Laxmi Narain Dubey College, Motihari

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Department of Economics

Topic: Monopolistic Competition

Paper-I: MICROECONOMICS
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B.A. (Hons.)

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MONOPOLISTIC COMPETITION

- ✓ Monopolistic competition is associated with E. H. Chamberlin and Mrs J. Robinson. Both had presented separate models but arrived at the same solution.
- ✓ Chamberlin used the concept of the "group" (instead of the industry) as firms produce differentiated products.
- ✓ Monopolistic competition has elements of both perfect competition and monopoly.
- ✓ It is a market structure where there are many firms in the market selling close substitutes (but not identical) of the goods.
- ✓ It is one of the most prevalent forms of market structures that exist in the manufacturing sector in any economy, for example, in televisions, automobiles, and soaps.

Characteristics:

i. In the "group", there are a large number of buyers and sellers of the goods. Each single seller has a limited influence over the price of the goods.

ii. There exists product differentiation. As far as the goods are concerned, the goods produced by the group are close substitutes of each other.

iii. As far as the firms in the group are concerned, there exists free entry and exit.

iv. All the firms in the group have identical cost and revenue curves.

v. The goal of the firm is to maximise the profits.

vi. Each firm acts independently of the other firm in the group.

vii. Since the goods produced by the group are close substitutes of each other there exists non-price competition, for example, advertising between the firms.

Equilibrium of the Firm

✓ The firm under monopolistic competition aims at maximising the profits.

✓ The demand for the firm's product is influenced by three variables: price of the goods, quality of the goods when compared with other goods, and the selling costs incurred by the firm.

✓ In our present analysis, since we are focusing on price as a variable, it is assumed that the firm does not incur any selling costs and also that the quality of the product remains the same.

✓ Following figure depicts the demand curves of the firm and the group.
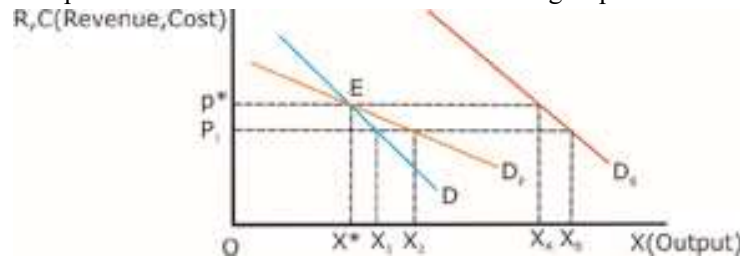

Demand Curves of the Firm and the Group

✓ Initially, the firm is in equilibrium at point E where the equilibrium price is OP* and the equilibrium output is OX*.

✓ D, the proportionate or the actual demand curve of the firm, depicts the demand for the good of one firm when all the other firms in the group charge the same price and also change the price of their goods simultaneously. It can be obtained by dividing D_g, the group or total demand curve, by the number of firms in the group.

✓ D_P, the perceived demand curve of the firm, depicts the demand for the goods of one firm assuming that the other firms in the group do not change the price of their goods.

✓ D_P is more elastic than D because when only one firm in the group decreases its price, then the buyers may shift from other firms to this firm who reduces its price. Thus, the firm is able to capture the share of the other firms in the market.

✓ The individual firm may perceive its demand curve to be D_P because there are many firms in the group and may feel that its actions may not be noticed by the other firms.

✓ As can be seen in the figure, if just one firm alone decreases its price from OP* to OP_1, then it can expect its sales to increase from OX^* to OX_2.

✓ However, if all the firms in the group decrease their price from OP* to OP_1, then each firm's sales increase only from OX^* to OX_1.

✓ The sales of the group increase from OX_A to OX_B.

✓ It is important to note that $OX_1 - OX^*$ is simply $OX_B - OX_A$ divided by the total number of firms in the group.

SHORT-RUN EQUILIBRIUM OF THE FIRM
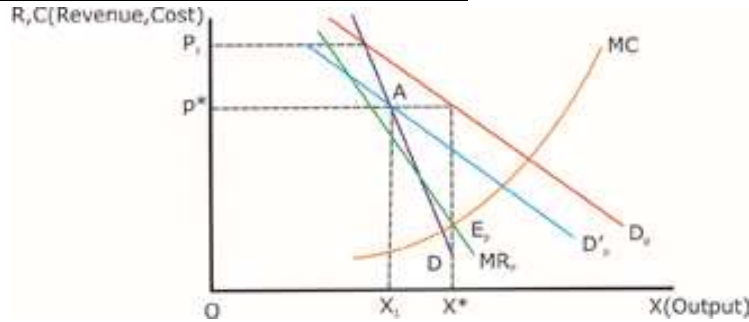
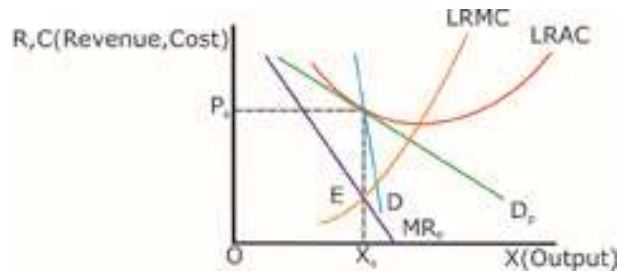*Adjustments of the Firm under Monopolistic Competition in the Short Run*

✓ The figure depicts-
▪ The firm's demand curves, D_P, D'_P, and D; the marginal revenue curve MR_P and the marginal cost curve, MC.
▪ Since the firm has some monopoly power, its demand curves and MR curve are downward sloping while the cost curves are U-shaped.
▪ Initially, all the firms in the group are charging the price OP_1.
▪ The firm believes its equilibrium to be at E_P, where the MR_P curve intersects the MC curve, MC.
▪ Thus, the firm would like to sell the output OX* at the price OP*.
▪ But all the firms in the group are identical. If each firm reduces its price to OP*, then in that case each firm can sell only an output equal to OX_1 and not OX^*. Thus, a surplus will exist, which will initiate the process of adjustment.
▪ The perceived demand curve, D_P, will shift inwards to D'_P and intersect D at point A. There will be a new marginal revenue curve corresponding to D'_P and a new equilibrium.
✓ The adjustment process will continue until the short-run equilibrium of a monopolistic firm is reached as shown in the following figure.
✓ Here, each firm perceives that it is maximising the profits since the MR_P equals the MC.
✓ Each firm's equilibrium output is OX_e while the equilibrium price is OP_e.
✓ Since the point (X_e, P_e) lies on the proportionate demand curve of the firm, it is obvious that the market clears.
✓ The firm is earning ***supernormal profits*** given by the shaded rectangle P_e LMN in the figure. (The firm could have been making ***losses*** in the short run.)
✓ SRAC and SRMC are the short-run average and marginal cost curves respectively.
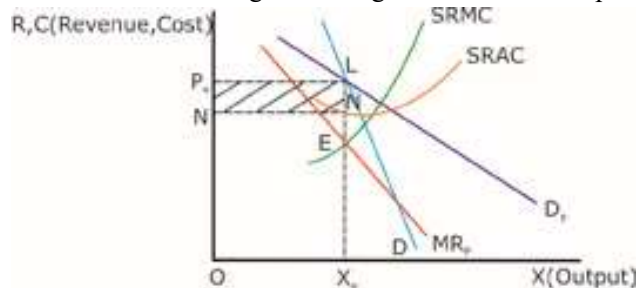
Short-Run Equilibrium of the Firm under Monopolistic Competition

LONG-RUN EQUILIBRIUM OF THE FIRM

✓ We have observed that the firm is earning supernormal profits in the short run.
✓ These profits will attract new firms into the group. (If the firm had been making losses, it would have led to an exit of firms.)
✓ Since the demand curve of the group will now be divided among more firms, now the proportionate demand curve of each firm will shift towards the left.
✓ Thus, the supernormal profits of each firm will be competed away till every firm faces a no-economic profit no-loss situation.
✓ Following figure depicts that LRAC and LRMC are the long-run average and marginal cost curves, respectively.
✓ Each firm perceives that it is maximising the profits since the MR_P equals the MC at point E.
✓ Each firm's equilibrium output is OX_e while the equilibrium price is OP_e.
✓ Since the point (X_e, P_e) lies on the proportionate demand curve of the firm, the market clears.
✓ The firm is just able to cover its economic costs. There are no supernormal profits. Hence, there is no entry and no exit of firms.

*Long-Run Equilibrium of the Firm under Monopolistic Competition*

EXCESS CAPACITY

Following figure depicts the long-run equilibrium of the firm at the point of tangency of the perceived demand curve with the LRAC curve.

But the demand curve under monopolistic competition is downward sloping because of product differentiation. This implies that at the point of tangency, the LRAC curve will also be downward sloping.

Therefore, the firm's equilibrium is not at the minimum point of the LRAC curve.

Hence, the firm's equilibrium output OX_e is less than the least cost or the ideal output OX_I.
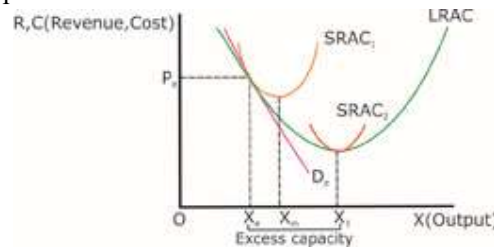
Excess Capacity

✓ Under perfect competition in the long run, any excess capacity stands non-existent as production takes place at the minimum point of the LRAC curve with the firm earning only normal profits.

✓ In the long run, under monopolistic competition, there exists excess capacity equal to X_eX_I. Excess capacity is the difference between the ideal (the least cost) output and the profit-maximising output of the firm.

✓ It can be split into two parts:
    a) **X_eX_m,** which exists because the plant $SRAC_1$ is not operated at its minimum point. $SRAC_1$ is the short-run average cost curve, which corresponds to the optimal plant for the firm's equilibrium output OX_e.
    b) **X_mX_I,** which exists because the optimal plant $SRAC_2$ is not operated by the firm. $SRAC_2$ is the short-run average cost curve, which corresponds to the optimal plant for the firm's ideal output OX_I.

✓ It is often argued that excess capacity leads to a waste of the society scarce resources and is thus a social loss.

✓ However, Chamberlin has put forward the view that the product differentiation under monopolistic competition provides a variety in life.

✓ The price, that people may be willing to pay for this variety in their life, may be the excess capacity, which exists under monopolistic competition in the long run.

SELLING COSTS

✓ Firms under monopolistic competition compete with each other through selling costs. Selling costs are costs which a firm incurs to change not only the position but also the shape of the demand curve for the goods. It includes the salaries of salespersons, allowances to the retailers for displaying the goods and other promotional activities.

✓ Production costs, in comparison, includes all the costs a firm incurs for manufacturing the goods and then to provide it to the consumer to meet his demand for the goods. They include not only the costs of manufacturing the good, but also of transporting the manufactured product so that it reaches the consumer and satisfies the demand for the good. Thus, while production costs meet the demand for the goods, selling costs try to change the demand for the goods.

✓ Under perfect competition, since the goods are homogeneous, there is no need for any competitive advertising. The individual firm can sell any amount of the goods at the given price.

✓ Under monopoly also since there are no close substitutes for the goods, the monopoly firm may not go in for competitive advertising, but it may advertise to promote its product.

✓ It is under monopolistic competition (and also under other forms of imperfect competition like differentiated oligopoly) that firms indulge in competitive advertising to promote the sale of their goods. While the price and the design of the goods remain the same, the competition between firms to increase the demand for the goods is through advertisements. For example, the basic chemical formula used in all toothpastes is the same but one particular brand may try to promote itself emphasising its special qualities. Such advertisements shift the demand curve for a particular brand outwards to the right, implying that at a given price a greater quantity of the goods is demanded.

✓ It is important to note that selling costs are subject to initially increasing returns and then diminishing returns. Thus, it is important for a firm to determine the optimum amount of selling costs that it should undertake such that its profits are maximised.

✓ The following figure analyses the optimum level of advertising expenditure for a firm under monopolistic competition which aims at profit maximisation. In the figure, ASC is average selling cost curve and APC is average production cost curve, $AC = ASC + APC$ which is the average cost curve and MC the is marginal cost curve. The vertical distance between APC and AC is ASC.
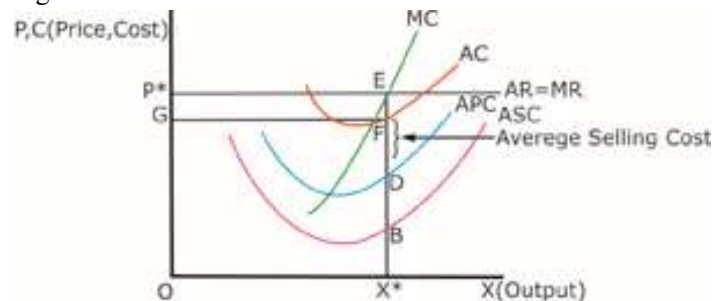
Optimum Level of Advertising expenditure for a Firm under Monopolistic Competition

✓ The firm fixes the price of the good at OP^* and also does not change the nature of the goods.

✓ The firm is in equilibrium at point E where the AR=MR curve intersects the MC curve.

✓ The equilibrium price is OP^* while the equilibrium output is OX*.

✓ The firm's profits are equal to the rectangle GP^*EF, while the average selling costs are equal to X^*B. Therefore, the optimum advertising expenditure incurred by the firm when it is producing OX^* units of the output is equal to OX^* multiplied by X^*B.