

Freie Universität Berlin  
Master of Science in Economics  
Compact Course *Macroeconomics and Heterogeneity*

Preliminary Syllabus

Tobias Broer

**Aim of the course:** This course will introduce students to the analysis of income and wealth heterogeneity in macroeconomic models, highlighting their role for the levels and dynamics of asset prices, aggregate demand, and the effects of policies. The focus will be on simple, tractable models.

**Course Organisation and Format:**

**Assessment:** The course will be assessed on the basis of graded problem sets that account for 40 % of the final grade. The rest is assessed on the basis of a research project: You are asked to

1. formulate a precise research question
2. indicate two to three key references from the literature and how you relate to them
3. describe in detail a framework of analysis (model environment, key frictions, key equations; or dataset with estimating equation and identifying assumptions)
4. Describe the results you expect and how they answer your research question
5. (TBD: Briefly present your research project in an online session.)

## 1 Introduction: Heterogeneity in macroeconomics, and in data

- Why macroeconomics?
- Why 'heterogeneity'?
- Key facts about inequality

## 2 When does heterogeneity (not) matter for aggregate consumption demand

- A two-period illustration
- Aggregation
- The permanent-income hypothesis
- Prudence and precautionary savings

### **3 The income fluctuation problem and the consumption function**

- Permanent income
- Precautionary savings
- Concavity of the consumption function

### **4 Stationary equilibria with idiosyncratic risk and incomplete markets**

- Recap: Models and equilibria
- Stationary equilibrium with idiosyncratic risk and incomplete markets
- Key properties
- Applications: Precautionary savings, optimal redistribution, and the optimal quantity of public debt

### **5 Equilibria with aggregate fluctuations, idiosyncratic risk, and incomplete markets**

- The complications with aggregate risk
- Simplifying assumptions and computational solution methods

### **6 Simple heterogeneous-agent New Keynesian models**

- Campbell and Mankiw (1990)
- Bilbiie (2020)
- Bilbiie (2021)
- Broer et al. (2020)

### **7 Labor-market frictions and the cyclical risk**

- Werning (2015)
- Ravn and Sterk (2021)
- Broer et al. (2021)

## References

- Bilbiie, Florin O. 2020. *The new keynesian cross*, Journal of Monetary Economics **114**, 90–108.
- . 2021. *Monetary Policy and Heterogeneity: An Analytical Framework*.
- Broer, Tobias, Jeppe Druedahl, Karl Harmenberg, and Erik Öberg. 2021. *The unemployment-risk channel in business-cycle fluctuations*.
- Broer, Tobias, Niels-Jakob Harbo Hansen, Per Krusell, and Erik Öberg. 2020. *The New Keynesian Transmission Mechanism: A Heterogeneous-Agent Perspective*, The Review of Economic Studies **87**, no. 1, 77–101.
- Campbell, John Y and N Gregory Mankiw. 1990. *Permanent income, current income, and consumption*, Journal of Business & Economic Statistics **8**, no. 3, 265–279.
- Ravn, Morten O and Vincent Sterk. 2021. *Macroeconomic Fluctuations with HANK & SAM: an Analytical Approach*, Journal of the European Economic Association **19**, no. 2, 1162–1202.
- Werning, Iván. 2015. *Incomplete Markets and Aggregate Demand*.