



Cournot competition

Cournot competition is an economic model that describes an industry structure. Rival companies offering an identical product compete on the amount of output they produce, independently and at the same time. The model is named after its founder, French mathematician Augustin Cournot.

- Cournot competition is an economic model in which competing firms choose a quantity to produce independently and simultaneously.
 - The model applies when firms produce identical or standardized goods.
 - It's assumed that they can't collude or form a cartel.
 - The concept that one firm will react to what it believes a rival will produce forms part of the perfect competition theory.
- Markets with limited competition are referred to as oligopolies. Companies operating in oligopolies often compete by attempting to steal market share from each other. One way to do this is by altering the number of goods sold.
 - Higher output drives down prices and lower output raises them, according to the law of supply and demand. Companies must therefore consider how much quantity a competitor is likely to churn out to have a better chance of maximizing profits.
 - Efforts to maximize profit are based on competitors' decisions and each firm's output decision is assumed to affect the product price. The idea that one firm reacts to what it believes a rival will produce forms part of the perfect competition theory.
 - The Cournot model is applicable when companies produce identical or standardized goods. It assumes that they can't collude or form a cartel. They have the same view of market demand and are familiar with competitor operating costs.

The Cournot model remains the standard for oligopolistic competition but it can also be extended to include multiple firms.

Advantages of Cournot Competition

The Cournot model has some significant advantages. The model produces logical results with prices and quantities that are between monopolistic levels (low output, high price) and competitive levels (high output, low price). It also yields a stable Nash equilibrium, an outcome from which neither player would like to deviate unilaterally.

Limitations of Cournot Competition

Some of the model's assumptions can be unrealistic in the real world. The Cournot classic duopoly model assumes that the two players set their quantity strategy independently of each other. This is unlikely to be the case in a practical sense. They're likely to be highly responsive to each other's strategies when only two producers are in a market rather than operating in a vacuum.

Cournot argues that a duopoly could form a cartel and reap higher profits by colluding but game theory shows that a cartel arrangement would not be in equilibrium. Each company



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Department of Computer Science and Engineering
Data Science



would tend to deviate from the agreed output. Look no further than the organization of the petroleum exporting countries (OPEC).

Finally, the Cournot model assumes product homogeneity with no differentiating factors. Cournot developed his model after observing competition in a spring water duopoly. It would be difficult to find homogeneity in the products offered by two or more suppliers even with a product as basic as bottled mineral water.