Macroeconomics III

Academic Year: (2020 / 2021) **Review date: 14-12-2020**

Department assigned to the subject: Economics Department

Coordinating teacher: SEOANE BERNADAZ, HERNAN DANIEL

Type: Compulsory ECTS Credits : 9.0

Year : 2 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Macroeconomics I, Macroeconomics II

OBJECTIVES

The objective of the course is to introduce the modeling of heterogeneous agents economies, learn about economies with incomplete markets and uninsurable risk. The typical agent in our analysis will be a household or a worker, though we will devote some attention also to studying the behavior of firms and governments in similar settings.

In the first part of the course, the student will familiarize with a few highly influential models of incomplete markets. Workers face idiosyncratic risk and, crucially, have no access to a full set of Arrow-Debreu securities to insure against the risk. Students will learn how to characterize the stationary equilibrium in these economies and review some of the numerical methods used to solve heterogeneous agents economies with incomplete markets. Computational efficiency is key in solving this class of models. The second part of the course presents various alternatives to solve this class of model. It also discusses how the model can be brought to the data. Finally the course studies the behavior of these models in the presence of aggregate risk.

DESCRIPTION OF CONTENTS: PROGRAMME

1. The neoclassical growth model with heterogeneous agents
2. Stylized facts on inequality
3. The importance of uninsurable idiosyncratic shocks and precautionary savings
4. Introduction: basic concepts on numerical solutions
5. Firm Dynamics
6. Models with Default
7. Being smart in Matlab
8. Revisiting the household problem
9. Job search models and law of one price
10. Life-cycle structure
11. Parameterization
12. Heterogeneity and aggregate risk

LEARNING ACTIVITIES AND METHODOLOGY

Each week, we have two lectures of 1.5 hours and one exercise session of 1.5 hours. The lectures will introduce the theory and concepts related to each subject. To deepen their understanding of the material, students are expected to do assignments each week, which will be discussed in the exercise sessions. Assignments will be either analytical, or numerical. For the latter, students are expected to use Matlab and Fortran.

ASSESSMENT SYSTEM

Midterm exam: 40%
Final exam: 60%

% end-of-term-examination:	60
% of continuous assessment (assigments, laboratory, practicals…):	40

BASIC BIBLIOGRAPHY

- Anthony A Smith and Per Krusell Income and Wealth Heterogeneity in the Macroeconomy, Journal of Political Economy, 1998
- Brock, William A. and Mirman, Leonard J. Optimal economic growth and uncertainty: The discounted case, Journal of Economic Theory, 1972
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- Carroll, Christopher D and Kimball, Miles S On the Concavity of the Consumption Function, Econometrica, 1996

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- Chatterjee, Satyajit and Corbae, Dean and Nakajima, Makoto and Rios-Rull, Jose-Victor A Quantitative Theory of Unsecured Consumer Credit with Risk of Default, Econometrica, 2007
- Christopher D. Carroll and Andrew A. Samwick How Important Is Precautionary Saving?, The Review of Economics and Statistics, 1998
- Cristina Arellano Default Risk and Income Fluctuations in Emerging Economies, American Economic Review, 2008

- Dirk Krueger and Fabrizio Perri and Luigi Pistaferri and Giovanni L. Violante Cross Sectional Facts for Macroeconomists, Review of Economic Dynamics, 2010
- Hamish Low and Costas Meghir and Luigi Pistaferri Wage Risk and Employment Risk over the Life Cycle, American Economic Review, 2010
- Huggett, Mark The risk-free rate in heterogeneous-agent incomplete-insurance economies, Journal of Economic Dynamics and Control, 1993
- Jose-Victor Rios-Rull Computation of equilibria in heterogeneous agent models, Federal Reserve Bank of Minneapolis, 1997
- Karen Kopecky and Richard Suen Finite State Markov-chain Approximations to Highly Persistent Processes, Review of Economic Dynamics, 2010
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- Rao Aiyagari Uninsured Idiosyncratic Risk and Aggregate Saving, The Quarterly Journal of Economics, 1994

- Stokey, Nancy L. and Lucas, Robert E. Recursive methods in economic dynamics, Harvard Univ. Press, 1989

- Storesletten, Kjetil and Telmer, Christopher I. and Yaron, Amir Consumption and risk sharing over the life cycle, Journal of Monetary Economics, 2004
- Tauchen, George and Hussey, Robert Quadrature-Based Methods for Obtaining Approximate Solutions to Nonlinear Asset Pricing Models, Econometrica, 1991