Topics in Advanced Macroeconomics

Professor: Andrés Erosa and Luisa Fuster

UC3M
Spring 2011

February 23, 2011

Dates. Thursday 15:00 to 19:00

Objective. The objective of the course is to introduce the modeling of heterogeneous agents economies, to familiarize the student with the modern quantitative techniques used in macroeconomics, and to learn about important research questions in macroeconomics. The course will review some of the numerical methods used to solve heterogeneous agents economies.

Requirements. The course requires some basic knowledge of: (1) dynamic programming, (2) measure theory, and (3) Markov chains. There are several references to refresh the basics of dynamic programming: a simple one is Ljungqvist and Sargent (2004, chapter 3) but the most complete source is Stokey, Lucas, and Prescott (1989). Its first chapter is a very easy help. For measure theory you can check Stokey, Lucas, and Prescott (1989, chapter 7) For Markov chains, a good reference is Ljungqvist and Sargent (2004, chapter 2). A very comprehensive treatment can be found in Stokey, Lucas, and Prescott (1989, chapter 8).

Homework. Some of the homework will be computer based. It is recommended you do the computer-based problem sets in pairs. Please, submit just one copy per group.

Student presentations. Students will be asked to present a paper related to the topics covered during the course.

Grading. The final grade on the course will be based on:

1. The class participation which may include a presentation in class of a paper that you find interesting (after you discuss with us) (20%)

2. Homework assignments which may include a referee report on a paper picked by students from the reading list and not covered in class. (40%)

3. A brief presentation (10-15) minutes of an original research project. At the end of the course, students will have to handle a written research proposal (40%).
Computer languages

During the course, you will have to do some programming. I do not care which programming language you use, it is your choice and your responsibility. Students taking a course like this elsewhere tend to choose Matlab; but this might well be a good moment to invest in learning Fortran.

Student presentations

This is the list of candidate papers for students presentations:

1. Trade liberalization and the evidence from Chilean plants Pavnic (2002);
4. Structural change: Naig and Pissarides (2007);
Part I. The neoclassical growth model with heterogeneous agents.

1. Introduction

2. Theoretical Framework

3. Data

Part II. Numerical methods applied to heterogeneous agents economies.

1. Introduction: basic concepts on numerical solutions.

2. Solving the household problem
   - Value function iteration: discretization.
   - Policy function iteration.

3. Finding the steady state equilibrium.
   - Aiyagari (1994) and Ríos-Rull (1998)

4. Accuracy.
   - Judd (1992)
Part III. Firm Dynamics.

1. Industry Equilibrium: Hopenhayn (1992)

Part IV. Structural Change.

2. Changes in Occupational Mobility: Kambourov and Manovskii (2009)

Part V. Capital Market Imperfections.

2. Models with default.
   - Accounting for default in consumer credit in the U.S.: Chatterjee, Corbae, Nakajima, and Ríos-Rull (2007)
   - Default and Firm Dynamics: Arellano, Bai, and Zhang (2009)
   - Accounting for default in sovereign debt: Arellano (2008)

Part VI. Policy reform evaluation.

1. Fundamental tax reforms
2. Social security reforms

- Welfare Programs: Low, Meghir, and Pistaferri (2007)
- Optimality of Child Care Subsidies: Domeij and Klein (2010)

Part VII. Other topics.

- Human Capital and Heterogeneity in Income Growth over the Life-Cycle: Huggett, Ventura, and Yaron (2006) and Huggett, Ventura, and Yaron (2009)
- Progressive income taxes and human capital accumulation: Guvenen, Kuruşçu, and Ozkan (2009)
- Firm size and policy distortions. Guner, Ventura, and Yi (2008)
- Portfolio choice along the life cycle. Cocco, Gomes, and Maenhout (2005)
- The housing market and the home buying decisions. Chambers, Garriga, and Schlagenhauf (2009) and Guler (2008)
- Wage dispersion and labor market frictions: Postel-Vinay and Robin (2002)
- Foreign direct investment: Burstein (2009)
References


The course is considered advanced macroeconomics, fourth edition. Published by McGraw-Hill, a business unit of The McGraw-Hill Companies, Inc., 1221 Avenue of the Americas, New York, NY, 10020. Copyright c 2012 by The McGraw-Hill Companies, Inc. All rights reserved.