

Abstract

Oligopolies: implications of Game Theory in corporate strategies and Antitrust policies.

Although we don't know or maybe we do not realize it, we have to deal with oligopolies many times a day. It may not even be necessary to leave the house; just turn on the television.

RAI and *Mediaset*, for example, are a Duopoly. Decisions, then, to reach the supermarket opens a window on the largest concentrated oligopolies at hand. The same company may hold products that range from body care to house cleaning, from snacks to household appliances.

If we go catch a train, in the same way, we are confronted with the same situation.

Either we take *Italo* or *Trenitalia*, another Duopoly.

The same, then, can be applied to many other sectors: airlines, the major film producers, fast-food, car companies and so on.

So, even if we don't care of oligopolies, oligopolies are interested in us. So why not buck the trend? We've got the means; mathematics gave us Game Theory, a tool to understand how and why oligopolistic firms interact with each other; law allowed us to discover who and by which means can regulate the behavior of oligopolists operators, the Antitrust Authority. So, what we will do, is to review the most important facts, with the support of the most relevant case studies and the most recent case law.

The variables that businesses can use in a strategic way, in an oligopolistic markets, are many: quantity produced, price, quality of product, expenditure on research and development, investments and many others. These variables are of fundamental importance because, the main feature of an oligopoly is the interdependence of the decisions taken by the operators that operate in the same market; the behavior of each company, in fact, influence that of the other. It goes

from the choice to produce in quantity rather than in another that the optimal price, the decision to introduce a new product on the market to vary the level of investment.

So, analyzing the most important economic models of oligopolies (Cournot, Bertrand and Stackelberg), we'll be able to understand when it is better for a company to decide: in which quantity produce, like in the Bertrand model, when it is better to set the price, like in the Cournot model, or when it is better for a firm to act as a first mover and shut the other one in the position of the second mover (Stackelberg). Given this, the fundamentals of Game Theory give us an outline on the oligopolists behavior, through the best known game: the *Prisoners' Dilemma*. It is a canonical example of a game analyzed in game theory, that shows why two purely rational individuals might not cooperate, even if it appears that it is in their best interests to do so. It has applications in many scientific fields, but especially in business strategy. We can apply it to the strategy of Coca-cola and Pepsi managers to assess if they will advertise or not, to analyze Apple and Dell's prize setting strategies or to study what coordinates the collusion of OPEC members.

But, studying firm strategies, would be pointless without dealing with Antitrust policies, that represent their counterpart.

The Antitrust as we know it today, as a set of rules for the protection of the free market, was not born in Italy nor in Europe but in the United States. Starting from the Sherman Act in 1890 it has developed till recent years influencing the Antitrust law, born in Europe, several years later. Both in the US and in Europe it regulates many illegal behaviors of the firms: from collusion to horizontal and vertical agreements, from state incentives to abuse of dominant position.

But, what now? What's going on nowadays? In the recent years a new actor, *Globalization*, has strongly affected Antitrust laws and changed the policies that can be implemented against oligopolist behavior. Nonetheless, it has introduced new operators in the game and opened the doors to bigger cross border mergers and join ventures.

We'll wait for further changes of the discipline to keep up with the new oligopolists strategies.