Bavarian Graduate Program in Economics
Advanced Macroeconomics
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Syllabus

Organization and Overview

This course provides an introduction to modern macroeconomics, with a special emphasis on macroeconomic modeling of household behavior and household heterogeneity. The first day provides an overview of the course and gives an introduction to dynamic programming techniques. We continue by discussing the permanent income hypothesis as an introduction to macroeconomic models featuring incomplete markets and income risk. A number of applications of the incomplete-markets framework will be discussed. On Thursday and Friday, we will discuss models where market incompleteness arises from endogenous participation constraints. The final lectures on Friday will give an overview of recent applications of the type of models discussed in class at the current research frontier.

The daily schedule will be:

8:30–10:00	First Lecture
10:00–10:30	Coffee Break
10:30–12:00	Second Lecture
12:00–13:00	Lunch
13:00–14:30	Problem Sets
14:30-15:00	Coffee Break
15:00–16:30	Discussion of Problem Sets and Review
16:30–18:00	Free Time
18:00	Dinner

The course will start with an introduction on Monday at 11:30 am followed by lunch. On that day, there will a lecture in the afternoon followed by a problem set session. On Friday, instead of problem sets there will be a final review session from 13:00 to 14:30.

Technology and Software

Students should bring a laptop to the course with software that can be used to carry out numerical computations, such as Python or MATLAB. You should also make sure to have access to suitable AI (such as Claude, ChatGPT, or Gemini) to assist with coding. Knowledge of computational methods will not be tested in the final exam, but computation is an essential part of modern macroeconomics, and there will be a discussion of computational methods with some examples.

Readings and Course Materials

The main text for the course is Ljungqvist and Sargent:

Lars Ljungqvist and Thomas J. Sargent (2018), *Recursive Macroeconomic Theory*, 4th edition, MIT Press.

Registered students will be provided with lecture notes and additional readings for topics not covered in Ljungqvist and Sargent ahead of the course.

Prerequisites

The course material is self-contained but assumes familiarity with standard microeconomics and macroeconomics at the advanced undergraduate level. Being comfortable with multi-variable calculus and mathematical optimization is particularly important.

Dynamic programming will be introduced in the course, but given the fast pacing it is recommended that students who have not seen any dynamic programming before read about some of the basics ahead of time to get a basic understanding of the main concepts. This can be done by reviewing Chapters 1 and 3 of the textbook (LS).

It is also important to have a basic understanding of the fundamentals of general equilibrium (which is usually covered in advanced micro at the undergraduate level). The first sections of Chapter 8 in the textbook (up to 8.5.3) provide a useful review of this material.

Enrolled students will be provided additional lectures notes that review these basics ahead of the class.

Recommended Background Readings

The following list contains the seminal journal articles and current research papers on which much of the material in the course is based. These are not required readings, but recommended readings in particular for those who plan to work in macroeconomics in their own dissertation research.

- Aiyagari, Rao. 1994. "Uninsured Idiosyncratic Risk and Aggregate Saving," *Quarterly Journal of Economics* 109(3), 659–684.
- Aiyagari, Rao. 1995. "Optimal Capital Income Taxation with Incomplete Markets and Borrowing Constraints," *Journal of Political Economy* 103(6), 1158–1175.
- Alvarez, Fernando and Urban Jermann. 2000. "Efficiency, Equilibrium, and Asset Pricing with Risk of Default," *Econometrica* 68(4), 775–797.
- Auclert, Adrien. 2019. "Monetary Policy and the Redistribution Channel." *American Economic Review* 109(6), 2333—2367.
- Doepke, Matthias, and Martin Schneider. 2005. "Aggregate Implications of Wealth Redistribution: The Case of Inflation." Journal of the European Economic Association 4(2-3): 493-502.
- Doepke, Matthias, and Martin Schneider. 2006. "Inflation and the Redistribution of Nominal Wealth." Journal of Political Economy 114(6): 1069-1097.
- Doepke, Matthias, Martin Schneider, and Veronika Selezneva. 2016. "Distributional Effects of Monetary Policy." Unpublished Manuscript, Northwestern University.
- Kaplan, Greg, and Gianluca Violante. 2014. A Model of the Consumption Response to Fiscal Stimulus Payments. *Econometrica*, 82(4), 1199–1239.
- Kaplan, Greg, Benjamin Moll, and Gianluca Violante. 2019. "Monetary Policy According to HANK." *American Economic Review* 108(3), 697—743.
- Kocherlakota, Narayana. 1996. "Implications of Efficient Risk Sharing without Commitment," *Review of Economic Studies* 63(4): 595–609.
- Krueger, Dirk and Fabrizio Perri. 2005. "Does Income Inequality Lead to Consumption Inequality? Evidence and Theory," *Review of Economic Studies* 73(1), 163–193.
- Krusell, Per and Tony Smith. 1998. "Income and Wealth Heterogeneity in the Macroeconomy," *Journal of Political Economy* 106(5), 867–896.