

## Game Theory

The purpose of the lecture is to give an insight into the possible ways of analyzing and shaping business decisions by implementing principles of game theory, and to investigate the possibilities of taking creative risks to achieve strategic advantage.

The lecture will give a theoretic insight into basic game-theoretic concepts and principles. Based on real-life examples and exercises students will be able to acquire non-mathematical knowledge and skills for applying game-theoretic models in business operations. The lecture encompasses a wide range of specific areas of implementation of game theory in business, such as price competition, entry deterrence, or FDI. Basic component of each of these applications is that they are put into the decision-making context in competitive surroundings, or, in other words, they deal with situations in which a certain number of economic agents, trying to satisfy own interests, take actions that impact common total fortune. Using game-theoretic terminology, players take actions consistent with given "rules of the game", and these common activities determine the eventual outcome and payoffs.

Apart from providing the framework and structure for modeling competitive environment, game theory also provides the answer to the crucial question: "Which optimal decision or activity should a competitor make or take anticipating his/her opponent's optimal activities?" Game theory accurately depicts real competitive situations from the immediate surroundings thereby becoming an important advisor in designing business strategies.

Paper topics:

1. Game theory : General idea and basic concepts
2. Taxonomy of games
3. Simultaneous games and solution concepts
4. Sequential games and solution concepts
5. Atomic games and their application
6. Prisoners' Dilemma
7. Strategic moves
8. Information structure
9. Games of imperfect /incomplete information and solution concepts
10. Moral hazard and adverse selection

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