MICRO ECONOMICS

B.A PART 1

PAPER 1

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Elasticity of Supply:
Meaning,
Types

Meaning of Elasticity of Supply:

The law of supply indicates the direction of change—if price goes up, supply will increase. But how much supply will rise in response to an increase in price cannot be known from the law of supply. To quantify such change we require the concept of elasticity of supply that measures the extent of quantities supplied in response to a change in price.

Elasticity of supply measures the degree of responsiveness of quantity supplied to a change in own price of the commodity. It is also defined as the percentage change in quantity supplied divided by percentage change in price.

It can be calculated by using the following formula:

E_s = % change in quantity supplied/% change in price

Symbolically,

$$E_s = \Delta Q/Q \div \Delta P/P = \Delta Q/\Delta P \times P/Q$$

Since price and quantity supplied, in usual cases, move in the same direction, the coefficient of E_s is positive.

Types of Elasticity of Supply:

For all the commodities, the value of E_s cannot be uniform. For some commodities, the value may be greater than or less than one.

Like elasticity of demand, there are five cases of E_s:

(a) Elastic Supply (E_s>1):

Supply is said to be elastic when a given percentage change in price leads to a larger change in quantity supplied. Under this situation, the numerical value of E_s will be greater than one but less than infinity. SS_1 curve of Fig. 4.17 exhibits elastic supply. Here quantity supplied changes by a larger magnitude than does price.

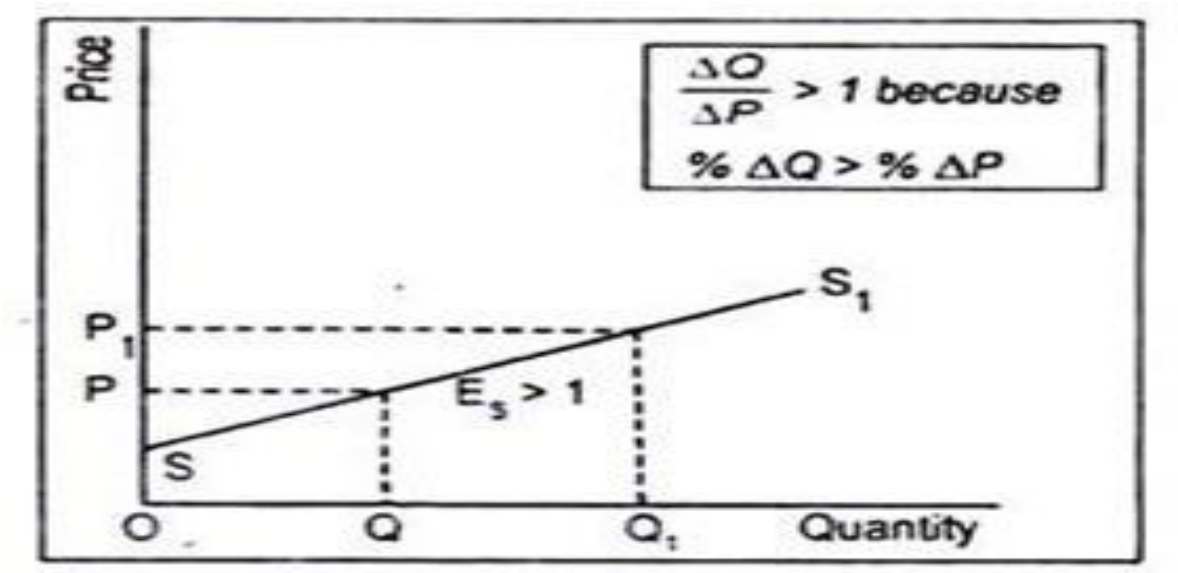

Fig. 4.17: $E_s > 1$

(b) Inelastic Supply (E_s< 1):

Supply is said to be inelastic when a given percentage change in price causes a smaller change in quantity supplied. Here the numerical value of elasticity of supply is greater than zero but less than one. Fig. 4.18 depicts inelastic supply curve where quantity supplied changes by a smaller percentage than does price.

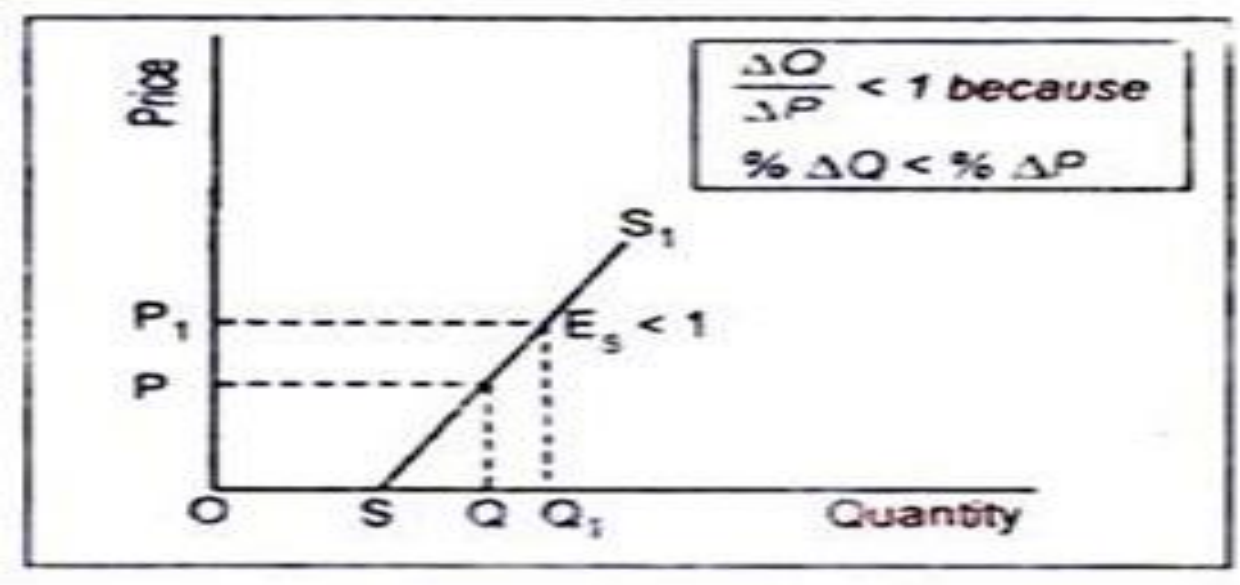

Fig. 4.18: $E_s < 1$

(c) Unit Elasticity of Supply ($E_s = 1$):

If price and quantity supplied change by the same magnitude, then we have unit elasticity of supply. Any straight line supply Curve passing through the origin, such as the one shown in Fig. 4.19, has an elasticity of supply equal to 1. This can be verified in this way.

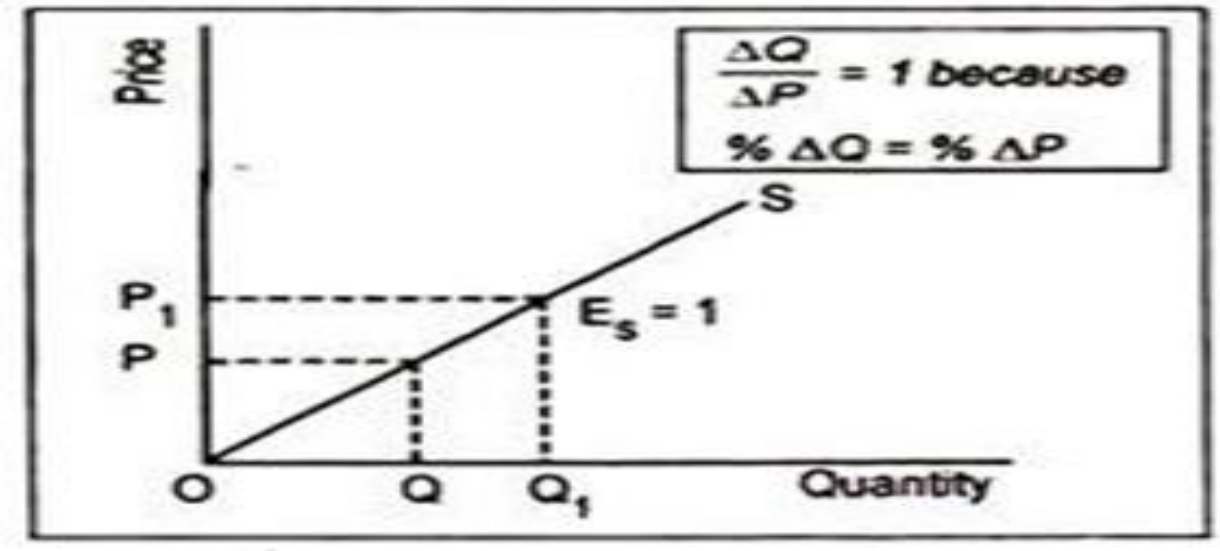

Fig. 4.19: $E_S = 1$

For any straight line positively-sloped supply curve drawn through the origin, the ratio of P/Q at any point on the supply curve is equal to the ratio Δ P/Δ Q. Note

that Δ P/Δ Q is the slope of the supply curve while elasticity is (1/ΔP/ΔQ = ΔQ/ΔP).Thus, in the formula (ΔQ/ΔP. P/Q), the two ratios cancel out each other.

(d) Perfectly Elastic Supply ($E_s = \infty$):

The numerical value of elasticity of supply, in exceptional cases, may reach up to infinity. The supply curve PS_1 drawn in Fig. 4.20 has an elasticity of supply equal to infinity. Here the supply curve has been drawn parallel to the horizontal axis. The economic interpretation of this supply curve is that an unlimited quantity will be offered for sale at the price OS. If price slightly drops down below OS, nothing will be supplied.

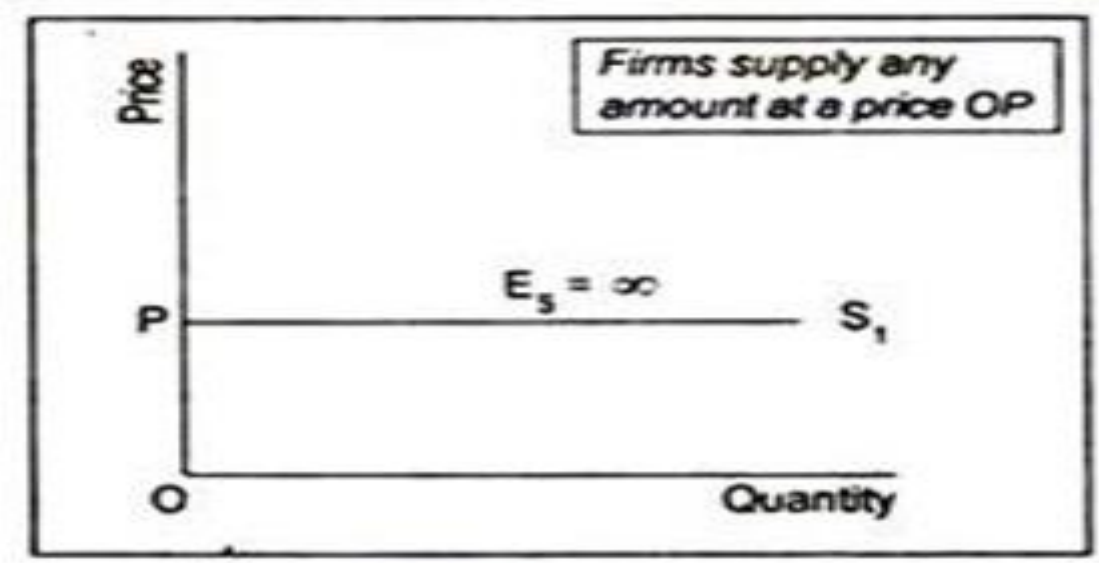

Fig. 4.20: $E_s = \infty$

(e) Perfectly Inelastic Supply ($E_s = 0$):

Another extreme is the completely or perfectly inelastic supply or zero elasticity. SS_1 curve drawn in Fig. 4.21 illustrates the case of zero elasticity. This curve describes that whatever the price of the commodity, it may even be zero, quantity supplied remains unchanged at OQ. This sort of supply curve is conceived when we consider the supply curve of land from the viewpoint of a country, or the world as a whole.

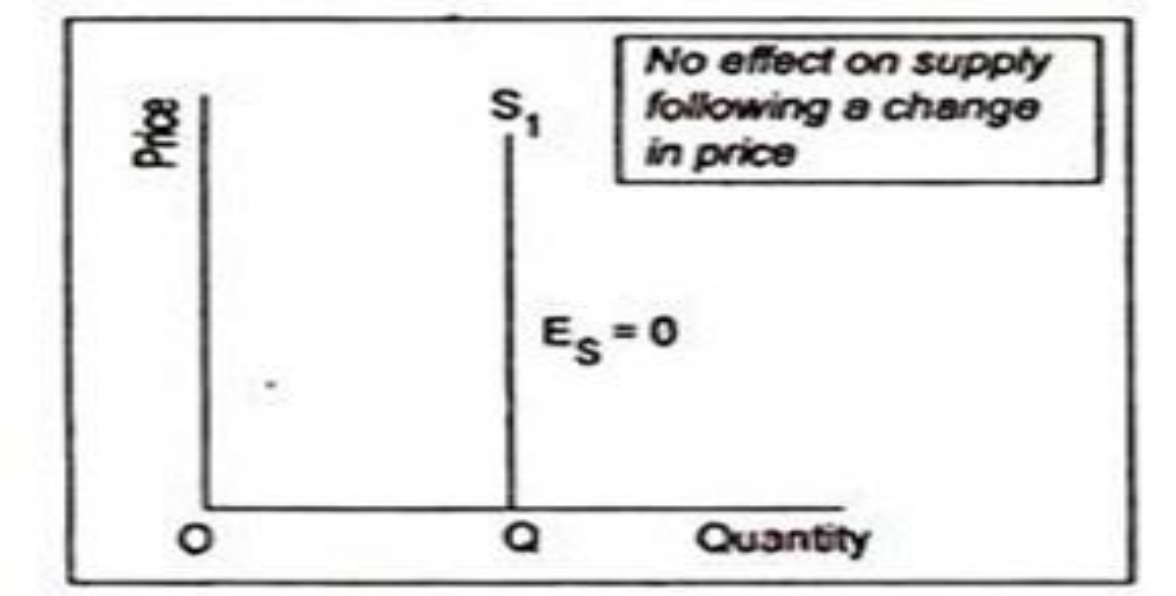

Fig. 4.21: $E_S = 0$

One important point to note here. Any straight line supply curve that intersects the vertical axis above the origin has an elasticity of supply greater than one (Fig. 4.17). Elasticity of supply will be less than one if the straight line supply curve cuts the horizontal axis on any point to the right of the origin, i.e. the quantity axis (Fig. 4.18).

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