

Market and Price Determination under Perfect Competition

9.1 INTRODUCTION

Market; Its classification: In ordinary language, the word market implies a particular place where the buyers and sellers assemble. In other words, an area, large or small, can be considered as a market where buyers and sellers are in easy contact with one another. The term thus indicates a geographical location. In economic jargon, however, market implies a contact either direct or indirect between buyers and sellers. Thus, **market is a network of dealings between buyers and sellers.**

With the development of communications and banking, the markets have widened and dealings in some commodities are now world-wide. Therefore, the essential feature of a market is that buyers should be able to strike bargains with sellers. According to **Wicksteed, "Thus market is the characteristic phenomenon of economic life and the constitution of markets and market prices is the central problem of Economics"**.

Broadly, markets may be classified on the basis of area as local, national and world markets. But, the classification relevant for our purpose is based on the

extent of competition prevailing in the market. Accordingly, there are **perfect** markets and **imperfect** markets. The essential characteristic of perfect market is the prevalence of uniform price for the commodity. On the other hand, different prices prevail for the product in imperfect markets.

Imperfect competition may have several forms, e.g. monopoly, duopoly, oligopoly and monopolistic competition.

Thus, markets are classified on the basis of number of sellers, nature of the product, degrees of competition etc.

9.2 PERFECT COMPETITION

Perfect competition is said to exist when the market possesses following characteristics or fulfils the conditions mentioned below:

a) **A large Number of Buyers and Sellers:** The fundamental condition of perfect competition is that there must be a large number of sellers or firms. The total number of sellers is so large that no individual seller is in a position to influence the price of the product in the market. In other words, the individual seller's decision to raise or lower the supply will have an

insignificant effect on the market price, because each one is selling a small portion of the total output. Therefore, Each Seller is just a Pricetaker and not a Price-Maker.

b) **Homogeneous Commodity:** This is the second fundamental condition of a perfect market. The products of all firms in the industry are homogeneous and identical. In other words, they are perfect substitutes for one another. There are no trade marks, patents etc. to distinguish the product of one seller from that of another. Under perfect competition, the control over price is completely eliminated because all firms produce homogeneous commodities. This condition ensures that the same price prevails in the market for the same commodity.

The two basic features, viz. large number of firms and homogeneous product make the demand perfectly elastic for an individual firm. As a result of this, the demand curve (i.e. AR curve) facing an individual firm becomes a horizontal straight line and MR curve coincides with AR curve. (Refer Chapter 10.)

c) **Free Entry and Free Exit:** Under perfect competition, there is complete freedom of entry for new firms and of exit for the existing firms. However, in short period, neither the new firms can enter nor the existing firms can leave the industry.

d) **Perfect Knowledge:** It is necessary to assume that the producers and consumers have full knowledge of the prevailing price. Hence, there is no

need for the sales promotion or to incur expenditure on advertisement in respect of their preferences for commodities.

e) **Perfect Mobility:** There is complete mobility of the factors of production from one firm to another, or from one industry to another or from one occupation to another.

f) **No transport costs:** Another important condition of perfect competition is that producers work sufficiently close to each other. In other words, the differences caused by transport costs do not exist.

Pure Competition and Perfect Competition

Economists like **Chamberlin** and others often make a distinction between **pure competition** and **perfect competition**. The term **Pure Competition** is used in a restricted sense. It is also known as **atomistic** competition. In order that competition be pure it requires the fulfillment of three conditions of perfect competition, namely, the existence of a large number of buyers and sellers, homogeneity of the product, and freedom of exit and entry. These conditions together mean that no individual firm can exert any influence over the market price.

But the term **perfect competition is a wider concept**, in the sense, that it includes the features of pure competition and some additional conditions, such as perfect knowledge on the part of buyers and sellers, perfect mobility of factors of production and absence of transport cost.

This means that, **perfect competition requires that there should be no imperfections in the market**. Such imperfections arise due to imperfect knowledge or immobility of the factors of production.

9.3 PRICE DETERMINATION UNDER PERFECT COMPETITION

The forces underlying the determination of price under Perfect Competition are **Demand** and **Supply**. The interaction of demand and supply determines the price of a commodity in the market. Marshall has compared the Process of price determination to the cutting of cloth with a pair of scissors. As two blades

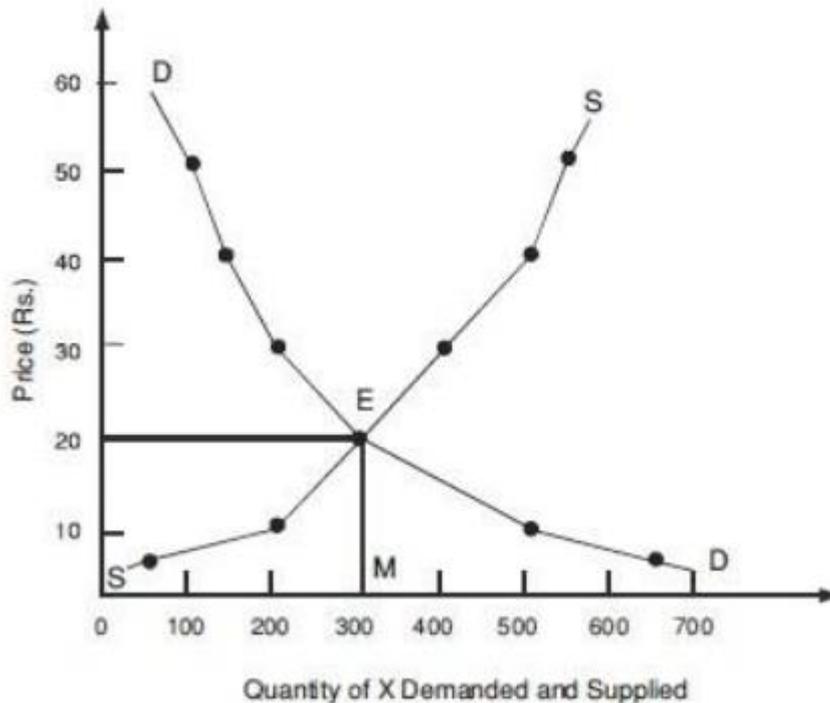
are required to cut the cloth; so the two blades – demand and supply – are required to determine the price in the market, no matter one may be more active than the other and more effective than the other, but the existence of both is indispensable.

Now, demand comes from the buyers and the supply from the sellers. The demand from the buyers can be shown by the Market Demand Schedule and the supply from the sellers can be shown by the Market Supply Schedule.

Demand and Supply Schedules

Price Per Unit of Commodity (Rs.)	Quantity demand per week Units	Quantity supplied per week Units
50	80	530
40	120	480
30	200	400
20	300	300
10	500	180
5	650	70

From the above market demand and supply schedules, it is convenient to plot points on the graph and derive the demand and supply curves



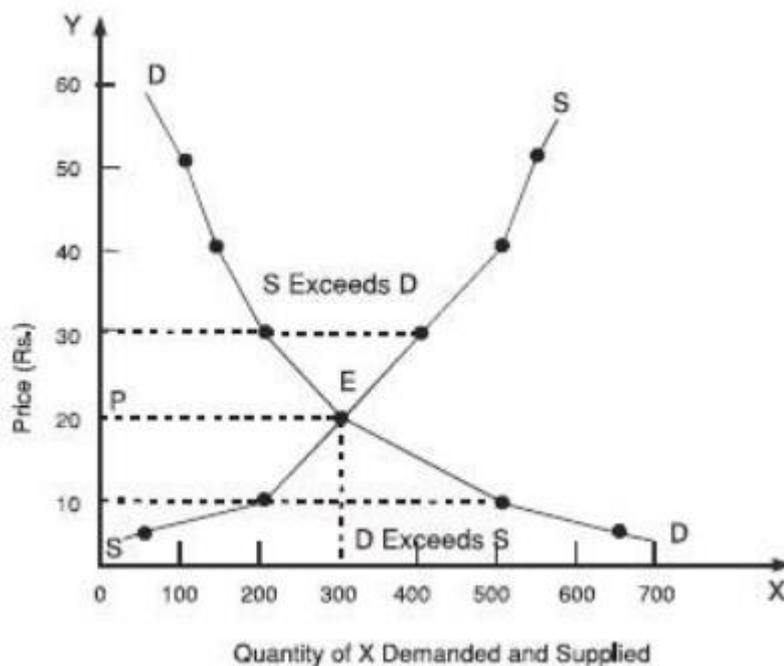
DD represents the demand curve and SS the supply curve. The two curves intersect at point E. This point of intersection is called the point of equilibrium – because it is **at point E that quantity demanded equals quantity supplied**, viz. 300 units. The possible level of price at which $Q^D = Q^S$ is Rs. 20/-. It is also called the **equilibrium price** or the market price, **because it is at this price that quantity demanded and quantity supplied are in equilibrium.**

At pt E, $Q^d_x = Q^s_x$ E is the point of equilibrium between Q^d_x and q^s_x and OP is the Equilibrium Price because for OP as the price $Q^d_x = Q^s_x$. **Thus, the price of commodity X in the market under perfect competition is fixed at the point of intersection of demand and supply curves.**

9.4 TENDENCY TOWARDS ONLY ONE PRICE

We may further note that **there exists the tendency towards prevalence of only one price for the**

commodity in the market under perfect competition. (Fig. 9.2). Let us assume that the price instead of being Rs. 20/- is Rs. 30/-. Then when the price is Rs. 30/-, the sellers are prepared to sell more. At Rs. 30/- as the price, supply is likely to expand to 400 units but at the same time, demand will contract to only 200 units. Thus, supply is in excess of demand when the price is Rs. 30/-. Sellers will compete with each other to dispose of their stock, and this will result in lowering of the price. Therefore, when supply is in the excess of demand, the price will start falling from Rs. 30/- to Rs. 20/- at which point the quantity demanded will equal quantity supplied and the original equilibrium point will be restored.



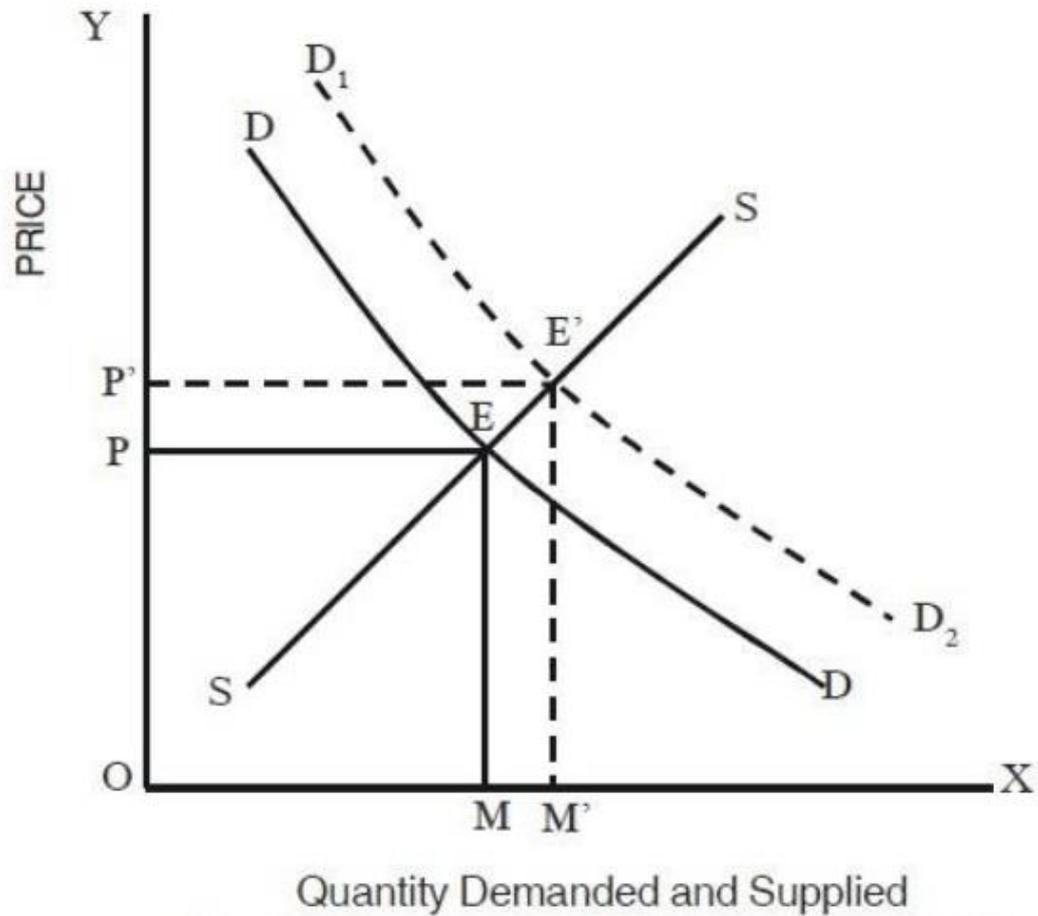
If the price were now to go below the original price, assuming the price to be Rs. 10/-, then at this price the buyers will demand more units of commodity X; the new

demand at price of Rs. 10/- will go up to 500 units, but the sellers will be less prepared to sell commodity X at this low price. The supply will shrink to only 180 units. Hence when the price falls to Rs. 10/- demand will exceed supply and there will be competition among the buyer to buy readily the units of commodity X because it is going cheap in the market. This competition will lead to the pushing up of the price. Now, the price will start rising till it becomes Rs. 20/-; and where quantity demanded and supplied of commodity X once again become equal. This tendency towards the prevalence of only one price is the acid test of perfect competition.

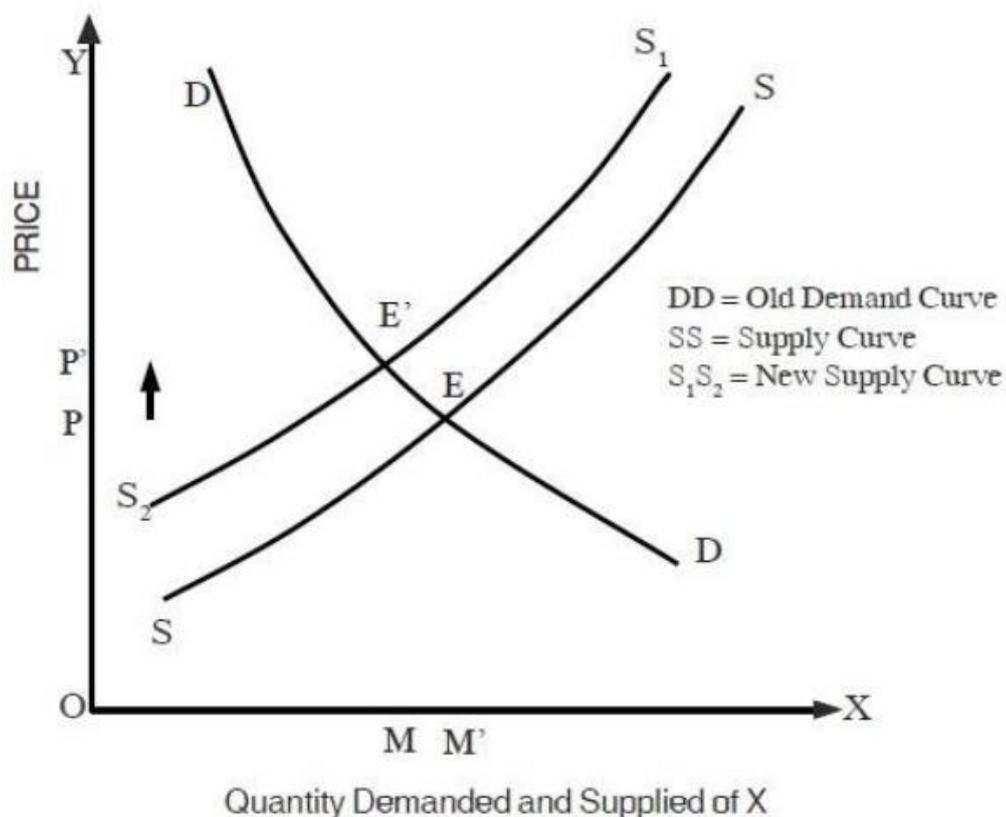
9.5 EFFECTS OF SHIFTS IN DEMAND AND SUPPLY ON THE PRICE LEVEL

Why does the price rise? The price rises in the market because of two theoretical conditions:

i) **When demand increases** i.e., when the demand curve shifts to the right (Fig. 9.3). Let us assumed that the original equilibrium point is E and OP is the original market price. Now when the demand increases, the demand curves shifts to the right and new



demand curve is D_1D_2 . This curve intersects the supply curve at point E' . Thus E' is the new equilibrium point and the new price is now OP' , which is higher than the original price OP , thereby showing that price rises when demand increases.

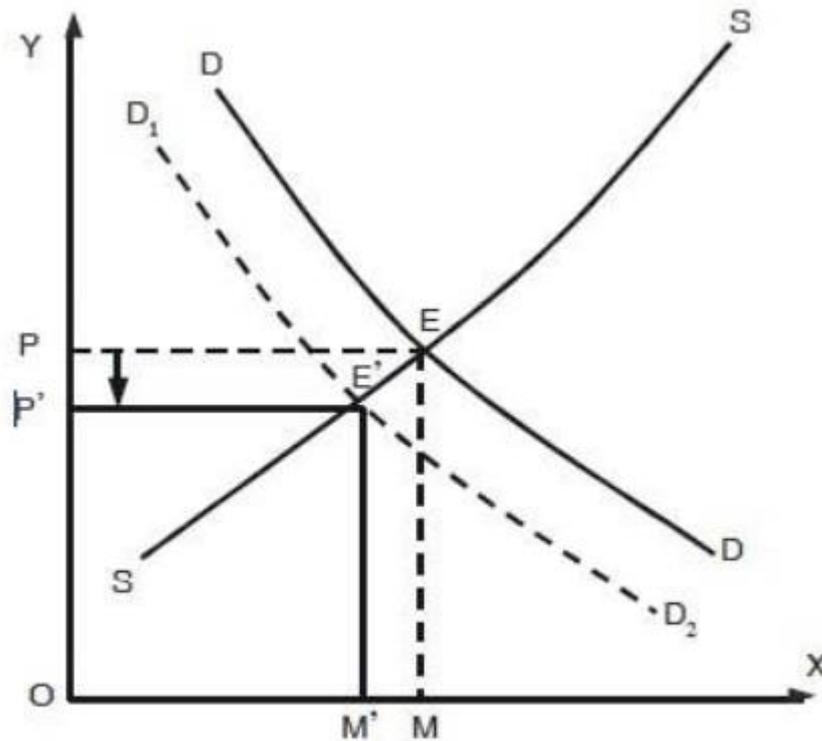


ii) **When supply decreases**, i.e. when the supply curve shifts to the left. (Fig. 9.4) Let us assume that E is the original point of equilibrium and OP is the original price level. Now when supply decreases, the supply curve shifts to the left and the new supply curve is S₁S₂. The new equilibrium points now becomes E' and the new price is OP', which is higher than the original price OP; thus when supply decreases, the price rises.

When will price fall?

The price will decline when:

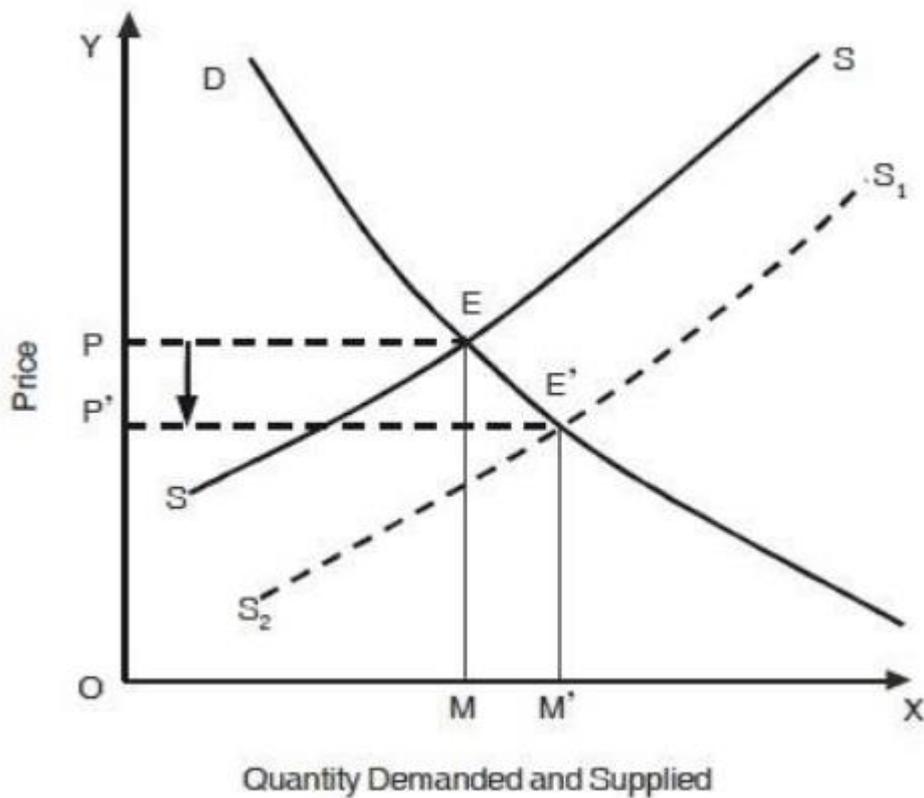
i) **The demand decreases**, i.e. when the demand curve shifts to the left.



Quantity Demanded and Supplied

Let us assume that E is the original point of equilibrium and OP is the original price level. Now when demand decreases the demand curve will shift to the left and D_1D_2 will be the new demand curve. E' will be the new equilibrium point and the new price will be OP' which is lower than the original price OP. Thus, when demand decreases, the price will.

ii) **The supply increases**, i.e. when SS curve shifts to the right.



Let us assume that E is the original point of equilibrium and OP is the original price level. Now, when the supply increases, the supply curve will shift to the right. The new supply curve will be S_1S_2 and the new point of equilibrium will be E' . The new price will now be OP' which is lower than the previous price OP . Thus, the price will decline when supply increases. Thus shifts in demand and supply curve will influence the price.

9.6 ROLE OF TIME ELEMENT IN THE THEORY OF PRICE

(Marshallian Four Period Analysis)

Marshall assigned considerable importance to the element of time in determination of price.

Depending upon the period of time, supply can adjust itself either partly or fully or not at all to

the change in demand, and will in turn influence the level of price. Hence Marshall has classified time period into four categories on the basis of the degree of responsiveness of the supply to adjust itself to changing market conditions.

i) **The very short period or the market period** is that period of time in which the supply is fixed or is perfectly inelastic. The very short period is so

short a period that **supply cannot adjust itself to the change in demand**, e.g. if the demand for fish, or milk, or any such commodity shoots up one fine morning, it would be difficult to increase their supply immediately to meet demand.

ii) **The short period** is that period in which the **supply can adjust itself only partly to the change in demand**; may be as a result of firms making full use of their plant capacity by varying the amounts of only variable factors.

The short period is not long enough to enable the firms to expand their plant capacities.

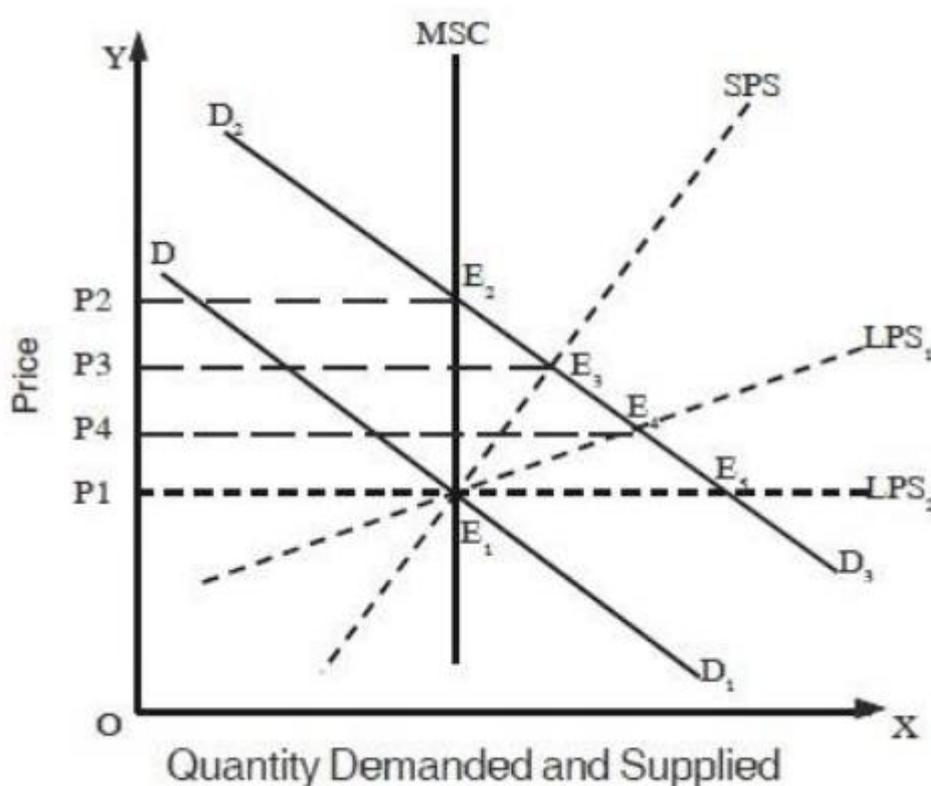
iii) **The long period** refers to that period of time in which the **supply can adjust itself more fully or even fully to the change in demand**. The supply becomes more elastic and at times even perfectly elastic. The long period is long enough to permit new firms to enter or the existing firms to expand.

iv) **The Very Long Period** is that period of time for which we cannot predict with any degree of accuracy as to what will happen to forces of demand and supply. In fact, Keynes once said 'in the very long period we are all dead'.

We shall therefore limit the role of time element while analyzing the price theory to the very short, short and long periods.

Let us assume that E_1 is the original point of equilibrium and OP_1 is the original price prevailing in the market. Now,

one day the demand for commodity X increases suddenly and the demand curve shifts to the right, the new demand curve being D_2D_3 ; but in the very short period supply will remain perfectly inelastic; shown by the Market Supply Curve (MSC); and the new equilibrium point will be E_2 and the new price will be OP_2 . This will be the **very short period price which is considerably above the original market price, because the supply is perfectly inelastic.**



However, **in the short period, supply will be able to adjust itself partly to the change in demand, and the new supply curve will be SPS; and the new equilibrium will be at a point E_3 and the new price will be OP_3 . The price in the short period is now lower than the price in the very short period; although it is above the original market price.**

In the long period, the supply will be able to adjust itself more fully or even fully to the change in the quantity demanded. There will thus be two possibilities : (a) the supply curve may become more elastic and the new supply curve will be LPS_1 ; the new equilibrium point will be E_4 and the new price will be OP_4 ; (b) the supply may become perfectly elastic and may fully adjust itself to the change in demand. In this case, the new supply curve may become horizontal (LPS_2), the new equilibrium point will be E_2 and the new price will become OP_5 , which has come back to the original price level. Thus, **depending on the period of time allowed to pass, the supply may partly, fully or not at all adjust itself to the change in demand and will influence the price.** This analysis highlights the role of time element in theory of price.