

ECON5002: PhD Advanced Macroeconomics

Part 1

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OUTLINE

This part of the course treats selected topics in advanced macroeconomics, with emphasis on quantitative works. The module aims at providing tools that allow students to understand economic phenomena related to firms' and workers' behavior, represent them through the use of data, and interpret them through the lens of micro-founded quantitative models of general equilibrium with heterogeneity.

Having completed the module, students will be able to i) master the basic functioning of macroeconomic models with heterogeneous agents, ii) be familiar with replicating existing papers in the literature, iii) build themselves their own model and use the concept of equilibrium to characterize its solution, iv) implement counterfactual experiments and interpret results to answer general interest research questions and/or policy-related questions.

Lecture materials (including slides, problems sets, some relevant papers and codes) will be available on the module's Moodle page.

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The syllabus for first half of the course covers the following sections:

1. **Firm dynamics.** In this lecture we review empirical evidence on the role of firms in the economy (job reallocation, firm turnover, firm growth, and productivity) and introduce a workhorse model of firm dynamics.
2. **Misallocation.** In this lecture we describe the concept of misallocation. We introduce a workhorse model to quantify the output cost of misallocation and look at methods to quantify distortions in the data.
3. **Trade.** In this lecture we review evidence on firm-level trade and introduce the workhorse model of international trade with heterogeneous firms.
4. **Frictions.** We review empirical evidence on labor market frictions, labor market flows (hiring and separation), and wage dispersion. We introduce the standard model of firm dynamics with employment adjustment and extend it to a framework with workers reallocation, unemployment, and wage bargaining

ASSESSMENT

This part of module accounts for 50% of the final mark in ECON5002 and it is assessed by means of i) a final exam (20%), ii) four problem sets (20%) and iii) a research proposal/term paper (10%).

PROBLEM SETS

As a part of the evaluation process (20% of the final grade), students need to solve 4 problem sets, each covering one topic section. The problem sets can also involve data work and programming, i.e. numerically solving a model, or even replicating/extending an existing paper. Deadline: end of May.

RESEARCH PROPOSAL

As a part of the evaluation process (10% of the final grade), students need to elaborate a research proposal. The research proposal consists of a novel research project. The expected development stage of the project is less than that of a standard term paper, but its ambition is expected to be larger. The proposals have to be carried individually. Proposals should include motivation, brief discussion of the literature, empirical evidence or a description of the data planned to be used, a description of model, and a sketch of counterfactual/policy exercises. The expected length is no less than 1000 words (4/5 pages), and allowed to be greater. Deadline: end of May.