

INTRODUCTION

Markets constitute an important phase in the economic activity. All the goods and services that are produced need to be sold to the consumer for a price. Markets facilitate this process. We cannot imagine a society without markets even for a while. Markets primarily provide possession utility for the goods and services. In other words, the seller sells the goods to the buyer and thus transfers the ownership of the goods.

This chapter deals with the types of markets, their features and explains how price-output decisions are made in three market situations, that is, perfect competition, monopoly, and monopolistic competition. The concept of pricing and different methods of pricing are also discussed in this chapter.

Market Defined

Market is defined as a place or point at which buyers and sellers negotiate their exchange of well-defined products or services.

Traditionally, market was referred to as a public place in a village or town where provisions and other objects were brought for sale. Based on the location, markets are classified as rural, urban, national, or world markets. A market is said to exist wherever there is potential for trade.

Today with increasing technology and modern facilities, the definition of market has undergone a sea change. In the modern context, market refers to a meeting point of the buyer and seller, not necessarily a geographical one. It is not necessary that the buyer has to meet the seller in person. While traditional avenues such as Value Payable by Post (VPP) continued to be popular, e-commerce through the Internet has been the latest avenue for firms to sell larger volumes of their products and services with on-line negotiations where necessary.

Size of Market

The size of market depends on many factors such as nature of products, nature of their demand, tastes and preferences of the customers, their income level, state of technology, extent of infrastructure including telecommunications and information technology, time factor in terms of short-run or long-run¹ and so on. The rapid technological development brought the entire community of buyers and sellers very close to each other.

Market Structure

Market structure refers to the characteristics of a market that influence the behaviour and performance of firms that sell in that market.

The structure of market is based on its following features:

- (a) *The degree of seller concentration:* This refers to the number of sellers and their market share for a given product or service in the market.
- (b) *The degree of buyer concentration:* This refers to the number of buyers and their extent of purchases of a given product or services in the market.
- (c) *The degree of product differentiation:* This refers to the extent by which the product of each trader is differentiated from that of the other. Product differentiation can take several forms such as varieties, brands, all of which are sufficiently similar to distinguish them, as a group, from other products (e.g. cars).
- (d) *The conditions of entry into the market:* More often, there could be certain restrictions to enter into or exit from the market. The degree of ease with which one can enter the market or exit from the market—also determines the market structure. In other words, there could be large number of firms if the number of restrictions to enter the market is low and vice versa.

Any one or all of the above features determines the behaviour of a firm. The behaviour of a firm may influence the performance of other firms in the industry.

COMPETITIVE MARKET SITUATIONS

The less the power an individual firm has to influence the market in which it operates, the more competitive that market is. If a firm can influence the market by offering its products and services for sale at better or attractive terms and conditions for the consumers, it is said to have larger power to influence the market.

¹The concepts of short-run and long-run periods have already been discussed in Chapter 3 on Demand Forecasting.

Types of Competition

Based on degree of competition, the markets can be divided into perfect markets and imperfect markets. In perfect markets, there is said to prevail perfect competition and in case of imperfect markets, imperfect competition. Perfect competition is said to exist when certain conditions are fulfilled. These conditions are ideal and hence only imaginative, not realistic. Financial markets and agricultural products are some of the sectors of economy where perfect competition can be observed.²

However, an analysis of these conditions enables us to develop a clear understanding of the degree of imperfection prevailing in today's markets.

Perfect Competition and Perfect Market

A market structure in which all firms in an industry are price takers and in which there is freedom of entry into and exit from the industry is called Perfect Competition. The market with perfect competition conditions is known as Perfect Market.

Features The following are features of perfect competition. In other words, these are the assumptions underlying perfect markets.

- (a) *Large number of buyers and sellers:* There should be significantly large number of buyers and sellers in the market. The number should be so large that it should not make any difference in terms of price or quantity supplied even if one enters the market or one leaves the market.
- (b) *Homogeneous products or services:* The products and services of each seller should be homogeneous. They cannot be differentiated from that of one another. It makes no difference to the buyer whether he buys from firm X or firm Z. In other words, the buyer does not have any particular preference to buy the goods from a particular trader or supplier. The price is one and the same in every firm. There are no concessions or discounts.
- (c) *Freedom to enter or exit the market:* There should not be any restrictions on the part of the buyers and sellers to enter the market or leave the market. There should not be any barriers. The buyers can enter the market or leave the market whenever they want.
- (d) *Perfect information available to the buyers and sellers:* Each buyer and seller has total knowledge of the prices prevailing in the market at every given point of time, quantity supplied, costs, demand, nature of product, and other relevant information. There is no need for any advertisement expenditure as the buyers and sellers are fully informed.
- (e) *Perfect mobility of factors of production:* There should not be any restrictions on the utilisation of factors of production such as land, labour, capital and so on. In other words, the firm or buyer should have free access to the factors of production. Whenever capital or labour is required, it should instantly be made available.
- (f) *Each firm is a price taker:* An individual firm can alter its rate of production or sales without significantly affecting the market price of the product. A firm in a perfect market cannot influence the market through its own individual actions. It has no alternative other than selling its products at the price prevailing in the market. It cannot sell as much as it wants at its own set price.

Under such a market, no single buyer or seller can play a significant role in determining the price. In other words, the price is determined by the industry as a whole, which comprises both buyers and sellers.

² Samuelson, P.A. and W.D. Nordhaus, *Economics*, Tata McGraw-Hill, New Delhi, 16th Edition, 1998, p. 158.

Here the industry demand curve represents the total demand from all the consumers at various prices. Similarly, the industry supply curve represents the total quantity supplied by all sellers at various prices. However, the demand curve for an individual firm is horizontal and perfectly elastic, as in case of perfect competition. The cost functions for different firms vary depending upon the factors of production used by them. Efficient firms may have lower costs for a given level of output.

Total Revenue (TR), Average Revenue (AR), and Marginal Revenue (MR)

revenue is the revenue earned by producing and selling 'n' number of units.

Total revenue (TR) = Price per unit (P) \times No. of units produced and sold (Q).

Thus, $TR = P \times Q$.

Average revenue is the revenue earned per unit sold.

In other words, average revenue (AR) = Total Revenue (TR)/No. of units produced and sold (Q)

Thus $AR = TR/Q$ but $TR = (P \times Q)$

Therefore $AR = (P \times Q)/Q$, that is P

This means, $AR = P$

Marginal revenue (MR) refers to *the change in revenue by producing and selling one more unit*. In other words, it is the revenue earned by producing and selling 'n' units of output instead of $n-1$ units.

Consider an example. You are selling notebooks. Each book costs Rs 10. You are not going to give any discount or concession even if more number of books are purchased at a time. Suppose 10 books are sold. The total revenue (TR) is Rs 100. The average revenue (AR) is Rs 10 (100/10). Suppose you are selling one more notebook. Since you are selling at the given market price of Rs 10, the additional revenue (MR) by selling one more unit will be Rs 10.

Thus, under perfect competition, Price = Average revenue (AR) = Marginal revenue (MR)

Imperfect Competition

A competition is said to be imperfect when it is not perfect. In other words, when any or most of the above conditions do not exist in a given market, it is referred to as an imperfect market. Based on the number of buyers and sellers, the imperfect markets are classified as explained below:

Based on the number of buyers and sellers, the structure of market varies as outlined below: 'poly' refers to seller and 'psony' means buyer.

Monopoly If there is only one seller, monopoly market is said to exist. An extreme version of imperfect market is monopoly. Here a single seller completely controls the entire industry. It is the only firm producing the given product in its industry. In case of monopoly, there is very little difference between the firm and industry. The firm is called monopolist or monopoly firm. Maruti-Suzuki enjoyed all the government protection for a long time when it enjoyed monopoly in respect of small cars. When several automobile manufacturers were allowed to enter the Indian industry with the New Industrial Policy, Maruti-Suzuki's monopoly came to an end. Most of the State Electricity Boards enjoy monopoly in terms of the generation and transmission of power.

Monopolistic Competition When large number of sellers produce differentiated products, monopolistic competition is said to exist. A product is said to be differentiated when its important features

vary. It may be differentiated based on real or perceived differences. For cameras, the important features include zoom lens, focal length, memory, size of camera, aperture and exposure controls, flash, safety, digital day and date display, the overall picture quality and so on. The products with better features are differentiated from the others and they can be sold at higher prices. Yashica, Nikon, Kodak and so forth are some of the leading players, among the many, in the market. As in case of perfect competition, here also we find many sellers but none of these have a large share of the market. Each seller has a limited monopoly role as far as his product is concerned. The corporate health care industry in India has some branded corporate hospitals each having its own niche market.

Duopoly If there are two sellers, duopoly is said to exist. If Pepsi and Coke are the two companies in soft drinks, this market is called duopoly. Basic facilities for satellite communication are presently provided by Mahanagar Telephone Nigam Limited (MTNL) and Videsh Sanchar Nigam Limited (VSNL). This market for satellite communication can be referred to as duopoly.

Oligopoly Another variety of imperfect competition is oligopoly. If there is competition among a few sellers, oligopoly is said to exist. The examples are the car manufacturing companies (such as Maruti-Suzuki, Hindustan Motors, Daewoo, Toyota and so on), newspapers (such as The Hindu, Indian Express, Times of India, Economic Times, Eenadu and so on). In oligopoly, each individual seller or firm can affect the market price. When Times of India slashed the price of its daily newspaper, most of the other companies such as Indian Express, The Hindu followed suit. Oligopolistic market situations are very common in the sectors relating to manufacturing, transportation, communication and so on.

Monopsony If there is only one buyer, monopsony market is said to exist. Food Corporation of India is the only government organisation that purchases the agricultural produce such as rice and so on.

Duopsony If there are two buyers, duopsony is said to exist.

Oligopsony If there are a few buyers, oligopsony is said to exist. There are a few newspaper publishing companies in India and all these buy newsprint from the government of India. There are quite a good number of computer assembly operators who buy the computer components on wholesale basis.

Role of Time Factor in Determination of Price

How quickly can the supply be arranged to meet different demand situations? In some cases where the supply cannot be immediately arranged though there is significant and constant increase in demand, prices tend to rise sharply. The price level depends upon the demand and also supply. A delay in supply may push the prices up and vice versa. Based on how quickly the supply can be arranged to meet a given demand situation, Marshall distinguished the following three periods indicating the price-supply equilibrium:

- (a) *Very short period equilibrium:* Here, the supply is limited to the stock on hand. Any addition to the currently available stock is not possible as there is no time to arrange for additional production. The price at which the available stock can be sold is called '*market price*'. So a sudden increase in demand may push up the market price significantly.
- (b) *Short-run equilibrium:* Here, the firm can expand its output to a marginal extent by initiating necessary changes in a limited way in the variable factors of production. In other words, the short-run is long enough to make adjustments to its product in a limited way. In the short-run, the price will not be as high as the market price. But it may be higher than the price before the increase in demand.

(c) *Long-run equilibrium:* Here, the firm can replace its old and obsolete plant and machinery with the latest one. Long-run is a sufficiently longer period wherein the firm can make all possible permutations and combinations to attain maximum profit. New firms may enter the industry while some of the existing firms may even leave the market. Price in the long-run depends upon many factors such as number of competitors, new technology, and other cost situations. Price in the long-run is called '*normal price*'.

Equilibrium Point

Equilibrium point refers to a position where the firm enjoys maximum profits and it has no incentive either to reduce or increase its output level. In perfect competition, the firm has to satisfy two conditions to attain equilibrium: (a) $MR = MC$ and (b) MC curve should cut the MR curve from below. In monopoly, the firm attains equilibrium if its $MR = MC$.

Perfect Competition: The Individual Firm

The individual firm under the conditions of perfect competition has no control over the price. It is a passive 'price taker'. In other words, it has to accept the price as given by the market. Market forces determine the price and the individual firm has absolutely no control over price determination. In case of agricultural products such as rice, wheat, vegetables and so on, the individual farmer has no control over the market prices. Thus the individual firm has no alternative other than accepting the given market price.

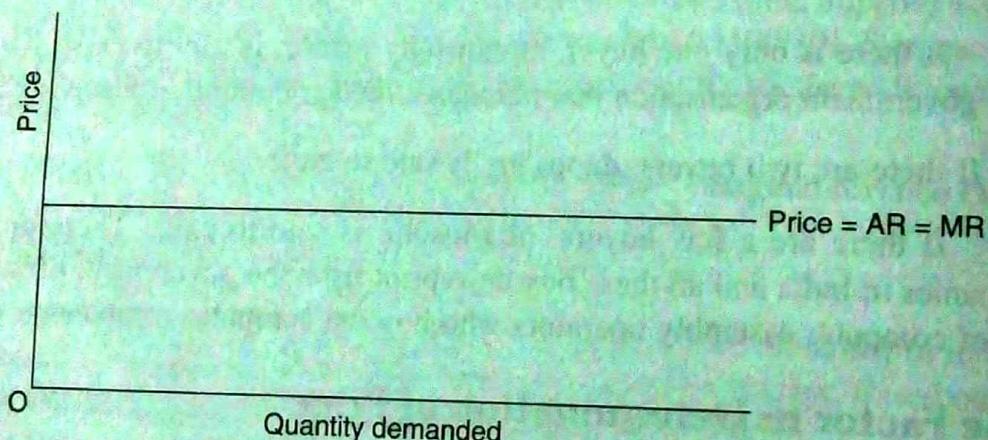


Fig. 8.1 Demand Curve for the Firm in Perfect Competition

The demand curve for the output of individual firm is a horizontal line at the given market price. It is a perfectly elastic demand curve. The price, average revenue (AR), and marginal revenue (MR) are equal to each other as shown in Fig. 8.1. The firm cannot change the market price even it sells the whole of its volume of production. The only alternative it has is that it can sell any quantity at the given market price. In other words, only equilibrium output is determined by the firm. When it tries to sell at a higher price, nobody is likely to buy from it (as others continue to sell at the given market prices, which are lower). There is no question of selling at lower prices as this will result in losses only.

Perfect Competition: The Firm and the Industry

Price is determined by the market forces, that is, demand and supply for a given product or service. The pricing strategy in perfect competition is: charge the same price as other firms charge. As discussed above, firms have no control over the prices they charge for their products. In case of imperfect competition,

tition, the industry demand curve normally slopes downwards. It is because, it represents the demand from all consumers at various prices. The industry demand curve is the downward sloping curve DD as shown in the Fig. 8.2.

Similarly, the supply curve SS (see Fig. 8.2) normally slopes upwards which means that the producer will offer more quantity to sell at a higher price. It is the price that determines the quantity demanded and quantity supplied. The ultimate price that prevails in the market is one at which the quantity demanded is equal to the quantity supplied. This price is also called equilibrium price, as it balances the forces of demand and supply.

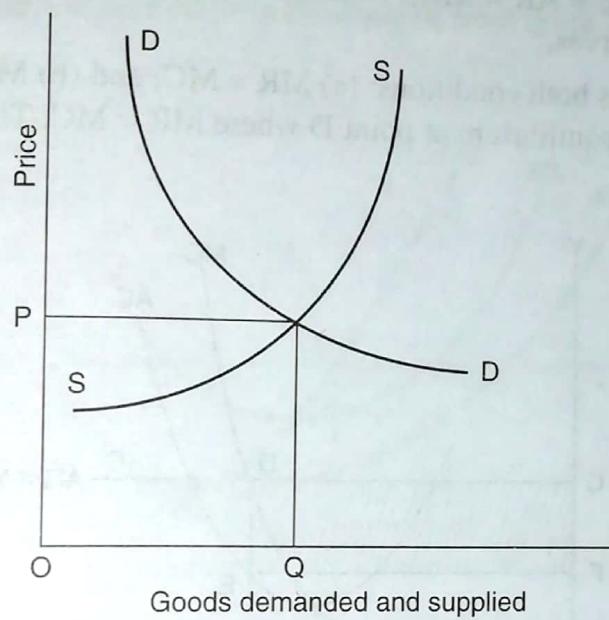


Fig. 8.2 Price Determination in Case of the Industry Under Perfect Competition

Figure 8.2 shows how the price is determined. DD is the demand curve and SS is the supply curve. OP is the price at which DD and SS intersect each other. At OP, OQ units are supplied and demanded.

What happens if the price is higher than OP?

If the price is higher than OP, supply will be more and hence the price is likely to fall due to lack of demand. As the price falls, quantity demanded will increase. But the quantity supplied will also decline. At price OP, the quantity of demand is just equal to the quantity of supply.

What happens if the price falls below OP?

If the price falls below OP, the quantity demanded will exceed the supply and hence the price is likely to rise. As the supply is not forthcoming in expected quantities, some of the consumers may bid a higher price. This will push up the price in the market to OP.

PRICE-OUTPUT DETERMINATION IN CASE OF PERFECT COMPETITION

Short-run

The price and output of the firm are determined, under perfect competition, based on the industry price and its own costs. The industry price has greater say in this process because the firm's own sales are very

small and insignificant. The process of price output determination in case of perfect competition is illustrated in Fig. 8.3.

The firm's demand curve is horizontal at the price determined in the industry ($MR = AR = \text{Price}$). This demand curve is also known as average revenue curve. This is because if all the units are sold at the same price, on an average, the revenue to the firm equals its price.

When the average revenue is constant (neither falling nor rising), it will coincide with the marginal revenue curve. Thus, CC is the demand curve representing the price, average revenue curve, and also the marginal revenue curve ($\text{Price} = AR = MR$). Average cost (AC) and marginal cost (MC) are the firms' average and marginal cost curves.

In Fig. 8.3, the firm satisfies both conditions: (a) $MR = MC$; and (b) MC curve must cut the MR curve from below. The firm attains equilibrium at point D where $MR = MC$. The MC curve passes through the minimum point of AC curve.

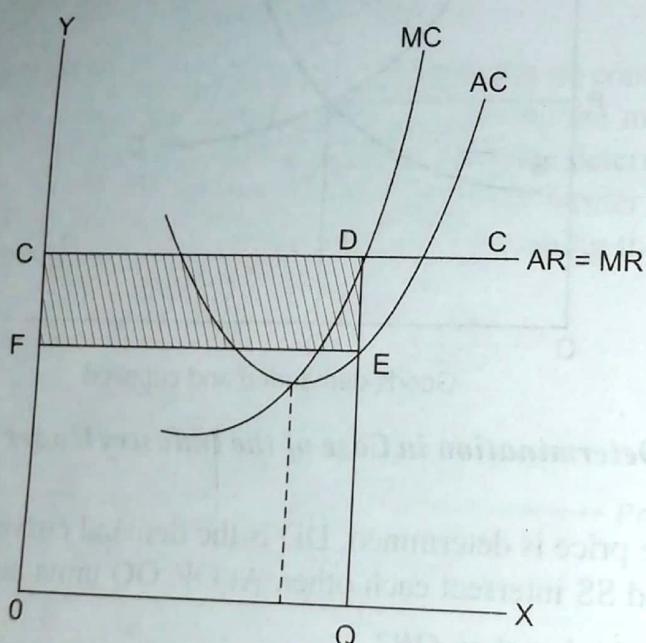


Fig. 8.3 Equilibrium Output Determination of a Firm Under Perfect Competition in the Short run

The firm gets higher profits as long as the price (in this case MR or AR) it receives for each unit exceeds the average cost (AC) of production.

$$OC = QD, \text{ which is the price.}$$

$$OF = QE, \text{ which is the average cost.}$$

$$OQ = FE \text{ which is the equilibrium output.}$$

$$\text{Average profit} = \text{Price minus Average cost.}$$

Here, DE is the average profit and the area CDEF is the total profit which constitutes the 'supernormal' or 'abnormal' profits.

Based on its cost function and market condition, the firm may make profits, losses, or just break even in the short-run.

Short-run Supply Curve

In the short-run, if the market price is below the average cost, the firm may still supply goods provided the market price is above the average variable cost. If the market price is below the average variable cost, the firm refuses to sell the goods even in the short-run for the simple reason that, by not selling the goods, the firm suffers a loss equal to average fixed cost only. If it sells the goods, the loss will be more than the average fixed costs. Thus, the firm's short-run supply curve will be that portion of the marginal cost curve which is above the average variable cost curve.

From Fig. 8.4, it can be seen that if the market price is P_1 or more, the firm is willing to sell. If the price is less than P_1 , the firm refuses to sell, as the price is less than the average variable cost. The firm's supply curve is that portion of the marginal cost curve which begins from point F. Point E refers to the equilibrium point where $MR = MC$.

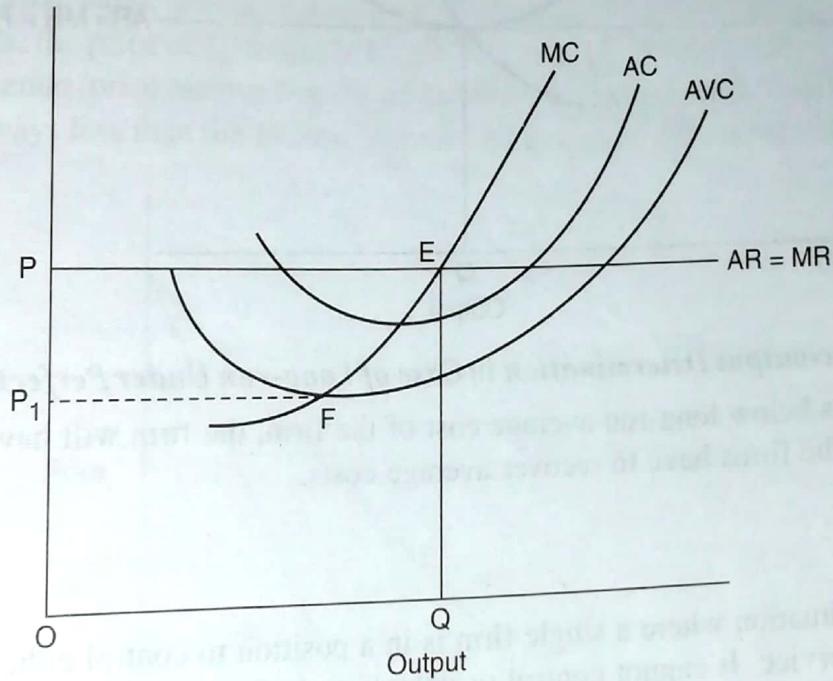


Fig. 8.4 Firm's Short-run Supply Curve Under Perfect Competition

Long-run Having been attracted by supernormal profits, more and more firms enter the industry. With the result, there will be a scramble for scarce inputs among the competing firms pushing the input prices. Hence, the average cost increases. The entry of more and more firms will expand the supply pulling down the market price. As a result, the super normal profits hitherto enjoyed by the firms get eroded. The entry of the firms into the industry continues till the supernormal profits are completely eroded. In the long-run, the firms will be in a position to enjoy only *normal* profits but not supernormal profits. Normal profits are the profits that are just sufficient for the firms to stay in the business. It is to be noted that normal profits are included in the average cost curve.

All those firms that are not able to earn at least normal profits will leave the industry.

Figure 8.5 shows the long-run equilibrium position of the firm under perfect competition. Two conditions are to be fulfilled in the long-run: (a) $MR = MC$, (b) $AR = AC$, and AC must be tangential to AR at its lowest point. QE is the price and also the long-run average cost (LAC). Long-run marginal cost (LMC) curve passes through the minimum point of the long-run average cost curve (LAC) at E, while passing through the marginal revenue curve. E is the equilibrium point and the firm produces OQ units of output.

can be noted that normal profits are not visible to the naked eye since normal profits are included in the average cost. Long-run average cost includes the opportunity cost of staying in business.

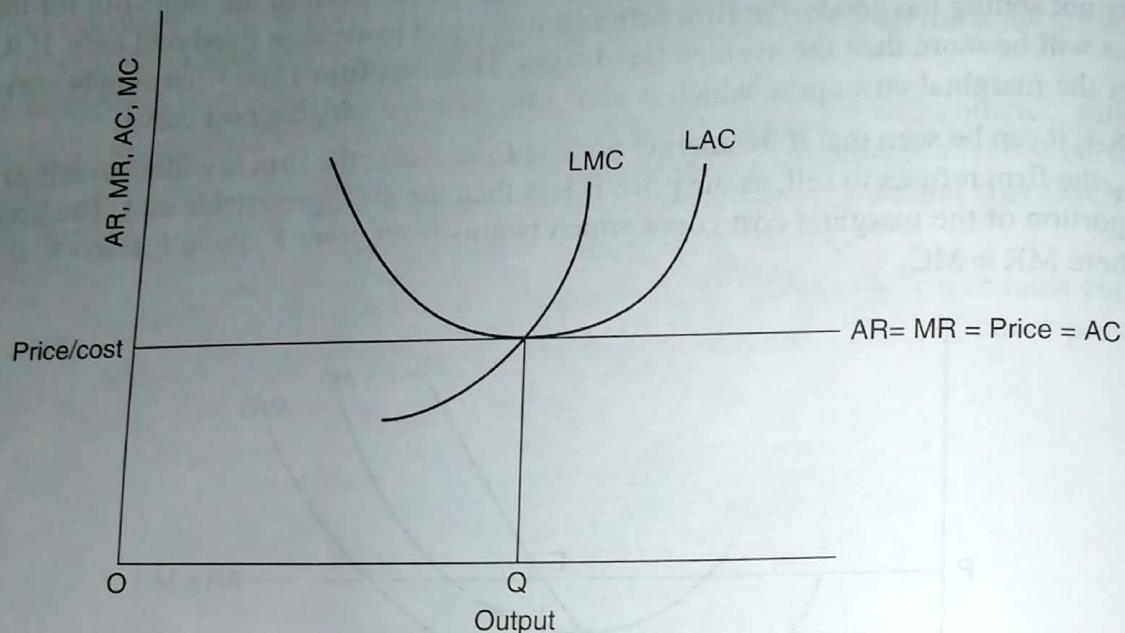


Fig. 8.5 Price-output Determination in Case of Long-run Under Perfect Competition

If the market price is below long-run average cost of the firm, the firm will have to quit the industry since in the long-run, the firms have to recover average costs.

MONOPOLY

Monopoly refers to a situation where a single firm is in a position to control either *supply* or *price* of a particular product or service. It cannot control or determine both price and supply as it cannot control demand. If it decides on the price, it can determine the quantity supplied at the given price. Or if the quantity is decided, the price can be determined.

If the firm sets the price higher, it may have to lose sales, and as such it can either fix the output or price, not both. What it can decide—depends on the prevailing demand and costs.

Monopoly exists where there are certain restrictions on the entry of other firms into business or where there are no close substitutes for a given product or service. These factors determine the degree of hold for the monopolist on the market in terms of influencing the price and ability to earn supernormal profits.

Monopoly can be interpreted in two ways. When there is a sole supplier, it is a case of a *pure monopoly*. In this case, the firm and the industry are one and the same. For instance, the Reserve Bank of India is the sole supplier of currency notes in India. Another context is where the firm supplying a half of the total market *may have a greater market power*, if the rest of the market is shared by a number of small firms. When the remaining firms are equally big, it may face fierce competition from the other firms.

Features of Monopoly

1. There is a single firm dealing in a particular product or service.

2. There are no close substitutes and no competitors. Intellectual Property Rights (IPRs), exclusive possession of factors of production including latest technology make the firm more monopolistic in nature. Railways had monopoly over distribution system till the road transport system developed in terms of fuel efficient heavy trucks.
3. The monopolist can decide either the price or quantity, not both.
4. The products and services provided by the monopolist bear inelastic demand.
5. Monopoly may be created through statutory grant of special privileges such as licences, permits, patent rights, and so on.

In case of monopoly, the marginal revenue (MR) is always less than the average revenue (AR) because of quantitative discounts or concessions. For example, you are selling notebooks and each notebook is priced at Rs 10. To improve sales, you have a scheme. If one buys 10 notebooks together, you offer 10% discount. In other words, the price of 10 books is Rs 90. The average revenue (selling price per unit) is Rs 10 and the marginal revenue (price received on the additional notebook) is Rs 7. Thus in case of monopoly, marginal revenue is always less than the average revenue ($MR < AR$). This is illustrated in Fig. 8.6.

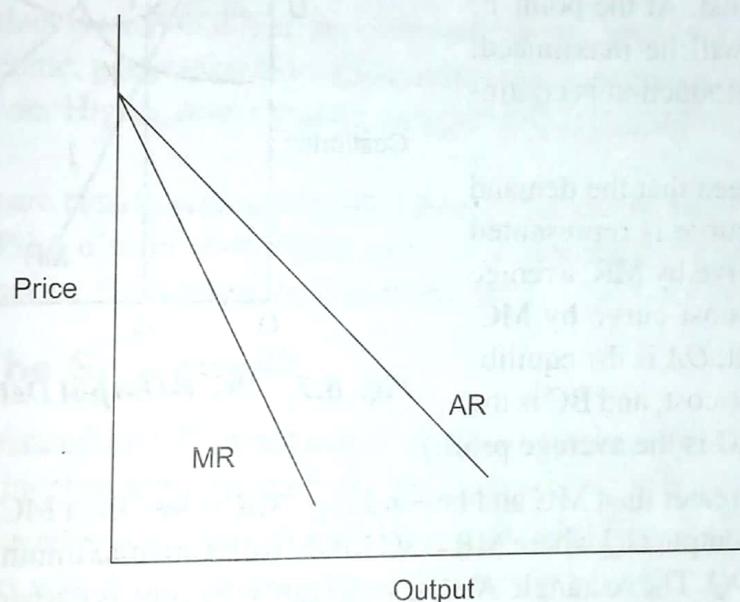


Fig. 8.6 In Monopoly, $MR < AR$

What Causes Monopoly?

There can be several factors that lead to monopoly.

- *Government policies and legal provisions* by an act of legislation often create and maintain monopoly. Indian Railways has absolute monopoly as government of India has restricted others to enter the rail transport business. Patents, intellectual property rights, trade marks, and so on will enhance the monopoly power for a specific period.
- *Mergers and acquisitions* enable the business organisations to emerge stronger with higher market share. Standard Chartered Bank has acquired ANZ Grindlays Bank and emerged much more stronger and bigger, leading to enlargement of economies of scale, cost advantages, and elimination of competition from Grindlays.
- Through *Research and Development (R & D)* and latest technology, the firm can replace its old products with superior ones. Hewlett & Packard emerged stronger with their laser printers fast replacing the dot matrix printers.

- Control over key inputs such as raw materials, skilled labour, technology, financial resources and so on also lead to monopoly.

PRICE-OUTPUT DETERMINATION IN MONOPOLY

Under monopoly, the average revenue curve for a firm is a *downward sloping* one. It is because, if the monopolist reduces the price of his product, the quantity demanded increases and vice versa. In monopoly, marginal revenue is less than the average revenue. In other words, the marginal revenue curve lies below the average revenue curve.

The monopolist always wants to maximise his profits. To achieve maximum profits, it is necessary that the marginal revenue should be more than the marginal cost.

He can continue to sell as long as the marginal revenue exceeds marginal cost. At the point F , where $MR = MC$, profits will be maximised. Profits will diminish if the production is continued beyond this point.

From Fig. 8.7, it can be seen that the demand curve or average revenue curve is represented by AR , marginal revenue curve by MR , average cost by AC , and marginal cost curve by MC . OQ is the equilibrium output, OA is the equilibrium price, QC is the average cost, and BC is the average profit (AR minus AC is the average profit).

Upto OQ output, MR is greater than MC and beyond OQ , MR is less than MC . Therefore, the monopolist will be in equilibrium at output OQ where $MR = MC$ and profits are maximum. OA is the corresponding price to the output level of OQ . The rectangle ABCD represents the profits earned by the monopolist in the equilibrium position in the short-run.

Price Discrimination

When a firm sells its products to its customers of different profile at different prices with no corresponding change in cost, price discrimination is said to exist. Price discrimination is also called differential pricing. Customers may differ in their profile in terms of their education, knowledge about the prevailing prices, quality of the competitive products, income groups, quality of life, and so forth. By charging different prices to different customers, the firm tries to increase its profit by reducing the consumer surplus.³ In this process, the producer tends to enjoy the consumer surplus more than the consumer himself.

Firms that do not practise price discrimination are likely to lose some of the customers and also thereby potential revenue if they charge the same price. Through price discrimination, they can take advantage of a situation wherein some customers may be prepared to pay more.

³ The concept of consumer surplus is discussed in Chapter 2: Basic Laws of Consumption and Demand Analysis.

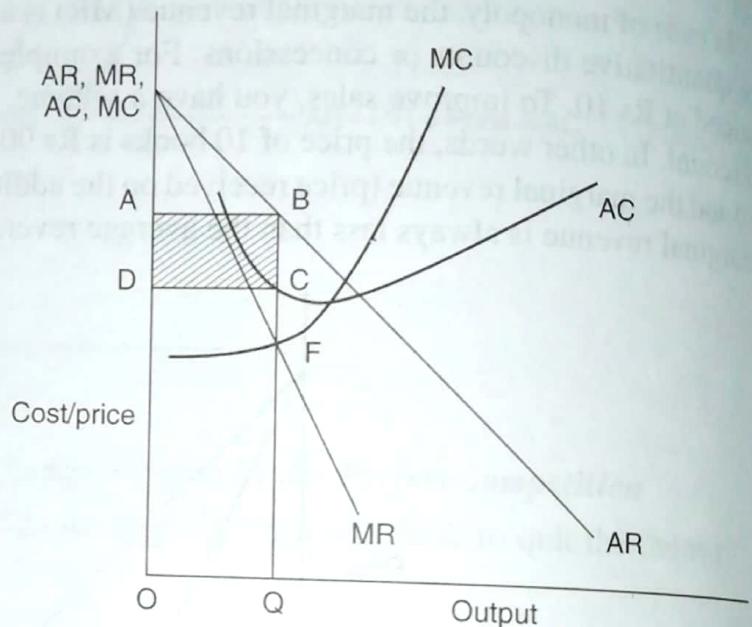


Fig. 8.7 Price-Output Determination in Monopol

The Basis of Price Discrimination

The following are the factors that determine the degree of price discrimination:

- (a) *Purchasing power*: The firm is likely to charge a high price from a customer who has the ability to pay a higher price. Urgency, quality consciousness, indispensability, high quality living, and so forth are some of the factors that compel the rich customers to pay a high price.
- (b) *Quantity bought*: A customer buying large number of units is relatively charged a lower rate per unit.
- (c) *Customers from different market conditions*: If the goods are bought for further processing or resale, the buyer may be charged a lower price. If the goods are bought for ultimate consumption, the buyer may be charged relatively higher.

When Price Discrimination is Followed?

A firm may be able to charge different prices for the same good only under the following conditions:

1. The firm can set the price for the entire market.
2. The nature of product is such that it offers different degrees of elasticity for customers of different profile such as income, geographical location, alternatives available, tastes and preferences of the customers and so on. Higher prices can be charged only if the nature of the product is relatively inelastic.
3. When the markets are clearly separated so that those who buy for lower prices cannot sell to others for higher prices. Price discrimination becomes ineffective when the resale of goods from lower to higher prices cannot be checked in the sub-markets.

How can Markets be Separated?

The customers can be separated into different markets based on a number of factors such as time factor, geographical boundaries, income and wealth levels, sex, age, education level and so on.

- Hero Honda introduced Scooty that was sold only to the college students under a limited age group. Sale of this product was denied to customers of different profile.
- Most of the airliners such as Air India, Gulf Air, British Airways and so forth, charge cheaper rates for journey during off-season periods.
- Electricity charges are different for domestic households as compared to commercial and industrial users.
- Patients with high income and wealth can pay higher fee to the doctors. So the tendency is to separate such patients from the others.
- Those who buy large-scale are offered large quantity discounts.
- Customer profile is the major determinant. For instance, students, senior citizens are charged lower fare on Indian Railways. The government provides rice and other essential commodities under public distribution system at lower prices to those who are below certain income level.
- Corporate houses market their products abroad for cheaper prices (to earn foreign exchange) while charging higher prices in the domestic markets.

Advantages of Price Discrimination

Price discrimination implies that some group of customers is charged higher than the other groups. Though it apparently looks unfair, it has the following advantages:

- It helps to meet the challenges of competitors as lower prices are charged when there is high degree of competition in the markets.
- The surplus production, if any, can be disposed off.
- It may lead to increase in demand for products and services from such group of customers who are charged lower price. At relatively higher price levels, such customers may not afford to buy at all.
- The production costs can be lowered due to increase in the volume of production. The firm can make the best use of unutilised capacity, if any.
- Even in a high-priced market, the customers may obtain goods at lower prices than they would otherwise pay in a single market. For instance, a large export market may bring in economies of scale for the firm. As a result, consumers in the domestic market also may be charged a relatively lower price than before.

Is Monopoly Socially Desirable?

A monopolist gains control over a given market over a period of time with his products and services. But is it socially desirable? Many economists still feel that monopoly is socially undesirable as it reduces economic welfare in many ways. The following are some of the reasons that support their view point:

1. *Inefficient allocation of resources*: A monopolist will restrict the output of his product to increase the price and maximise profit. This means, he intentionally reduces the output using fewer resources.
2. *Exploitation of consumers*: The monopolist exploits the consumers by charging a higher price for his product. Because there is no competition, the monopolist is free to charge any price as long as the government does not interfere.
3. *Wide gap between rich and poor*: This may widen gap between the rich and poor. The monopolist makes large profit by charging higher prices. The income in the hands of consumers is taken away by the monopolist in this way. This leads to concentration of economic power and wealth in the hands of a few. Income inequalities widen.
4. *Unfair trade practices*: Gaining control over price or supply, the monopolist may resort to unfair trade practices such as blocking the entry of new firms into the market.
5. *Restricted Output*: The monopolist may intentionally restrict the output though he has scope to increase the production. This could be one of the strategies to continue to hold control over price in the market.
6. *Restricted scope to R & D*: Since there is no threat for the monopolist, he may not take serious interest in bringing out innovations or creativity in the products or improve the product standard.

Because of these reasons, governments in several countries have introduced laws to regulate and check monopolies such as Sherman's Anti-Trust Act in the USA and Monopolies and Restrictive Trade Practices (MRTP) Act in India.

Arguments in Favour of Monopoly

Some economists argue that monopoly is also beneficial to the consumers as large size results in economies of scale and average cost will be considerably lower, resulting in lower price. Because of the large size and abundant financial resources, the monopoly firms can invest heavily in R&D and bring out innovative products into the market. Thus, monopoly firms may make available to the customers better

quality products of new varieties at reasonable prices. With increasing focus on liberalisation, globalisation, and deregulation, governments in several countries, including India, have been reviewing anti-monopoly laws. For instance, government of India, in recent years, repealed several provisions in the MRTP Act.

Comparison between Perfect Competition and Monopoly

<i>Points of comparison</i>	<i>Perfect competition</i>	<i>Monopoly</i>
1. Relationship between AR and MR	$AR = MR$	$AR > MR$
2. Profit in the long-run	Normal profits in the long-run	Supernormal profits in the long-run also.
3. Number of sellers	Large number of sellers	Single seller
4. Barriers to entry and exit	Free entry and exit, as there are no barriers	There are strong barriers
5. Control on price	The seller is only the price taker	Monopolist is the price maker
6. Nature of demand curve	Perfectly elastic	Inelastic
7. Relationship between firm and industry	Each firm is a part of the industry	Firm and industry are one and the same.

MONOPOLISTIC COMPETITION

Monopolistic competition is said to exist when there are many firms and each one produces such goods and services that are close substitutes to each other. They are *similar* but not identical.

There are no restrictions on the entry and with the result, many firms who feel they can offer a relatively better product or service, enter the market.

The market share of each of the firms in the monopolistic competition is so insignificant that activities of one firm have no effect on others. The firms, here, operate relatively on a small scale. They can take advantage of economies of scale but not to any significant degree.

The number of firms is so large that there is no possibility of collusion to restrict output or raise price. Each one acts independently. Each firm plans strategically its pricing and output and is least worried about how its competitors are likely to react.

Product Differentiation

Product differentiation is the essential feature of monopolistic competition. Products can be differentiated by means of unique facilities, advertising, brand loyalty, packaging, pricing, terms of credit, superior maintenance service, convenient location and so on. Through heavy advertisement budgets, Pepsi and Coca-Cola make it very expensive for a third competitor to enter the cola market on such a big scale.

The following examples illustrate how the firms differentiate themselves from others in a monopolistic environment.

- In the hotel industry, some star hotels have long and spacious swimming pool(s), attached gymnasium, beauty parlours, separate restaurants for vegetarians and non-vegetarians, cultural programmes and so on. Such customers who value these facilities remain loyal to such hotels irrespective of the price changes.

- In the banking industry, ever since the foreign banks are allowed to operate on Indian soil, even the nationalised banks in India have started seeking to gain extra business by advertising and through improving the quality of service to the customer. Extending banking hours to the customers helped them to face the onslaught of the private and foreign banks.
- Nirmal paintings have their own niche in the market for paintings. Materials used, design, and craftsmanship are the important means of product differentiation.

PRICE-OUTPUT DETERMINATION IN MONOPOLISTIC COMPETITION

It is common that every firm whether operating under perfect market or imperfect market, wants to maximise the profits. It means that the firm under monopolistic competition also will reach equilibrium when its marginal cost equals its marginal revenue ($MC = MR$). The demand curve for the firm in case of monopolistic competition is just *similar* to that of monopolist.

As the products are differentiated, the demand curve has a *downward slope*. In other words, each firm has a limited control over price. These firms are price makers as far as a given group of customers is concerned. The demand for their products and services is relatively inelastic. The degree of elasticity of demand of a firm in monopolistic competition depends upon the extent to which the firm can resort to product differentiation. The greater the ability of the firm to differentiate the product, the less elastic the demand is. The firm's influence to increase the price depends upon the extent to which it can differentiate the product. At lower prices, the firm can sell more. There is no significant variation in the cost functions also.

Short-run

In the short-run, firms may experience supernormal or normal profits or even losses. When there is a fall in costs or increase in demand, the firms may enjoy supernormal profits. In other words, if the firm satisfies the following two conditions, it may make supernormal profits:

- where marginal cost is equal to marginal revenue ($MC = MR$)
- where average revenue is less than average cost ($AR < AC$)

The firm may be in losses when the costs rise or demand decreases.

Figure 8.8 reveals that the demand curve is a downward sloping curve because of product differentiation. The cost functions of a firm are not different from those of earlier market situations. At F , marginal cost (MC) is equal to marginal revenue (MR), extend F to point B on average revenue (AR) curve and Point Q on X axis.

OQ is the equilibrium output, $OA = QB$ = Equilibrium price and QC is the average cost. Average profit = average revenue minus average cost. BC is the average profit. Profit \times Quantity = Total profit.

The area $ABCD$ represents the supernormal profits earned by a firm under monopolistic competition in the short-run.

Long-run

More and more firms will be entering the market having been attracted by supernormal profits enjoyed by the existing firms in the industry. As a result, competition becomes intensive on one hand, firms will compete with one another for acquiring scarce inputs pushing up the prices of factor inputs. On the other hand, on the entry of several firms the supply in the market will increase, pulling down the selling price of

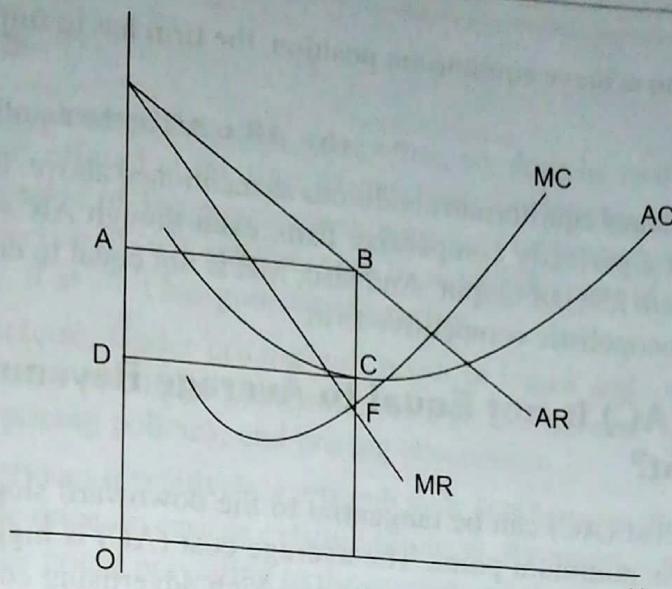


Fig. 8.8 Price-Output Determination in Monopolistic Competition in the Short-run

Box 8.1 Profit Maximisation with Calculus

Activities

- The XYZ company is *perfectly competitive firm* that can sell its entire output for Rs.20 per unit. The company's total cost function is given below:
 $TC = 12 + 13Q - 10Q^2 + 3Q^3$ where Q represents units of output. Find out
 - what is the firm's total revenue function?
 - Write equations for MR , MC and ATC .
 - What is the total profit equation.
- The total cost and demand equations for a *monopolist* are given by the following equations.
 $TC = 300 + 10Q^2$
 $P = 500 - 20Q$

What are the profit maximizing price and quantity?

- Given that the industry is dominated by a single producer, the demand for its product is

$$QD = 2000 - 50P \text{ and total cost} = 200 + 10Q + \frac{1}{120}Q^2$$

What is the monopolist's profit maximizing price and output.

- A firm in monopolistically competitive industry faces the following demand and total cost equations for its product. $Q = 80 - \frac{P}{4}$ $TC = 400 - 10Q + 10Q^2$
 - What is the firm's short run profit maximizing price and output level?

the products. In order to cope with the competition, the firms will have to increase the budget on advertising. The entry of new firms continue till the supernormal profits of the firms completely get eroded and ultimately firms in the industry will earn only normal profits. Those firms which are not able to earn at least normal profits will get closed. Thus in the long-run, every firm in the monopolistic competitive industry will earn only normal profits, which are just sufficient to stay in the business. It is to be noted that normal profits are part of average costs.

In the long-run, in order to achieve equilibrium position, the firm has to fulfil the following two conditions:

(a) $MR = MC$

(b) $AR = AC$ at the equilibrium level of output.

Thus, the firm has to fulfil dual equilibrium conditions as mentioned above. But when compared to long-run equilibrium position of a perfectly competitive firm, even though $AR = AC$, AC will not be at its minimum point at equilibrium level of output. And also, MR is not equal to either AR or AC , MR is well below AR in the case of monopolistic competitive firm.

Why Average Cost (AC) is not Equal to Average Revenue (AR) at its Minimum Point?

It is because, the average cost (AC) can be tangential to the downward sloping average revenue (AR) curve only at higher than its minimum point. The average cost (AC) is higher in case of monopolistic competitive firms because of excess or idle capacity and high advertising costs.

Does this Mean that 'Firm' and 'Industry' under Monopolistic Competition are Inefficient?

According to Pappas and Hirschey⁴, the very existence of the downward sloping demand curve implies that consumers value the firm's products than the products of other producers. Monopolistic competitive industry provides a variety of products and more varieties result in greater consumer satisfaction. Consumers will be happy only when they have more choice as variety is the spice of life.

From Fig. 8.9, it can be observed that in the long-run, the average cost (AC) curve will be tangential to the downward sloping average revenue (AR) curve at point E. It can be noted that the average cost curve is tangential to the average revenue curve at higher than its minimum point F. $MR = MC$ at point K. OQ is the equilibrium output and OP is the equilibrium price. Thus, in the long-run, a firm under monopolistic competition achieves equilibrium price and output level when both conditions of equilibrium are satisfied.

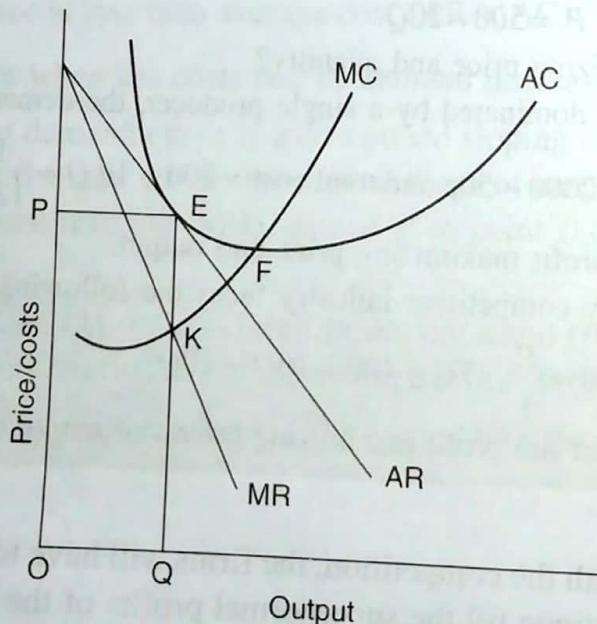


Fig. 8.9 Price-output Determination in Monopolistic Competition in the Long run

⁴ James Pappas and Mark Hirschey, *Monopolistic Competition*.

PRICING METHODS

Pricing is not an exact science. Pricing decisions, more often, are done by trial and error. Most often we see discounts and concessions offered at the time of purchase. Sometimes, certain schemes are introduced wherein if you buy a packet of Tea powder, a shining steel table spoon is free! Why are all these provided? While the main objective of such schemes is to increase sales, one of the other objectives is also to correct the pricing strategy, if at all it has gone wrong earlier.

Pricing is an important exercise. Under-pricing will result in losses and over-pricing will make the customers run away. To determine pricing in a scientific manner, it is necessary to understand the pricing objectives, pricing methods, pricing policies, and pricing procedures.

Pricing new products and services is relatively a difficult task. It is because there is no prior information or guideline available to fix the price. In case of existing products, fixing price may be easy because there is a lot of information about the prices prevailing in the market and the experiences of the traders.

Pricing Objectives

Pricing objectives refer to the general and specific objectives, which a firm sets for itself in establishing the price of its products and/or services and these are not much different from the marketing objectives or firm's overall business objectives.

Generally, the following are the objectives of pricing:

- (a) to maximise profits,
- (b) to increase sales,
- (c) to increase the market share,
- (d) to satisfy customers, and
- (e) to meet the competition.

Pricing Policy

The firm has to formulate its pricing policies, particularly when it deals in multiple products. The pricing policies are intended to bring consistency in the pricing pattern. For instance, to maintain price differentials between the deluxe models and basic models and so on. Pricing policy defines how to handle complex issues such as price discrimination and so forth.

Pricing Methods

The following are the different methods of pricing.

1. Cost-based Pricing Methods

(a) **Cost plus pricing:** This is also called 'full cost or mark up' pricing. Here the average cost at normal capacity of output is ascertained and then a conventional margin of profit is added to the cost to arrive at the price. In other words, find out the product unit's total cost and add a percentage of profit to arrive at the selling price.

This method is suitable where the costs keep fluctuating from time to time. It is commonly followed in departmental stores and other retail shops. This method is simple to be administered but it does not consider the competition factor. The competitor may produce the same product at lower cost and thus offer it at a lower price.

Sometimes, it may be very difficult to find the selling price in advance due to complexity of the nature of the project. In such a case, the parties to the contract agree on the percentage of profit on whatever total cost is incurred for the execution of the project. For instance, in case of large capital projects or high technology contracts, the length of time of construction or changing technical specifications lead to a high degree of uncertainty about the final price. In such a case, the only alternative is to adopt cost plus pricing.

- (b) **Marginal cost pricing:** In marginal cost pricing, selling price is fixed in such a way that it covers fully the variable or marginal cost and contributes towards recovery of fixed costs fully or partly, depending upon the market situations. In times of stiff competition, marginal cost offers a guide-line as to how far the selling price can be lowered.

This is also called break-even pricing or target profit pricing. How break-even analysis helps in taking pricing decisions has been illustrated in Chapter 6.

2. Competition-oriented Pricing

Here the pricing is a very complex task. Here the price of a product is set based on what the competitor charges for a similar product. In other words, a reduction in the price of products by the competitor will force us also to follow suit. In such a case, how far we can go on reducing the price? Here the marginal cost concept comes handy. As long as the price covers the marginal cost, continue to sell. If not, better stop selling. It is because, every unit sold at less than marginal cost results in loss.

- (a) **Sealed bid pricing:** This method is more popular in tenders and contracts. Each contracting firm quotes its price in a sealed cover called 'tender'. All the tenders are opened on a scheduled date and the person who quotes the lowest price, other things remaining the same, is awarded the contract. The objective of the bidding firm is to bag the contract and hence it will quote lower than others. Marginal cost concept continues to be the guiding principle here also. Any price quoted less than the marginal price results in loss. Any price quoted ambitiously, no doubt, results in profit but suffers from the danger of losing the contract.
- (b) **Going rate pricing:** Here the price charged by the firm is in tune with the price charged in the industry as a whole. In other words, the prevailing market price at a given point of time is the guiding factor. When one wants to buy or sell gold, the prevailing market rate at a given point of time is taken as the basis to determine the price. Normally the market leaders keep announcing the prevailing prices at a given point of time based on demand and supply positions.

3. Demand-oriented Pricing

The higher the demand, the higher can be the price. Cost is not the consideration here. The key to pricing here is the value as perceived by the consumer. This is a relatively modern marketing concept. Today most of the organisations consider favourably such proposals where there is possibility to charge higher prices on their products and services, even though they call for higher investments and latest technology. Demand-oriented pricing can take two forms: (a) Differential pricing also called price discrimination, (b) Perceived value pricing.

- (a) **Price discrimination:** Price discrimination refers to the practice of charging different prices to customers for the same good. The firm uses its discretion to charge differently the different customers. It is also called differential pricing. Customers of different profiles can be separated in various ways, such as by different consumer requirements (for example bulk and low gas supply).

to industrial and household consumers), by nature of product itself (for example original and replacement components of pressure cookers), by geographical areas (domestic and international markets), by income group (in a government hospital the patients are charged a fee based on their income groups) and so on.

The objects of price discrimination are to

- develop a new market including for export,
- utilise the maximum capacity,
- share consumer's surplus along with consumer, not leaving it totally to him,
- meet competition,
- increase market share.

(b) **Perceived value pricing:** Perceived value pricing refers to where the price is fixed on the basis of the perception of the buyer of the value of the product.

4. Strategy-based Pricing

(a) **Market skimming:** When the product is introduced for the first time in the market, the company follows this method. Under this method, the company fixes a very high price for the product. The main idea is to charge the customer maximum possible. This strategy is mostly found in case of technology products. When Sony introduces a particular TV model, it fixes a very high price. When new series of Pentium is released into market, it is priced very high. Initially, all cannot afford except a very few. As the time passes by, the price comes down and more people can afford to buy.

This method can be followed only when (i) the demand for the product is inelastic, (ii) there is no threat from competitors, (iii) a high price is coupled with high technology or quality.

(b) **Market penetration:** This is exactly opposite to the market skimming method. Here the price of the product is fixed so low that the company can increase its market share. The company attains profits with increasing volumes and increase in the market share. More often, the companies believe that it is necessary to dominate the market in the long-run than making profits in the short-run. This method is more suitable where market is highly price-sensitive. In such a case, a low price stimulates more rapid growth. It will be more appropriate in cases where the costs are likely to fall with increase in output. A low price may not attract significant degree of competition also.

(c) **Two-part pricing:** The firms with market power can enhance profits by the strategy of two-part pricing. Under this strategy, a firm charges a fixed fee for the right to purchase its goods, plus a per unit charge for each unit purchased. Entertainment houses such as country clubs, athletic clubs, golf courses, and health clubs usually adopt this strategy. They charge a fixed initiation fee plus a charge, per month or per visit, to use the facilities. There are also organisations that charge membership fee (equivalent to the consumer surplus) and offer their products and services cost-to-cost basis.

The fixed fee generally equals the consumer surplus each consumer receives at this per unit price. The charge per visit or on monthly basis equals the marginal cost. Under this method, if the membership fee is fixed to equal one's consumer surplus, actual profits can even be higher than in case of monopoly.

(d) **Block pricing:** Block pricing is another way a firm with market power can enhance its profits. We see block pricing in our day-to-day life very frequently. Six Lux soaps in a single pack or five

Maggi noodles in a single pack illustrate this pricing method. By selling certain number of units of a product as one package, the firm earns more than by selling unit wise. The block pricing is a profit maximisation price on each package. It is generally the total value the consumer receives for the package, including consumer surplus.

It works out as follows: Suppose six International Lux soaps are offered, as a single unit along with a elegantly looking soap box, at a price of Rs 100. Here the consumer has to make an all-or-none decision between buying eight units or buying nothing. From the customer point of view, each International Lux soap costs, say, Rs 18, and the soapbox is priced at Rs 25. So the soaps and box together cost the customer $(6 \times 18) + 25 = 108 + 25 = \text{Rs } 133$. As against this, the pack of six International Lux soaps is offered at Rs 100, which is fairly attractive from the customer angle! The consumer surplus is here equal to Rs 33.

Block pricing enhances profits by forcing consumers to make an all-or-none decision to purchase units of a product. This can enhance profits even in situations where consumers have identical demands for a given product.

(e) **Commodity bundling:** Commodity bundling refers to the practice of bundling two or more different products together and selling them at a single 'bundle price'. The package deals offered by the tourist companies, airlines hold testimony to this practice. The package includes the airfare, hotel, meals, sight seeing and so on at a bundled price instead of pricing each of these services separately. Computer firms offer PCs, assembling as per the customer specifications and offer them at a bundled price. The car companies provide cars with air-conditioning, power steering, automatic transmission, autogear and so forth, and sell them at a special price.

Commodity bundling is a viable pricing strategy to enhance profits when consumers differ with respect to the amounts they are willing to pay for multiple products sold by a firm. It is advantageous for the trader to know how much the consumer is prepared to pay for each of the product offered in the bundle. In case the tourist is prepared to pay any price for viewing Niagara Falls for longer hours, the tourist company can charge better for this customer by allowing him good time!

(f) **Peak load pricing:** During seasonal period when demand is likely to be higher, a firm may enhance profits by peak load pricing. The firm's philosophy is to charge a higher price during peak times than is charged during off-peak times. The pricing is done in such a way that the business is not lost to the competitors. The firm following such a strategy covers the likely losses during the off-peak times from the likely profits from the peak times.

Where the demand during the peak times is so high that all customers cannot be accommodated at the same price due to capacity constraints, the profitable alternative for the firm is to follow peak load pricing.

Airliners such as Air India, Indian Airlines, Jet Air and so on, keep revising their fares every three months to charge higher fares during festival/holiday seasons. Toll roads/bridges tend to have more traffic during rush hour than at other times of the day; utility companies tend to have higher demand during the day than during the late-night hours.

Peak load pricing is similar to price discrimination. But due to capacity limitations, the firm is unable to fully equate the marginal revenues of those who purchase at different times.

(g) **Cross subsidisation:** In cases where demand for two products produced by a firm is interrelated through demand or costs, the firm may enhance the profitability of its operations through cross

subsidiation. Using the profits generated by established products, a firm may expand its activities by financing new product development and diversification into new product markets.

To illustrate, a computer company, selling both hardware and software, may find economies relating to volume and cost, in selling the two products jointly. There can accrue cost savings as the software is developed as per the requirements of the customer within the company. The demand for the two products is likely to be interdependent. In such circumstances, the company may find it profitable to sell hardware at or below cost and charge a relatively high price for the software. The customer also is happy that the software is customised as per his requirements and compatible with the hardware.

The strategy of cross subsidies facilitates the company to sell multiple products. This may result in cost savings. If the two products are such that they are interdependent in terms of demand, the customer can be shown incentive to buy more of each product than they would otherwise buy.

- (h) **Transfer pricing:** Transfer pricing is an internal pricing technique. It refers to a price at which inputs of one department are transferred to another, in order to maximise the overall profits of the company.

In case of a company having multiple processes, the output of one process is the input of the next process. Till the production reaches the last stage, the output of each process is termed as work-in-progress. The price of output of one process affects the price of output of the next process. The engine department of Kinetic Honda makes the scooter engines and forwards these to the assembly department. The assembly department in turn assembles the scooter. Here, the price at which the engine department forwards each engine affects the price of the scooter.

Transfer pricing refers to the method of pricing the work in progress at different levels of processing at which one department forwards their output to the next department for further processing.

Pricing Strategies in Times of Stiff Price Competition

In markets we find firms selling similar products competing neck-to-neck in price. If the price wars lead to prices close to marginal cost, the firm does not really get any profit. In such a situation, there are three strategies that are valuable for firms:

(i) Price Matching Price matching is a strategy in which a firm promises to match a lower price offered by any competitor, while announcing its own price. It is necessary that one should be confident, before this strategy is adopted, that the price cannot be lower in the market than one offered. If all the firms maintain the same price, the firms share the market and charge the monopoly price, which results in high profits. The firm that comes out with a similar product at lower price, will gain back its market share.

(ii) Promoting Brand Loyalty This is an advertising strategy where the customers are frequently reminded by the brand value of a given product or service. The conviction here is that the customers, once they are loyal to the given branded product or service, will not slip away when the competitors come out with products at lower prices. Pepsi and Coke spend huge amounts on advertising campaigns to draw the attention of consumers. Brand loyal customers continue to be with the firm despite its higher prices. However, this strategy does not work out where the customer perceives no difference in the quality of products.

(iii) Time-to-time Pricing This is also called randomised pricing strategy where the firm varies its price from time-to-time, say hour-to-hour or day-to-day. This method offers two advantages: the rival firms can no more play with price cuts. Also the customers cannot learn from experience which firm charges the lowest price in the market. There is no guarantee that one firm continues to offer the best price. The person who has price information often stands to gain. But this gain is short-lived or a one-time benefit. It is because such information needs to be updated from time-to-time. Customers cannot keep on hunting for price information every time. So all the firms in the market have their own undisturbed market share. Added to this, the firms can sustain their market share by providing better customer care and service.

This method is frequently applied in the markets of bullion, currency, and bank deposits. The gold prices vary internationally from time-to-time for various extraneous considerations. The banks keep changing their deposit interest rates from time-to-time. Similarly the exchange rate of US dollar varies from time to time. Different exchange houses vary their buying and selling rates of different currencies.

(iv) Promotional Pricing To promote a particular product, at times, the firm may offer the product at the most competitive price. Sometimes, the price of a particular product is kept intentionally lower to attract the attention of the customer to other products of the firm. Here, the objective is to increase the sales of the entire product-line rather than making a profit on a particular product by itself.

(v) Target Pricing Here, the company operates with a particular targeted profit in mind. Normally the cost of capital will be one of the yardsticks to guide the targeted rate of return. How much is the rate of return the other companies are achieving also could be another yardstick to determine the price. The higher the risk and investment, the higher is the targeted profits and so is the price.