

FINANCE 924 - INTERTEMPORAL MACRO FINANCE  
PRICILA MAZIERO

**Office:** SHDH 2324  
**Phone:** (215) 898-9749  
**e-mail:** [maziero@wharton.upenn.edu](mailto:maziero@wharton.upenn.edu)

**Class Website:** [Canvas](#)  
**Classes:** Friday 1:30-4:30  
**Office Hours:** TBA

### Course Description

This is a doctoral level course on macroeconomics, with emphasis on the inter-temporal decisions of consumers and firms and on the implications of different macroeconomic models for asset pricing. In the first part of the course we will study the households and firms decisions in general equilibrium. We will describe and utilize techniques to solve dynamic optimization problems, in particular dynamic programming. We will also discuss some numerical methods to solve these problems. The second part of the course focuses on the asset pricing implications of different macro economic models.

The TA for the course is Alexandr Kopytov [akopytov@wharton.upenn.edu](mailto:akopytov@wharton.upenn.edu). His office hours are TBA. He will hold some recitation classes during the semester (time and place TBA).

### Prerequisites

The pre-requisites are a graduate level course of microeconomics, algebra and calculus. A basic knowledge of a mathematical software or programming language (such as Matlab) is strongly recommended.

### Grading

Students are expected to come to class and participate in class discussions.

Grades will be based on homework assignments (30%), one midterm exam (30%) and one final exam (40%). You may work on the homework in group, but you must turn in your own answers. The exams are closed-book. The midterm exam will be on March 3, during class. The date of the final, as determined by the Registrar, is Tuesday May 5, 12:00 p.m. - 2:00 p.m.

## Topics

This is a tentative list of the topics that will be covered and is subject to change. Some topics may not be covered, others may be added. Additional reference will be provided either in class or on the class' website.

There is no required textbook for the course. However the relevant sections of Ljungqvist, Lars, and Thomas J. Sargent. *Recursive Macroeconomic Theory* (2nd edition, MIT Press) (LS henceforth) are recommended.

### 1. Macroeconomics and Finance: stylized facts

- Cooley, Chapters 1 and 10.
- Cochrane, J. and Hansen, L., "Asset Pricing Explorations for Macroeconomists", NBER working paper 4088, 1993.

### 2. One-Sector Growth Model

- Krueger's notes, chapters 3.

### 3. Dynamic Programming and Numerical Methods

- LS, chapters 2-5, 12.
- Lucas-Stokey, chapters 3, 4, 5.

### 4. Consumption

- LS, chapter 1.
- Krueger's notes, chapter 2.

### 5. General Equilibrium with Complete Markets

- LS, chapter 8.
- Krueger's notes, chapters 3, 6.

### 6. Asset Pricing in Arrow-Debreu Economy

- LS, chapter 13.
- Cochrane, J. and Hansen, L., "Asset Pricing Explorations for Macroeconomists", NBER working paper 4088, 1993.

- Lucas, Robert, "Asset Prices in an Exchange Economy", *Econometrica*, pp. 1429-1445, 1978.
- Mehra, Rajnish and Edward Prescott, "The Equity Premium: A Puzzle", *Journal of Monetary Economics*, pp. 145-161, 1985.
- Kocherlakota, N., "The Equity Premium: It's Still a Puzzle", *Journal of Economic Literature*, 1996.
- Jermann, Urban, "Asset Pricing in Production Economies", *Journal of Monetary Economics*, pp. 257-276 1998.

## 7. Incomplete Markets and Complete Markets with Frictions

- LS, chapters 13, 16.
- Alvarez, Fernando and Urban Jermann, "Efficiency, Equilibrium and Asset Pricing with Risk of Default", *Econometrica*, 2000.
- Alvarez, Fernando and Urban Jermann, "Quantitative Asset Pricing Implications of Endogenous Solvency Constraints", *Review of Financial Studies*, 2001.
- Kocherlakota, Narayana and Luigi Pistaferri, "Asset Pricing Implications of Pareto Optimality with Private Information," *Journal of Political Economy*, 2009.

Other references that cover some of the topics we discuss or are useful background reading:

- Nancy Stokey, and Robert Lucas, with Edward Prescott, *Recursive Methods in Economic Dynamics*, Harvard University Press, 1989.
- Thomas Cooley (ed.) *Frontiers of Business Cycle Research*, Princeton University Press, 1995.
- Dirk Krueger notes on [Macroeconomic Theory](#).
- Kenneth Judd, *Numerical Methods in Economics*, MIT Press 1998.
- John Cochrane, *Asset Pricing*, Princeton University Press, 2005
- John Campbell, Andrew Lo and Craig MacKinlay, *The Econometrics of Financial Markets*, Princeton University Press, 1996.