CHAPTER – 2 : Theory of Demand and Supply

Unit -3 Supply

(i)   Supply refers to what a firm offer for sale in the market, not necessarily to what they succeed in selling. What is offered may not get sold.

(ii)   Supply is a flow.

■ **Determinants of Supply (ONE NSG PPP)**

(i)   Price of the good:

(ii)   Prices of related goods:

(iii)   Prices of factors of production:

(iv)   State of technology:

(v)   Government Policy:

(vi)   Nature of competition and size of industry:

(vii)   Expectations:

(viii) Number of sellers:

•   **Other Factors:** The quantity supplied of a good also depends upon government's industrial and foreign policies, goals of the firm, infrastructural facilities, natural factors such as weather, floods, earthquake and man-made factors such as war, labour strikes, communal riots etc.

1.   **Price of own Good**

$P\uparrow \rightarrow S\uparrow$ Direct / positive relation

$P\uparrow \rightarrow S\downarrow$

2.   **Price of Related Goods**

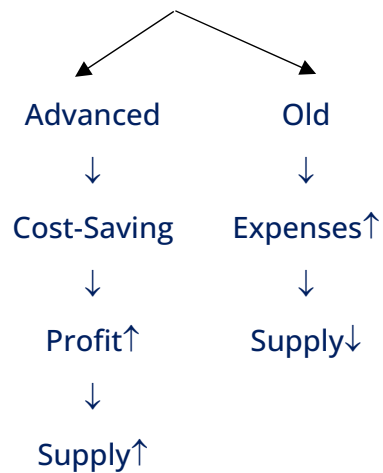$P_Y\uparrow \rightarrow S_X\downarrow$

$P_Y\downarrow \rightarrow S_X\uparrow$

3.   **Price of factors of Production**

Price of input $\uparrow \rightarrow$ Production cost $\uparrow \rightarrow$ Profit Margin $\downarrow \rightarrow$ Supply $\downarrow$

4. **State of Technology**

```
                    State of Technology
                   /                  \
              Advanced                Old
                 ↓                     ↓
            Cost-Saving            Expenses↑
                 ↓                     ↓
             Profit↑               Supply↓
                 ↓
             Supply↑
```

5. **Number of Sellers**

No. of Sellers↑ ⟶ Supply ↑

6. **Expectations:** An increase in the anticipated future price of a good or service reduces its supply today; and if sellers expect a fall in prices in future, more will be supplied now.

7. **Nature of competition and size of industry:** Under competitive conditions, supply will be more than that under monopolized conditions.

8. **Govt. Policy:**

Tax↑ → S↓   Tax↓ → S↑

Subsidy↑ → S↑

Restriction → Import Quota – Limit - S↓

■ **The Law of Supply:**

P↑ → S↑

P↓ → S↓

This law states that, if other factors are same, (Ceteris Paribus) then there is direct relationship b/w Price of the good and Qty. Supplied.
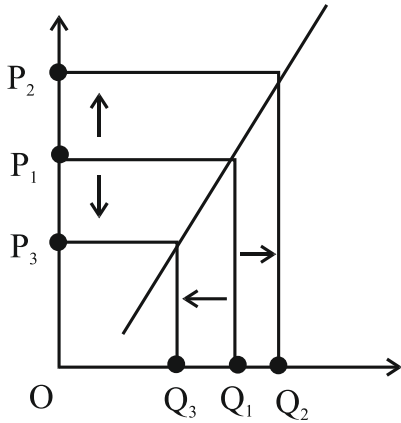
P↑ → S↑

P↓ → S↓

■ **Supply Curve**

- Upward slopping
- Positivity sloped
- Slope $= \frac{\Delta P}{\Delta Q}$

Movement on SS-Curve OR Change in Qty. Supplied

P↑ S↑	P↓ S↓
Expansion of SS	Contraction of SS↓ in Qty. Supplied
OR	OR
↑ In Qty. supplied	Downward movement along SS-Curve
OR	
Upward movement	

P	Q S
10	100
20	200
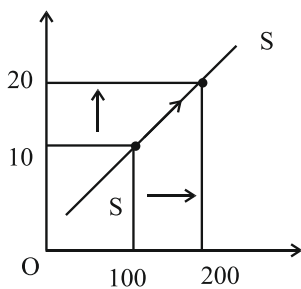
P	Q S
10	100
5	50
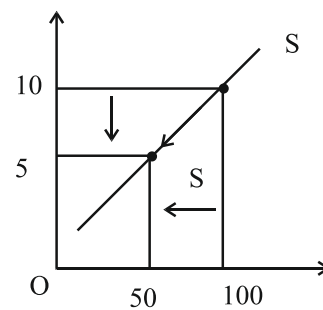
↑ in Qty. SS due to ↑ in P is called Expansion of SS.

↓ in Qty. SS due to ↓ in Price is called contraction of SS.

Shift in SS-Curve OR Change in Supply

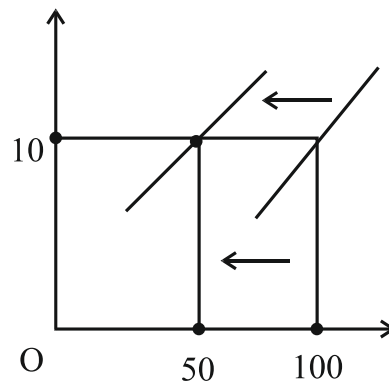
Increase in SS

OR

Rightward shift

P	Q S
10	100
20	200
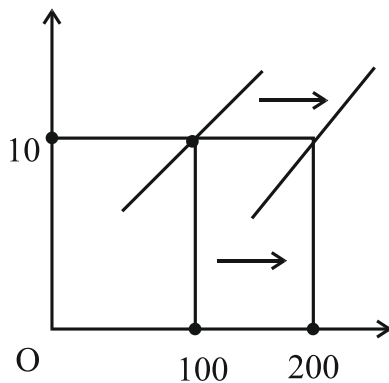
Decrease in Supply

OR

Leftward shift

P	Q S
10	100
5	50

■ **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 i.e.,

$$Es = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in Price}}$$

OR

$$Es = \frac{\dfrac{\text{Change in quantity supplied}}{\text{quantity supplied}}}{\dfrac{\text{Change in price}}{\text{Price}}}$$

OR

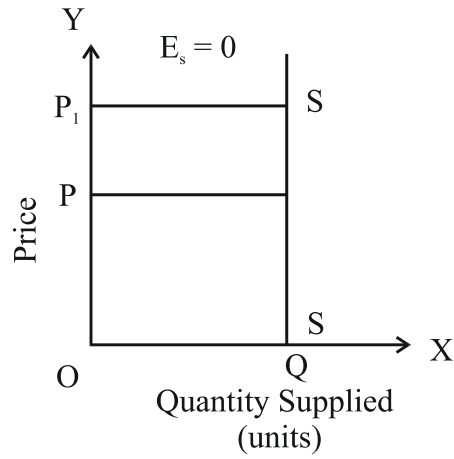$$Es = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

■ **Methods of Calculating Elasticity of Supply**

(1) The Percentage or Ratio or Proportional Method,
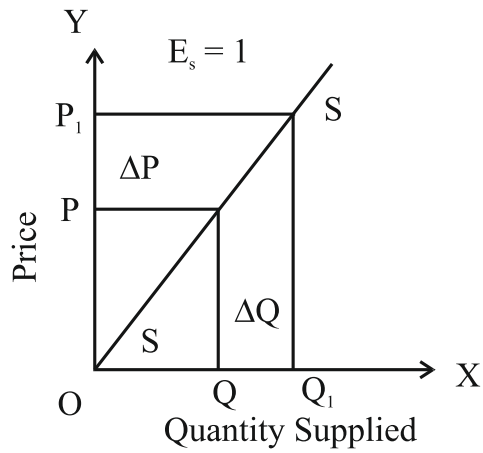(2) Point Elasticity
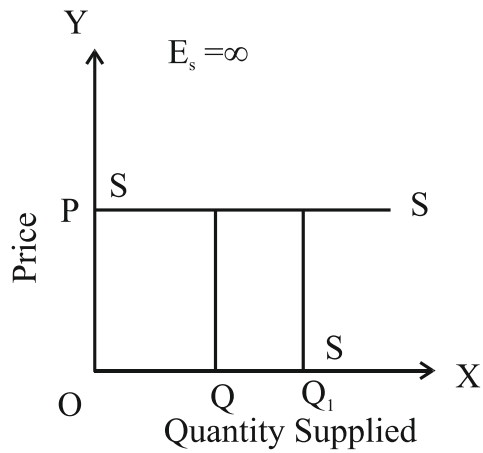(3) The Arc Method

- **Types of Supply Elasticity**
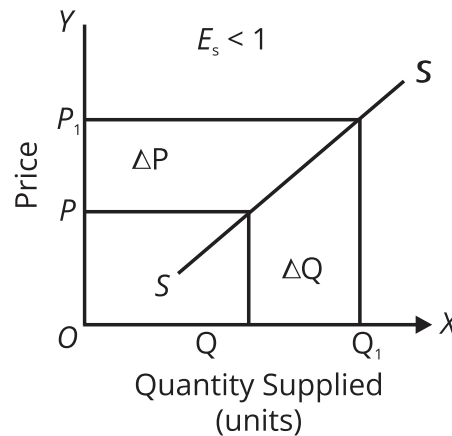 1. **Perfectly inelastic supply:**

  2. **Unit-elastic supply**

  3. **Perfectly elastic supply**

4. Relatively less - elastic supply

Quantity Supplied
(units)

5. Relatively greater elastic supply

Quantity Supplied
(units)
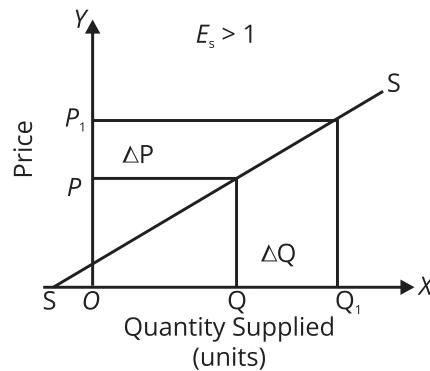
- **Point-elasticity:** Just as in demand, point-elasticity can be measured with the help of the following formula:

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

- **Arc-Elasticity:** Arc-elasticity i.e. elasticity of supply between two prices can be found out with the help of the following formula:

$$Es = \frac{q_1 - q_2}{q_1 + q_2} \div \frac{p_1 - p_2}{p_1 + p_2} \text{ Or } Es = \frac{q_1 - q_2}{q_1 + q_2} \times \frac{p_1 + p_2}{p_1 - p_2}$$

Methods of Measuring Elasticity of Supply		
Percentage Method	Point Method	Arc Method
$Es = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$	$\frac{dQ}{dP} \times \frac{P}{Q}$	$\frac{Q2 - Q1}{Q2 + Q1} \times \frac{P2 + P1}{P2 - P1}$

■ Determinants of Elasticity of Supply

1	Increase in Production → substantial cost increase → Profit decrease	Inelastic Supply
	Increase in Production → negligible rise in cost or constant cost	Elastic Supply
	Complex production process → require long process time to produce (Eg-aircraft, cruise ship)	Inelastic Supply
2	If after increase in price → short time period	Inelastic Supply
	If after increase in price → long time period → build new plants or new firms	Elastic Supply
3	More no. of sellers → More competition → Fewer barriers to entry	Elastic Supply
4	Not working on full capacity more → spare capacity	
5	Key raw material → easily & cheaply available	
	Procuring resources is difficult or costly	Inelastic Supply
6	Raw material & finished goods → easily & cheaply stored → have adequate stock	Elastic Supply
7	Sellers expect → rise in future price	Inelastic Supply
8	Inputs → Short in supply → require longer delivery period → highly specialized nature	
9	Labour → highly skilled → scarce → require long longer training period	
10	Capital & labour → occupationally mobile	Elastic Supply
	Products continuously produced	
	Products infrequently produced	Inelastic Supply

■ 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 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 called market clearing price.

• The determination of market price is the central theme of micro economic analysis. Hence, micro-economic theory is also called price theory

Price	Demand	Supply	Impact/Pressure On Price
5	50	10	Downward
4	40	20	Downward
3	30	30	Equilibrium
2	20	40	Upward
1	10	50	Upward
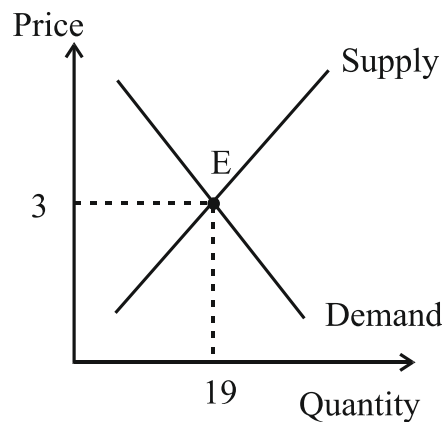
■ Market Equilibrium and Social Efficiency
- Social efficiency represents the net gains to society from all exchanges that are made in a particular market. It consists of two components: consumer surplus and producer surplus.
- consumer surplus is a measure of consumer welfare whereas Producer surplus is the benefit derived by producers from the sale of a unit above and beyond their cost of producing that unit.
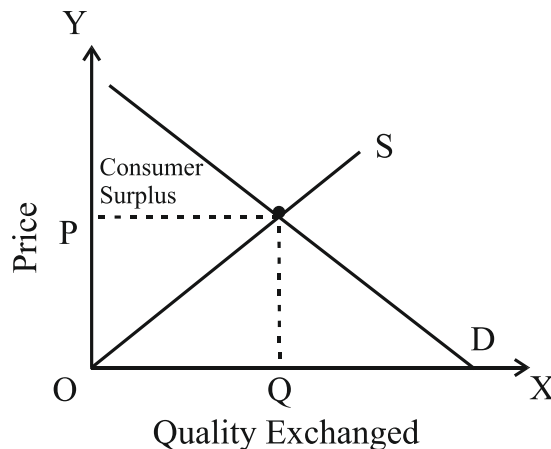
- Producer surplus can be calculated as the area above the supply curve and below the market price.
- It represents the additional revenue or profit that producers gain when the market price exceeds their production costs.