Price Determination under Perfect Competition

**NORMAL PRICE:**
According to Professor Marshall, Normal or Natural Price of a commodity is that which economic forces would tend to bring about in the long run. Professor Marshall referred the short-period normal price as Sub-Normal Price. Therefore, the normal price has been bifurcated into:

(a) Short-Period Normal Price  
(b) Long-Period Normal Price

(a) **Short-Period Normal Price:** Short period of time refers to the time which is not sufficient for supply to adjust itself to demand completely. Supply can be adjusted completely if there is enough time for the factors of production to vary in accordance with the increase or decrease in demand.

In short run, a firm is in equilibrium at the output at which price equals marginal costs. In short run, the fixed cost is not considered for decision-making. It is the average variable cost which is considered for determining whether to produce or not. If the price falls below the maximum average variable cost, then even in the short run, all the firms in the industry will shut down to minimise loses. Thus the minimum average variable cost is the minimum limit to the price. The short-run supply curve of the industry is the lateral summation of the all the marginal cost curves of the firms. The short-run supply curve of the industry slopes upward from left to right.

In the above diagram, the short period supply curve is divided into two: short-run supply curve (SRS) and market period supply curve (MPS). In the above diagram, it is depicted that in the market period, if the demand increases from DD to D'D’, the market price will rise sharply from OP to OK, while the supply will remain unchanged at OM or MPS. However, in the short-run, the increased demand will also increase the production by making intensive use of the fixed capital equipment and increasing the amount of variable factors. It should be remembered that in the short-run the fixed capital or the fixed costs couldn’t be increased or decreased. While in the market period, neither fixed costs nor variable costs can be varied. The market period is referred to a very short period. Therefore, the supply curve of the market period is a straight vertical line and the supply curve of a short period is upward sloping curve from left to right. If the demand
increases from DD to D’D’, the price will decrease from OK to OR and the supply will increase from OM to OM’ in the short period.

Now if there is a decrease in demand from DD to D”D”, the market price will fall sharply from OP to OL, the supply of commodity remaining the same. But in the short run, firms will contract output by diminishing the variable factors and as a result the quantity supplied will fall. The short-run normal price will be OT. At price OT firms would be incurring losses. Price cannot fall below OD, since at price below D, firms would not produce any amount of the commodity and the quantity supplied will be zero.

(b) Long-Period Normal Price: In the long run, every cost is variable cost. In this period, all costs ever incurred by the firm must be recovered. Price, in the long run, or normal price under perfect competition, therefore, must be equal to the minimum long-run average cost. A firm under perfect competition is in long-run equilibrium at the output where price = MC = minimum LAC.

If the price is above the minimum long-run average cost (LAC), the firms will be making ‘super-normal profits’. Therefore, new firms will enter the industry to compete away these extra profits and the price will fall to the level where it is equal to the minimum LAC, where the firms are making ‘normal profits’. If the price is below the minimum long-run average cost (LAC), the firms will be making ‘losses’. Therefore, some of the existing firms will exit from the industry to avoid losses and the price will rise to the level where it is equal to the minimum LAC or at the normal price.

(i) Long-run Normal Price in Increasing-cost Industry: In increasing-cost industry, due to certain external diseconomies brings about an upward shift in the cost curves of all firms. The increasing cost industry is the most typical of the actual competitive world. The following are the diagrams showing normal price in an increasing-cost industry:
Suppose that there is a sudden and once-for-all increase in demand from DD to D’D’. In the *market period* or the very short period, the firms can sell only what they have already produced. The total amount supplied will remain unchanged at output OM. Thus, as a result of increase in demand from DD to D’D’, the market price will rise sharply from OP to OP’. In the *short period*, however, the firms will increase output along the short run marginal cost curve. Therefore, the price in the short run will fall to the level OP” at which the new demand curve D’D’ intersects the short-run supply curve SRS, which is the lateral summation of the short-run marginal cost curves of the firms. The total amount supplied will be increased to OM’ at price OP”. In this short-run equilibrium position, firms would be having abnormal profits. Lured by these super-normal profits, new firms will enter into the industry in the *long run*. In increasing cost industry, as new firms enter, the cost curves of all the firms will shift upwards due to net external diseconomies. As the output of the industry increases as a result of the entry of new firms, price in the long run will fall to OP’’’ at which the demand curve D’D’ intersects the long-run supply curve LRS. Thus, OP’’’ is the long-run normal price and the output will be OM’’’. This long run normal price OP’’’ must be equal to the minimum LAC, since new firms will continue entering the industry until all are earning only normal profits.

In essence, in the long run, in case of increasing cost industry, more quantity of the product can be got only at a rather higher price.

(ii) **Long-run Normal Price in Constant Cost Industry:** The long-run supply curve of the constant cost industry is a horizontal straight line or perfectly elastic at the level of long-run minimum average cost, i.e., the bottom of the U-shaped LAC:
To begin with, DD is the demand curve and it intersects the *market period* supply curve MPS at price level OP. Thus OP is market price with OM output. Now if the demand increases from DD to D’D’, there will be a sharp rise in the market price from OP to OP’, the supply remaining unchanged. In response to the increased demand the firms in the short run will increase production. Therefore, in the short-run equilibrium price will fall to OP” (and output OM’) at which the short-run supply curve SRS intersects the new demand curve D’D’. In the long run, the output will increase further to OM” and the price will face to the original level OP. At this equilibrium point every firm will be producing at the long-run minimum average cost as in the original equilibrium position and will be earning only normal profits.

**iii) Long-run Normal Price in Decreasing Cost Industry:** This is the case of a young industry in its early stages of growth, in which the external economies may outweigh the external diseconomies as it undergoes expansion. This phenomenon of net external economies lowers the cost curves of all firms. Thus in a decreasing cost industry, the additional supplies of the product will be forthcoming at reduced prices and therefore the long-run supply curve of the industry will slope downwards from left to right:
DD is the original demand curve which intersects the *market period* supply curve MPS at price OP at output OM. Now suppose that there is a sudden and permanent change in demand from DD to D’D’. As a result of the increased demand, the market price will rise sharply from the original price OP to OP’, while output remaining the same, i.e. OM. In the *short run*, the firms will manage to increase the output and therefore, amount supplied will be increased to OM’. As a result the price in the short-run will slip down to a new level i.e. OP”, at which new demand curve D’D’ intersects the short-run supply curve SRS. In the *long run*, however, new firms will be attracted and will enter into the industry and cause downward shift in the cost curves of all the firms. The new long run price will be determined at the level OP”’ at which the new demand curve D’D’ cuts the downward sloping long-run supply curve LRS. As it would be evident from the above diagrams that more output can be produced at a lower than original price in a decreasing cost industry, where the suppliers seek to produce more at reduced prices.