Welcome and Overview

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Fiscal and Monetary Policy with Heterogeneous Agents Minicourse
Bank of Portugal
June 2026

Welcome

- This is the Bank of Portugal Minicourse on Heterogeneous-Agent Macro
- Three days: June 17–19, 2026
- Two sessions per day:
  - Mornings 10-12:15am (with 15 min break)
  - Afternoons 2pm-5:30pm (with 30 min break)

Workshop objectives

- 9 lectures covering:

1. HANK: fiscal and monetary policy (in closed and open economies)
2. Solution methods for GE models with heterogeneous agents

- By the end of the workshop, you should know how to:
  - Set up and calibrate the steady state of a heterogenous agent model
  - Get its first-order impulse responses to aggregate shocks
- I'm assuming prior background in dynamic programming and NK models
- The course is primarily about concepts and high-level methods. For more details on implementation, you can consult this workshop webpage, as well as the sequence-space-jacobian toolbox.

Applications of the heterogeneous agent modeling framework

- Huge potential for het agent macro beyond HANK:
  - Price setting, financial frictions, firm dynamics, banking industry dynamics, search models of the labor market, the money market...
- Previous generation of these models have tended to:
  - focus on steady states
  - use tricks to "get rid of the distribution"

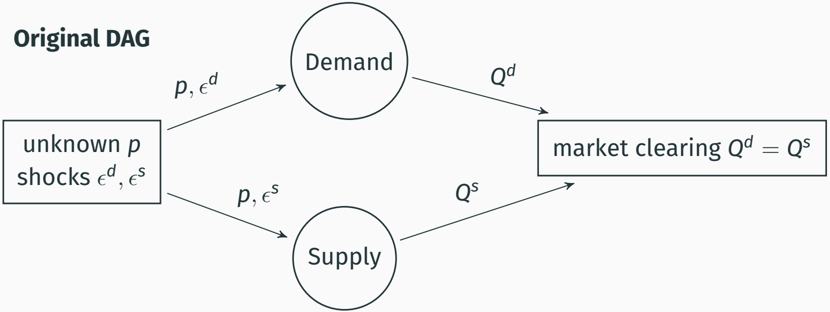
  $\rightarrow$ no longer any need to do either!
- Instead, can focus on key new questions for the field, eg:

  $\rightarrow$ when does heterogeneity matter?

  $\rightarrow$ what micro moments are important for aggregate outcomes?
- Exciting and fast growing literature !

The sequence-space jacobian: a method and a philosophy

- SSJ is not just a solution method, but also a modeling philosophy
- Basic idea is to organize models into “blocks” that represent behavior of (possibly het.) agents, and interact in GE via small set of aggregates
- We’ll often arrange these blocks into Directed Acyclic Graph (“DAG”). Helpful to solve model, think about causality in GE, do decompositions, etc



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Solved model

$$\begin{tikzcd} \boxed{\text{shocks } \epsilon^d, \epsilon^s} \arrow[rrr, "\epsilon^d, \epsilon^s"] & & & \boxed{\text{equilibrium } p, Q} \end{tikzcd}$$

Course material and other admin

- Schedule, syllabus, and lecture notes posted at:

  http://web.stanford.edu/~aauclert/bopmini/

- For interactive notebooks reproducing results from lecture, tutorials, and more details on computation see:

  http://github.com/shade-econ/goethe-workshop-2026

- Please ask questions in class or during breaks!

- Let's dive in!