

Econ 211: Advanced Macroeconomics

University of California, San Diego - Fall 2009

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Wednesday, 9:00am-11:50am, Econ 304

Course description

The object of this course is to introduce students to a variety of tools used in advanced dynamic macroeconomic models. The focus will be on the theoretical aspects of these models, rather than on the specific economic implications or on the numerical solution methods (the objective of ECON 216). Indeed, the goal is to provide examples of how some specific problems are addressed and how the tools can be used in a variety of contexts. In the first part (taught by Davide Debortoli), we introduce techniques to analyze policy problems in dynamic models and discuss some applications to optimal policy problems. By way of contrast with some of the complete markets models you saw in Econ210C, we will discuss the implications of some sources of inefficiencies like market incompleteness, lack of commitment and imperfect information. In the second part of the course (taught by Giacomo Rondina) we will begin by studying a general "global game" framework that proved to be particularly effective in modeling coordination problems in macroeconomics (such as financial crisis or bank runs). We then study how such framework can be embedded into dynamic settings by analyzing incomplete information models of the business cycle. If time permits, we will introduce some concepts and methods in the robust design of macroeconomic policies.

Textbooks

We will make use of pieces of the following textbook:

(LS) Ljungqvist and Sargent, *Recursive Macroeconomic Theory*, 2nd edition, MIT press, 2004.

References to papers are provided at the end of the syllabus. Additional references about specific topics will be provided during the lectures.

Requirements

Your performance will be evaluated according to the following scheme: 2 or 3 homeworks (10%), a cumulative final take-home exam (40%) and an individual research proposal (50%). The latter should be a brief illustration (between 5 and 10 pages) of an original research idea where the techniques analyzed in class are applied. It should include a clear statement of the research question, a motivation, an essential literature review and an outline of the methodology to be used. The proposals will be presented in class during the last week of the quarter and should be delivered at the end of the final exams week.

1. Equilibrium under Complete Markets, Perfect Information and Full-Commitment.

- (a) The Arrow-Debreu Economy and Sequential trading. Competitive Equilibrium and Pareto Optimality. Recursive representation. [Ljungqvist and Sargent (2004), Ch.8]
- (b) Fiscal policy in the Neoclassical Growth Model. Social planner vs. decentralized equilibria. Ricardian Equivalence, Lump-Sum Taxes vs. Distortionary Taxation. [Ljungqvist and Sargent (2004), Ch. 11].
- (c) Ramsey taxation problem. The Primal Approach. Labor vs. Capital Income Taxation. Zero capital taxes in the long-run, robustness and extensions. [Ljungqvist and Sargent (2004), Ch. 15, Chamley (1986), Judd (1985), Chari and Kehoe (1999)].
- (d) Optimal debt policies under complete markets. [Lucas and Stokey (1983)].

2. Optimal Policies and Contractual Problems.

- (a) Examples of contractual problems. Participation Constraints. Risk of Default. Incomplete Markets. Lack of Commitment. Imperfect information.
- (b) Methodologies
 - i. Recursive contracts. [Marcet and Marimon (1994)].
 - ii. The Abreu-Pierce and Stacchetti approach. [Abreu, Pearce, and Stacchetti (1990)]

3. Optimal Policies with Incomplete Markets.

- (a) Optimal debt policies with incomplete markets [Aiyagari, Marcet, Sargent, and Seppala (2002)].
- (b) How to restore market completeness. Debt maturity structure and nominal bonds [Lucas and Stokey (1983)].
- (c) Inflationary policies and the zero-lower bound on nominal interest rates. [Schmitt-Grohe and Uribe (2004)].

4. Optimal Policies and Lack of Commitment.

- (a) Time inconsistency of optimal policies. [Kydland and Prescott (1977)].
- (b) How to restore time consistency. Debt maturity structure [Lucas and Stokey (1983)] and reputation mechanisms [Chari and Kehoe (1999)].
- (c) Time consistent (Markov Perfect) policies [Klein, Krusell, and Rios-Rull (2008)]. Loose Commitment [Debortoli and Nunes (2009)].
- (d) Dynamic Models with political turnover. Theories and Evidence. [Alesina and Tabellini (1990), Battaglini and Coate (2008)].

5. **Heterogenous Agents and Imperfect information.**

- (a) Efficiency vs. Redistribution. Participation Constraints. [[Alvarez and Jermann \(2001\)](#)].
- (b) Imperfect information. The Mirlees approach to optimal taxation. [[Albanesi and Sleet \(2006\)](#)].

Topic 1: Global Coordination Games in Macroeconomics

1. Motivation and Methods
 - (a) Rethinking Multiple Equilibria in Macroeconomics
[Morris and Shin \(1998, 2000\)](#).
 - (b) Methods for Global Games in Macroeconomics
[Morris and Shin \(2003\)](#).

2. Games of Regime Changes and Endogenous Information
 - (a) Signaling through Policy Actions
[Angeletos, Hellwig, and Pavan \(2006, 2007\)](#).
 - (b) Information in Financial Markets and Regime Changes
[Angeletos and Werning \(2006\)](#).

3. The Role of Public Information in Global Games
 - (a) The Social Value of Public Information
[Morris and Shin \(2002\)](#); [Svensson \(2006\)](#); [Morris, Shin, and Tong \(2006\)](#).
 - (b) The Efficient Use of Public Information
[Angeletos and Pavan \(2007a,b\)](#).

Topic 2: Business Cycle Models of Incomplete Information

1. Incomplete Information in Real Business Cycle Models
[Lucas \(1975\)](#); [Townsend \(1983\)](#).
2. Real Effects of Nominal Shocks
[Woodford \(2003\)](#); [Lucas \(1972\)](#); [Hellwig \(2005\)](#).
3. Incomplete Information Theories of Demand Shocks and Stabilization Policies
[Lorenzoni \(2009\)](#); [King \(1982\)](#); [Lorenzoni \(2007\)](#).
4. The Pervasive Role of Global Games in Business Cycle Models of Incomplete Information
[Angeletos and La'O \(2009\)](#).

Topic 3: An Introduction to Robustness in Macroeconomics

1. Basic Ideas and Methods in Robustness
Chapter 1 and 2 in [Hansen and Sargent \(2007\)](#).
2. Time Domain Games for Attaining Robustness
Chapter 7 in [Hansen and Sargent \(2007\)](#).

References

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