

# Macroeconomic Theory II (G31.1026)

## Heterogeneity in Macroeconomics

**Instructor:**

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**Lectures:** MW 9:45-11:45, room 517 (19 w 4<sup>th</sup>)

**Recitations:** F 9:30-11:30, room 517 (19 w 4<sup>th</sup>)

**Office Hours:** MW 12-1 and by email appointment

**Teaching Assistant:** Fabio Di Vittorio is the Teaching Assistant for this course. You can reach him at [fdv204@nyu.edu](mailto:fdv204@nyu.edu). Fabio will be conducting the recitation sessions on Friday. He will announce his office hours during the first meeting. Fabio will spend his first recitation (Mar 27) discussing basic concepts of measure theory (Stokey-Lucas Chapter 7 and 8.1). Subsequent recitations will be devoted to discussing the problems sets.

**Homework:** I will assign weekly problem sets. These will be due each Wednesday during lecture. The first problem set will be due April 1st. Your performance on problem sets is only a minor determinant of the final course grade.

**Final Exam:** Wednesday, May 6<sup>th</sup>, 9:45-11:45, room 517.

**Reading Material:**

Ljungqvist and Sargent, *Recursive Macroeconomic Theory*, MIT Press, 2004. (LS)  
Stokey and Lucas (with Prescott), *Recursive Methods in Economic Dynamics*, Harvard University Press, 1989. (SL)

Lecture notes (I will use, with some modification, the lecture notes used by Professor Violante in previous versions of this course. To be posted online).

**Course Description:**

We develop tools (including a lecture or two on computational methods) that are useful to characterize heterogeneous agent economies. We start with some "aggregation theorems" in complete markets economies where a representative agent exists. We then focus on economies with incomplete markets in which households' ability to insure idiosyncratic risk is limited. We characterize decision rules in these environments and describe the stationary equilibrium in the absence of aggregate uncertainty. We then discuss an economy with aggregate shocks. We finally study economies with heterogeneous firms.

## Course Outline

### 0. Introduction

Heathcote, Jonathan, Storesletten Kjetil and Giovanni L. Violante (2009) "Quantitative Macroeconomics with Heterogeneous Households," NBER Working Paper 14768

### 1. Heterogeneity in the Neoclassical Growth Model with Complete Markets. Negishi Approach

LS 8.5.3

Chatterjee, Satyajit (1994) "Transitional dynamics and the distribution of wealth in a neoclassical growth model", *Journal of Public Economics*

Maliar, Lilia and Serguei Maliar (2001) "Heterogeneity in capital and skills in a neoclassical stochastic growth model," *Journal of Economic Dynamics and Control*

### 2. The income fluctuations problem. Permanent Income Hypothesis and Precautionary Savings. Numerical techniques to solve income fluctuations problem.

LS Chapters 16-17

Hall, Robert (1978) "Stochastic Implications of the Life Cycle-Permanent Income Hypothesis: Theory and Evidence," *Journal of Political Economy*

Sibley, David (1975) "Permanent and Transitory Income Effects in a Model of Optimal Consumption with Wage Income Uncertainty," *Journal of Economic Theory*

### 3. Neoclassical Growth Model with Incomplete Markets. Borrowing Constraints. Constrained Efficiency. Transitional Dynamics. Aggregate Uncertainty.

LS Chapter 17

Hugget, Mark (1993) "The Risk-Free Rate in Heterogeneous-Agent Incomplete-Insurance Economics," *Journal of Economic Dynamics and Control*

Aiyagari, Rao (1993) "Uninsured Idiosyncratic Risk and Aggregate Saving," *Quarterly Journal of Economics*

Hopenhayn, Hugo and Edward C. Prescott (1992), “Stochastic Monotonicity and Stationary Distributions for Dynamic Economies,” *Econometrica*

Hong, Jay, Julio Davila, Per Krusell and Jose-Victor Rios-Rull (2006)  
“Constrained Efficiency in the Neoclassical Growth Model with Uninsurable Idiosyncratic Shocks,”

Uhlig, Harald (1996) “A Law of Large Numbers for Large Economies”,  
Economic Theory

Krusell, Per and Tony Smith (1998), “Income and Wealth Heterogeneity in the Macroeconomy”, *Journal of Political Economy*

Zhang Harold (1997), “Endogenous Borrowing Constraints with Incomplete Markets,” *Journal of Finance*

#### **4. Firm Dynamics**

Hopenhayn, Hugo, 1992, “Entry, Exit, and Firm Dynamics in Long Run Equilibrium,” *Econometrica*

Hopenhayn, Hugo and Richard Rogerson, 1993, “Job Turnover and Policy Evaluation: A General Equilibrium Analysis,” *Journal of Political Economy*