

International workshop on “Developments in Game Theory and Applications in Economic Sciences”, Thursday, 24.05.2012

First Session – Room 410, FSEGA building, UBB Cluj Napoca

09:00-10:00 – Keynote speaker, Prof. PhD Cyrille Piatecki, Université d'Orléans, Faculté de Droit, de Sciences-Economiques et de Sciences Sociales, France

Title: “FaceSpace: Convergence in the Absence of Risk Dominance in Coordination Games”

Abstract: “In this paper we study the effects of payoff accumulation and wealth inequality in a simple spatial coordination game with no focal points. Using an Agent-Based Computational framework with flexible random networks, we find that simple success-based revision of strategies can sometimes be enough for the entire population to converge on one of the two available strategies. We also find payoff accumulation to be detrimental to the attainment of a social consensus in terms of the adopted strategy while the amount of initial wealth inequality seems to have no significant impact on the results. Adapting the framework in order to accommodate more closely the competition between two social network services, such as Facebook and MySpace, we find results paralleling those for the more general setup, with convergence towards the adoption of one single provider by the entire population in most cases.”

Discussant: Prof. PhD Filip Diana, UBB Cluj Napoca

10:00-10:30 – Prof. PhD Diana Filip, UBB Cluj Napoca, Faculty of Economics and Business Administration

Title: “Majority Voting on Non-Distortionary Income Taxation Revisited”

Abstract: “We provide a complete mathematical description of those income distribution functions for which a majority winning tax exists (or does not exist), in the quadratic taxation model à la Roemer (1999), with tax schedules that are not necessarily purely redistributive. As an intermediate step, we identify by the corner method what are the most preferred taxes of the individuals, when taxation is not purely redistributive. Finally, we prove that for both purely and non-purely redistributive quadratic taxations, the sufficient inequality condition of De Donder and Hindriks (2004) on the income distribution functions, for the existence of a Condorcet winner, can be relaxed to a broader condition.”

Discussant: PhD student Cornel Todirica, CEU, Budapest

10:30-11:00 – Associate Prof. PhD Paula Curt, UBB Cluj Napoca, Faculty of Economics and Business Administration

Title: “The Least Core in Fixed-Income Taxation Models: a Brief Mathematical Inspection”

Abstract: “For models of majority voting over fixed-income taxations, we mathematically define the concept of least core. We provide a sufficient condition on the policy space such that the least core is not empty. In particular, we show that the least core is not empty for the framework of quadratic taxation, respectively piecewise linear tax schedules. For fixed-income quadratic taxation environments with no Condorcet winner, we prove that for

sufficiently right-skewed income distribution functions, the least core contains only taxes with marginal-rate progressivity.”

Discussant: Assistant Prof. PhD Rodica Lung, UBB Cluj Napoca

11:00-11:30 – Teaching Assistant PhD Codruta Mare, UBB Cluj Napoca, Faculty of Economics and Business Administration

Title: “The Euro Area Enlargement and the Present Decision-making process in the European Union”

Abstract: “In the field of the European monetary integration, game theory is very much present through the voting-power analysis. Following the latest enlargement stages, this methodology was used to assess changes that would occur in the decision-making process at the level of the European Union. In most of the studies emphasis was put on the monetary policy aspect and the policy-making process of the European Central Bank. The present research combines the voting-power analysis with the more complex scenario building methodology. The goal is to analyze how decisions are taken in respect to the European Monetary Union problems and see possible evolutions based on these decisions. The issue is of major importance taking into account the latest evolutions within the Euro Area that affect not only the stability of the latter, but also the stability and existence of the European Union as a whole. Moreover, the study aims at revealing some lessons that could be drawn from the present decision-making process related to countries like Greece, Portugal or Spain. These lessons are of major importance for countries in the Eastern part of the European Union that are obliged to enter the Euro Zone at some point in the future, not having the opt-out possibility. The research ends with the presentation of some such possible lessons that should increase the awareness of countries like Romania, Poland and so on, on their paths towards the euro currency.”

Discussant: Assistant Prof. PhD Cristian Litan, UBB Cluj Napoca

11:30 – 12:00 – Coffee Break, Restaurant 6th floor, Faculty of Economics and Business Administration, UBB Cluj Napoca

Second Session – Room 410, FSEGA building, UBB Cluj Napoca

12:00 – 12:30 – Assistant Prof. PhD Cristian Litan, UBB Cluj Napoca, Faculty of Economics and Business Administration

Title: “Generic Determinacy of Nash Equilibria in Outcome Games with Small Number of Strategies and Outcomes”

Abstract: “We investigate the generic finiteness of the outcome distributions induced by the Nash equilibria in outcome games, when there is small number of strategies available for each player or there is small number of outcomes”

Discussant: Associate Prof. PhD Paula Curt, UBB Cluj Napoca

12:30 – 13:00 – PhD student Cornel Todirica, Central European University, Budapest, Department of Economics

Title: “Regime Change/Speculative Attacks: a Network Approach”

Abstract: “We analyze a dynamic coordination game of overthrowing a regime/ speculative exchange rate attack in a society linked through a multi-type random network. This structure of the society accounts for geographical dependent communities and for social groups. The agents update their information about the world through an average based updating. Linking two communities their information increases; however, incorporating a forgetting parameter to account for increasing uncertainty in time about one’s information, the probability of a revolt decreases in time if the link is broken. The model explains not only the standard result that better connected networks favor revolts, but accounts also for an unexplained uprising.”

Discussant: Assistant Prof. PhD Cristian Litan, UBB Cluj Napoca

13:00 – 13:30 – Assistant Prof. PhD Rodica Lung, UBB Cluj Napoca, Faculty of Economics and Business Administration

Title: “Nash Extremal Optimization and Large Cournot Games”

Abstract: “Equilibria detection in large games represents an important challenge in computational game theory. A solution based on generative relations defined on the strategy set and the standard Extremal Optimization algorithm is proposed. The Cournot oligopoly model involving up to 1000 players is used to test the proposed methods. Results are compared with those obtained by a Crowding Differential Evolution algorithm.”

Discussant: PhD Gasko Noemi, Technical University of Cluj Napoca

13:30 – 14:00 – PhD Gasko Noemi, Technical University of Cluj Napoca

Title: “Equilibrium detection in non-cooperative games. An evolutionary approach”

Abstract: “The most challenging computational task in non-cooperative GT is the equilibrium detection. In order to compute certain equilibria we would like to characterize these with a relation on the strategy set. This relation we can call the generative relation of the equilibrium. Generative relations are an algebraic tool in order to detect several equilibria. An evolutionary method based on generative relations is described in order to detect different equilibria.”

Discussant: Assistant Prof. PhD Rodica Lung, UBB Cluj Napoca

14:00 – 14:30 – Associate Prof. PhD Gheorghe Silaghi, UBB Cluj Napoca, Faculty of Economics and Business Administration

Title: “Sabotage Tolerance in Volunteer Computing”

Abstract: “Desktop Grid systems reached preeminent place among the most powerful computing platforms on the world. Under the volunteer computing paradigm, they are extremely vulnerable to mischief, because computing projects exert no administrative or technical control on the volunteers. These can easily output bad results, due to software or hardware glitches, or because of intended coordinated sabotage. Here, we present the

sabotaging behaviors considered by the volunteer computing literature, including sophisticated workers collusion. After briefing the classical methods to tackle sabotage, we introduce an extensive approach against collusion. We remark that simple replication is useless against collusion, and, based on it, we develop a statistical tool to identify colluders. For more complex colluding behaviors, we perform a graph analysis based on the maximum independent set concept, and present several approaches based on the votes-against graph.”

Discussant: PhD Gasko Noemi, Technical University of Cluj Napoca

14:30 – Final word from organizers

15:00 – Official Lunch, Restaurant 6th floor, Faculty of Economics and Business Administration, UBB

Organizers:

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