GAME THEORY

Academic Year: 2014/2015   *Trimester:* 1st Trimester

Instructor: Catarina Reis

Course Description: This course offers an introduction to non-cooperative game theory, with applications to relevant economic topics. The course is intended for master's students who wish to develop a solid background in this area.

Course Objectives: Attain deep understanding of the equilibrium concepts discussed in class and their applications to economic situations.

Course Content:

Part I – Static Games of Complete Information (3-4 lectures)
   A. Modeling Strategic Interaction (G 1.1A, 1.1B)
   B. Nash Equilibrium (G 1.1C, 1.2)
   C. Mixed Strategies (G 1.3)

Part II – Dynamic Games of Complete Information (3-4 lectures)
   A. Extensive Form Games (G 2.1, 2.4)
   B. Subgame Perfection (G 2.2)
   C. Repeated Games (G 2.3)

Part III – Static Games of Incomplete Information (2-3 lectures)
   A. Types (G 3.1A, 3.1B)
   B. Bayesian Equilibrium (G 3.1C)
   C. Examples (G 3.2)

Part IV – Dynamic Games of Incomplete Information (2-3 lectures)
   A. Perfect Bayesian Equilibrium (G 4.1)
   B. Signaling Games (G 4.2)

Grading: 80% final exam, 20% quizzes

Bibliography: Robert Gibbons, *A Primer in Game Theory*, Pearson, 1992

Short Bio: Catarina Reis is an Assistant Professor Católica-Lisbon School of Business and Economics. She holds a Ph.D. in Economics from the Massachusetts Institute of Technology, USA, and B.Sc. in Economics from the Catholic University of Portugal. Formerly she was Academic Director of the M.Sc. in Economics at Católica-Lisbon. Her research focuses on macroeconomic models of optimal taxation, with a special focus on the taxation of capital income. Her research has been published in international journals such as *Macroeconomic Dynamics* and *Journal of Economic Theory*.

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