UNIT 3  MONOPOLISTIC COMPETITION: PRICE AND OUTPUT DECISIONS

Structure

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3.0 OBJECTIVES

After studying this unit, you will be able to:

- define the term monopolistic competition;
- explain the demand curve under monopolistic competition;
- state the equilibrium conditions of monopolistic competition;
- make comparison under perfect competition, monopoly and monopolistic competition; and
- explain the theory of excess capacity under monopolistic competition.

3.1 INTRODUCTION

Pure monopoly and perfect competition are two extreme cases of market structure. In reality, there are markets having large number of producers competing with each other in order to sell their product in the market. Thus, there is monopoly on one hand and perfect competition on other hand. Such a mixture of monopoly and perfect competition is called as monopolistic competition, it refers to a market situation in which there are large numbers of

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firms which sell closely related but **differentiated products**. Markets of products like soap, toothpaste AC, etc. are examples of monopolistic competition.

### 3.2 CONCEPT AND FEATURES OF MONOPOLISTIC COMPETITION

Monopolistic competition is a market in which firms can enter freely each producing its own brand or a differentiated product. Thus, a firm under monopolistic competition

a) Enjoys ‘monopoly position’ as far as a particular brand is concerned.

b) Since the various brands are close substitutes, its monopoly position is influenced by the stiff ‘competition’ from other firms.

**Examples of Monopolistic Competition:**

1) When you walk into a departmental store to buy toothpaste, you will find a number of brands, like Pepsodent, Colgate, Neem, Babool, etc.

   i) On one hand, the market for toothpaste seems to be full of competition, with thousands of competing brands and freedom of entry;

   ii) On the other hand, its market seems to be monopolistic, due to uniqueness of each toothpaste and power to charge different price. Such a market for toothpaste is a monopolistic competitive market.

2) A firm supplies branded good ‘Lux Soap’ in the market. There are many other firms in the market which sell similar soaps (not identical) with different brand names like Rexona, Palm Rose, etc., etc. Some times we can find one company manufacturing and selling similar products with several brand names at different prices. Their idea is to place each of their products in ‘niches’ or slots which capture attention of a different set of consumers. The firm supplying ‘Lux Soap’ enjoys a monopoly in the sale of its own product. It also faces competition from firms selling similar products. Same is the case with many other firms in the market like plywood manufacturing, jewellery making, wood furniture, book stores, departmental stores, repair services of all kinds, professional services of doctors, technicians, etc. These firms and others which have an element of monopoly power and also face competition over the sale of product or service in the market are called monopolistically competitive firm.

The following are the features or characteristics of monopolistic competition:-

1) **Large Number of Sellers**

There are large number of sellers producing differentiated products. So, competition among them is very keen. Since number of sellers is large, each seller produces a very small part of market supply. Every firm is limited in its size.
In other words, there are large numbers of firms selling closely related, but not homogeneous products. Each firm acts independently and has a limited share of the market. So, an individual firm has limited control over the market price. Large number of firms leads to competition in the market.

2) **Product Differentiation**

It is one of the most important features of monopolistic competition. In perfect competition, products are homogeneous in nature. On the contrary, here, every producer tries to keep his product dissimilar than his rival’s product in order to maintain his separate identity. This boosts up the competition in market and at the same time every firm acquires some monopoly power. Hence, each firm is in a position to exercise some degree of monopoly (in spite of large number of sellers) through product differentiation. Product differentiation refers to differentiating the products on the basis of brand, size, colour, shape, etc. The product of a firm is close, but not perfect substitute for products of other firms. Implication of ‘Product differentiation’ is that buyers of a product differentiate between the same products produced by different firms. Therefore, they are also willing to pay different prices for the same product produced by different firms. This gives some monopoly power to an individual firm to influence market price of its product. Following points provide insight about the product differentiation:

a) The product of each individual firm is identified and distinguished from the products of other firms due to product differentiation.

b) To differentiate the products, firms sell their products with different brand names, like Lux, Dove, Lifebuoy, etc.

c) The differentiation among different competing products may be based on either ‘real’ or ‘imaginary’ differences.

   i) Real Differences may be due to differences in shape, flavour, colour, packing, after sale service, warranty period, etc.

   ii) Imaginary Differences mean differences which are not really obvious but buyers are made to believe that such differences exist through selling costs (advertising).

d) Product differentiation creates a monopoly position for a firm.

e) Higher degree of product differentiation (i.e. better brand image) makes demand for the product less elastic and enables the firm to charge a price higher than its competitor’s products. For example, Pepsodent is costlier than Babool.

f) Some more examples of Product Differentiation: i) Toothpaste: Pepsodent, Colgate, Neem, Babool, etc., ii) Cycles: Atlas, Hero, Avon, etc., iii) Tea: Brooke Bond, Tata tea, Today tea, etc.

3) **Freedom of Entry and Exit**

This feature leads to stiff competition in market. Free entry into the market enables new firms to come with close substitutes. Free entry or exit maintains normal profit in the market for a longer span of time.

4) **Selling Cost**

It is a unique feature of monopolistic competition. In such type of market, due to product differentiation, every firm has to incur some additional expenditure in the form of selling cost. This cost includes sales promotion expenses, advertisement expenses, salaries of marketing staff, etc.
But on account of homogeneous product in perfect competition and zero competition in monopoly, selling cost does not exist there.

5) **Absence of Interdependence**

Large numbers of firms are different in their size. Each firm has its own production and marketing policy. So no firm is influenced by other firm. All are independent.

6) **Two Dimensional Competition**

Monopolistic competition has two types or aspects of competition aspects viz. Price competition i.e. firms compete with each other on the basis of price. Non-price competition i.e. firms compete on the basis of brand, product quality advertisement.

7) **Concept of Group**

In place of Marshallian concept of industry, Chamberlin introduced the concept of Group under monopolistic competition. An industry means a number of firms producing identical product. A group means a number of firms producing differentiated products which are closely related.

8) **Falling Demand Curve**

In monopolistic competition, a firm is facing downward sloping demand curve. It means one can sell more at lower price and vice versa.

9) **Lack of Perfect Knowledge**

Buyers and sellers do not have perfect knowledge about the market conditions. Selling costs create artificial superiority in the minds of the consumers and it becomes very difficult for a consumer to evaluate different products available in the market. As a result, a particular product (although highly priced) is preferred by the consumers even if other less priced products are of same quality.

**Check Your Progress 1**

1) What is monopolistic competition? Explain with few examples.

2) Identify the features that shows the presence of monopolistic competition in market.

3) A market with few entry barriers and with many firms that sell differentiated products is
   A) purely competitive.
   B) a monopoly.
   C) monopolistically competitive.
   D) oligopolistic.
3.3 DEMAND CURVE UNDER MONOPOLISTIC COMPETITION

Under monopolistic competition, large number of firms selling closely related but differentiated products make the demand curve downward sloping. It implies that a firm can sell more output only by reducing the price of its product.

As seen in Fig. 3.1, output is measured along the X-axis and price and revenue along the Y-axis. At OP price, a seller can sell OQ quantity. Demand rises to OQ₁, when price is reduced to OP₁. So, demand curve under monopolistic competition is negatively sloped as more quantity can be sold only at a lower price.

![Diagram](image_url)

**Fig. 3.1**

**MR < AR under Monopolistic Competition:** Like monopoly, MR is also less than AR under monopolistic competition due to negatively sloped demand curve.

**Demand Curve: Monopolistic Competition Vs. Monopoly:**

At first glance, the demand curve of monopolistic competition looks exactly like the demand curve under monopoly as both faces downward sloping demand curves. However, demand curve under monopolistic competition is more elastic as compared to demand curve under monopoly. This happens because differentiated products under monopolistic competition have close substitutes, whereas there are no close substitutes in case of monopoly.

Let us prove this with the help of Fig. 3.2.
We know, price elasticity of demand (by geometric method) at a point on the demand curve is given by: \( E_d = \text{Lower segment of demand curve} / \text{Upper segment of demand curve} \).

At price ‘OP’, price elasticity of demand under monopolistic competition is \( BC/AB \) and under monopoly is \( EF/DE \). Fig. 3.2 reveals that \( BC > EF \) and \( DE > AB \). So, \( BC/AB > EF/DE \).

It means, demand curve in case of monopolistic competition is more elastic as compared to demand curve under monopoly.

### 3.4 EQUILIBRIUM UNDER MONOPOLISTIC COMPETITION

A firm under monopolistic competition has to face various problems which are absent under perfect competition. Since the market of an individual firm under perfect competition is completely merged with the general one, it can sell any amount of the good at the ruling market price.

But, under monopolistic competition, individual firm’s market is isolated to a certain degree from those of its rivals with the result that its sales are limited and depend upon:

1) Its price,
2) The nature of its product, and
3) The advertising outlay it makes.

Thus, the firm under monopolistic competition has to confront a more complicated problem than the perfectly competitive firm. Equilibrium of an individual firm under monopolistic competition involves equilibrium in three respects, that is, in regard to the price, the nature of the product, and the amount of advertising outlay it should make.

Equilibrium of the firm in respect of three variables simultaneously – price, nature of product, selling outlay – is difficult to discuss. Therefore, the method of explaining equilibrium in respect of each of them separately is adopted, keeping the other two variables given and constant.

Moreover, as noted above, the equilibrium under monopolistic competition involves “individual equilibrium” of the firms as well as “group equilibrium”. We shall discuss these two types of equilibrium first in respect of price and output and then in respects of product and advertising expenditure adjustments.
3.4.1 Individual Firm’s Equilibrium in Short-Run Period

The demand curve for the product of an individual firm, as noted above, is downward sloping. Since the various firms under monopolistic competition produce products which are close substitutes to each other, the position and elasticity of the demand curve for the product of any of them depend upon the availability of the competitive substitutes and their prices.

Therefore, the equilibrium adjustment of an individual firm cannot be defined in isolation from the general field of which it is a part. However, for the sake of simplicity in analysis, conditions regarding the availability of substitute products produced by the rival firms and prices charged for them are held constant while the equilibrium adjustment of an individual firm is considered in isolation.

Since close substitutes for its product are available in the market, the demand curve for the product of an individual firm working under conditions of monopolistic competition is fairly elastic. Thus, although a firm under monopolistic competition has a monopolistic control over its variety of the product but its control is tempered by the fact that there are close substitutes available in the market and that if it sets too high a price for its product, many of its customers will shift to the rival products.

![Graph of Individual Firm's Equilibrium](image)

Assuming the conditions with respect to all substitutes such as their nature and prices being constant, the demand curve for the product of a firm will be given. We further suppose that only variables are price and output in respect of which equilibrium adjustment is to be made.

The individual equilibrium under monopolistic competition is graphically shown in Fig. 3.3. DD is the demand curve for the product of an individual firm, the nature and prices of all substitutes being given. This demand curve DD is also the average revenue (AR) curve of the firm.

AC represents the average cost curve of the firm, while MC is the marginal cost curve corresponding to it. It may be recalled that average cost curve first falls due to internal economies and then rises due to internal diseconomies.
Given these demand and cost conditions a firm will adjust its price and output, at the level which gives it maximum total profits. Theory of value under monopolistic competition is also based upon the profit maximisation principle, as is the theory of value under perfect competition.

Thus a firm, in order to maximise profits, will equate marginal cost with marginal revenue. In Fig. 3.3, the firm will fix its level of output at OM, for at OM output marginal cost is equal to marginal revenue. The demand curve DD facing the firm in question indicates that output OM can be sold at price MQ = OP. Therefore, the determined price will evidently be MQ or OP.

In this equilibrium position, by fixing its price at OP and output at OM, the firm is making profits equal to the area RSQP which is maximum. It may be recalled that profits RSQP are in excess of normal profits because the normal profits which represent the minimum profits necessary to secure the entrepreneur’s services are included in average cost curve AC. Thus, the area RSQP indicates the amount of supernormal or economic profits made by the firm.

In the short-run, the firm, in equilibrium, may make supernormal profits, as shown in Fig. 3.3 above, but it may make losses too if the demand conditions for its product are not so favourable relative to cost conditions. Fig. 3.4 depicts the case of a firm whose demand or average revenue curve DD for the product lies below the average cost curve, indicating thereby, that no output of the product can be produced at positive profits.

![Graph showing revenue and cost analysis](image)

Fig. 3.4

However, the firm is in equilibrium at output ON and setting price NK or OT. By adjusting price at OT and output at ON, it is able to minimise its losses. In such an unfavourable situation, there is no alternative for the firm except to make the best of the bad bargain.

We thus see that a firm in equilibrium under monopolistic competition, as under pure or perfect competition, may be making supernormal profits or losses depending upon the position of the demand curve relative to the position of the average cost curve. Further, a firm may be making only normal profits even in the short run if the demand curve happens to be tangent to the average cost curve.
It should be carefully noted that in individual equilibrium of the firm in Fig. 3.3 and 3.4, the firm having once adjusted price at OP and (respectively will have no tendency to vary the price any more. If it varies its price upward, the loss due to fall in quantity demanded will be more than possible gain owing to the higher price. If it cuts down its price, the gain due to the increase in quantity demanded will be less than the loss due to the lower price. Hence, price will remain stable at OP and OT in the two cases respectively.

### 3.4.2 Individual Firm’s Equilibrium in Long Run

In the preceding sections, we have discussed that in the short run, firms can earn supernormal profits. However, in the long run, there is a gradual decrease in the profits of the firms. This is because in the long run, several new firms enter the market due to freedom of entry.

When these new firms start production the market supply would increase and the price would fall. This would automatically increase the level of competition in the market. Consequently, AR curve shifts from right to left and supernormal profits are eliminated. The firms will be able to earn normal profits only.

In the long run, the AR curve is more elastic than that of in the short run. This is because of an increase in the number of substitute products in the long-run. The long-run equilibrium of monopolistically competitive firms is achieved when average revenue is equal to average cost. In such a case, the firms receive normal profits.

**Fig. 3.5: Shows the long-run equilibrium position under monopolistic competition**

In Fig. 3.5, P is the point at which AR curve touches the average cost curve (LAC) as a tangent. P is regarded as the equilibrium point at which the price level is MP (which is also equal to OP) and output is OM.

In the present case average cost is equal to average revenue that is MP. Therefore, in long run, the profit is normal. In the short run, equilibrium is attained when marginal revenue is equal to marginal cost. However, in the long run, both the conditions (MR=MC and AR=AC) must hold to attain equilibrium.

### 3.4.3 Group Equilibrium in Monopolistic Competition

The concept of group equilibrium was introduced by Chamberlin. The price-output equilibrium of all firms is known as group equilibrium. Group equilibrium represents the price and output of firms having close substitutes.
However, due to product differentiation, it is difficult to form market demand schedules and supply.

For overcoming the problem Chamberlin gave a concept called product group, which includes products that are technological and economic substitute of each other. Technological substitutes are the products having technical similarity, while economic substitutes are the products that have same prices and fulfill the same want of consumers.

A product group refers to a group in which the demand for each product is highly elastic. Here, the demand for a product changes with the changes in the prices of other products within the group, and, the price and cross elasticity of demand for products forming the group is high.

In an industry, different types of groups exist automatically. In automobile industry makers of cars and trucks are two different product groups.

The main competition would be among those organisations manufacturing similar products (cars or trucks) which are close substitutes of each other. Due to product differentiation, there is a large variation in the demand and cost curves of firms. Their price, output, and profits also differ.

**Therefore, to simplify product group analysis, Chamberlin has given two assumptions, which are as follows:**

i) The demand and cost curves of all products in the group are the same or uniform. The uniformity assumption. The preferences of consumers are evenly distributed and the difference in preferences does not lead to variation in cost.

ii) In monopolistic competition, a large number of sellers are not able to influence each other’s decisions. The changes in prices or level of output, of firm would have insignificant influence on its competitors. This is termed as the symmetry assumption.

These two assumptions form the basis for group equilibrium analysis. If an organisation within the group has established a popular brand, it is more likely to earn supernormal profits. However, in the long run, other organisations would strive to emulate the product design and features. In such a case, supernormal profits would vanish. This is a general case of all monopolistically competitive organisations.

On the other hand, if the entire group is earning supernormal profits, then external organisations would get attracted towards the group, until the legal or economic barriers are imposed.

In Fig. 3.6, P is the equilibrium point at which output is OM, price is MP, and average cost is MT. In such a case, marginal cost is equal to marginal revenue. Therefore, firms are earning supernormal profits (P\textsuperscript{*}T\textsuperscript{-}T\textsuperscript{*}). However, these supernormal profits disappear in the long run.
In Fig. 3.7, it can be seen that the supernormal profits have disappeared. It also depicts that average revenue (AR) is tangent to LAC, which implies that price is equal to average revenue. Marginal revenue gets equal to marginal cost at the output level of OM. This shows that in the long run, all firms in the industry are making normal profits.

3.4.4 Equilibrium with Selling Costs

Selling Costs: Concept

“Selling costs are costs incurred in order to alter the position or shape of the demand curve for the product.” E.H. Chamberlin

Selling costs play the key role in monopolistic competition and oligopoly. Under these market forms, the firms have to compete to promote their sale by spending on advertisements and publicity.

Moreover, producer has not to decide about price and output only. He also keeps in view how to maximise the profit.

Thus, cost on advertisement, publicity and salesmanship add to the cost or supply curve of the product while also contributing to rise in its demand. The Selling costs is a broader concept than the advertisement expenditures. Advertisement expenditures are part of selling costs.

In selling costs we include the salaries of sales persons, incentives to retailers to display the products, besides the advertisements. It was Chamberlin who introduced the analysis of selling costs and distinguished it from the production
costs. The production costs include all those expenses which are spent on the manufacturing of the commodity, its transportation cost of handling, storing and delivering of the commodity to actual customers because these add utilities to a commodity.

On the other hand, all selling costs include expenditures in order to raise demand for a commodity. In short, selling costs are those which are made to ‘create’ the demand for the product. Transport costs should not be included in selling costs; rather these should be included in the production costs. Transport costs actually do not increase the demand; it only helps in meeting the demand of the consumers.

In general, “those costs which are made to adopt the product to the demand are costs of production; those made to adopt the demand to product are costs of selling.”

The concept of selling cost is based on the following two assumptions:

1) Buyers do not have any perfect knowledge about the different types of product.

2) Buyers’ demand and tastes can be changed.

While production costs include outlays incurred on services engaged in the manufacturing of the product like land, labour and capital etc, the selling costs include all the costs incurred to change the consumer’s preference from one product to another. These raise the demand of a product at any given price.

“Production costs create utilities in order that demands may be satisfied while selling costs create and shift the demand curves themselves.”

Selling costs influence equilibrium price-output adjustment of a firm under monopolistic competition. In the Fig. 3.8 APC is the initial average production cost. AR1 is the initial average revenue curve or initial demand curve. The initial price is OP and the firm earns profits shown by the first shaded rectangle PQRS.

Fig. 3.8: Equilibrium with selling costs
ACC is the average composite costs curve, which includes the average selling cost (ASC). Average selling cost is equal to the vertical distance between APC and ACC. The new demand curve is AR₂. It is obtained after incurring selling costs or after making advertisements.

It is, obvious, that the demand for the product has increased as a result of selling costs. The profits have also increased as a result of selling costs. The profits after incurring selling costs at OM₁ level of output become equal to the shaded area P₁Q₁R₁S₁. Note that these profits are greater than the initial level of profits when no selling cost was incurred, i.e., P₁Q₁R₁S₁ > PQRS.

ACC₂ is the average composite cost when more additional selling cost is incurred, as a result of which the demand for the product further increases. The new demand curve is AR₂ which indicates a higher demand for the product. The profits are also greater than before since the shaded area P₂Q₂R₂S₂ > P₁Q₁R₁S₁.

It is, thus, obvious that the demand for the product is increasing as a result of the selling costs. Since selling costs are included in the cost of production, therefore price of the product is also increasing as a result of selling costs. Profits are also increasing as a result of higher selling costs and increased demand.

Here, question arises, how long a firm may go on incurring expenditure on selling costs? It will continue to make expenditure on selling costs as long as any addition to the revenue is greater than the addition to the selling costs. The firm will stop incurring expenditure on selling costs when the total profits are at the highest possible level.

This would be the point at which the additional revenue due to advertising expenditure equals the extra expenditure on advertisement. It should, however, be noted clearly that the effects of advertisement on prices and output are uncertain. Advertisement by a firm may be considered successful if the elasticity of demand for its product falls.

Check Your Progress 2

1) Will the demand curve for a firm under monopolistic competition be horizontal or downward sloping?

2) On which factors equilibrium of individual firm depend under monopolistic condition?

3) Construct the diagram showing long run equilibrium of firm in monopolistic competition.
3.5 PERFECT COMPETITION, MONOPOLY, AND MONOPOLISTIC COMPETITION: COMPARISON

The upcoming discussion will help you to make a comparison between perfect competition, monopoly and monopolistic competition.

1) Structural Differences

Under perfect competition, there are innumerable numbers of firms who produce homogeneous goods. Each firm in the market is so small that it cannot exert any influence on price and output. Each firm, thus, behaves as a price-taker.

Under monopolistic competition, there is quite a large number of sellers who sell slightly different products. Product differentiation enables a firm to exercise some power over price and output. This means that sellers behave as ‘price-makers’. However, a monopoly seller has full control over its price-output decision.

There is complete freedom of entry and exit of firms — both in perfect competition and in monopolistic competition. This condition is true during the long period only. In the short run, entry or exit is ruled out in both these market forms. But a monopoly business is characterised by the absence of a rival seller. Entry of new firms is either legally prohibited in monopoly, or may not be financially feasible.

2) Behavioural Differences

A firm behaves as a price-taker under perfect competition, and the demand curve faced by it is a horizontal one. Since price is fixed, AR curve coincides with the MR curve. A monopoly firm, however, faces a negatively sloped demand curve because it can have perceptible influence over price and output. Consequently, MR curve is also negative sloping and lies below the AR curve.

This is also true under monopolistic competition. The only difference between monopoly and monopolistic competition is that the demand curve faced by a monopolistically competitive seller is relatively more elastic.

Since price is fixed for a competitive firm, it has only to undertake output decisions. Further, products sold by competitive firms are perfect substitutes. Because of complete product homogeneity, no firm finds any incentive to spend money on any kind of sales promotional activity.

A monopoly firm also does not find any urgency to spend money on advertisement since there is no rival seller. But a monopolistically competitive seller has to incur some sort of “selling costs” just to provide information about its product or rivals’ products. In fact, in order to attract more and more customers, additional expenditure on selling cost is a necessity.

In every market, sellers adopt independent price-output policy. But all sellers of all market forms follow one basic principle. The basic behavioural rule is the equality between MC and MR. Under perfect competition, since AR = MR, MC = MR = AR = P. But, in monopoly and in monopolistic competition, this behavioural rule is slightly altered to MC = MR < AR = P, since in these two markets, AR > MR.
A monopoly firm or a monopolistically competitive firm produces in that region of its demand curve where the coefficient of elasticity of demand is greater than one. But, under perfect competition, coefficient of elasticity of demand is infinite.

3) **Optimum Capacity and Sub-Optimal Capacity of Production**

A competitive firm always produces at the minimum point of its AC curve. This means that a firm utilises its plant optimally. Since AR curve is a horizontal one, a competitive firm will always produce at the lowest point of its AC curve. It is then said that perfect competition leads to optimum economic efficiency.

But, under monopoly, or under monopolistic competition, the demand curve is negative sloping. It is due to the nature of this demand curve that a firm fails to operate at the minimum point of its AC curve. It operates somewhere to the left of the lowest point of the AC curve.

The implication of this is that resources are not utilised optimally under imperfect competition. Imperfect competition leads to economic inefficiency. As a result, a higher price for the product is charged and lower output is produced. In this sense, perfect competition is an ideal market where social welfare gets maximised. But social welfare gets reduced in monopoly or in monopolistic competition.

4) **Supply Curve**

Under perfect competition, MC curve above the shut-down point is the short run supply curve. But, under monopoly, or monopolistic competition, the supply curve remains indeterminate. In other words, in these market forms, MC curve is not the supply curve.

### 3.6 THEORY OF EXCESS CAPACITY UNDER MONOPOLISTIC COMPETITION

The doctrine of excess (or unutilised) capacity is associated with monopolistic competition in the long-run and is defined as “the difference between ideal (optimum) output and the output actually attained in the long-run.”

![Figure 3.6](image)

We know that under perfect competition, the demand curve (AR) is tangential to the long-run average cost curve (LAC) at its minimum point and conditions of full equilibrium are fulfilled: LMC = MR and AR (price) = Minimum LAC. This means that in the long-run, the entry of new firms forces the existing firms to make the best use of their resources to produce at the lowest point of average total costs. At point E in Fig. 3.6, abnormal profits will be competed away.
because MR = LMC = AR = LAC at its minimum point E and OQ will be the most efficient output which the society will be enjoying. This is the ideal or optimum output which firms produce in the long-run.

Under monopolistic competition, the demand curve facing the individual firm is not horizontal as under perfect competition, but it is downward sloping. A downward sloping demand curve cannot be tangent to the LAC curve at its minimum point.

The double condition of equilibrium LMC = MR = AR (P) = Minimum LAC will not be fulfilled. The firms will, therefore, producing at less than the optimum level even when they are earning normal profits. No firm will have the incentive to produce the ideal output, since any effort to produce more than the equilibrium output would involve a higher long-run marginal cost than marginal revenue.

Thus each firm under monopolistic competition will be producing at less than the optimum level and work under excess capacity. This is illustrated in Fig. 3.7 where the monopolistic competitive firm’s demand curve is d and MR\textsubscript{1} is its corresponding marginal revenue curve. LAC and LMC are the long-run average cost and marginal cost curves.

The firm is in equilibrium at E\textsubscript{1} where the LMC curve cuts the MR\textsubscript{1} curve from below and OQ\textsubscript{1} output is set at the price Q\textsubscript{1}A\textsubscript{1}. OQ\textsubscript{1} is the equilibrium output but not the ideal output because d is tangent to the LAC curve at A\textsubscript{1} to the left of the minimum point E. Any effort on the part of the firm to produce beyond OQ\textsubscript{1} will mean losses as beyond the equilibrium point E\textsubscript{1}, LMC > MR\textsubscript{1}. Thus the firm has negative excess capacity measured by OQ\textsubscript{1} which it cannot utilise working under monopolistic competition.

A comparison of the equilibrium positions under monopolistic competition and perfect competition with the help of Fig. 3.7 reveals that the output of a firm under monopolistic competition is smaller and the price of its product is higher than under perfect competition. The monopolistic competition output OQ\textsubscript{1} is less than the perfectly competitive output OQ\textsubscript{E} and the monopolistic competitive price Q\textsubscript{1}A\textsubscript{1} is higher than the competitive equilibrium price QE. This is because of the existence of excess capacity under monopolistic competition.

![Diagram 3.7](image)
Check Your Progress 3

1) In what respects monopolistic competition is different from other two extreme forms of market structure.

2) What do you understand by the term ‘excess capacity’?

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3.7 LET US SUM UP

Monopolistic competition is a market structure in which there are many firms selling closely related commodities. Its assumptions are: Large number of buyers and sellers, Differentiated products, Free entry and exit, aim of the firm is profit maximisation. Product differentiation exist which can be real or artificial. Its effect is that the firm has some degree of price-making power.

Under monopolistic competition in the short-run, firm maximises profit where MR=MC and the MC curve intersects MR curve from below. In the long-run, due to free entry and exit of firms, firm earns normal profit. Economic profits are zero.

Excess Capacity Theory states that it is a long-run concept and is the difference between least cost output and profit maximising output. While, under perfect competition, there is no excess capacity and under monopolistic competition, excess capacity always exists.

3.8 REFERENCES

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3.9 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) Read Section 3.1 and answer
2) Read Section 3.2 and answer
3) (c)
Check Your Progress 2
1) Read Section 3.3 and answer
2) Read Section 3.4 and answer
3) Read Sub-section 3.4.1 and answer

Check Your Progress 3
1) Read Section 3.5 and answer
2) Read Section 3.6 and answer