

Topics in Advanced Macroeconomics: Heterogeneity and Public Policy

MIE7/PhD, Winter 2012/13

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Course Description

This course deals with: (i) the origins of economic inequality, and (ii) the design and effectiveness of public policy in the presence of heterogeneity. To tackle these questions we are going to utilize computer simulated economic environments populated by agents who differ from each other in terms of luck and/or innate factors such as ability to learn or produce in the labor market. Due to these differences and the consequent actions of the agents, the models generate different patterns of income, wealth and consumption inequality. The main goals of the course are: (i) to introduce you to the major prototypes of heterogeneous agents models used in quantitative macroeconomics, and (ii) to evaluate different economic policies related to taxation, education, fertility, labor market participation, and labor market sectoral reallocation.

Basic Information about the Course

Required Courses: Advanced Macroeconomics I and II.

Readings: There are several textbooks that may prove useful for this course. We will study several chapters of (some of) these books in class (see the outline of the course):

- [Stokey and Lucas \(1989\)](#), [Adda and Cooper \(2003\)](#), and [Ljungqvist and Sargent \(2004\)](#).

In addition to the textbook chapters, we will study a list of research papers. They are divided in 3 categories. Papers indexed by (B) serve as a background reading for each topic. I will expect you to read the articles under this category before each class session. Papers marked by (*) will be discussed in class. The background readings will help you understand the taught material. The last category of papers, (A), is additional material that expands the models introduced in class and shows various applications to different policy questions.

Evaluation: The final grade for the course is formed by fulfilling the 3 requirements below.

Requirement	% of Grade
1. Problem Sets	30%
2. Presentation	30%
3. Final Exam/Assignment	40%

Problem Sets: There will be bi-weekly problem sets. They will include analytical problems to be solved with pen and paper, small coding exercises which will provide some insights on the solution techniques used in the papers, and a data assignment which will require manipulation of a longitudinal or a cross-sectional dataset and calculation of basic statistics out of it. In addition to that, there will be a longer (and more time-consuming) problem set which will make you replicate a modified version of one of the economic environments we will study in class. You will have at least two months to fulfill this assignment.

Presentations: The registered participants in the course need to give a presentation of around 45 minutes on a paper from group (A). We will coordinate on who will present what in the following few weeks.

Software: There are not formal requirements on the type of software you can use for the data and coding problems. Stata might be a good start when it comes to data manipulation. I will provide some example programs in Matlab for the coding exercises.

Contact and Office Hours: If you need to reach me, here is how:

- Office: F227, Phone:, Email: georgi@georgikocharkov.com
- Office Hours: Friday, 10-12am. If you would like to talk to me in a different time slot, please send me an email in advance.

Outline of the Course

1. Review (4 sessions)

- Practical dynamic programming (*): [Adda and Cooper \(2003\)](#) Chapter 2, (A): [Stokey and Lucas \(1989\)](#) Chapter 2
- Complete markets (*): [Ljungqvist and Sargent \(2004\)](#) Chapter 8, Sections 8.1-8.9
- Self-insurance (*): [Ljungqvist and Sargent \(2004\)](#) Chapter 16
- Incomplete markets (*): [Ljungqvist and Sargent \(2004\)](#) Chapter 17

2. Risk and Inequality (2 sessions)

- (B): [Ríos-Rull 1995](#), [Guvenen 2011](#), [Heathcote et al. 2009](#), (*): [Huggett 1993](#), [Aiyagari 1994](#), (A): [Huggett 1996](#), [Krusell and Smith 1998](#), [Heathcote et al. 2010](#)

3. Initial Conditions and Earnings (2 sessions)

- (B): [Ben-Porath 1967](#), [Keane and Wolpin 1997](#), (*): [Storesletten et al. 2004](#), [Huggett et al. 2011](#), (A): [Guvenen 2007](#)

4. Taxation (2 sessions)

- (B): Ventura 1999, Alesina et al. 2011 (*): Conesa and Krueger 2006, Guner et al. 2012b, (A): Conesa et al. 2009, Guner et al. 2012a

5. Education (2 sessions)

- (B): Cunha and Heckman 2010, (*): Restuccia and Urrutia 2004, Findeisen and Sachs 2012 (Dominik presents his own paper), (A): Restuccia and Vandenbroucke 2012

6. Marriages, Female Labor Supply and Fertility (3 sessions)

- (B): Aiyagari et al. 2000, Stevenson and Wolfers 2007, (*): Greenwood et al. 2005, Attanasio et al. 2008, Greenwood et al. 2012, (A): Erosa et al. 2010, Eckstein and Lifshitz 2011, Fernández and Wong 2011, Adda et al. 2012

7. Sectoral Reallocation (1 session, optional)

- (B): Neal 1995, (*): Kambourov and Manovskii 2009, (A): Kambourov 2009

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- Ben-Porath, Yoram**, “The Production of Human Capital and the Life Cycle of Earnings,” *Journal of Political Economy*, 1967, *75*, 352.
- Conesa, Juan Carlos and Dirk Krueger**, “On the Optimal Progressivity of the Income Tax Code,” *Journal of Monetary Economics*, October 2006, *53* (7), 1425–1450.
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- Cunha, Flavio and James J. Heckman**, “Investing in Our Young People,” NBER Working Papers 16201, National Bureau of Economic Research, Inc July 2010.
- Eckstein, Zvi and Osnat Lifshitz**, “Dynamic Female Labor Supply,” *Econometrica*, November 2011, *79* (6), 1675–1726.
- Erosa, Andrés, Luisa Fuster, and Diego Restuccia**, “A General Equilibrium Analysis of Parental Leave Policies,” *Review of Economic Dynamics*, October 2010, *13* (4), 742–758.
- Fernández, Raquel and Joyce Cheng Wong**, “The Disappearing Gender Gap: The Impact of Divorce, Wages, and Preferences on Education Choices and Women’s Work,” NBER Working Papers 17508, National Bureau of Economic Research, Inc October 2011.
- Findeisen, Sebastian and Dominik Sachs**, “Education and Optimal Dynamic Taxation: The Role of Income-Contingent Student Loans,” Working Papers Series 40, University of Zurich September 2012.

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