

ECOBAS WORKSHOP ON DYNAMIC ECONOMICS

Luns, 6 de Xuño de 2016

Programa

15.00-15.45	Alberto Pinto , Universidade do Porto <i>Dynamics of Human decisions</i>
15.45-16.30	Jorge P. Zubelli , IMPA Rio de Janeiro <i>Central Players Connectivity and Evolutionary Games on Graphs</i>
16.30-17.00	Pausa café
17.00-17.45	Edgardo Jovero , Universidade de Vigo <i>A Dynamic Analysis of Sovereign Risk in Developing Countries: applying geometric qualitative methods of dynamical systems</i>
17.45-18.30	Carlos Hervés , ECOBAS (Universidade de Vigo) <i>Revisiting the Coase Theorem</i>

Lugar: Facultade de Ciencias Económicas e Empresariáis, Universidade de Vigo, Campus Lagoas-Marcosende. Aula-seminario nº6

Organiza: ECOBAS

Jorge P. Zubelli, IMPA Rio de Janeiro

CENTRAL PLAYERS CONNECTIVITY AND EVOLUTIONARY GAMES ON GRAPHS

Abstract: We study the existence and feasibility of internal steady states by varying the connectivity properties of central players in an evolutionary game on a graph. Our results of the study relate the properties of internal steady states to the existence of bounds for the payoff matrices of central players. In particular, we prove that as the size of the network increases, the closer has to be the structure of the payoffs in order to the system has an internal steady-state. Similar results are found also when a central player is iteratively disconnected from other players. Moreover, we investigate the sensitivity of the whole system dynamics to variation of the connection strength between two central players.

We show through extensive simulations that these players are able to drive the system dynamics towards a desired steady state. These results can be fruitfully used to tackle with control and consensus problems of multi-agent systems by means of evolutionary game dynamics on graphs.

This is joint work with Dario Madeo, Chiara Mocenni (Siena), and Jean Carlo Pech Moraes (UFRGS).

Edgardo Jovero, Universidade de Vigo

A DYNAMIC ANALYSIS OF SOVEREIGN RISK IN DEVELOPING COUNTRIES: APPLYING GEOMETRIC QUALITATIVE METHODS OF DYNAMICAL SYSTEMS

Abstract: This paper attempts to explain why borrowing countries are motivated to maintain a good reputation in international financial markets by avoiding the macroeconomic instability and excessive volatility associated with a high risk premium on debt. Proof is presented regarding the behavior of a small open-economy growth model facing an upward sloping supply curve for debt. It has been shown that there possibly exists a Hopf-bifurcation type of structural instability in a nonlinear dynamical model of the macroeconomy, whereby a mark-up pricing variable acting as sovereign risk premium may behave as a bifurcation parameter. The view that structural instability globally exists in the aggregate economy is put forward, and which therefore is sufficient motivation for debtor countries to avoid default.

Carlos Hervés, ECOBAS (Universidade de Vigo)

REVISITING THE COASE THEOREM

Abstract: We consider an economy with externalities within a general equilibrium setting. In our model externalities arise from the over use of some resources.

In order to mitigate their negative effects, we consider that a cap on the consumption of each commodity that may originate externalities is exogenously imposed. We show that to set a cap (quantity regulation) may result in a problem of equilibrium existence. Moreover, in our model permissions or rights are required in order to consume these commodities and these permissions are allocated among consumers. Assuming that they can be costless traded, we obtain equilibrium existence. However, equilibrium allocations may be, in general, inefficient.

In order to analyze efficiency in this general setting, we define different core solutions and, assuming that externalities do not appear below a given level of consumption, we show that the any equilibrium allocation is in the core and, in particular, it is efficient.

(Based on a paper by Carlos Hervés-Beloso and Emma Moreno-García, University of Salamanca)