14/6/24 ॥ श्री गणेशाय नमः ॥ (1)

Ch-2 Theory of Demand & Supply

Unit-3 Supply.

- The term 'supply' refers to the amount of a good or service that the producers are willing and able to offer to the market at various prices during a period of time.
- Supply requires both willingness and ability to supply.
- Supply is a flow concept. Supply is identified for a specified time period.

3.1 Determinants of Supply ⇒

(i) Price of the good ⇒

- Others things being equal, the higher the price of a good, the greater the quantity of it that will be supplied.
- This is because goods and services are produced by the firm in order to earn profits and ceteris paribus, profits rise if only the price of its product rises.

$\boxed{P\uparrow S\uparrow}$ → Positive Relationship

(ii) Prices of Related Goods ⇒

- If the prices of other goods rise, they become relatively more profitable to the firm to produce and sell than the good in question.
- When a seller can get a higher price for a good, producing and selling it becomes more profitable.
- Example → If the price of X increases, supply of Y will decrease/fall.

$\boxed{P_X\uparrow S_Y\downarrow}$ → Negative Relationship.

(iii) Prices of factors of production ⇒

- If the rise in the price of an input causes a decrease in supply.
- Lower input costs indeed, makes production more profitable.

$\boxed{\begin{matrix} C\downarrow S\uparrow \\ C\uparrow S\downarrow \end{matrix}}$ → Inverse Relationship because profit goes down.

(iv) State of Technology ⇒

- The supply of a particular product depends upon the state of technology also.
- The use of new technology in an industry increases production efficiency and reduces production costs.

T↑	S↑
T↓	S↓

(v) Government Policy ⇒

- Taxes raise the cost of production and so the quantity supplied of a good would increase only when its price in the market rises.
- Subsidies and other funding programmes to producers, reduce the cost of production and thus provide an incentive to the firm to increase supply.

T↑	S↓
T↓	S↑

(vi) Nature of competition and size of industry ⇒

- Supply will be more than that under monopolized conditions.

(vii) Expectations ⇒

- Sellers compare current prices with future prices.
- An increase in the anticipated future price of a good or service reduces its supply today.

F↑	S↓
F↓	S↑

- If seller expect a fall in prices in future, more will be supplied now.

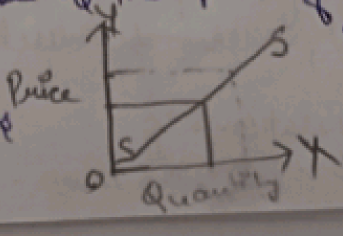
(viii) Number of Seller ⇒

- If there are large number of firms in the market, supply will be more

Seller↑	Supply↑
Supler↓	Supply↓

3.2 Law of Supply :-

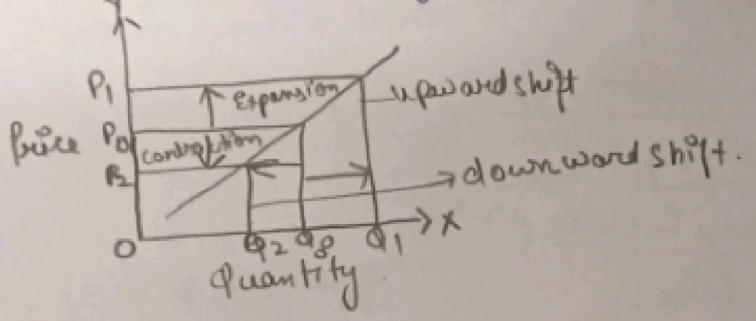
- Other things remaining constant, the quantity of a good produced and offered for sale will increase as the price of the good rises and decreases as the price falls.
- The supply curve slopes upwards towards right [positive slope].



- Showing the direct relationship between price and quantity supplied.

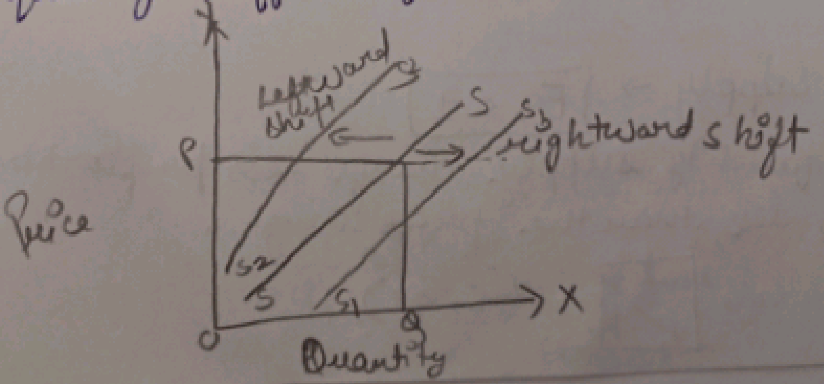
3.3 Movements on the Supply Curve – Increase or Decrease in the Quantity Supplied

- When the supply of a good increase as a result of an increase in its price, that is called increase in the quantity supplied, and there will be upward movement on the supply curve.
- A rise in market price causes an expansion of supply → i.e. there will be upward movement on the supply curve and producers offer more for sale.
- A fall in market price causes an contraction of supply → i.e. there will be downward movement on the supply curve and produce will sale less items.



3.4 Shifts in Supply Curve – Increase or decrease in supply :-

- While a change in quantity supplied is a movement along a given supply curve, a change in supply is a shift of the supply curve.
- When the supply curve bodily shifts towards the right, as a result of a change in one of the factors that influence the quantity supplied other than the commodity's own price, → is known as increase in supply.
- When the supply curve shifts to the right, more is offered for sale at the same price.
- When the supply curve shifts to the left, we call it as decrease in supply.
- Less quantity is offered for sale at the same price.



3.5 Elasticity of supply :-

- The elasticity of supply is defined as the responsiveness of the quantity supplied of a good to a change in its price.
- Elasticity of supply is measured by dividing the percentage change in quantity supplied of a good by the percentage change in its price.

$$E_s = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price.}}$$

$$= \frac{\frac{\text{change in quantity supplied}}{\text{Quantity supplied}}}{\frac{\text{Change in price}}{\text{Price.}}}$$

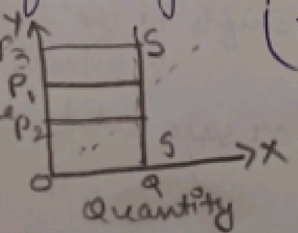
$$\Rightarrow \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} \Rightarrow \frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$$

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

* Types of Supply Elasticity :-

(i) Perfectly inelastic supply → $\boxed{E_s = 0}$

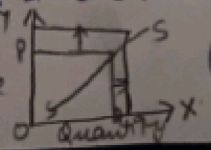
- when the price changes, but quantity supplied remains unchanged.
- Supply curve is flatten.



$(E_s = 0)$

(ii) Relatively less elastic supply → $\boxed{E_s < 1}$

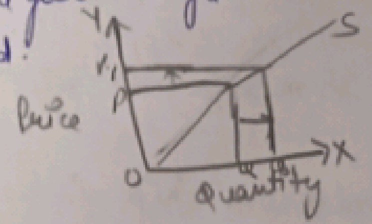
- When the price changes, quantity supply changes less proportionately, means quantity supplied is less than the price change.



$(E_s < 1)$

(iii) Relative greater - elastic supply → $\boxed{E_s > 1}$

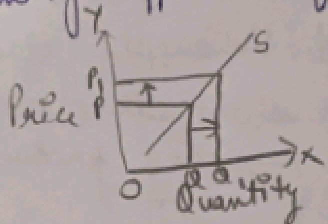
- If elasticity of supply is greater than one.
- When the quantity supplied of a good changes substantially in response to a small change in the price of the good.



$(E_s > 1)$

(iv) Unit Elastic → $\boxed{E_s = 1}$.

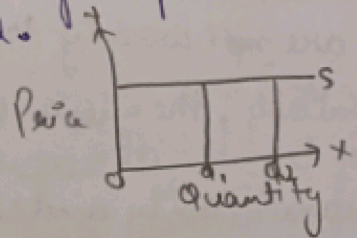
- When the change in quantity supplied is equal to the change in price.



$(E_s = 1)$

(v) Perfectly Elastic Supply → $\boxed{E_s = \infty}$.

- Elasticity of supply is said to be infinite or perfectly elastic when ~~nothing~~ small change in price results in an infinitely large change in quantity supplied.



$(E_s = \infty)$

3.5.1 Measurement of supply - elasticity:-

(i) Point Elasticity ⇒ When elasticity is measured at a given point on the supply curve, known as point elasticity.

$$E_s = \frac{dp}{dq} \times \frac{p}{q}$$

(ii) Arc Elasticity ⇒ Elasticity of supply between two prices can be found out.

$$E_s = \frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1}$$

3.5.2 Determinants of Elasticity of Supply :-

① • If increase in production causes substantial increase in costs, producers will have less incentive to increase quantity supplied in response to increase in price and therefore, price elasticity of supply would be less.

• If there are constant costs or negligible rise in costs as output increases, supply will be elastic.

• Ex ⇒ Supply of aircrafts and cruise ships is less elastic compared to supply of motor bikes.

② • The longer the period of time, the more responsive the quantity supplied to changes in price and the greater the supply 'elasticity'.

• A shorter time period does not allow sellers sufficient time to find resources and other decision regarding production, so the supply will be inelastic or less elastic.

③ • Supply is more elastic when there is large number of producers and there is high degree of competition among them and vice-versa.

④ • Supply will be elastic if firms are not working to full capacity.

• The greater the spare capacity available, the greater will be the elasticity.

⑤ • If key raw materials and inputs are easily and cheaply available, then supply will be elastic.

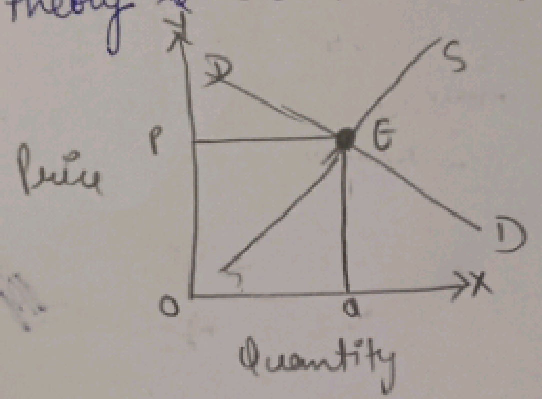
• In case, it is difficult to procure resources economically then the production costs increases and the supply will be less elastic.

⑥ • Expectation about future prices also affect elasticity of supply.

• Expectation of substantial rise in prices in future will make the sellers respond less to a current rise in price.

3.6 Equilibrium Price :-

- The equilibrium price in a market is determined by the intersection between demand and supply. It is also called the market equilibrium.
- At this price, the amount that the ~~buy~~ buyers want to buy is equal to the amount that sellers want to sell.
- The competitive market equilibrium represents the 'Unique' point at which both consumers and suppliers are satisfied with price and quantity.
- Equilibrium price is also known as market clearing price.
- Micro economy theory is also known as price theory.



3.6.1 Market Equilibrium and Social Efficiency :-

- Social efficiency represents the net gains to society from all exchanges that are made in a particular market.
- Two components
  - Consumer surplus
  - Producer surplus