

Economics 147: Bargaining Theory and Applications Spring 2011

Professor: Pedro Dal Bó

Description of the course: The first part of the course will focus on the general study of economic behavior in situations of strategic interaction (known as Game Theory). The last two parts of the course will cover the strategic and axiomatic theories of bargaining, their connections and their application to the study of economic institutions and social phenomena.

Prerequisites: Economics 111 or 113. Math intensive!!

Grading policy: The final grade will depend on class experiments (25%), a midterm (35%) and a final exam (40%).

Textbooks: *An Introduction to Game Theory* by Martin Osborne (O).

Optional Textbooks and Readings: see class website
http://www.econ.brown.edu/fac/Pedro_Dal_Bo/ec147/

Part I: Fundamentals of Game Theory

I.1. Simultaneous-Move Games

I.1.a. Definitions and examples

I.1.b. Dominated strategies

I.1.c. Nash Equilibrium in pure strategies

I.1.d. The penalty game and NE in mixed strategies

I.1.e. Oligopolies: Cournot and Bertrand

Readings: O Chapters 1, 2, 3.1-3.3, 4.1-4.5, 4.8, 4.10 and 4.12

I.2. Sequential-Move Games

I.2.a. Definitions and examples

I.2.b. Definition of strategies

I.2.c. NE, Backward Induction and Subgame Perfect Equilibrium

I.2.d. First look at bargaining: the ultimatum game

I.2.e. Repeated games

Readings: O Chapters 5, 6.1-6-2, 7.1, 7.2, 7.6 and 7.7.

I.3. Simultaneous-Move Games with Imperfect Information

I.3.a. Bayesian Equilibrium

I.3.b. Auctions: private and common values

Reading: O Chapter 9 (but 9.7).

I.4. Sequential-Move Games with Imperfect Information

I.4.a. Sequential Equilibrium

I.4.b. Signaling games

Reading: O Chapter 10.

Midterm: October 21st, usual room and time.

Part II: Axiomatic Approach to Bargaining

II.1. Nash's Bargaining Solution

II.1.a. His solution

II.1.b. Applications

II.1.c. His axioms and theorem

II.2. Nash's demand game

Readings: O Section 16.3.

Part III: Strategic Approach to Bargaining

III.1. Dictator and ultimatum games

III.2. Finite alternating offers model

III.3. Infinite alternating offers model

III.3.a. Nash equilibria

III.3.b. Subgame Perfect Equilibria

III.3.c. Risk of break down

III.3.d. Outside and inside options

III.4. War of Attrition

Readings: O Sections 16.1, 16.2 and 16.4.

Final: 2pm, 12/20/2011. This is a cumulative exam: all the material covered during the semester is included for the final.