BSE Short Course:

Business Cycle Models with Heterogeneous Agents

BSE Berlin School
of Economics

Summary

The short course provides students with the tools to develop and analyze business cycle models with uninsurable idiosyncratic income risk (incomplete markets). The focus of the course is on numerical methods. Problem sets and programming exercises in class are an important element of the course, such that students should be able to apply the methods straight out of the class.

Lecturer

Christian Bayer is a Professor of Macroeconomics from the University of Bonn. His research focuses on investments of firms and household savings in environments with heterogeneous agents, on worker, job-, and firm dynamics, as well as the macroeconomic implications of financial frictions. His research combines in-depth empirical analysis of micro data for macroeconomic questions and theoretical, quantitative work that uses state-of-the-art numerical techniques to solve and simulate general equilibrium models of heterogeneous agents.

Contents:

Day 1: (15/4/2019, 14:00 – 18:00)

1.   Theoretical Foundations: Consumption-Savings Problems

-       Standard Incomplete Market Models w/o aggregate Risk (Bewley-Hugget-Aiyagari)

-       Incomplete markets, aggregate risk and approximate aggregation

2.   Reminder on numerical basics

Day 2: (16/4/2019, 9:00 – 12:00 & 14:00 - 17:00)

1.   Solving dynamic planning problems in partial equilibrium efficiently

2.   Stationary equilibria in models with incomplete markets.

3.   Programming exercises

Day 3: (23/4/2019, 8:30-12:00 & 13:00 – 15:30)

1.   Dealing with aggregate risk in heterogeneous agent models.

2.   Programming exercises

3.   Adding nominal frictions to heterogeneous agent models

4.   Heterogeneous agent models with aggregate risk and many idiosyncratic state variables

Day 4: (24/4/2019, 9:00 -13:00)

        Programming Exercises

Prerequisites:

Students should ideally have some experience in numerical modelling (using MATLAB or the like). They should also have some basic knowledge of how to solve dynamic planning problems globally (at least using value function iteration) and how to solve aggregate equilibrium models using perturbation techniques.

Date:
April 15-16, 2019
April 23-24, 2019

Organizers:
BERA
DIW Graduate Center

Room:
April 15 - Anna J. Schwartz Room
5.2.010

Place:
DIW Berlin
Mohrenstr. 58

April 16/23/24 – Elinor Ostrom Hall
1.2.019

Registration:
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