

3. SUPPLY ANALYSIS.

- Supply is the qty. of a commodity that producers are willing & able to offer for sale at a given price over a given period of time.

Determinants of Supply.

There are two types of supply;

- 1) Individual supply
- 2) Market supply.

Individual Supply.

This is the qty of a commodity that a producer is willing & able to offer for sale at a given price over a given period of time.

The supply of a commodity is determined by.

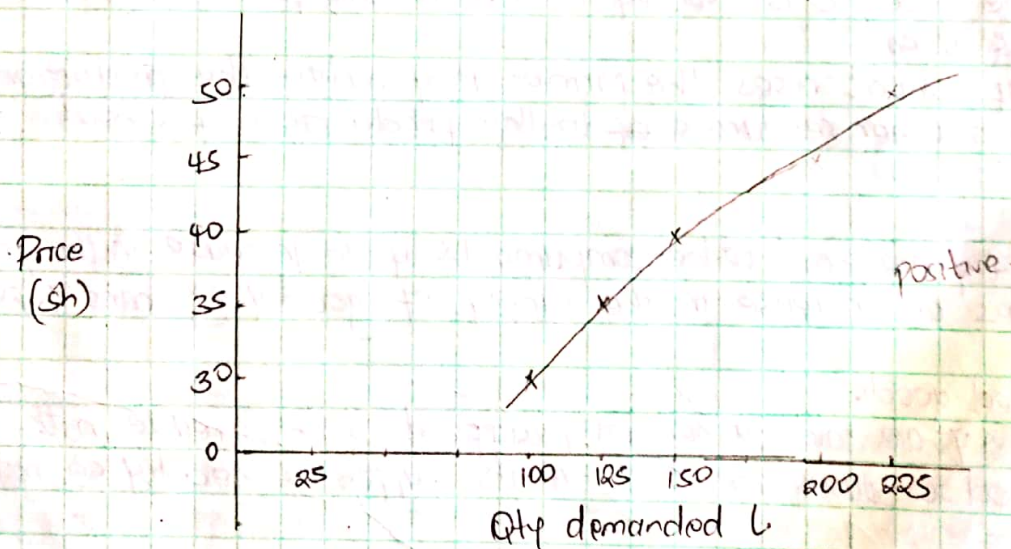
Price of the commodity.

As the price of a commodity rises, other factors affecting supply remain constant, its production becomes more profitable. $\therefore$ existing firms are likely to increase their output & eventually new firms will be attracted to the industry.

For this reason, the total supply will expand as the price rises.

The supply of a commodity can be represented by a supply schedule which is a table showing the qty's of the good that would be supplied at various prices in a given period of time.

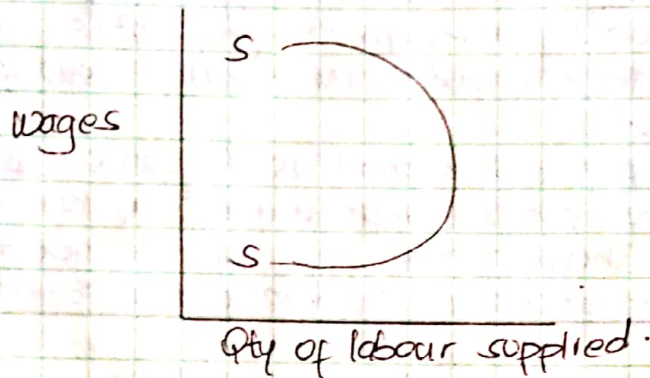
Price (Sh)	Qty of milk supplied (L)
30	100
35	125
40	150
45	200
50	225



A supply curve represents graphically, the relationship b/w the qty supplied of a commodity & the price for it.

This relationship is a direct one demonstrated by the fact that the supply curve slopes upwards from the left to the right.

- This relationship, the law of supply states that "Greater quantities will be supplied at higher prices than at lower prices *Ceteris Paribus*."
- However, there is an exception to this law,
- This is the case of labour supply where there may be a high preference for leisure at higher levels of income.
- It has been noticed that as wages increase workers work for fewer hours.
- This is because instead of taking the wage increases they prefer increased leisure.
- This situation gives rise to the backward bending supply curve for labour.



2. Prices of other related goods.

- These goods can either be substitutes in production, compliments or jointly supplied goods

a) Substitutes in production.

- Two goods x & y are said to be substitutes in production if the supply of one good x is inversely related to the price of the other good y eg barley & wheat.
- If the price of wheat rises, the farmer may reduce the production of barley & commit other resources to the production of wheat.

b) Compliments

- Two goods x & y are said to be compliments if an increase in the price of good x causes an increase in the supply of good y eg cars & petrol.

c) Jointly supplied goods.

- Two goods x & y are said to be jointly supplied if an increase in the supply of good x causes an increase in the supply of good y eg mutton & sheep.

3. The State of Technology.

- Technological improvements such as invention of machinery will reduce the cost & increase the profit margin/unit sold.
- The total supply for the product is then extended to increase as technology advances.

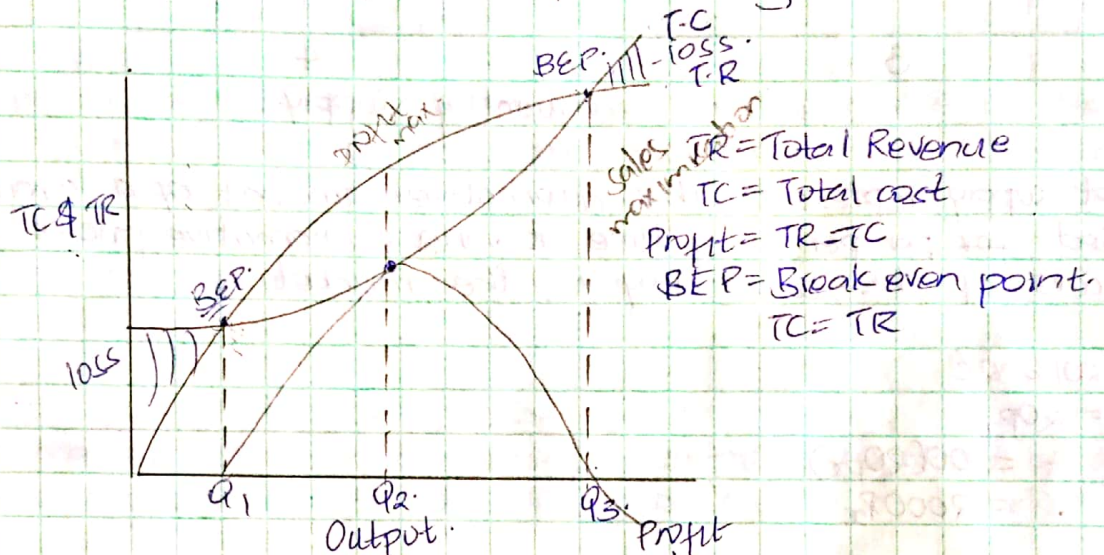
Law of supply - Greater quantities will be supplied @ higher prices than lower prices if all other things remain constant.

4. Prices of the other factors of production.

As the prices of the other factors of production increase, the cost of production will also rise & this will eventually lead to a fall in the supply of the commodity.

5. Objectives of the firm.

- Firms have different objectives which may include profit maximisation, sales maximisation etc.
- A firm that aims to maximise its sales revenue in general will supply a greater supply qty than a firm aiming to maximise profits.



- A firm aiming to maximise its sales revenue will produce Q_3 units of the commodity where sales revenue is at its max.
- A firm aiming to maximise profits will produce Q_2 units of the commodity where profits are at max.

6. Natural factors

These include seasonal factors, floods, famine, earthquake etc.

7. Govt. policy.

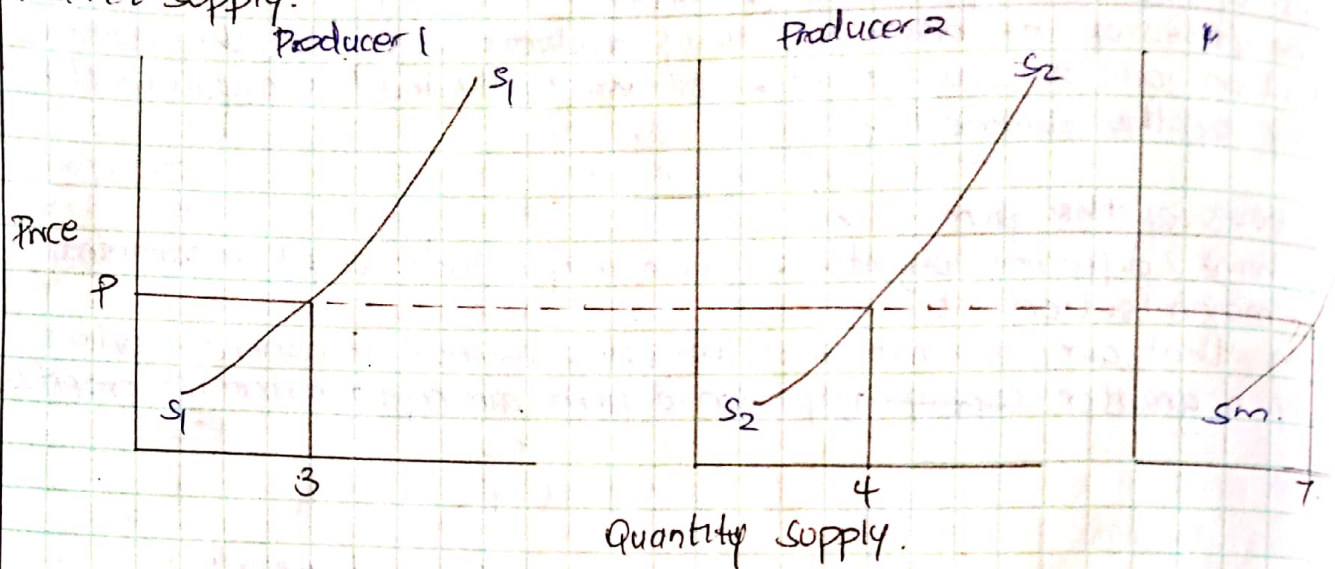
These include taxes, subsidies, price controls or any other form of legislation.

8. Future expectations on further changes.

If the price of a good is expected to rise in the near future farmers may decide to supply less in the current period so as to have enough stock for sale when price rises in the future.

- Price of the Commodity
- Price of other related goods
- Technology's State
- Objective of the firm
- Prices of other factors of Production
- Seasonal factors
- Future expectations on future changes
- Govt Policy

10) Market supply.

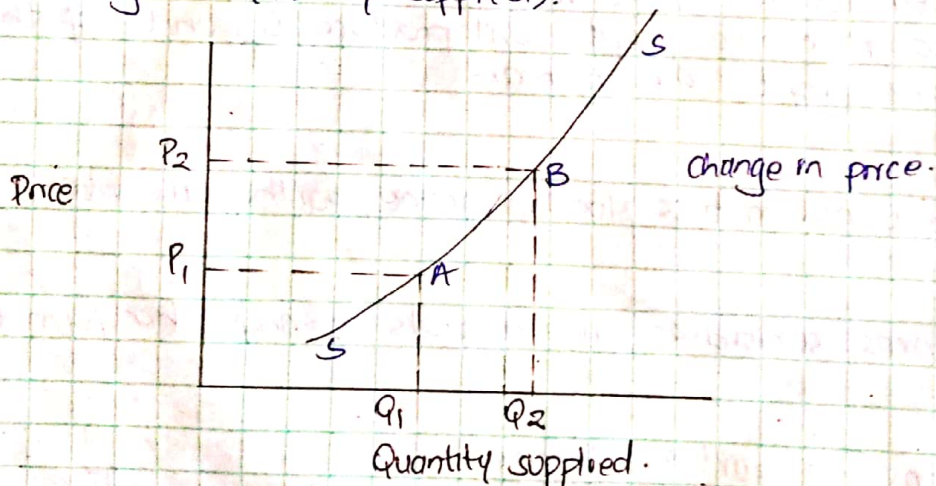


Market supply represents the alternative amount of a commodity supplied for per period of time at various alternative prices by all the producers of the commodity in the market.

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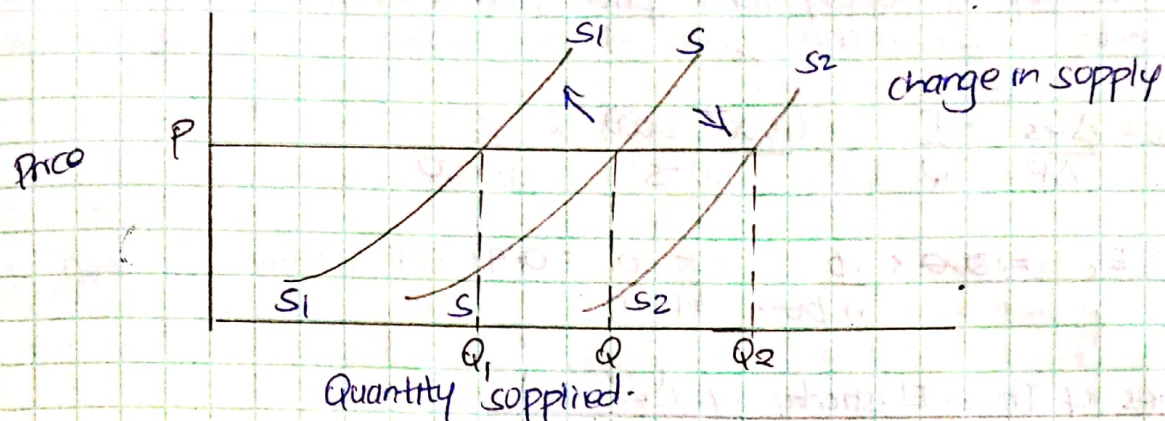
$$\begin{aligned} 1) Q_{sx} &= 20P_x \\ &= 100(20P_x) \\ &= 2000P_x \end{aligned}$$

Movements along the Supply Curve.
(Change in Quantity Supplied).



A change in the price of a commodity, other factors affecting supply remaining constant, can be traced by a movement along the supply curve.

Shifts of the Supply Curve



- A change in any ^{other} factor affecting supply other than the price of the product will cause a shift of the supply curve eg changes in technology.
- Assuming that the original supply curve is S , a shift to the right from S to S_2 represents an increase in supply.
- A shift to the left from S to S_1 represents a fall in supply.

ELASTICITY OF SUPPLY.

- This is the measure of responsiveness of quantities supplied of a commodity to changes influencing supply ie price.

1. Price Elasticity of Supply.

This is a measure of responsiveness of qty supplied of a commodity to changes in its own price.

- It is calculated as follows;

$$E_s = \frac{\text{Proportionate change in Quantity Supplied}}{\text{Proportionate change in Price}}$$

$$E_s = \frac{\Delta Q_s}{Q_s} \div \frac{\Delta P}{P}$$

where ΔQ_s = change in quantity supplied
 ΔP = change in price

$$E_s = \frac{\Delta Q}{Q_s} \div \frac{\Delta P}{P}$$

Q_s = original quantity supplied
 P = change in original price.

$$E_s = \frac{\Delta Q}{Q_s} \times \frac{P}{\Delta P}$$

If $E_s > 1$ elastic
 $E_s = 1$ unit elastic
 $E_s < 1$ inelastic.

$$E_s = \frac{\Delta Q_s}{\Delta P} \cdot \frac{P}{Q}$$

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Price elasticity of supply when price decreases from sh10/unit to sh5/unit.

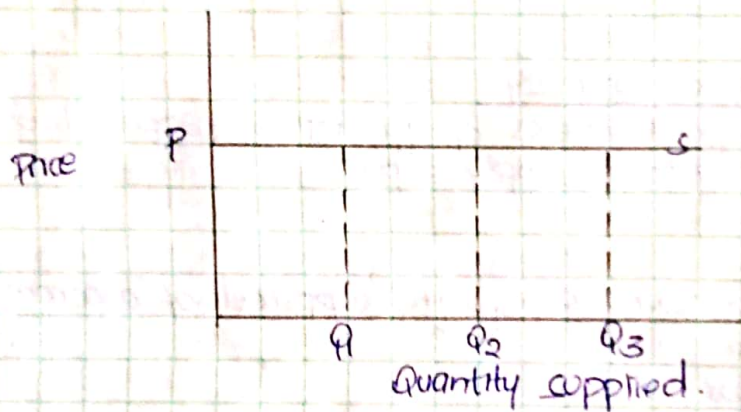
$$E_s = \frac{\Delta Q_s}{\Delta P} \cdot \frac{P}{Q} = \frac{(11,000 - 6,000)}{10 \text{ sh}} \times \frac{10}{11,000}$$

$$E_s = 1000 \times \frac{10}{11,000} = \frac{10}{11} = 0.91 < 1 \therefore \text{Inelastic}$$

Types of Price Elasticity of ^{Supply} Demand

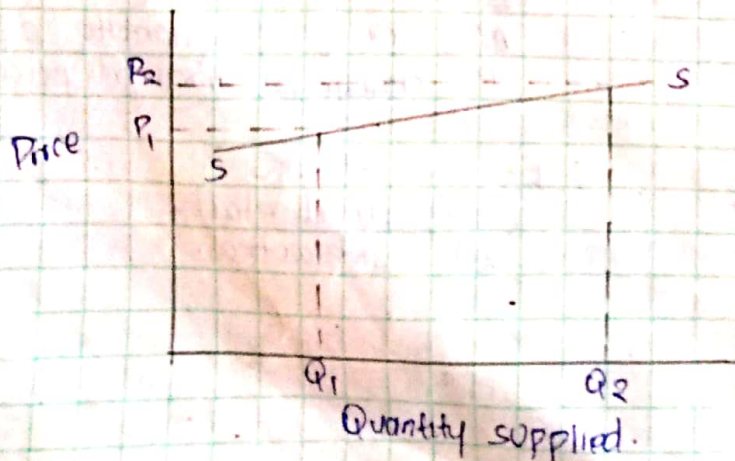
1. Perfectly Elastic supply.

- This is where suppliers are willing to supply any amount of a commodity at a given price but none at a slightly smaller price.
- This implies that if the price of the commodity is reduced, nothing will be supplied.
- The supply curve will be a horizontal straight line.



2. Elastic supply.

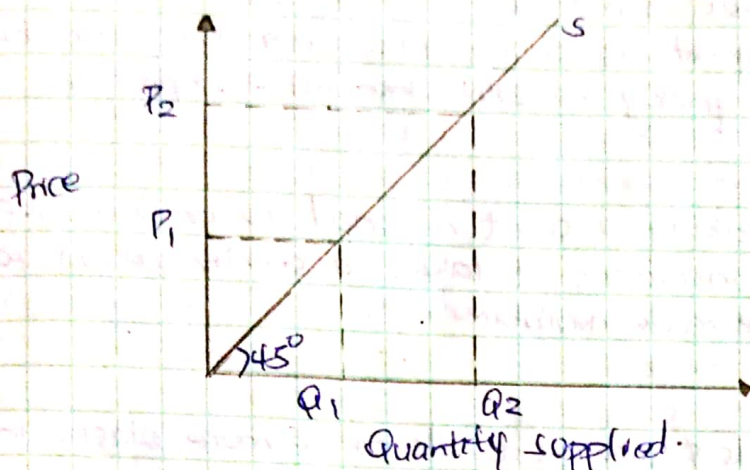
- Changes in price causes more than proportionate change in the Q_s i.e. if the price increases, qty supplied increases in greater proportions.
- The supply curve will be gently sloped.



Perfectly Elastic $\rightarrow$ No amt at the given P
Elastic $\rightarrow$ Greater proportion
Unit Elastic $\rightarrow$ Same proportion
Inelastic $\rightarrow$ less proportion
Perfectly inelastic $\rightarrow$ No effect

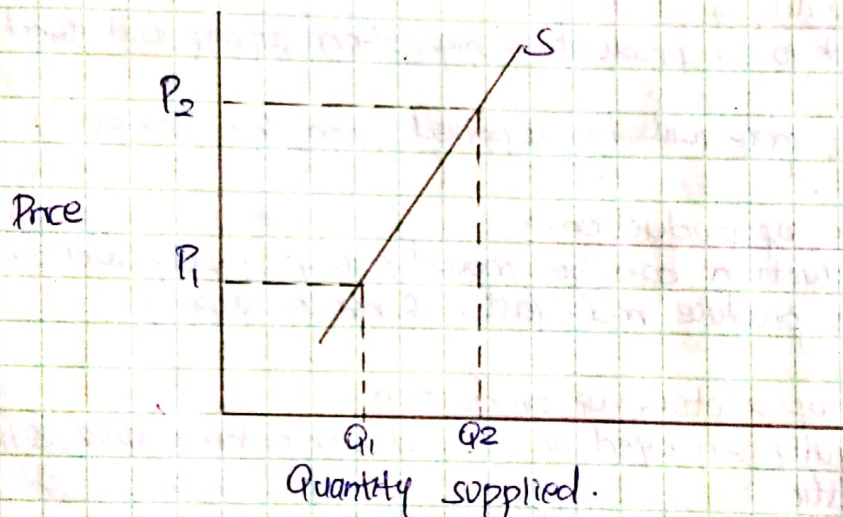
Unit elastic supply.

changes in price cause proportionate changes in the qty supplied i.e. if price increases qty supplied increases in the same proportions.



Inelastic supply.

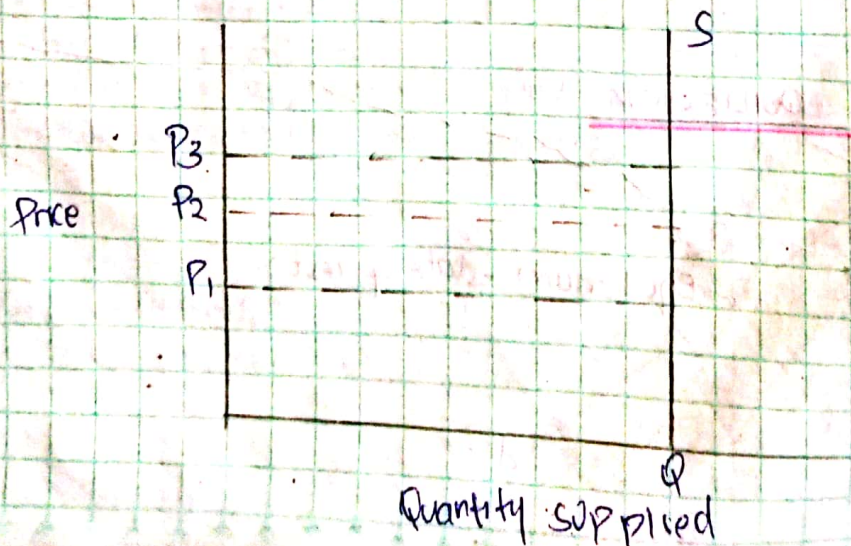
changes in price cause less than proportionate changes in the qty supplied i.e. if price increases, qty supplied increases in less proportions.



Perfectly Inelastic supply.

changes in price have no effect on the qty supplied i.e. change in the qty supplied = 0

The supply curve is a vertical line



Factors Affecting Price Elasticity

1. Nature of the Commodity.

- The supply for perishable goods will tend to be price inelastic due to the fact that these commodities cannot be easily stored.
- The supply for durable goods is price elastic since they can be stored when the price is bad & quickly be sold when price improves.

2. Production Period

For those commodities taking a shorter period to produce, supply will be price inelastic. If price increases, it takes a shorter period for additional supplies to be made available.

3. Time period

- The supply for most goods & services tends to be more elastic in the long run period as compared to the short run period.
- This is because it takes time for producers to organise the factors of production.

4. Level of Stock. (Availability of stock)

- If the level of stock for a product is high, then supply will tend to be price elastic.
- If the price increases, more will be supplied from the stocks.

5. Mobility of the factors of production.

If the factors of production can be moved easily, supply will be price elastic since you can produce more faster & hence supply.

6. Level of employment of factors of production.

- If the factors are fully employed or utilised somewhere else, supply tend to be price inelastic.
- However, if they are idle, supply will be elastic.

7. Risk taking.

The more willing entrepreneurs are willing to take risks, the more the price will be elastic.