Lesson 4: Market Structure 4: Oligopoly

OLIGOPOLY

Characteristics

- There are a small number of sellers.
- The products offered by sellers are close substitutes for each other. Products may be differentiated by brand (e.g. Coke® and Pepsi®) or be homogenous (e.g. oil).
- There are high costs of entry and significant barriers to competition.
- Firms enjoy substantial pricing power.
- Products are often differentiated on the basis of quality, features, marketing and other non-price strategies.

Cournot Assumption

- Asserts that each firm determines its profit-maximizing level assuming that other firms' output will not change.
- In equilibrium, no firm has an incentive to change output. In the long run, prices and output are stable, there is no possible change in output or price that would make any firm better off.

Example

The market demand curve is given as: QD = 400 – P. There are only two firms in the industry and the supply curve for each firm is represented by its marginal cost, which is constant at $40.

1. Determine equilibrium price and output in the long run under Cournot's assumption.
2. Determine long run equilibrium price and output under perfect competition.
3. Determine long run equilibrium price and output under a monopoly.

Nash equilibrium is achieved when none of the firms in an oligopoly market can increase profits by unilaterally changing its price.

- Each firm tries to maximize its own profits given the responses of its rivals.
- Each firm anticipates how its rival will respond to a change in its strategy and tries to maximize its profits under the forecasted scenario.
- As a result, the firms in the market are interdependent, but their actions are non-cooperative: firms do not collude to maximize profits.

Factors Affecting Chances of Successful Collusion

The chances of successful collusion improve when:

- There are fewer firms in the industry or if one firm is dominant. Collusion becomes difficult as competition between firms in the industry increases.
- The firms produce similar products.
- The firms have similar cost structures.
- Order size is small and orders are received more frequently.
- There is minimal threat of retaliation from other firms in the industry.
- There is minimal external competition.

The Stackelberg Model

Supply Analysis in Oligopoly Markets

- The supply function for a firm in an oligopoly is not well-defined because optimal quantity and price depend on the actions of rival firms.
- The firm produces where MC = MR.
- Equilibrium price comes from the demand curve.

Optimal Price and Output in Oligopoly Markets

There is no single optimal price and output that fits all oligopoly market situations.

- In the kinked demand curve model, the optimal price is the prevailing price (at which the demand curve kinks).
- In the dominant firm model, the leader produces an output level where MC = MR. Followers have little or no power to influence price.
- In the Cournot assumption, each firm assumes that rivals will have no response to any actions on their part. Each firm produces where MC = MR.
- In Nash equilibrium, firms continue to respond to changing circumstances with the aim of maximizing their own profit. Since there is significant interdependence between firms, there is no certainty regarding an individual firm's price and output.

Factors Affecting Long Run Equilibrium in Oligopoly Markets