Lesson – 20
Price Elasticity of Supply

Summary

The law of supply states that there is a direct relationship between the quantity supplied and the price of a commodity. To point out, this is a very qualitative statement. However, markets for different commodities differ in ways we can't even imagine. Interestingly, the concept of elasticity of supply handles all this with ease. The elasticity of supply establishes a quantitative relationship between the supply of a commodity and it's price. Hence, we can express the numeral change in supply with the change in the price of a commodity using the concept of elasticity. Note that elasticity can also be calculated with respect to the other determinants of supply. Now let us discuss various concepts comprehensively.

MEANING OF PRICE ELASTICITY OF SUPPLY

Definition

Price elasticity of supply measures the degree of responsiveness of quantity supplied of a commodity to change in its price. But the problem is that all the commodities do not respond in the same way to change in price. Some commodities are more responsive to change in price than others.

In other words, price elasticity of supply of a commodity is defined as the ratio between percentage change in quantity supplied and percentage change in its price.

Formula for Price Elasticity of Supply

Price Elasticity of Supply (e_s)

$$= \frac{\%Change\ in\ quantity\ supplied}{\%change\ in\ price}$$

DEGREES OF PRICE ELASTICITY OF SUPPLY

- Perfectly Inelastic Supply
- Less than Unitary Elastic Supply
- Unitary Elastic Supply
- More than Unitary Elastic Supply
- Perfectly Elastic Supply

Tabular and Graphical Presentation

Perfectly Inelastic Supply

Price per Dozen(Rs.)	Quantity Supplied (Dozen)
10	50
20	50
30	50
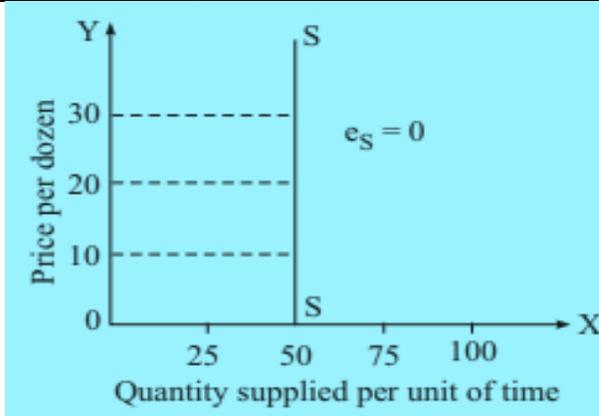
Less than Unitary Elastic Supply

Price per kg(Rs.)	Quantity Supplied (Quintals)
20	100
40	150
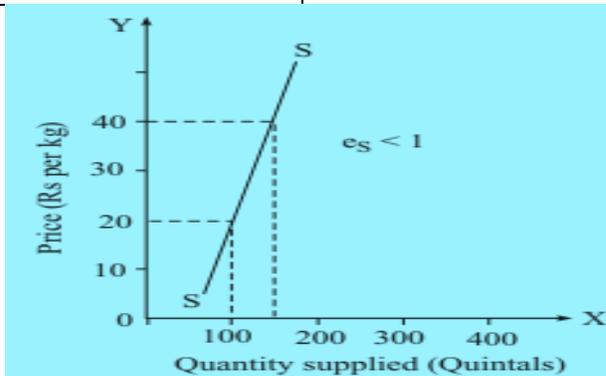
Unitary elastic supply (es = 1)

Price per unit (Rs.`)	Quantity supplied (Quintals)
10	20
20	40
30	60
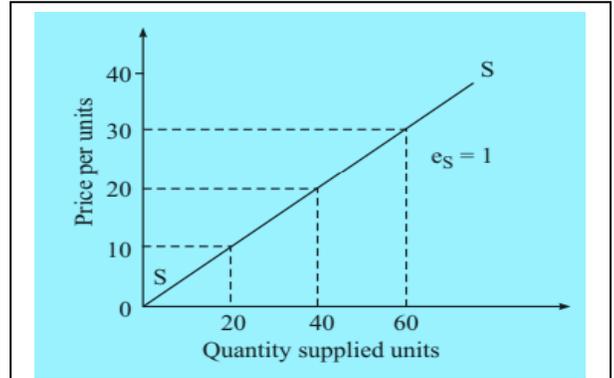
More than unit elastic supply (es > 1)

Price per kg(Rs.)	Quantity Supplied (Quintals)
10	20
20	50
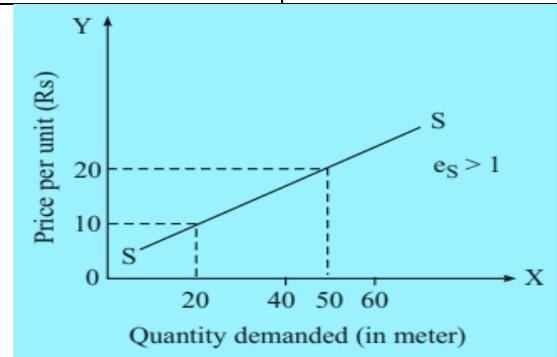
Perfectly elastic supply (es = α)

Price per kg(Rs.)	Quantity Supplied (Quintals)
10	10
10	20
10	30
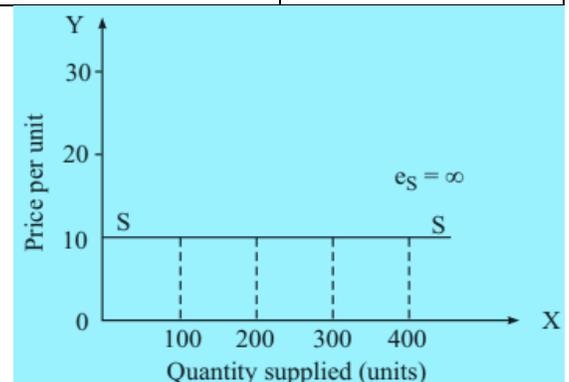
Measurement of Price Elasticity of Supply

- Percentage or proportionate Method
- Geometric Method

Percentage or proportionate Method

$$e_s = \frac{\% \text{ change in quantity}}{\% \text{ change in price}}$$

Or

$$e_s = \frac{\Delta Q}{\Delta P} + \frac{P}{Q}$$

Where, $\Delta Q = $ Change in quantity

$\Delta P = $ Change in Price

$Q = $ Original quantity

$P = $ Orignal price

Geometric Method

Under this method we can calculate price elasticity of supply at a given point on the supply curve with the help of the following method. To measure price elasticity of supply at a point we extend the supply curve so that it meets the x-axis at its negative range, positive range or exactly at the point of origin. For this purpose we use the following formula –

$$e_s = \frac{BQ (horizontal\ axis)}{OQ (quantity\ supplied)}$$

More than unitary Elastic Supply
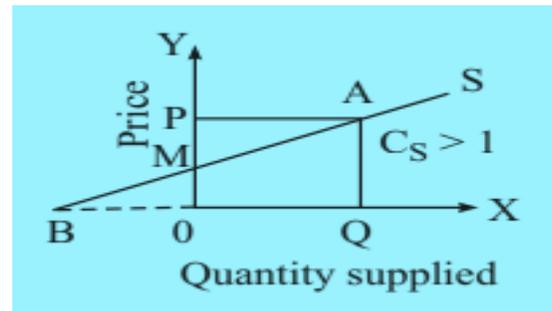
$$e_s = \frac{BQ}{OQ} > 1 \text{ because } BQ > OQ$$

QUnitary Elastic Supply
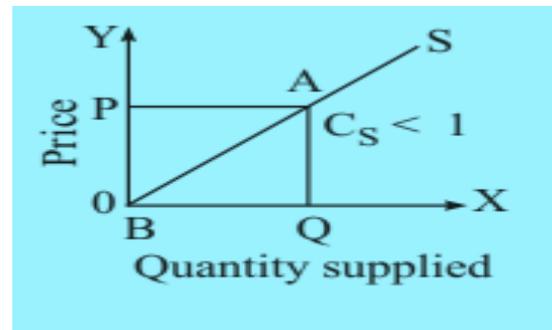
$$e_s = \frac{BQ}{OQ} = 1 \text{ because } BQ = OQ$$

Less than unitary Elastic Supply
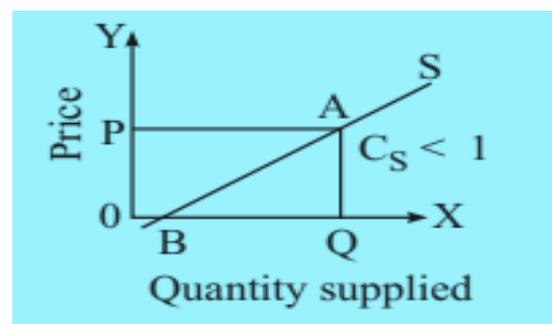
$$e_s = \frac{BQ}{OQ} < 1, because\ BQ < OQ$$

FACTORS INFLUENCING ELASTICITY OF SUPPLY

Nature of Commodity

Time Period

Elasticity of Supply

Nature of Goods

Cost of Production
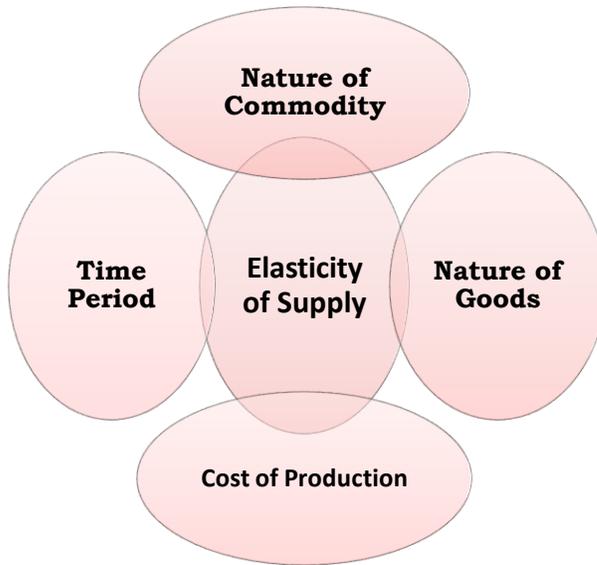
Evaluate Yourself

Q. Define elasticity of supply.

Q. Draw diagram for following situation –

A) perfectly Inelastic Supply

B) Perfectly Elastic Supply

C) Unitary Elastic Supply

Q. Mention Four Factors which affects elasticity of Supply.

Q. Explain geometric method for calculating elasticity of supply.