Game Theory: actual applications
Modern experience of applications Bayesian and Cooperative games for the analysis of modern political and economic problems

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Review

The main objective of the course - to acquaint students with the possibilities of application of modern game-theoretic methods for the analysis of conflict situations arising at the border areas of the economy and politics. In particular, students will learn the methodology of cooperative game-theoretic models of interaction between the world centers of power. These models allow us to adequately explain the causes of instability in the world today.

Course Programme

- Game-theoretic models and their possible use in the analysis of conflict situations in the economics and politics sphere - *4 hours*
- Dynamic games with incomplete information (Bayesian games), and their use for the analysis of current political and economic conflicts – *8 hours*
- Cooperative games and stochastic cooperative games – *6 hours*
- Applications of cooperative games in the analysis of the public and private partnership projects – *6 hours*
- Applications of cooperative games in the analysis of the interaction between the world centers of power – *6 hours*

Prerequisites

This introductory course has actually no specific course prerequisites except basic ones:

- Mathematical methods
  - o Operation research (methods of optimization, basic level);
  - o Probability theory (basic concepts);
  - o Game theory (basic concepts).
- Economics
  - o Microeconomics, Macroeconomics (basic concepts);
  - o International Economics, International Relations (initial level).
- Literacy
  - o Ability to read and effectively use textbooks

Supporting materials

Software: SmartPLS

Literature

Robert Gibbons
Game Theory for Applied Economists

Martin J. Osborne
Introduction to Game Theory, 2012

Martin J. Osborne, Ariel Rubinstein
A Course in Game Theory (MIT Press)

Roger B. Myerson
Game Theory: Analysis of Conflict

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