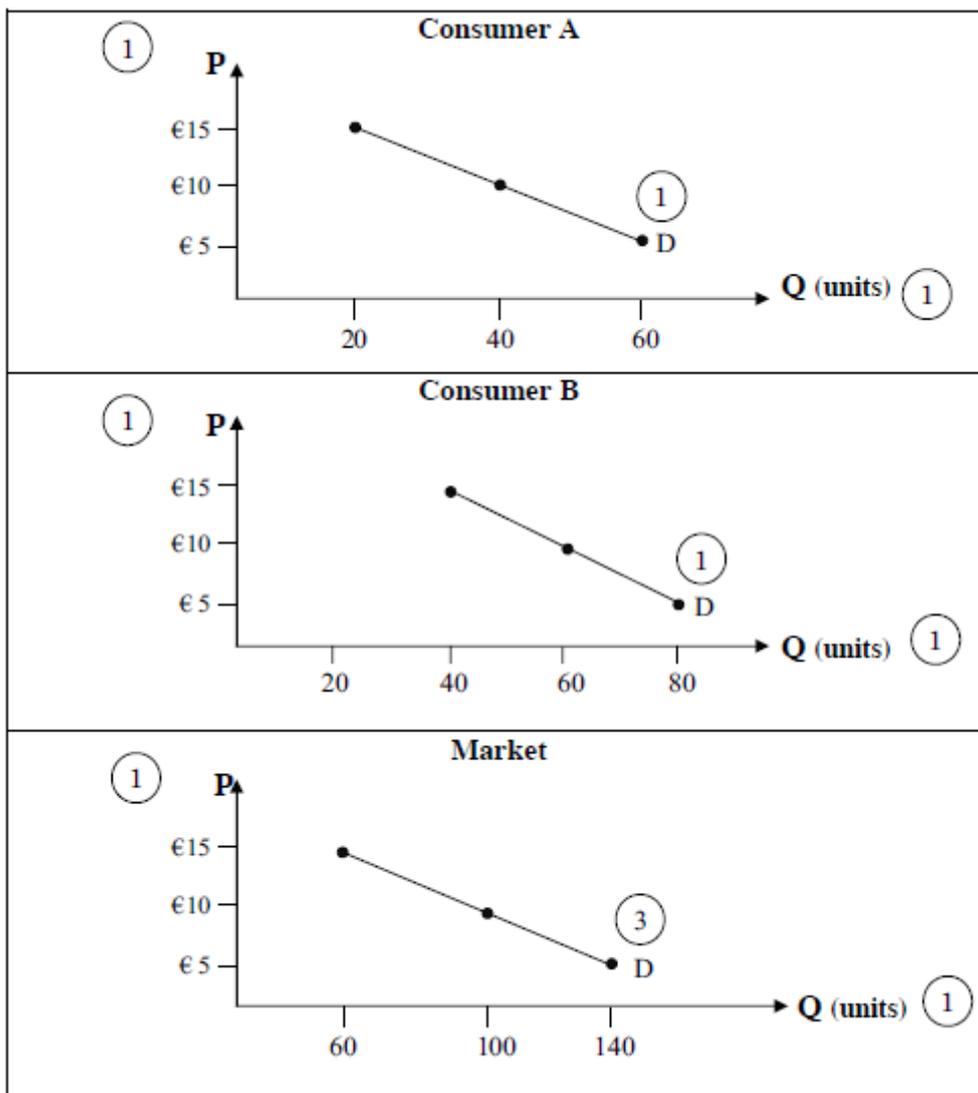


Demand and Supply

Individual Demand versus Market Demand

- **Demand** is the quantity of a good or service that consumers are willing and able to buy at a given price in a given time period.
- **Individual demand**
 - the quantity of a good an individual consumer demands at different prices.
- **Market demand**
 - total quantity of a good that all consumers demand at different prices.



To derive the market demand add the quantity demanded by each individual consumer at each price to calculate the overall quantity demanded by the market at each price.

Types of Demand

- **Effective demand**
 - Effective demand is demand supported by the necessary purchasing power. Where one wishes to have a good but also has the means to buy the good.
 - For example I might like a Bugatti Veyron, but my demand is not effective as I do not have the means to buy it.
 - In economics when we talk of "demand" we are really speaking of effective demand.
- **Latent demand**
 - This exists when there is willingness to buy among people for a good or service, but where consumers lack the purchasing power to be able to afford the product.
- **Derived demand**
 - Where a factor of production (land, labour, capital and enterprise) is demanded not for its own use but for its contribution to the production process.
 - For example, demand for steel is strongly linked to the demand for new vehicles and other manufactured products, so that when an economy goes into a recession, so we expect the demand for steel to decline likewise.

Law of Demand

- The law of demand describes the inverse relationship between price and quantity demanded
- **The Law of Demand states that an increase in price leads to a decrease in quantity demanded, or a decrease in price leads to an increase in quantity demanded, ceteris paribus**
 - Example: If price of a bar chocolate increased by 5c per bar then quantity demanded or purchased would fall.
- **Ceteris paribus assumption**
 - This means “all other things being equal”
 - Many factors affect demand. When drawing a demand curve, economists assume all factors are held constant except one – *the price of the product itself*. Ceteris paribus allows us to isolate the effect of one variable on another variable
- **Exceptions to the law of demand**
 - **Giffen Goods**
 - They tend to be staple goods in low income economies where very little choice exists. As the price falls, real incomes increase and consumers buy less of these goods and purchase more of better quality goods. As the price rises consumers have less income to spend on other types of goods so they tend to devote more of their income to these goods.
 - For example potatoes during the famine in Ireland. Even though the price rose demand increased as people stopped buying other items and purchased their only source of carbohydrates.
 - **Snob items / Goods of Conspicuous Consumption**
 - A rise in price makes these goods more exclusive, and therefore more attractive to those who have the incomes to purchase them. □ A fall in

price may lead to a fall in quantity demanded as they may no longer appear as exclusive to the rich and are still outside the price range of the poor.

- **Goods the purchase of which is influenced by expectations as to future prices**
 - If prospective consumers think that prices are likely to be even higher in the future, the current level of demand may not fall even if prices increase. □ If a person is considering buying a house the possibility that prices are likely to be even higher in the future will probably stimulate demand at current prices.
- **Goods of Addiction**
 - Consumers become so addicted to the drug that in order to get the same 'buzz' from consumption of the drug, demand for the commodity may increase, even when the price of the commodity increases.

Factors that Influence Demand

- **Price of the good**
 - Generally, as the price of a good falls consumers will buy more of that good as consumers are getting more value/satisfaction for their euro (equi-marginal returns)
 - Changes in price alone cause extensions and contractions in demand. All other factors listed below causes increases and decreases in demand
 - **The prices of complementary and substitute goods**
 - Goods which are consumed together / are used in conjunction with one another /If the price of a complementary good rises then demand for this good falls - Example: Computer consoles and software/games; cars and petrol.
 - If the price of a substitute good rises then demand for this good rises, as it has become relatively cheaper.
 - **The income of the consumer**
 - For most goods (normal goods) as income rises the demand increases and vice versa e.g. smaller quantities of goods are bought when a person becomes unemployed.
 - Types of Goods:
 - Normal Goods
 - These have a positive income effect, **other things being equal**. As real income* rises quantity demand rises
 - Inferior Goods
 - These have a negative income effect, **other things being equal**. As real income rises quantity demand falls
- *real income refers to the purchasing power of the income. It is one's income adjusted for inflation.
- **The consumers' tastes or preference for a commodity**
 - When a commodity comes into fashion or into season there is an increase in the quantity demanded at each price. Advertising attempts to influence taste in favour of the good.
 - **The expectations concerning future prices/ future availability of income**
 - If a consumer expects that future prices are likely to be greater than they are at present, then there will be an increase in the demand for the good at each price.

- **Government regulations**
 - If the government initiates a programme to curtail consumption of a particular product then it may affect the demand for a good e.g. a health education campaign to curtail cigarette consumption.
- **Unplanned factors**
 - If there was a sudden heatwave this may result in an increase in the demand for suncream / ice cream etc.

Substitution Effect vs Income Effect

- **Substitution effect**
 - When the price of a good rises customers may shift to cheaper substitutes to maximise utility. The substitution effect is always positive. i.e. it always behaves in the same way. When the price of a product rises, consumers will demand less of it and switch to cheaper substitutes.
- **Income effect**
 - When the price of a good falls it means that the consumer's real income will rise. The income effect can be positive or negative. It does not always behave in the same way. When a consumer's real income increases they buy more normal goods but less inferior goods.
- **Question:**
 - A consumer spends all income on two goods, Good A and Good B. Both goods are normal goods but they are not complementary goods. The price of Good A is reduced and the price of Good B remains unchanged. The consumer continues to spend all income on the two goods. Distinguish between the substitution effect and the income effect of the price reduction in Good A.

Substitution Effect

- Demand for Good A Increases
- Good A is now relatively cheaper. Hence the consumer is getting increased marginal utility for this good.

Income Effect

- Demand for Good A Increases
- Consumer has additional income, due to the reduction in price of Good A. As Good A is a normal good the demand for this good will increase.

- **Question:**

A fall in the price of a consumer product has both a substitution effect and an income effect.

 - (i) Explain the underlined terms.
 - (ii) If the price of an **inferior** product falls (all other things being equal) will more or less of the product be purchased? Explain your answer with reference to the substitution effect and the income effect.

(i)

Substitution effect	Income effect
When the price of a good rises customers may shift to cheaper substitutes to maximise utility.	When the price of a good falls it means that the consumer's real income will rise.

(ii)

Price of inferior product falls	Substitution effect	Income effect
Effect on demand	Demand will rise	Demand will fall
Explanation	The consumer is getting more marginal utility for this good now that it is cheaper.	Because the good is an inferior good, demand will fall as the consumer will buy less as income has increased.

If positive substitution effect is greater than the negative income effect then demand for the product will increase.

or

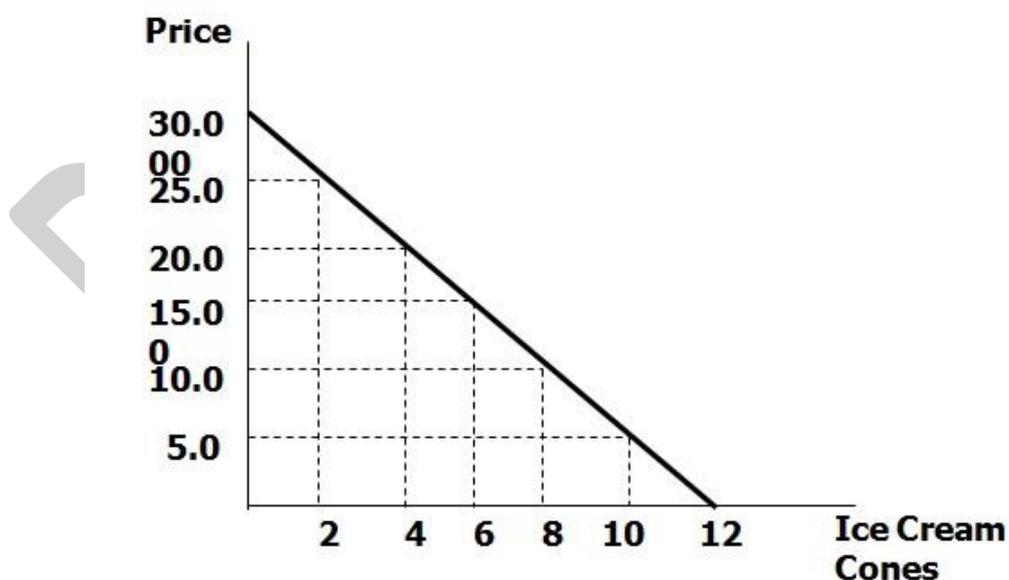
If negative income effect is greater than positive substitution effect then demand for the product will decrease.

Demand Curve

- **Demand Schedule:** a table that shows the relationship between the price of a good and the quantity demanded.

Price of Ice Cream Cone	Quantity of Cones Demanded
0.00	12
5.00	10
10.00	8
15.00	6
20.00	4
25.00	2
30.00	0

- **Demand Curve:** a graph of the relationship between the price of a good and the quantity demanded.

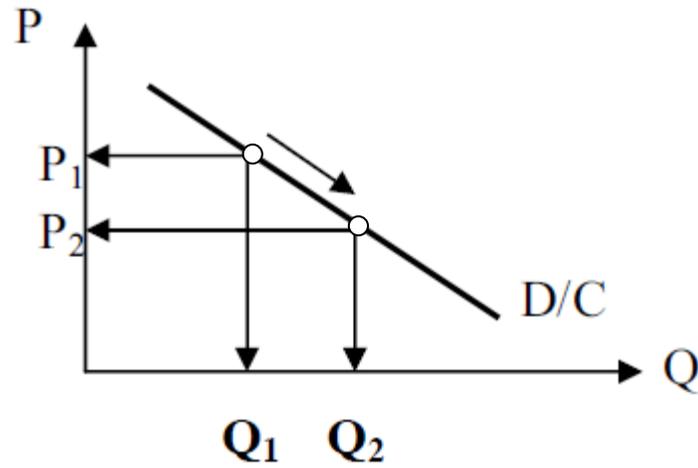


The reason a person's demand curve for a normal good slopes downward:
 As the price of a good falls the consumer buys more of this cheaper good, because the marginal utility per euro spent on this good increases and the consumers always aim to maximise his/her total utility.

- **Movement along a demand curve versus a shift in demand**

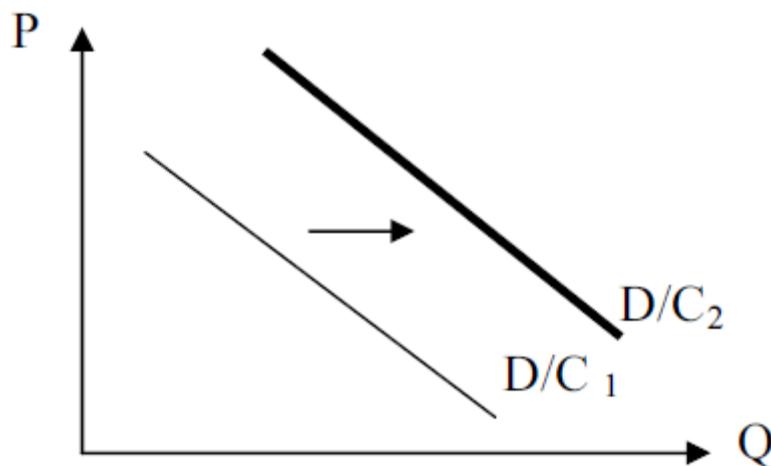
- Movement along a demand curve (extensions and contractions)::

- Caused by a change in the selling price of the good itself, *ceteris paribus*/all other things being equal.



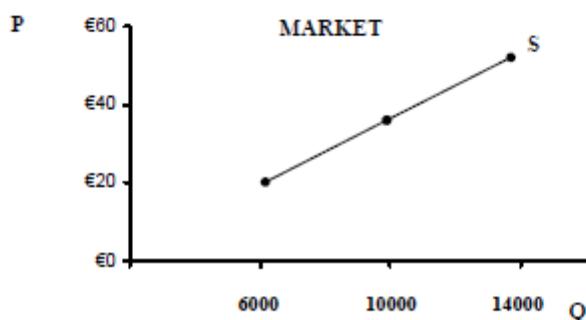
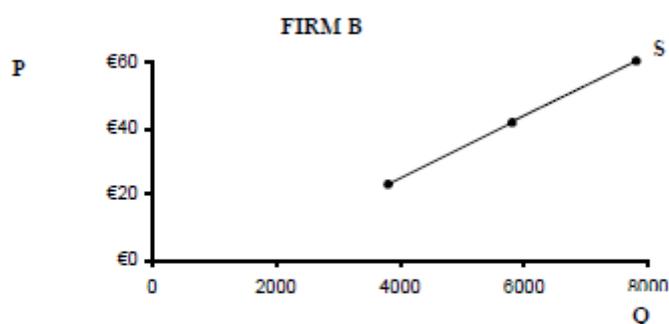
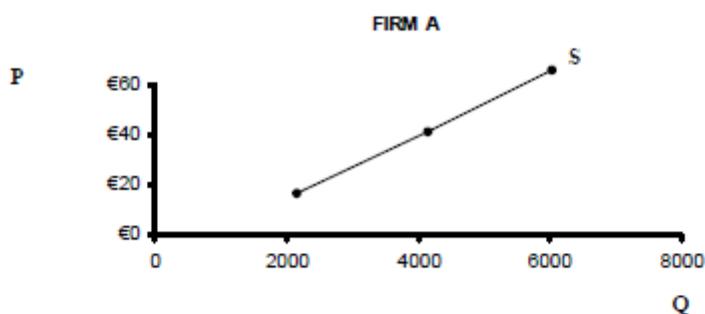
- Shift in a demand curve (increases and decreases):

- If any of the factors other than the price of the good itself change this will result in a shift in the demand curve.



Individual Supply versus Market Supply

- **Individual supply:**
 - the quantity of a good an individual firm is willing to supply at different prices.
- **Market supply**
 - the total quantity of a good that all firms are willing to supply at different prices.



- To derive the market supply we add the quantity supplied by each individual firm at each price to calculate the overall quantity supplied to the market at each price.

Law of Supply

- The law of supply states that there is a positive relationship between the price of a good and the quantity supplied of that good i.e. if the price rises / quantity supplied rises and if price falls quantity supplied falls, ceteris paribus (all other things being equal).

Factors that Influence Supply

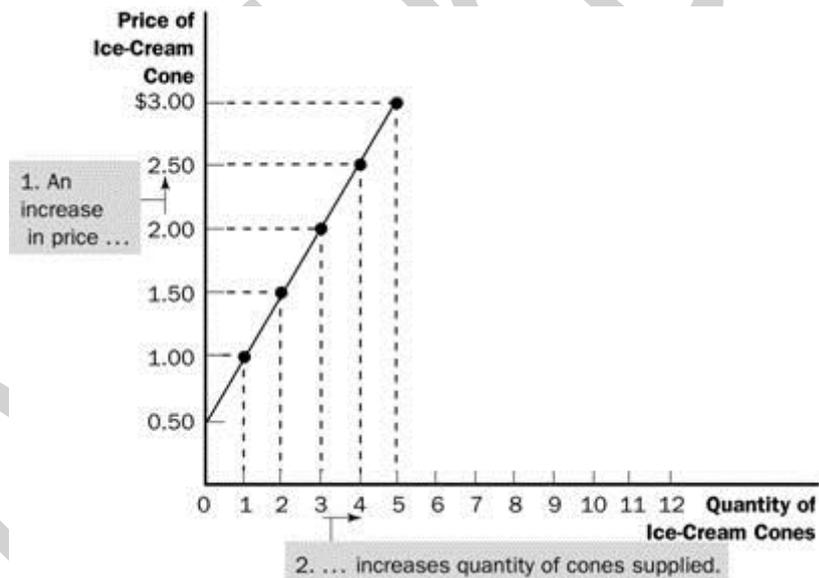
- **Price of the good**
 - Generally, as the price of a good rises producers will supply more of that good as it is more profitable to do so.
 - Changes in price alone cause extensions and contractions in supply. All other factors listed below causes increases and decreases in supply
- **The cost of producing the product.**
 - If there is an increase in costs of factors of production, which a firm uses in the production of their good, then it will be more costly to manufacture the good. They will not continue to supply the same quantity of the good at the old prices – there will be a reduction in the quantity supplied.
- **The state of the firm's production technology.**
 - As new machinery is invented, as labour becomes more specialised and efficient the factors of production become more efficient. It becomes possible to increase their output even though the payments they receive remain the same. Technical progress will reduce production costs / increase the productivity of the firm (more output per worker). The supply curve shifts out to the right (at each level of price there will be an increase in the supply).
- **The price of related goods.**
 - If there is an increase in the selling price of other goods, which the manufacturer could produce through using his existing factors of production, he may switch from producing the present commodity to that for which the price has increased.
- **Unplanned factors.**
 - There may be changes in the quantity supplied, which were never intended by the producer. Examples include agriculture – due to changes in the weather; diseases etc. In industry there may be shortages of raw materials, strikes etc.
- **Taxation / Subsidy.**
 - If the government were to reduce the rates of taxation on the raw materials used in the manufacture of a commodity, this represents a reduction in the cost of production and hence quantity supplied would increase. If a subsidy is granted on the raw materials or on the labour employed by the firm, this has the effect of reducing costs and thereby resulting in an increase in the quantity supplied.
- **Number of sellers in the industry.**
 - If the number of firms in the industry decreased e.g. due to rationalisation then the overall quantity supplied to the market would decrease.
- **Objectives of the firm.**
 - If the objectives of the firm changed from that of profit maximisation to a deliberate reduction in output by firms in the industry then quantity supplied would fall.

Supply Curve

- **Supply Schedule:** a table that shows the relationship between the price of a good and the quantity supplied.

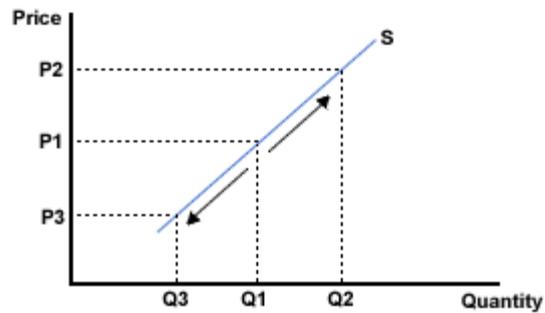
Price of Ice Cream Cone	Quantity of Cones Supplied
\$0.00	0
\$0.50	0
\$1.00	1
\$1.50	2
\$2.00	3
\$2.50	4
\$3.00	5

- **Supply Curve:** a graph of the relationship between the price of a good and the quantity supplied.

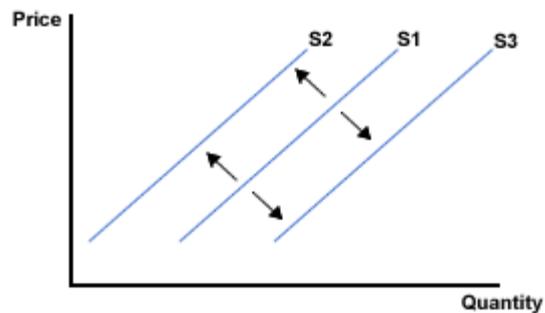


- **Movement along a supply curve versus a shift in supply**

- Movement along a demand curve (extensions and contractions):
 - Caused by a change in the selling price of the good itself, *ceteris paribus*/all other things being equal.

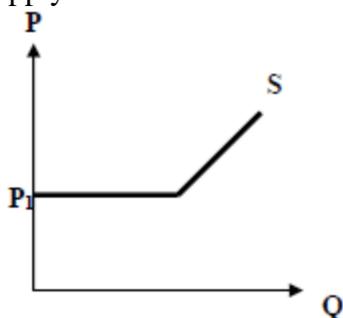


- Shift in a supply curve (increases and decreases):
 - If any of the factors other than the price of the good itself change this will result in a shift in the supply curve.

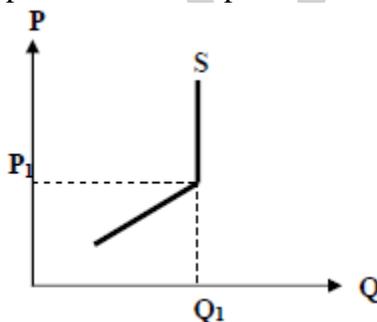


Alternate Supply Curves

- A firm is willing to increase supply as price rises, but there is a minimum price below which the firm will not supply at all.



- Below P_1 nothing is supplied
 - At prices above P_1 as price increases, quantity supplied increases.
 - An example of this would be the supply of labour
- A firm can supply only up to a maximum production capacity.



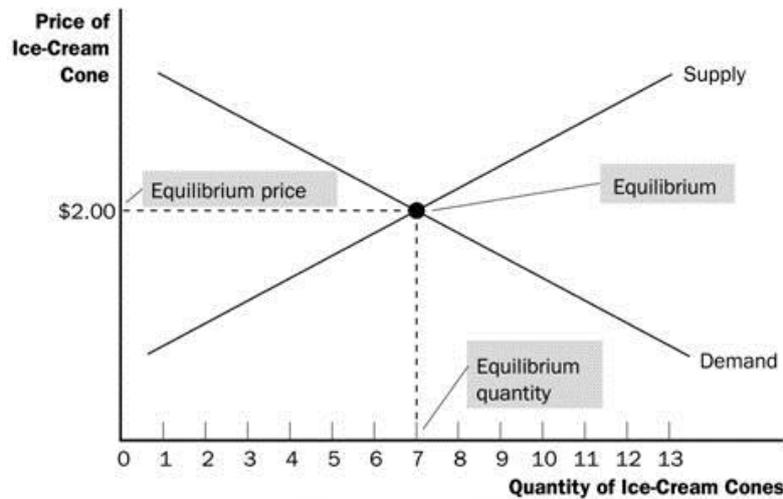
- As price increases up to P_1 output increases up to a maximum level Q_1 .
 - As price increases above P_1 quantity supplied will not increase.
 - Examples include an ESB power plant or a mining plant. Output is limited by the plant's capacity
- The product is fixed in supply (e.g. perishable good) and a firm is operating in the short run.



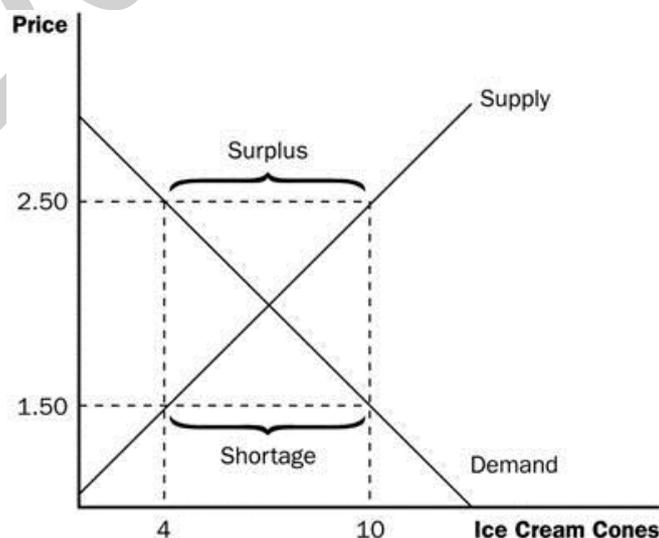
- Any change in price will not bring about any change in supply.
- Entire daily supply must be sold, regardless of the prevailing price because the commodity cannot be held over for sale the following day.
- Examples include the supply of fresh fish, the supply of land, the seating capacity of a stadium

Equilibrium

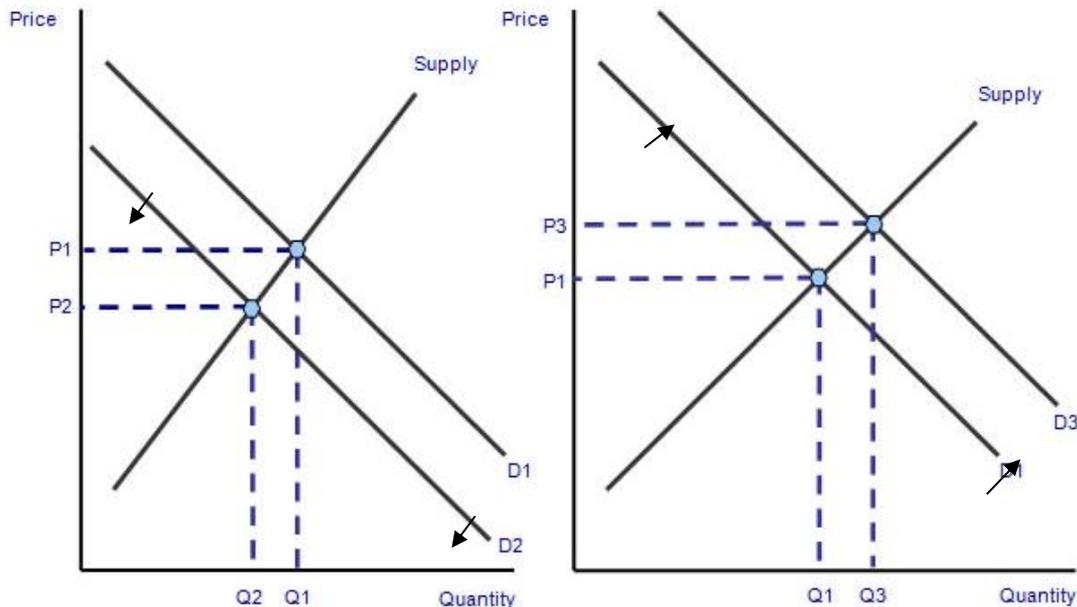
- **Definition of equilibrium:** where quantity demanded equals/meets quantity supplied and there is no tendency for prices to change.
 - **Equilibrium price:** the price that balances quantity supplied and quantity demanded. The equilibrium price is often called the "market-clearing" price because both buyers and sellers are satisfied at this price
 - **Equilibrium quantity:** the quantity supplied and the quantity demanded at the equilibrium price.



- If the actual market price is higher than the equilibrium price, there will be a surplus of the good. A surplus is a situation in which quantity supplied is greater than quantity demanded. To eliminate the surplus, producers will lower the price until the market reaches equilibrium.
- If the actual price is lower than the equilibrium price, there will be a shortage of the good. A shortage is a situation in which quantity demanded is greater than quantity supplied. Sellers will respond to the shortage by raising the price of the good until the market reaches equilibrium.

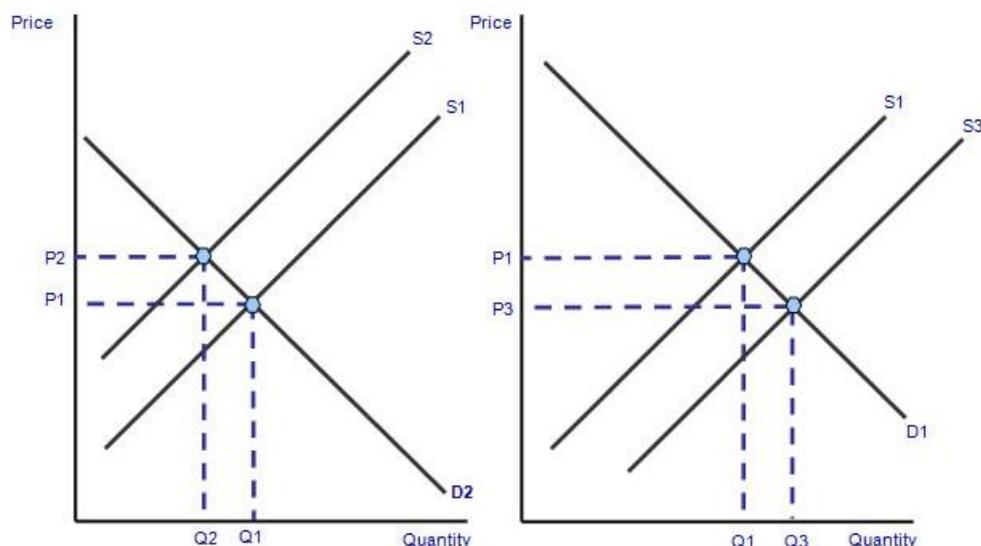


- **Diagrams to show Changes in Market Demand and Equilibrium Price**

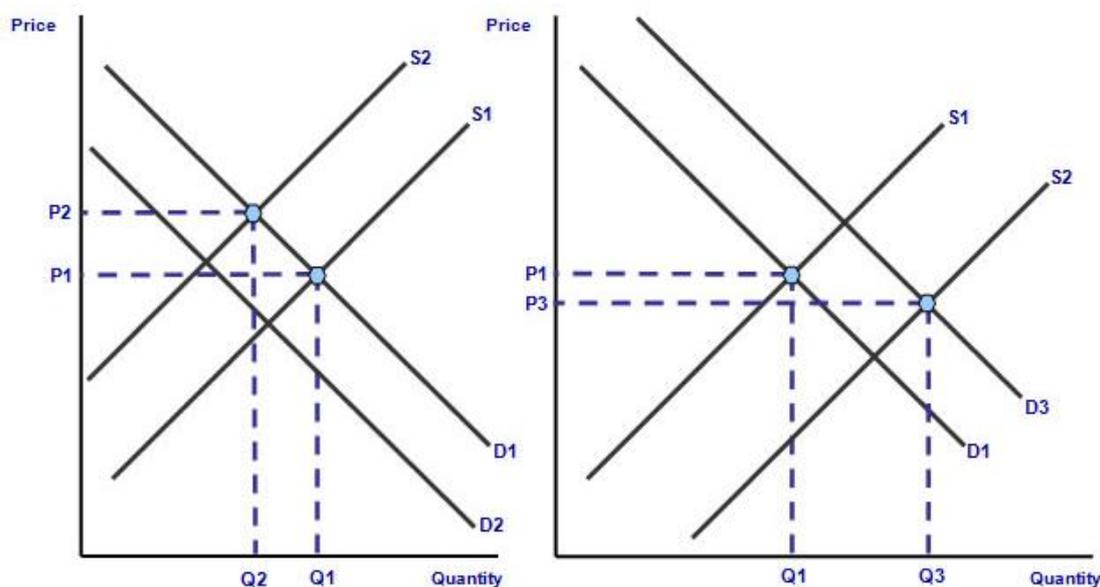


- The outward shift (increase) in the demand curve from D1 to D3 (on the right above) causes an expansion along the supply curve and
- This increase in demand could be due to increased incomes, successful advertising campaign, changing tastes in favour of the product.
- Equilibrium moves from E1 to E2
- Equilibrium price rises from P1 to P3
- Equilibrium quantity increases from Q1 to Q3.
- Firms in the market will sell more at a higher price and therefore receive more total revenue.
- The reverse effects will occur when there is an inward shift of demand (on the left above)
- Demand and supply factors are usually assumed to be independent of each other although some economists claim this assumption is no longer valid!
- Equilibrium price represents a trade-off for buyer and seller – higher prices are good for the producer (higher revenues and profits) but they make the product more expensive for the buyer

- **Diagrams to show Changes in Market Supply and Equilibrium Price**



- A shift in the supply curve does not cause a shift in the demand curve. Instead we move along (up or down) the demand curve to the new equilibrium position.
- The equilibrium price and quantity in a market will change when there are shifts in both market supply and demand. Two examples of this are shown in the next diagram:



- In the left-hand diagram above, we see a **decrease of supply** together with a **decrease in demand**. Both factors lead to a fall in quantity traded, but the rise in costs forces up the market price.
- The second example on the right shows an **increase in demand** from D_1 to D_3 but a much bigger **increase in supply** from S_1 to S_2 . The net result is a fall in equilibrium

price (from P1 to P3) and an increase in the equilibrium quantity traded in the market from Q1 to Q3.

- **NB – Drawing Diagrams**
 - When drawing diagrams do the following:
 - Draw them big
 - Label the axis Price (Y) and Quantity (X)
 - Label Demand and Supply Curves D1 and S1
 - Label the equilibrium point E
 - Label the equilibrium price on the Y axis
 - Label the equilibrium quantity on the X Axis
 - When drawing new demand and supply curves label them D2 or S2.
 - Use arrows to show which way the new curve is moving in relation to the original
- **NB – Explaining Diagrams**
 - When explaining diagrams or changes to diagrams you must:
 - State how the curves have moved. E.g. demand has increased and shifted to the right
 - Explain why the curves have moved. E.g. This is as a result of.....
 - State what has happened to the equilibrium point. E.g. Equilibrium point has moved from E1 to E2.
 - State what has happened to the price. E.g. The equilibrium price has dropped from P1 to P2.
 - State what has happened to the quantity. E.g. The equilibrium quantity has increased from Q1 to Q2
- **Diagrams are a simplification of reality!**
 - We tend to use supply and demand diagrams to illustrate movements in market prices and quantities – this is known as **comparative static analysis**
 - The reality in most markets and industries is more complex. For a start, many businesses have imperfect knowledge about their demand curves – they do not know precisely how consumer demand reacts to changes in price or the true level of demand at each and every price
 - Likewise, constructing accurate supply curves requires detailed information on production costs and these may not be readily available