

Goethe-Universität | 60629 Frankfurt am Main Fachbereich 02 | House of Finance

> Advanced Macroeconomic Theory 1, Part 2 Winter Semester 2023/24 Prof. Dr. Alexander Meyer-Gohde Chair of Financial Markets and Macroeconomics

Lecture:

HoF - HoF E.20 / DZ Bank 04/25/2025 - 06/13/202508:30 a.m. - 12:00 noon

EXCEPT Seminarhaus SH - SH 3.109 05/23/2025 08:30 a.m. - 12:00 noon

Professor: Alexander Meyer-Gohde Office Hours: By appointment Office: House of Finance, Room 4.47 E-mail: meyer-gohde@econ.uni-frankfurt.de https://www.imfs-frankfurt.de/professuren/finanzmaerkte-und-makrooekonomie

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Course Grade: The grade will be based on a final exam.

Course Description: This course will introduce students to the rigorous solution, estimation, and analysis of business cycle models. Numerical solution methods will be compared in the analysis of the real business cycle (RBC) model and numerical estimation techniques introduced in the analysis of New Keynesian models. Thus, the course will have a twofold focus on models and techniques.

Textbook:

Recursive Macroeconomic Theory 4th Edition, MIT Press, 2018 By Thomas J. Sargent and Lars Ljungqvist

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2. April 2025

Faculty of Economics and Institute for Monetary and Financial Stability

Chair of Financial Markets and Macroeconomics

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Numerical Methods in Economics MIT Press, 1998 By Kenneth L. Judd



Monetary Policy, Inflation, and the Business Cycle Princeton University Press, 2015 By Jordi Galí

Course Outline

Part I: RBC and Solution Methods

- 1. Benchmark RBC model
- 2. Analytic Case: Value Function Iteration, Howard's Improvement, (Log)linearization
- 3. Linearization / Solving linear rational expectations models
- 4. Numerical Case: VFI
- 5. Numerical Case: Projections and Parameterized Expectations
- 6. Numerical Case: Local Nonlinear Approximation Perturbation

Part II: New Keynesian and Estimation

- 7. Monopolistic Competition and Nominal Rigidities (Calvo and Rotemberg)
- 8. Basic New Keynesian Model
- 9. Likelihood based estimation
- 10. Positive analysis of the NKM
- 11. Normative analysis of the NKM

Learning Goals

LGB-1: Students will understand and apply state-of-the-art structural macroeconomic models of the business cycle.

LGB-2: Students will master the numerical techniques for solving, estimating, and analyzing state-of-the-art structural macroeconomic models.

LGB-3: Students will able to apply the techniques and their understanding of the course's models in their further studies and use them to inform their understanding and discussion of the macroeconomy.

LGB-5: Students will be able to use and apply the numerical analysis programs Matlab and Dynare

LGB-7: Students will be able to express, explain and analyze state-of-the-art models formally, verbally and graphically.