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ANALYSIS OF COMPANIES' BEHAVIOR IN SYMMETRIC AND ASYMMETRIC INFORMATION SITUATIONS

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Abstract

Analyzing the behavior of market players under information asymmetry is one of the most complex and important studies to describe the development of economic games. It contributes to understanding strategic decisions, identifying behavioral deviations and sources of inefficiency, optimizing strategies, and establishing an efficient framework for encouraging fair competition. The complex nature of competition, market concentration, efficiency and strategic collaborations requires a solid understanding of the fundamental theoretical framework for the main objective. Hence, the necessity arises for a comprehensive literature review and a detailed overview of classical models that are considered benchmarks in the relevant research area.

The main objective of the thesis is to analyze imperfectly competitive markets under conditions of information symmetry and asymmetry. This objective has been achieved by using research methods related to game theory, operational research and data analysis. Within the doctoral thesis, most relevant bibliographic references were critically scrutinized, and the research methodology employed was presented along with case studies that justify the specific objectives pursued.

Five case studies incorporated concepts and models specific to the three aforementioned disciplines. The competition analysis was carried out by applying three specific game theory models depending on the analyzed variable, namely the Bertrand model for price competition, and the Cournot and Stackelberg models for quantity competition in the natural gas market. The main objectives of the analysis of the European insurance market were to assess efficiency, the degree of concentration, the reduction of the dimensionality of the causal space and the identification of hidden structures, all of which were achieved with techniques used in operational research and data analysis. The last two case studies considered the insurance market in Romania, focusing on the degree of concentration, the competitive environment, the impact of bankruptcies, digitalization, efficiency and the application of cooperative games to determine the outcomes of strategic collaborations such as mergers and acquisitions. The results show that Russia holds a dominant position in the natural gas market. The price estimated by applying the Cournot model was close to the average value, but the equilibrium quantities differed significantly from the average annual production, especially for the Netherlands. However, applying the Stackelberg model yielded an optimal quantity very close to the actual one for Russia. Regarding the insurance market, the findings indicate that bankruptcies and strategic collaborations such as acquisitions and mergers have contributed to the restructuring of the competitive environment in the Romanian insurance market. There is a high degree of concentration and efficiency in the insurance market at both national and European levels.

Keywords: asymmetric information, game theory, efficiency, economic concentration, competition, mergers and acquisitions.