:

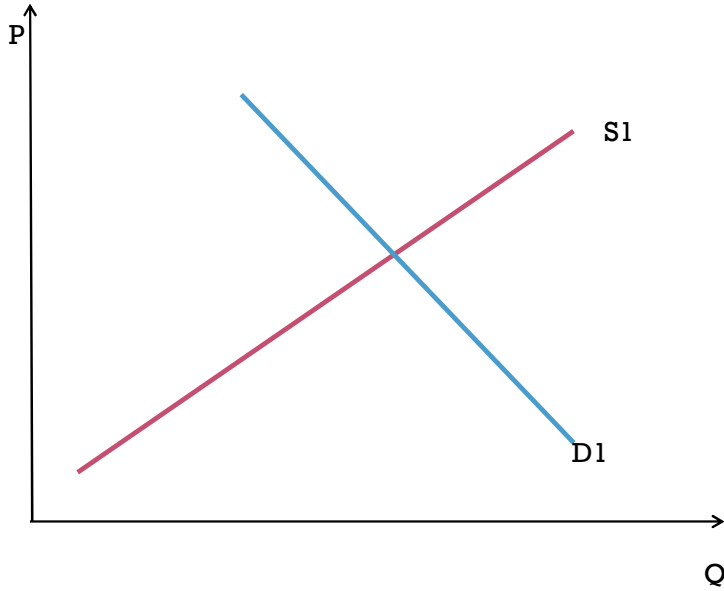
- (a) A large increase in petrol prices, how Complements products behave
- (b) A big increase in the price of new cars due to increase cost of production, how Substitute products behave
- (c) A massive investment in public transport, how Other substitute products behave

A large increase in petrol prices, how Complements products behave

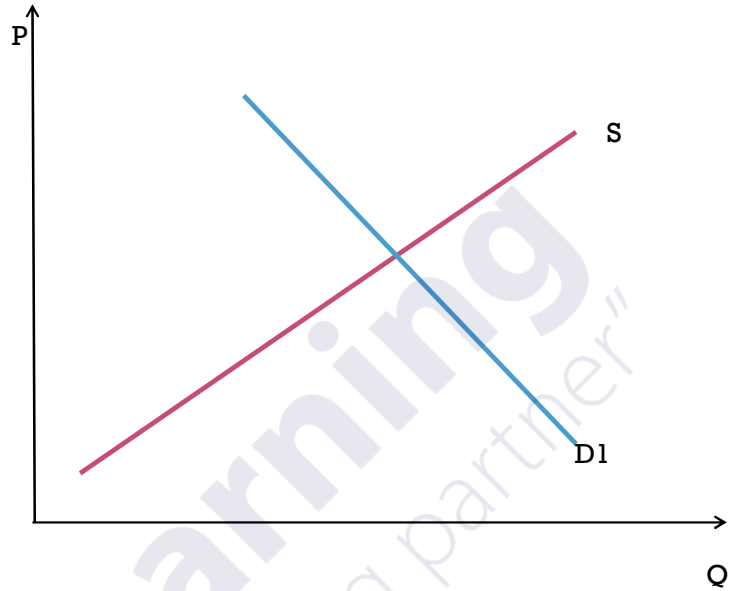


A big increase in the price of new cars due to increase cost of production, how Substitute products behave

New Vehicle Market

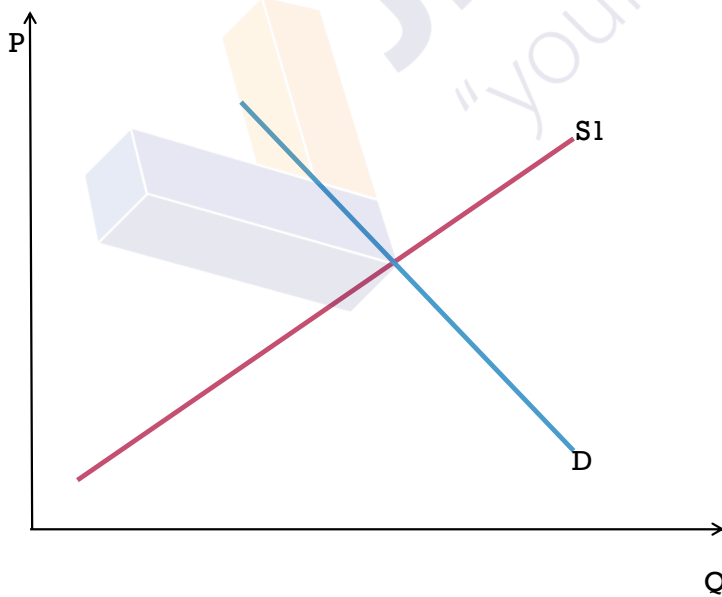


Used Vehicle Market

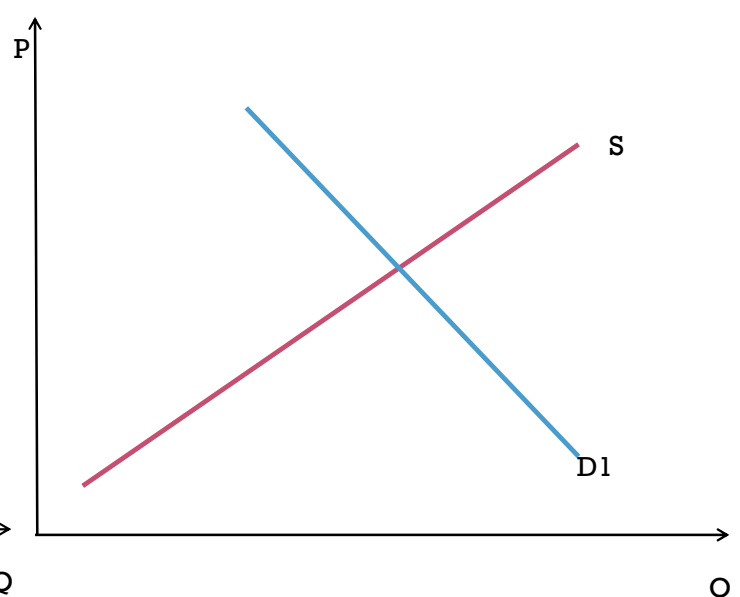


• A massive investment in public transport, how Other substitute products behave

Public Transportation

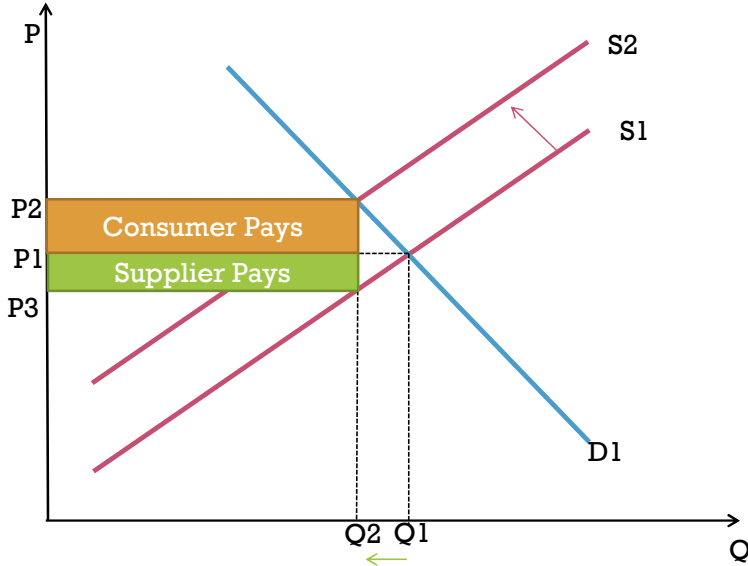


Used Vehicle Market



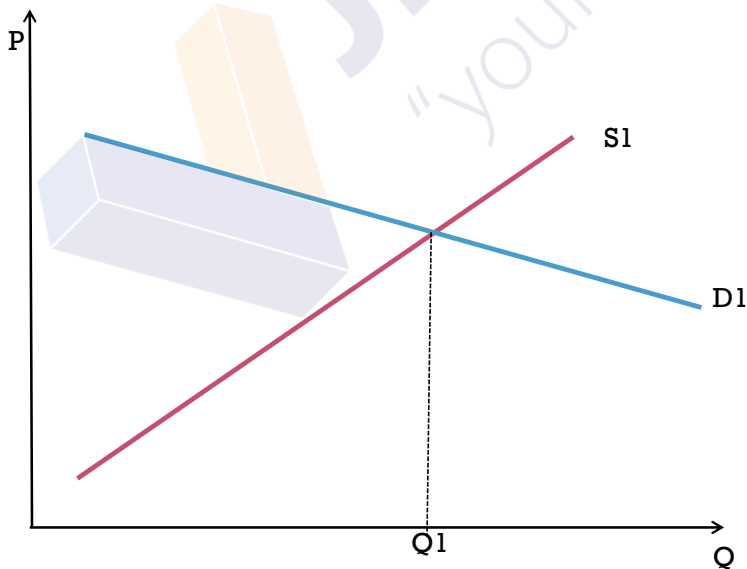
Government Intervention – Indirect Taxes

Indirect taxes are levied on expenditure on goods or services, as opposed to direct taxation which is applied to incomes. If an indirect tax is imposed on a good, the tax will shift the supply curve upward (To the left)



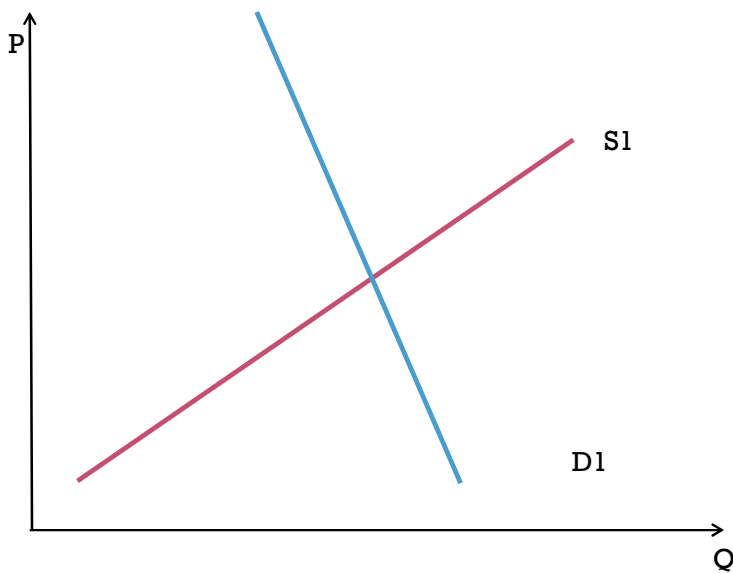
Total Tax =
 Consumer pays =
 Producer Pays =

When there is an elastic Demand?



Total Tax =
 Consumer pays =
 Producer Pays =

When there is an inelastic Demand?

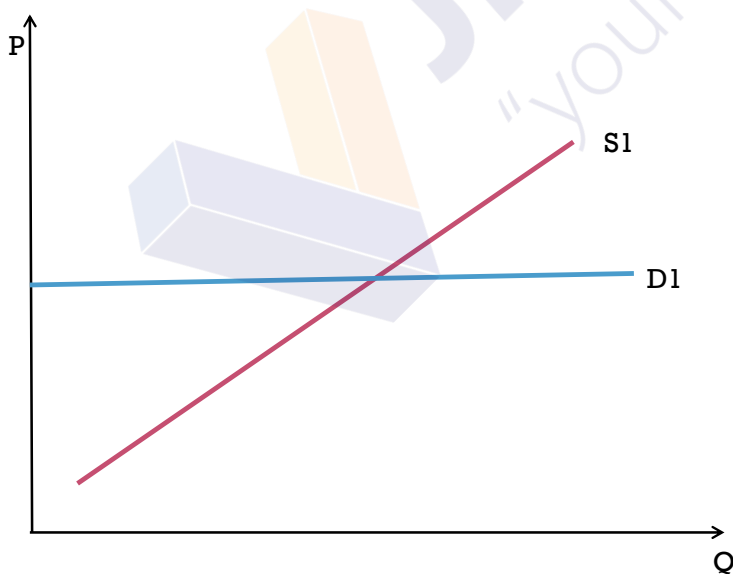


Total Tax = $P_2 - P_3$

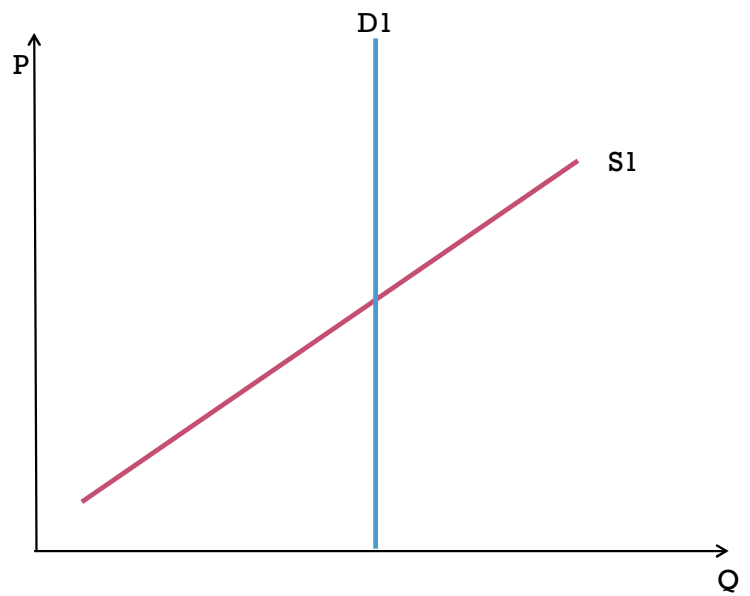
Consumer pays = $P_2 - P_1$

Producer Pays = $P_1 - P_3$

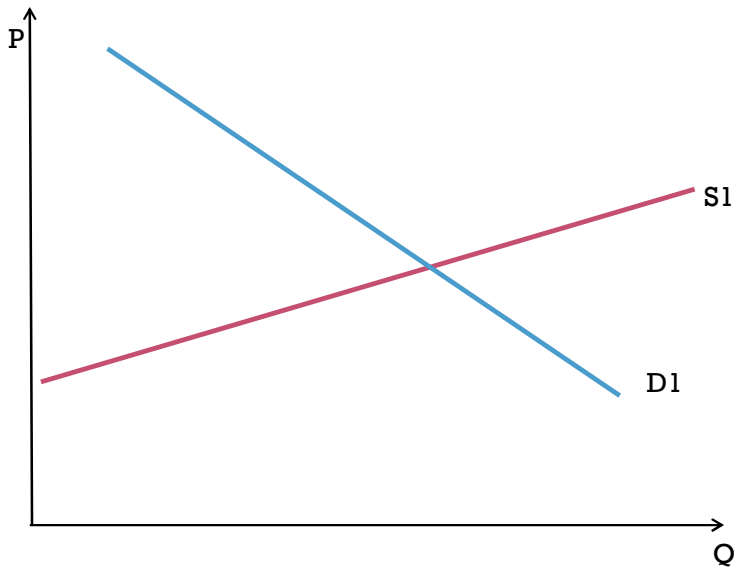
Perfect Elastic Demand



Perfect Inelastic Demand



Elastic Supply

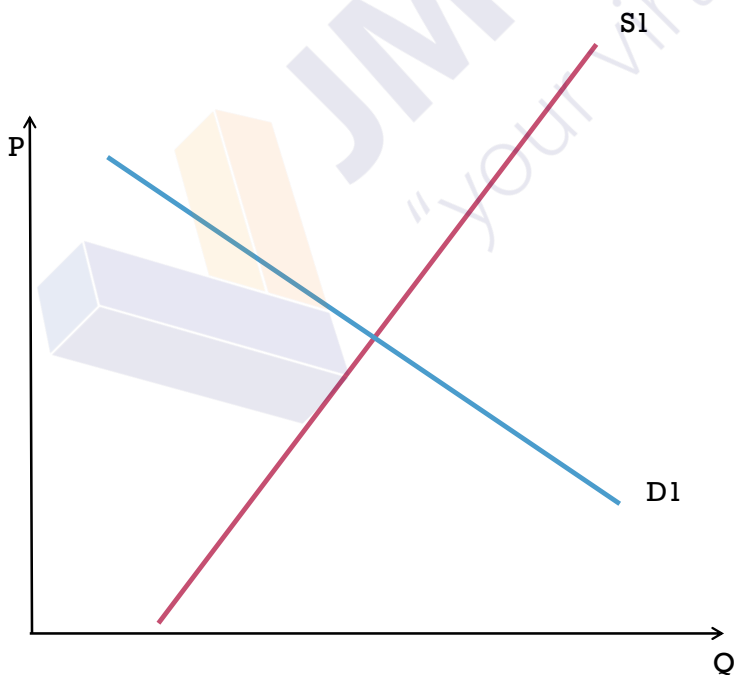


$$\text{Total Tax} = P_2 - P_3$$

$$\text{Consumer pays} = P_2 - P_1$$

$$\text{Producer Pays} = P_1 - P_3$$

Inelastic Supply



$$\text{Total Tax} = P_2 - P_3$$

$$\text{Consumer pays} = P_2 - P_1$$

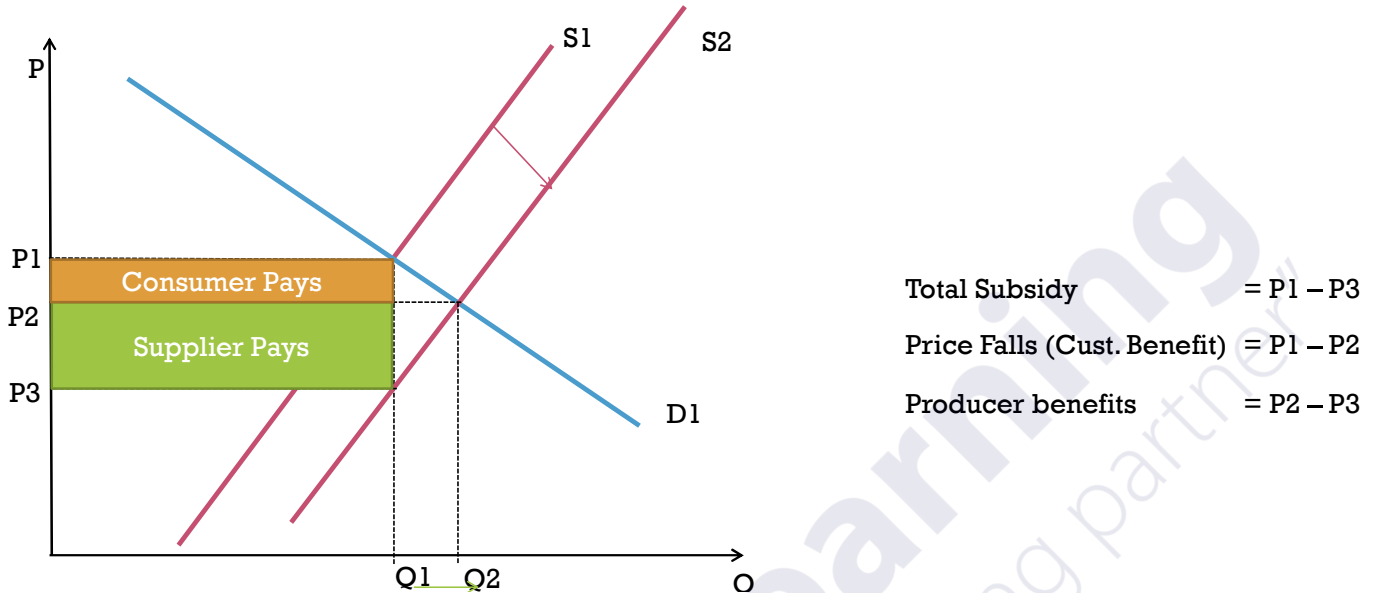
$$\text{Producer Pays} = P_1 - P_3$$

A **subsidy** is a payment to the supplier of a good by the government.

(a) To encourage more production of the good, by offering a further incentive to suppliers.

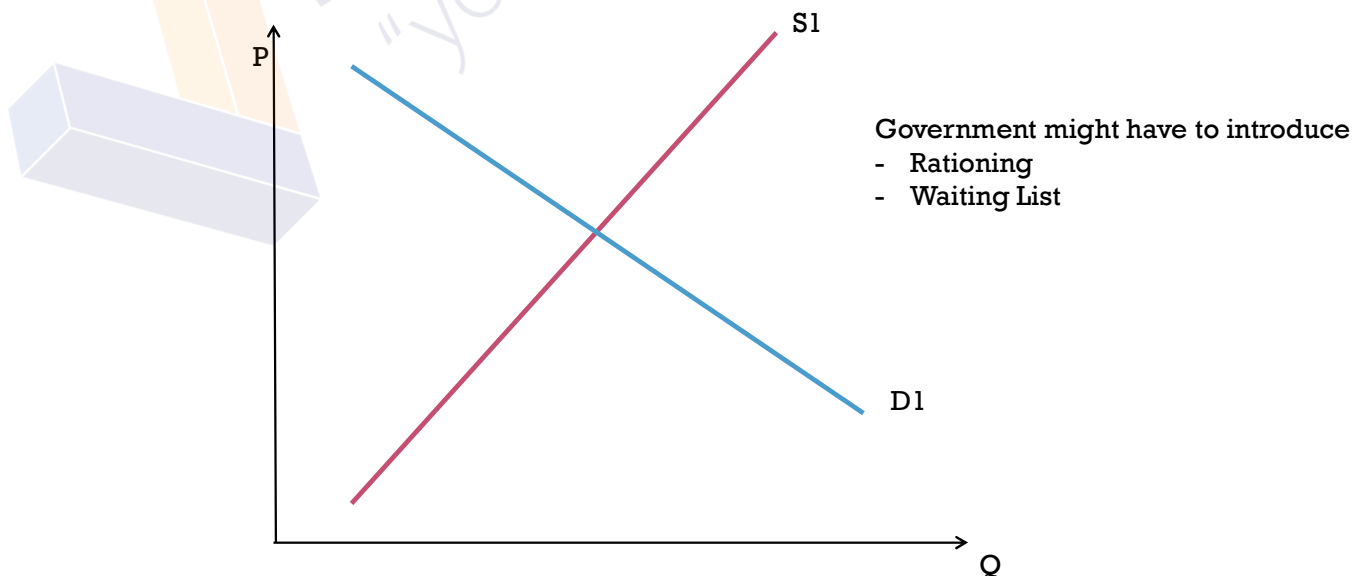
(b) To keep prices lower for socially desirable goods, whose production the government wishes to encourage.

(c) To protect a vital industry such as agriculture, when demand in the short term is low and threatening to cause an excessive contraction of the industry.



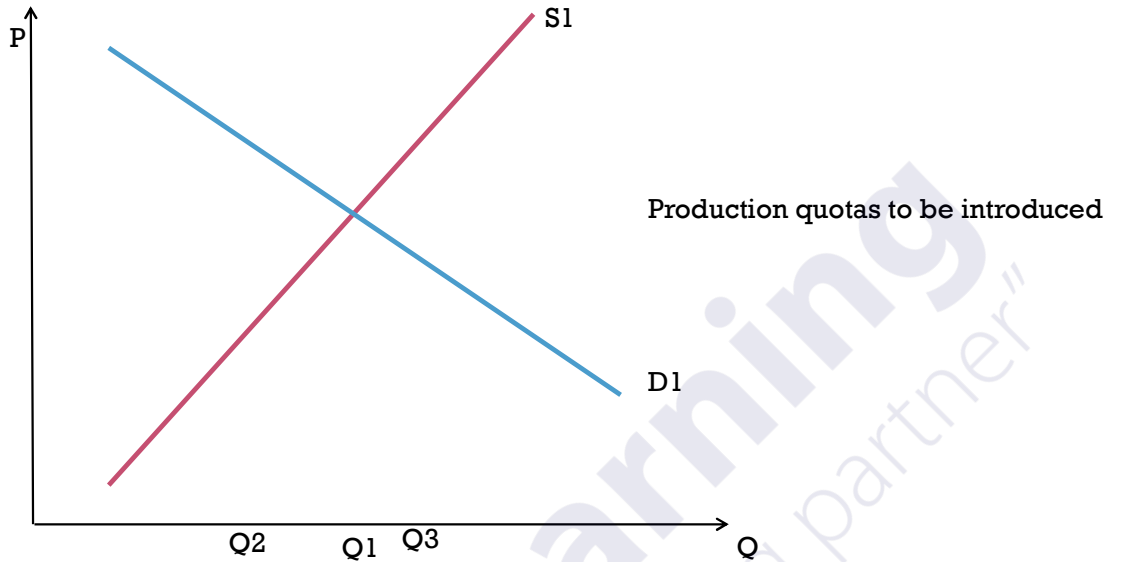
Maximum prices

The government may try to prevent prices of goods rising by establishing a price ceiling below the equilibrium price. (Note: the price ceiling has to be below the equilibrium price. If the price ceiling is higher than the equilibrium price, setting a price ceiling will have no effect at all on the operation of market forces, since producers will be selling at the lower, equilibrium price.)



Minimum prices

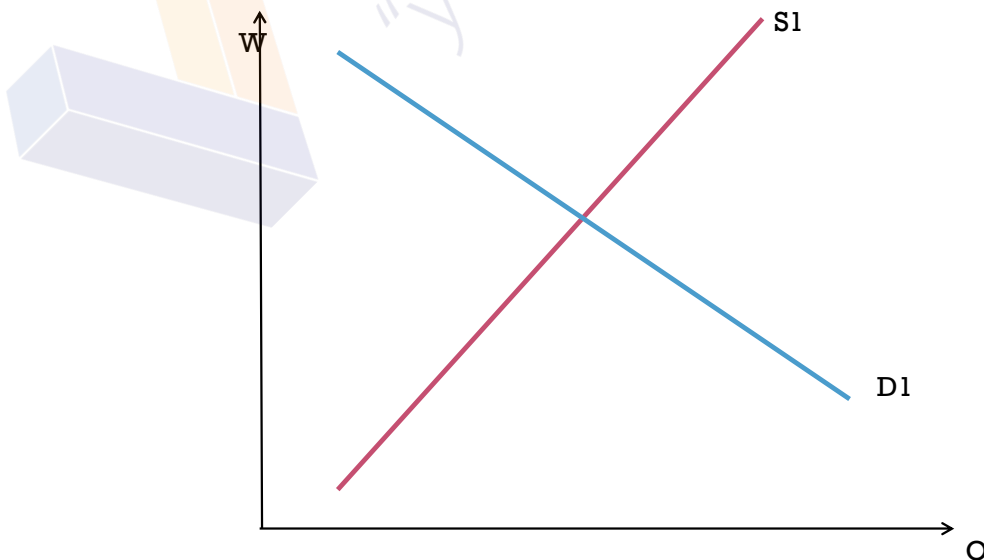
Minimum price legislation aims to ensure that suppliers earn at least the minimum price (or floor price) for each unit of output they sell.



Minimum wages

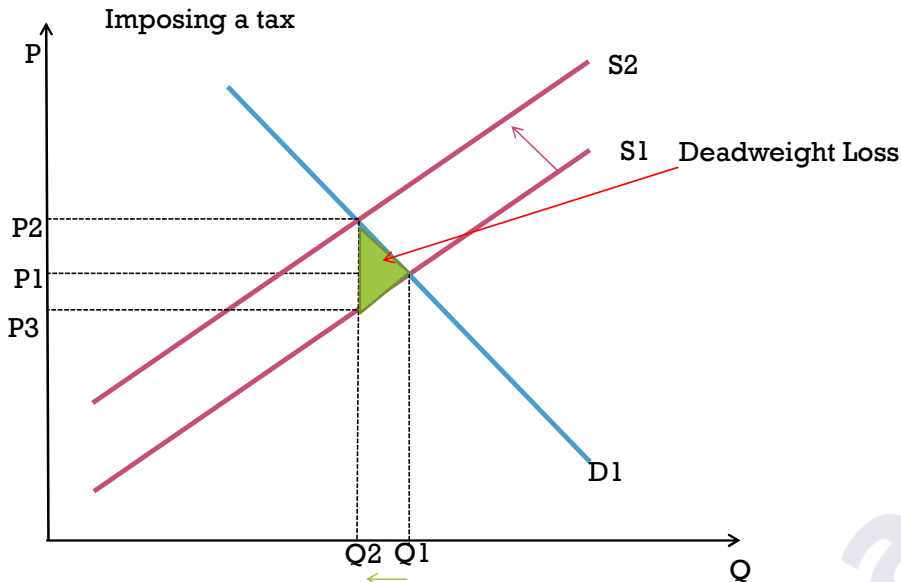
A minimum wage is an application of floor pricing in the labour market. The purpose of a minimum wage is to ensure that low-paid workers earn enough to have an acceptable standard of living. If a minimum wage is enforced by legislation (a statutory minimum wage) or negotiated nationally for an industry by a trade union, the minimum wage will probably be above the current market wage level for the jobs concerned. This would have two consequences.

- To raise wage levels for workers employed, to a level above the 'equilibrium' wage rate
- To reduce the demand for labour, which may cause job losses



Deadweight loss

The deadweight loss would be the economic benefit forgone by the consumers who no longer wish to buy that product. Main this could happened **reasons** like taxes, subsidies, price ceilings (Maximum Price), price floor (Minimum Price) and monopoly pricing



Competition policy

Competition policy refers to the enforcement of laws against anti-competitive behaviour by firms. Governments, or regulators working on their behalf, apply to the courts to levy fines on firms that break these laws, or demand that the firms are broken up or that they share their trade secrets with others to promote competition. The policy may also prevent mergers and acquisitions that would create significant reductions in competition. In Sri Lanka the Consumer Affairs Authority is mandated to protect consumer interests and ensure fair market competition.

competition policy goals:

- Prohibiting restrictive trade practices:** these are agreements between firms, or practices that restrict free trading and competition between businesses or exclude new entrants from the market.
- Banning abuse of position by market leading firms:** this includes the use of predatory pricing such as selling product at below production cost, in order to bankrupt rivals; overcharging for products needed by rivals; or refusing to deal with rivals, such as in the supply of car parts to independent service stations.
- Supervising mergers and acquisitions:** using powers under the law to forbid consolidations where it would eliminate effective competition or, at least, demanding that some parts of the combined businesses be sold off to enable effective competition to continue.

The approaches to competition policy

1. Rule-based approaches to competition policy

These start from the assumption that a dominant share of the market, in practice defined as anything in excess of 25%, will lead to anti-competitive practices.

Problems

- Narrow focus
- Problems defining a market
- Competitive disadvantage
- Burden on firms

2. Discretionary approach

This approach accepts the broad argument that large firms are potentially harmful to competition but judges each case on its effects rather than on the size of the business.



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