UNIT-IV

COST PLUS OR MARK-UP PRICING

Various firms use an alternative pricing method called the full cost or cost plus pricing. It is the most commonly used method for pricing. Under this method, price is adjusted to cover costs and a predetermined percentage of profit. The general practice under this method is that a reasonable percentage of profit margin is added to average variable cost (AVC). The mark-up percentage is fixed to cover average fixed cost (AFC) and net profit margin. This percentage is never alike among various firms in the industry and even products of the same concern. It is because of the differences in the degree of competition, differences in cost base and turnover rate with risk. It shows some vague idea of just profit.

The first step in fixing price, under this methods is estimation of average cost. To estimate the average cost the firm has to determine its level of output in a given period and for this the firm takes into account its planned production. If optimum level of output is determinable then optimum level of output is taken as standard output to estimate the average cost of production. The next step is to calculate the total cost of that output which is taken as base to estimate the average cost of production. Then the margin of profit is added to average cost of production to determine the price.

Limitations of the Cost Plus Method

1. **Demand is ignored.** There is no reciprocity between cost and demand for the goods. Demand is totally ignored in pricing.
2. **Failure to show the forces of competition.** It fails to reflect the forces of competition fully.
3. **Exaggeration of the precision of allocated costs.** It exaggerates the precision of allocated costs.
4. **Based on cost concept.** It is based on concept of cost that may not be relevant for the decision of the price.

The cost-plus pricing method is suitable in the following cases :

(i) **Ideal Method.** It is an ideal, fair and just method of pricing. Prices can be fixed very easily and with speed. Prices are more defensible on moral grounds.

(ii) **Uncertainty of Demand.** In practice, firms are very uncertain of the demand of their product and the probable response to any price change. The method is then a fool-proof method.

(iii) **Stability.** The firms which prefer stability can get it from full cost pricing due to uncertain market and incomplete knowledge. In such cases where costs of getting information are high with process of trial and error, they stick to it so that the cost of decision making is reduced to the minimum.

(iv) Management tends to know more about product costs than other factors relevant to pricing.

(v) **Major University in Cost Setting.** Rivals prices could not be known hence it is difficult to set the price accordingly. Cost plus pricing only-can give stability to set a price by which the profits could be acceptable to other members of the trade.

(vi) **Product Tailoring.** When the selling price is predetermined, the product design can be determined very easily.

(vii) Other advantages of cost plus pricing are:

a. Pricing of products when they are manufactured on the orders of a single buyer as per specifications. Pricing is determined cost plus gross margin.

b. Monopoly Buying. Buyers know of the suppliers' costs. If they do not get the product to the price of their, satisfaction, they will prepare the product themselves at relevant costs.

c. Public utility pricing. According to cost plus formula, if one expects decline in industry, he must increase price. This price policy is useful in times of depression. Cost plus is a pricing scheme based on arbitrary costs and arbitrary make up. It is taken into consideration as it is simpler to apply.

Transfer pricing

In a large sized firm, several products are produced using different processes of production. In such business organisations, the work is divided among several sections or departments. For all practical purposes each section is an independent unit. This results in transfer of goods, services and even money from one section to another section or from one unit to another unit.

Many large sized companies have this inter-company transfer of goods. For example, in a huge automobile company, production and marketing of trucks, cars, two-wheelers, engines and so on are organised in a separate manner. The managerial decisions taken are also different. In other words, each unit enjoys considerable autonomy. The units transfer good among themselves. The prices that units change, effect the performance of the other units. If transfer prices understate or overstate the values and costs, the decisions of the units would go counter to the company's corporate objectives. The price and output decisions of other departments are influenced by the transfer price. It affects the profitability also. The rules observed in such pricing are as follows :

(1) Each division must be treated as an autonomous unit.

(2) Intra-company transfers should be priced at their marginal costs.

(3) The inter-transfer of goods is meant for meeting the requirements of interdependent divisions of a big company.

For example, big iron produced in one division is meant for steel making division of the same company. In such cases, the marginal cost of the product of a division is determined by its own cost.

For calculating the transfer price, one of the following three methods is followed : (1) Market price method, (2) Cost basis, (3) Cost-plus basis.

Market price basis.

In the case of transferred products, the appropriate price is the market price. This is the most suitable system of pricing of transfer goods. If the market price is preferred, it makes the inefficient division to be alert and efficient. If the product is homogeneous, it is easy to ascertain the market price. But there are differences in quality of the product or services-

then the market price is required to be adjusted to cover all such factors.

Cost basis.

Cost consideration is made in the case of product produced by one division is meant for sale to another division of the same company. For example, if there is a separate maintenance department, the cost of service or maintenance is assessed on the basis of cost incurred by the department in keeping the assets of other departments in good condition. In other words, the goods meant for inter-divisional transfer should be priced at the level of marginal cost of production. This pricing policy will maximise group profits.

Cost plus basis.

Under this method, the pricing is based on the actual cost-plus some percentage of profit. The transferring division adds a certain percentage of profit just to inflate the profits of the company. Normally, this division incurs the cost, so that the amount of profit added to it will cover the enexpected looses which may occur in future. Thus, transfer pricing, by helping the individual divisions to maximise the profits, also maximises the profits of the company.

PRICE DISCRIMINATION UNDER MONOPOLY

Price Discrimination

A monopolist may be able to engage in a policy of price discrimination. This occurs when a firm charges a different price to different groups of consumers for an identical good or service, for reasons not associated with the costs of production. It is important to stress that simply charging different prices for similar goods is not price discrimination. For example, price discrimination does not occur when a rail company charges a higher price for a first class seat. This is because the price premium over a second-class seat can be explained by differences in the cost of providing the service.

TYPES OF PRICE DISCRIMINATION

1. **Personal discrimination :** It is where different prices are charged from different persons. Like a dentist charges high fee from a rich man and less from a poor man for the same treatment.

2. **Local discrimination :** It is local when prices charged change from place to place, or in other words price varies according to locality. Like, saffron is cheaper in Kashmir and dear in other parts of India.

3. **Trade discrimination :** It is also known as use discrimination where different prices are charged for different uses of the same commodity. Like, electric current is usually sold cheaper for agricultural uses and dear for industrial uses.

4. **Age discrimination :** If discrimination is on the basis of age, it is referred to as age discrimination. Like, Railway fares are low for children and old.

5. **Size discrimination :** On the basis of quantity of transactions, different rates are charged, e.g., prices in the retail market are higher than prices in the wholesale market.

CONDITIONS REQUIRED FOR PRICE DISCRIMINATION TO WORK

There are basically the following main conditions required for price discrimination to take place.

1. Monopoly power : Firms must have some price setting power, therefore under perfect competition market price discrimination is not seen.

2. Elasticity of demand : There must be a different price elasticity of demand for the product from each group of consumers. This allows the firm to extract consumer surplus by varying the price leading to additional revenue and profits. The monopolist will charge higher price per unit in the market where demand is inelastic and lower price per unit in the market where demand is elastic.

3. Separation of the market : The firm must be able to split the market into different sub-groups of consumers and then prevent the good or service being resold between consumers. (For example a rail operator must make it impossible for someone

paying a "cheap fare" to resell to someone expected to pay a higher fare. This is easier in the provision of services rather than goods.

4. Expenditure in dividing and sub-dividing market to be minimum : The costs of separating the market and selling to different sub groups must not be prohibitive.

5. Geographical or tariff barriers : Discrimination may occur on geographical grounds. The monopolist may discriminate between home and foreign buyers by selling at a lower price in the foreign market than in the domestic market. This type of discrimination is known as 'dumping' which can only be successful if the commodities sold abroad can be prevented from being returned to the exporting country by tariff restrictions.

When is Price Discrimination Profitable?

Price discrimination is profitable when the price elasticity of demand is different in different markets.

If price elasticity of demand in two markets is the same, then price discrimination in these two markets will not be profitable. It is so because when price elasticity of demand in two markets is equal then marginal revenue of the product in both the markets will also be equal. On the contrary, if price elasticity of demand in two markets is different then the marginal revenue of the product in these markets will also be different. It will be more in one market and less in the other. In such a situation, it will be profitable to transfer the commodity from less-marginal revenue-market to more- marginal revenue- market. Thus difference in elasticity of demand for the product in two different markets makes price discrimination profitable.

This fact can be explained with the help of the following formula:

$$MR = AR \frac{(E-1)}{E}$$

Supposing monopoly price of a product is the same i.e., Rs 10 in the two markets 'A1 and 'B', but elasticity of demand is 2 and 5 respectively. On the basis of the above formula marginal revenue in both the markets can be calculated as follows.

MR, in markets 'Ah - AR

MR, in markets 'B1 =

It is clear that on account of different elasticity of demand in Market 'A' and 'B' there are different marginal revenue as well. In market 'A' where elasticity of demand is less (2) marginal revenue is also less (Rs. 5). On the other hand, in market 'B1 where elasticity of demand is more (5) marginal revenue is also more (Rs. 8). So the monopolist will transfer some units of the commodity from market 'A' where marginal revenue is Rs. 5 to market 'B' where it is Rs 8 by selling one unit less in market 'A'. The monopolist will lose Rs 5 but by selling one unit more in market 'B' he will gain Rs 8. Such a transfer of goods will continue withdrawing the commodity from market 'A' ancl selling the same in market 'B' till such time as the marginal revenue in both the market become equal, i.e., MRA = MRB

Price determination under Price Discrimination

A monopolist under third degree price discrimination divides his buyers into two or more sub-markets on the basis of elasticity of demand and charges a different price for consumers in each sub market. In price discrimination of the third degree, the firm does not take away any consumers surplus.

For calculating the equilibrium output of the monopolies, trte combined marginal revenue in the two sub-market is to be traced. The combined marginal revenue (XMR) is obtained by the lateral summation of the two marginal revenue curves in the two sub markets. This is shown in Fig. 17.7. The marginal cost curves of the monopolist output (MC) cuts the £MR at the output OM2. At this output MR is M2K2.

The monopolies has to allocate the total output OM2 in the sub-market in such a way that marginal revenue in each of the two sub-markets is equal to M2 K2 . He will sell output OM and charge price MP in the market 'A' which is less elastic and sell output OMj and charges price MPi in market 'B' which is more elastic.

Fig. 17.6 : Price Determination under Discriminating Monopoly

Condition for discriminating monopolist's equilibrium :

1. It must be profitable for him to sell his output in more than one market.
2. Marginal revenue in both the sub-markets must be the same.
3. Combined marginal revenue must also be equal to the aggregate marginal cost.

Incremental Pricing

Correct pricing and output decisions require incremental analysis. That is, a firm should change the price of a product or its output, introduce a new product, or a new version of a given product, accept a new order, and so on, if the increase in total revenue or incremental revenue from the action exceeds the increase in total or incremental cost. For example, an airline should introduce a new flight if the incremental revenue from the flight exceeds the incremental cost. When excess capacity exists in the short run, overhead or fixed costs are irrelevant in determining whether a firm should undertake a particular course of action. Since overhead or fixed costs have already been covered, any action on the part of the firm that increases revenues more than costs leads to an increase in the total profits of the firm and should be undertaken.

If, however, the firm is already producing at capacity, lowering a product's price to increase sales or introducing a new product will lead to the expansion of all costs, including those for plant and equipment. In this case, full-cost and incremental-cost pricing lead to the same results. Even when the firm is operating with idle capacity, the long-run implications of a particular course of action must be taken into consideration in order for the firm to reach correct pricing and output decisions. For example, if a firm lowers the price of a product in order to increase sales or introduces a new product in order to take advantage of idle capacity, these actions may require the expansion of capacity if the firm expects the demand for its products to increase in the long run. Incremental analysis must, then, take these long-run effects into consideration.

Correct incremental analysis requires that all direct and indirect changes in revenues and costs resulting from a particular course of action be taken into consideration. For example, in calculating the incremental revenue from lowering the price of a product or from the introduction of a new product, the firm must consider all demand interrelationships

between the product in question and all other complementary and substitute products sold by the firm. For example, the incremental revenue from lowering the price of photographic film by Kodak may very well be smaller than the incremental cost, but when the increase in sales of Kodak cameras resulting from the reduction in the price of the film is taken into consideration, the action may prove to be highly profitable for the firm. Similarly, increasing the production of a particular product or the introduction of a new product may lower the cost of a jointly produced product so much that the overall incremental cost from the action may be much lower than the overall incremental revenue, so that the decision may lead to much higher profits for the firm.

From what has been said above, it should be clear that a firm could not price all its products on an incremental basis since in the aggregate, the firm must also cover all its overhead and fixed costs, at least in the long run. But it is not necessary and it would be inappropriate for a firm to price each of its products on a fully allocated average cost basis. Particularly in the short run and in the presence of idle capacity, it would be very advantageous (i.e., it would increase total profits or reduce total losses) if the firm accepted a price on some additional sales that was below fully allocated average costs, as long as the price exceeded average incremental costs. Such incremental pricing policies provide the firm with much more flexibility and are clearly in evidence in the pricing policies followed by "excellently managed firms." These firms take into consideration not only the short-run but also the long-run implications of their pricing policies, and they consider all important demand and production interrelationships.