CENTER FOR
ECONOMIC
BEHAVIOR &
INEQUALITY

14b. Exam preparation

Adv. Macro: Heterogenous Agent Models

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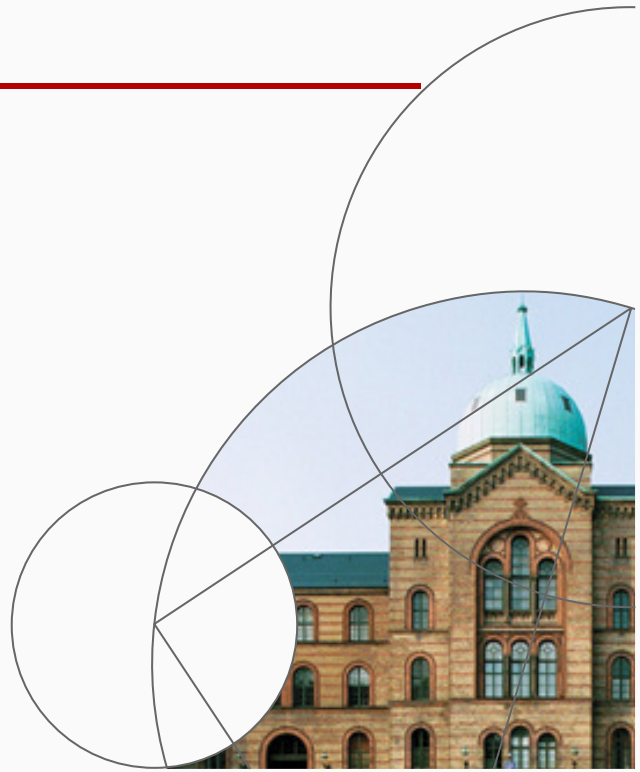

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Exam

- **Exam:** Similar to assignment I-II
  1. **Starting point:** Code which can run in itself
  2. **Question 0:** Extend the code to match the model description
  3. **Questions:** Use the code to analyze economic questions

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- **Grading:**
  1. Clearly presented results in figures and tables
     (small coding mistakes not important)
  2. Clear and precise text stating the economic conclusions
  3. Well-organized code
  4. 50 percent weight on Assignment I-III

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- **Don't worry:**
  1. Time pressure should not be an issue (48 hours)
  2. I understand this is a very complicated course

Hand-in

You should hand-in a single zip-file. The zip-file should have the following folder and file structure:

Assignment_I
Assignment_I.pdf – with text and all results
files for producing the results

Assignment_II
Assignment_II.pdf – with text and all results
files for producing the results

Assignment_III
Assignment_III.pdf

Exam
Exam.pdf
files for producing the results

Knowledge, Skills and Competencies

- **What you need to know:**
  1. Understand and be able to use the computational techniques
  2. Understand and be able to discuss the economic insights heterogeneous agent models can provide
- **Next slides:** Learning outcomes in Knowledge, Skills and Competencies

Knowledge

1. Account for, formulate and interpret precautionary saving models
2. Account for stochastic and non-stochastic simulation methods
3. Account for, formulate and interpret general equilibrium models with ex ante and ex post heterogeneity, idiosyncratic and aggregate risk, and with and without pricing frictions
4. Discuss the difference between the stationary equilibrium, the transition path and the dynamic equilibrium
5. Discuss the relationship between various equilibrium concepts and their solution methods
6. Identify and account for methods for analyzing the dynamic distributional effects of long-run policy (e.g. taxation and social security) and short-run policy (e.g. monetary and fiscal policy)

Skills

1. Solve precautionary saving problems with dynamic programming and simulate behavior with stochastic and non-stochastic techniques
2. Solve general equilibrium models with ex ante and ex post heterogeneity, idiosyncratic and aggregate risk, and with and without pricing frictions (stationary equilibrium, transition path, dynamic equilibrium)
3. Analyze dynamics of income and wealth inequality
4. Analyze transitional and permanent structural changes (e.g. inequality trends and the long-run decline in the interest rate)
5. Analyze the dynamic distributional effects of long-run policy (e.g. taxation and social security) and short-run policy (e.g. monetary and fiscal policy)

Competencies

1. Independently formulate, discuss and assess research on both the causes and effects of heterogeneity and risk for both long-run and short-run outcomes
2. Discuss and assess the importance of how heterogeneity and risk is modeled for questions about both long-run and short-run dynamics

How to prepare for the exam

- **What you should do:**
  1. Read through slides and study the accompanying code
  2. Read the documentation for GEModelTools
  3. Glance at the central papers
  4. Optimize your Assignments I-III
- **Ask questions in the GitHub forum**