Oligopoly

An oligopoly is a market that is characterized by the interdependence of firms. The outcomes that follow from the decisions of one firm are dependent on what the other firms do. Augustin Cournot (1801-1877), a French mathematician/economist developed the theory of monopoly and then considered the effects of two interdependent competitors (sellers) in a duopoly. Cournot's analysis of two sellers of spring water clearly established that the price and output of one seller was a reaction to the price and output of the other seller. If the two collude they can act as a single monopolist and divide monopoly profits. If they compete, Cournot concluded that the output would be

$[\frac{N1}{(N+1)}]$

times the competitive output.As the number of competitors (N) increases, the result approaches the purely competitive result. Cournot's recognition of the interdependence of sellers provided the foundation for a variety of approaches to explain the interdependent behavior of oligopolists. In the 1930's the "kinked demand" model [published by Paul Sweezy in August 1939 and by R.L. Hall and C.J. Hitch in May 1939] and the "administered price hypothesis" [Gardner C. Means in 1935] were developed as an attempt to explain price rigidities in some markets during the great depression. In 1943 John von Neumann and Oskar Morgenstern published a path breaking work on game theory. Game theory has been used to try to explain the behavior of independent competitors. There have been a variety of other models that attempted to explain the interdependent behavior in oligopolies. The number of models is evidence that it is a difficult task and there are problems with most approaches. The kinked demand model is used here to emphasize the interdependence of oligopolistic behavior rather than to explain the determination of price.

Kinked Demand Model

The kinked demand model begins with an oligopoly that has two sellers of a homogeneous good. The typical characteristics that constitute an oligopoly are:

- A "few" firms; the concept of "few" means that there are few enough sellers that they recognize their interdependence.
- The output may be homogeneous or differentiated. Primary metals industries are examples of oligopolies with homogeneous goods. Instant breakfast drink mixes are an example of an oligopoly with differentiated products.
- In an oligopoly there are usually significant barriers to entry.

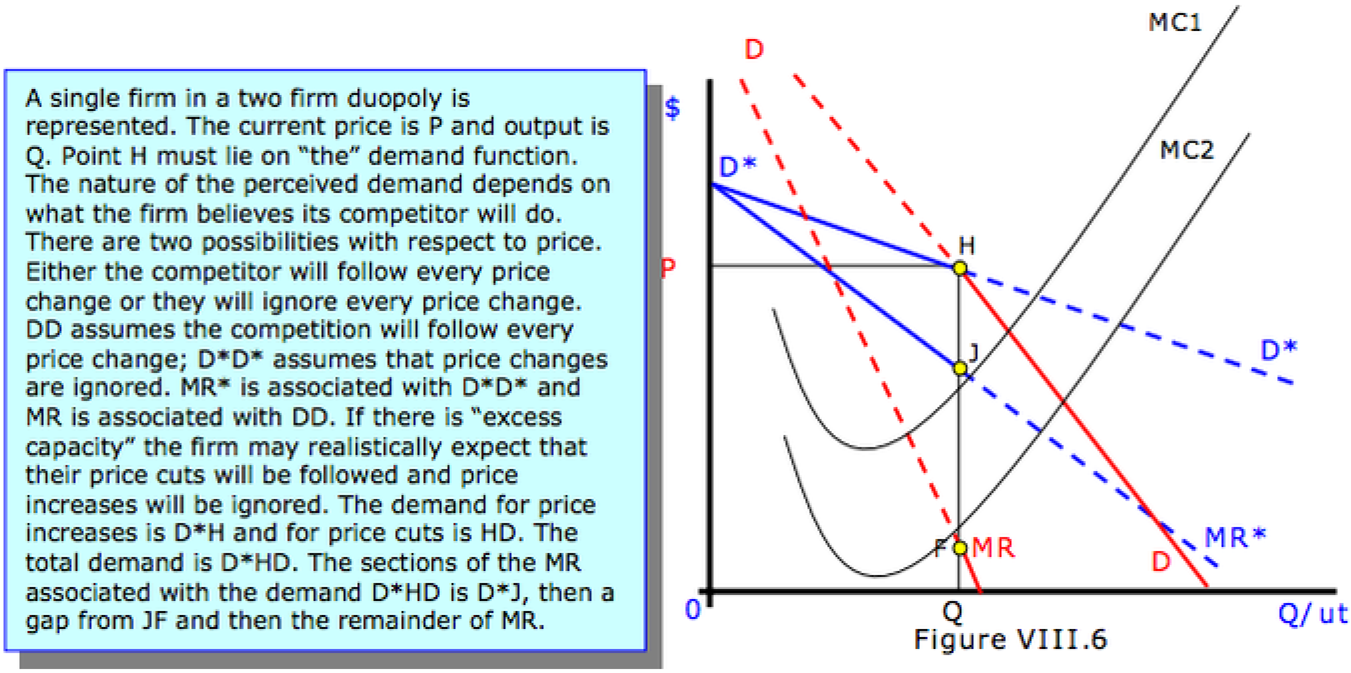

Figure VIII.6

Figure VIII.6 is a graphical representation of the demand and revenue functions of a firm in a oligopoly that is modeled as a kinked demand.

The kinked demand model is dependent on the firm believing that the competitor will follow price cuts but not price increases. If there is additional capacity available (firms can increase output without increasing plant size), a price cut will followed. The reasoning is that if the competitor does not follow the price cut, firm will entice customers away from the competitor. Therefore, the competition must follow price cuts or lose customers and sales. The demand function relative to price cuts in inelastic; cut price and TR falls. The perception is that the competition will not follow a firm's price increases. If they do not follow they will get the firm's customers and sales. The demand above the prevailing price is relatively elastic; raise price and TR falls. At the prevailing price, there is a kink in the demand function and an associated gap or discontinuity in the MR (shown as the gap from J to F in Figure VIII.6). The marginalcost function can rise to MC1 or fall to MC2 with no change in output or price. The kinked demand model of the Great Depression was used as evidence that concentrated markets were rigid and failed to respond to changing conditions. Pro market advocates obviously attached the model and its conclusions.

All models of market structure must be considered as examples. When analyzing a market, it is not a mater of selecting and applying one of the market models presented in principles of microeconomics. You must consider all the relevant characteristics of the firms and the market and then construct a workable model to explain the question you have asked.