

MICROECONOMICS II

BCOM 4TH SEMESTER(HONS & GEN)

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OLIGOPOLY MARKET

Characteristics of Oligopoly Market

1. Interdependence:

The foremost characteristic of oligopoly is interdependence of the various firms in the decision making.

This fact is recognized by all the firms in an oligopolistic industry. If a small number of sizeable firms constitute an industry and one of these firms starts advertising campaign on a big scale or designs a new model of the product which immediately captures the market, it will surely provoke countermoves on the part of rival firms in the industry.

Thus different firms are closely inter-dependent on each other.

2. Advertising:

Under oligopoly a major policy change on the part of a firm is likely to have immediate effects on other firms in the industry. Therefore, the rival firms remain all the time vigilant about the moves of the firm which takes initiative and makes policy changes. Thus, advertising is a powerful instrument in the hands of an oligopolist. A firm under oligopoly can start an aggressive advertising campaign with the intention of capturing a large part of the market. Other firms in the industry will obviously resist its defensive advertising.

Under perfect competition advertising is unnecessary while a monopolist may find some advertising to be profitable when his product is new or when there exist a large number of potential consumers who

have never tried his product earlier. But according to Prof. Baumol, “under oligopoly, advertising can become a life-and-death matter where a firm which fails to keep up with the advertising budget of its competitors may find its customers drifting off to rival products.”

3. Group Behaviour:

In oligopoly, the most relevant aspect is the behaviour of the group. There can be two firms in the group, or three or five or even fifteen, but not a few hundred. Whatever the number, it is quite small so that each firm knows that its actions will have some effect on other firms in the group. In contrast, under perfect competition there are a large number of firms each attempting to maximise its profits.

Similar is the situation under monopolistic competition. Under monopoly, there is just one profit maximising firm. Whether one considers monopoly or a competitive market, the behaviour of a firm is generally predictable.

In oligopoly, however, this is not possible due to various reasons:

- (i) The firms constituting the group may not have a common goal
- (ii) The group may or may not have a formal or informal organization with accepted rules of conduct
- (iii) The group may be dominated by a leader but other firms in the group may not follow him in a uniform manner.

4. Competition:

This leads to another feature of the oligopolistic market, the presence of competition. Since under oligopoly, there are a few sellers, a move by one seller immediately affects the rivals. So each seller is always on the alert and keeps a close watch over the moves of its rivals in order to have a counter-move. This is true competition, “True competition consists of the life of constant struggle, rival against rival, whom one can only find under oligopoly.”

5. Barriers to Entry of Firms:

As there is keen competition in an oligopolistic industry, there are no barriers to entry into or exit from it. However, in the long-run, there are some types of barriers to entry which tend to restrain new firms from entering the industry.

These may be:

- (a) Economics of scale enjoyed by a few large firms;
- (b) Control over essential and specialized inputs;
- (c) High capital requirements due to plant costs, advertising costs, etc.
- (d) Exclusive patents; and licenses; and
- (e) The existence of unused capacity which makes the industry unattractive.

When entry is restricted or blocked by such natural and artificial barriers the oligopolistic industry can earn long-run supernormal profits.

6. Lack of Uniformity:

Another feature of oligopoly market is the lack of uniformity in the size of firms. Firms differ considerably in size. Some may be small, others very large. Such a situation is asymmetrical. This is very common in the American economy. A symmetrical situation with firms of a uniform size is rare.

7. Existence of Price Rigidity:

In oligopoly situation, each firm has to stick to its price. If any firm tries to reduce its price, the rival firms will retaliate by a higher reduction in their prices. This will lead to a situation of price war which benefits none. On the other hand, if any firm increases its price with a view to increase its profits; the other rival firms will not follow the same. Hence, no firm would like to reduce the price or to increase the price. The price rigidity will take place.

8. No Unique Pattern of Pricing Behaviour:

The rivalry arising from interdependence among the oligopolists leads to two conflicting motives. Each wants to remain independent and to get the maximum possible profit. Towards this end, they act and react on the price-output movements of one another which are a continuous element of uncertainty.

On the other hand, again motivated by profit maximisation each seller wishes to cooperate with his rivals to reduce or eliminate the element of uncertainty. All rivals enter into tacit or formal agreement with regard to price-output changes.

It leads to a sort of monopoly within oligopoly. They may even recognize one seller as a leader at whose initiative all the other sellers raise or lower the price. In this case, the individual seller's demand curve is a part of the industry demand curve, having the elasticity of the latter. Given these conflicting attitudes, it is not possible to predict any unique pattern of pricing behaviour in oligopoly markets.

9. Indeterminateness of Demand Curve:

In market structures other than oligopolistic, demand curve faced by a firm is determinate. The interdependence of the oligopolists, however, makes it impossible to draw a demand curve for such sellers except for the situations where the form of interdependence is well defined. In real business operations, the demand curve remains indeterminate. Under oligopoly a firm can expect at least three different reactions of the other sellers when it lowers its prices.

This happened due to the reason:

(i) It is possible that other maintain the prices they had before. In this case, an oligopolist can hope that its demand would increase substantially as the prices are lowered,

(ii) When an oligopolist reduces his price, the other sellers also lower their prices by an equivalent amount. In this situation although demand of the oligopolist making the first move will increase as he lowers his price, the increase itself would be much smaller than in the first case.

(iii) When a firm reduces its price, the other sellers reduce their prices far more. Under the circumstances the demand for the product of the oligopolistic firm which makes the first move may decrease. Thus uncertainty under oligopoly is inevitable, and as a result, the demand curve faced by each firm belonging to the group is necessarily indeterminate.

Non-Collusive Oligopoly: Sweezy's Kinked Demand Curve Model:

One of the important features of oligopoly market is price rigidity. And to explain the price rigidity in this market, conventional demand curve is not used. The idea of using a non-conventional demand curve to represent non-collusive oligopoly (i.e., where sellers compete with their rivals) was best explained by Paul Sweezy in 1939. Sweezy uses kinked demand curve to describe price rigidity in oligopoly market structure.

The kink in the demand curve stems from the asymmetric behavioural pattern of sellers. If a seller increases the price of his product, the rival sellers will not follow him so that the first seller loses a considerable amount of sales. In other words, every price increase will go unnoticed by rivals.

On the other hand, if one firm reduces the price of its product other firms will follow the first firm so that they must not lose customers. In other words, every price will be matched by an equivalent price cut. As a result, the benefit of price cut by the first firm will be inconsiderable. As a result of this behavioural pattern, the demand curve will be kinked at the ruling market price.

Suppose, the prevailing price of an oligopoly product in the market is QE or OP of Fig. 5.19. If one seller increases the price above OP, rival sellers will keep the prices of their products at OP. As a result of high price charged by the firm, buyers will shift to products of other sellers who have kept their prices at the old level. Consequently, sales of the first seller will drop considerably.

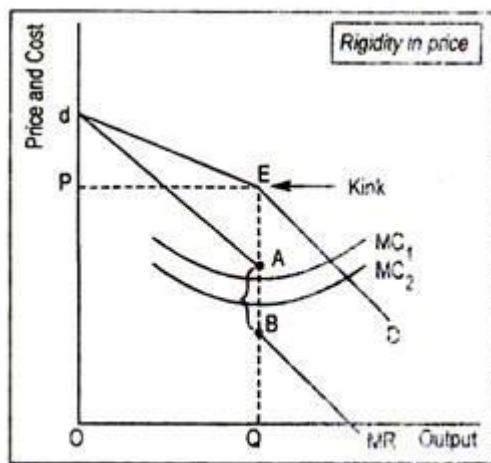


Fig. 5.19: Kinked Demand Curve and Oligopoly Equilibrium

Kinked Demand Curve and Oligopoly Equilibrium

That is why demand curve in this zone (dE) is relatively elastic. On the other hand, if a seller reduces the price of his product below QE, others will follow him so that demand for their products does not decline. Thus, demand curve in this region (i.e., ED) is relatively inelastic. This behavioural pattern thus explains why prices are inflexible in the oligopoly market – even if demand and costs change.

The kink in the demand curve at point E results in a discontinuous MR curve.

The MR curve has two segments :

At output less than OQ the MR curve (i.e., dA) will correspond to DE portion of AR curve, and, for output larger than OQ, the MR curve (i.e.,

BMR) will correspond to the demand curve ED. Thus, discontinuity in MR curve occurs between points A and B. In other words, between these two points, MR curve is vertical.

Equilibrium is achieved when MC curve passes through the discontinuous portion of the MR curve. Thus the equilibrium output is OQ, to be sold at a price OP.

Suppose, costs rise. As a result, MC curve will shift up from MC1 to MC2. The resulting price and output remain unchanged at OP and OQ, respectively. This fact explains stickiness of prices. In other words, in oligopolistic industries price is more stable than costs.

At first sight, the model seems to be attractive since it explains the behaviour of firms realistically. But the model has certain limitations. Firstly, it does not explain how the ruling price is determined. It explains that the demand curve has a kink at the ruling price.

In this sense, it is not a theory of pricing. Secondly, price rigidity conclusion is not always tenable. Empirical evidence suggests that higher costs force a further price rise above the kink. Despite these limitations, the model is popular among textbook authors.

Collusive Oligopoly or Cartel Model

In a model of collusive oligopoly, we discuss the economics of agreement between the firms in an undifferentiated oligopolistic industry. When these firms get together and agree to set prices and outputs so as to maximise total industry profits, they are known as a cartel.

Assumptions of the Cartel Model:

For the sake of simplicity, we shall make here the following assumptions:

- (i) There are only two firms in the oligopolistic industry, i.e., here we have a case of duopoly.
- (ii) Each firm produces and sells a product that is a perfect substitute for that of the other.
- (iii) The product is perishable.
- (iv) There are many knowledgeable buyers of the product.
- (v) Each firm knows the market demand for the product.
- (vi) The two firms have different cost curves.
- (vii) Both the firms have the same expectations about the prices and productivities of the inputs which they use.
- (viii) The price of the product is the sole parameter of action of each firm.
- (ix) The two firms are contemplating whether or not to form a cartel and agree upon a price that will promise the maximum maximorum of profits per period to both of them jointly

Collusive Oligopoly Model: Price Leadership Model:

Non-collusive oligopoly model (Sweezy's model) presented in the earlier section is based on the assumption that oligopoly firms act independently even though firms are interdependent in the market. A vigorous price competition may result in uncertainty.

The question that arises now is: how do oligopoly firms remove uncertainty? In fact, firms enter into pricing agreements with each other instead of adopting competition or price war with each other. Such agreement—both explicitly (or formal) and implicit (or informal)—may be called collusion.

Always, every firm has the inclination to achieve more strength and power over the rival firms. As a result, in the oligopolist industry, one finds the emergence of a few powerful competitors who cannot be eliminated easily by other powerful firms.

Under the circumstance, some of these firms act together or collude with each other to reap maximum advantage. In fact, in oligopolist industry, there is a natural tendency for collusion. The most important forms of collusion are: price leadership cartel and merger and acquisition.

When a formal collusive agreement becomes difficult to launch, oligopolists sometimes operate on informal tacit collusive agreements. One of the most common form of informal collusion is price leadership. Price leadership arises when one firm—may be a large as well as dominant firm—initiates price changes while other firms follow.

An example of dominant firm price leadership is shown in Fig. 5.20 where DT is the industry demand curve. Since small firms follow the leader—the dominant firm—they behave as “price-takers”. MCs is the horizontal summation of the MC curves of all small firms.

Price Leadership Model

Suppose, the dominant firm sets the price at OP_1 (where DT and MCs intersect each other at point C). The small firms meet the entire demand P_1C at the price OP_1 . Thus, the dominant firm has nothing to sell in the market. At a price of OP_3 , the small firm will supply nothing. It is obvious that price will be set in between OP_1 and OP_3 by the leader.

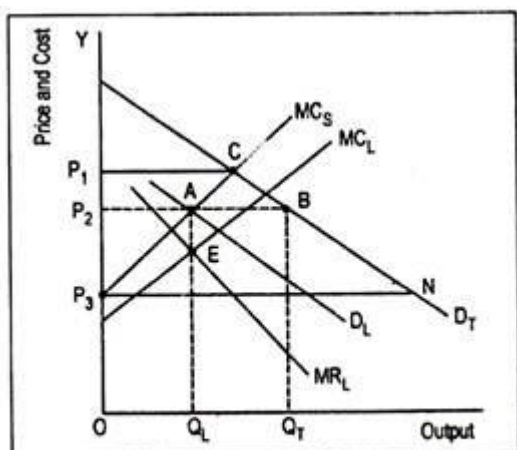


Fig. 5.20: The Price Leadership Model

The demand curve faced by the leader firm of the oligopoly industry is determined for any price – it is the horizontal distance between industry demand curve, DT , and the marginal cost curves of all small firms, MCS . In Fig. 5.20, DL is the leader's demand curve and the corresponding MR curve is MRL .

Being a leader in the industry, the dominant firm's supply curve is represented by the MCL curve. Since it enjoys a cost advantage, its MC curve lies below the MCS curve.

A dominant firm maximizes profit at point E where its MCL and MRL intersect each other. The corresponding output of the price leader is OQL. Price thus determined is OP2. Small firms accept this price OP2 and sell QLQT (=AB) amount - industry demand the OQT output.

In actual practice, the analysis of price leadership is complicated, particularly when new firms enter the industry and try to become the leader or dominant.

Collusive Oligopoly – Merger and Acquisition:

Another method to remove price war among oligopoly firms is merger. Merger may be defined as the consolidation of two or more independent firms under single ownership. When a firm purchases assets of another firm, acquisition takes place. Merger and acquisition take place because the management comes to a conclusion that a consolidated firm is powerful than the sum of individual firms.

Since basically the difference between cartel and merger is a legal one, we won't consider mergers and acquisitions. The marginalistic principle applied in the case of profit maximizing cartel is also applicable in the case of merger.

Conclusion:

Can we make some definite conclusions from the oligopolistic market structure? Though one can make unambiguous predictions about perfect competition as well as monopoly, no such predictive element of an oligopolistic competition exists. It is, thus, a perplexing market structure. One important characteristic of an oligopoly market is interdependence among sellers.

Each seller's price-output decision is influenced by the perceptions of countermoves of rival sellers.

Given the large number of possible reactions, we come up with different models based on different assumptions about the behaviour of the rival sellers, the extent and form of exit and entry, the likelihood of collusion between firms. 'Unfortunately, economic theory does not suggest which assumptions to use. In any event, each of these theories must ultimately stand or fall on its predictive powers'.