ISEG, PhD Program in Economics 2023/24

Advanced Macroeconomics

(Part 1)

Teaching staff:
Bernardino Adão (part 1)
Paulo Brito (part 2)

Schedule:
Tuesdays: Room Q6 - Anfiteatro 3, 18:00-20:00
Part 1 from week 12-9-2022 to 17-10-2022 (7 classes)

Grading:
Normal Period:
There are two options for the final grade: (i) just the grade in the final written exam (which is called first exam), or (ii) a weighted average of grades in quizzes and final exam. There is a total of 6 quizzes, approximately one every two weeks. The time allowed for the quiz is 20 minutes. Each quiz has questions about the material covered in class after the preceding quiz. Each quiz counts 5% towards the final grade. Students are free to choose the quizzes they want to do. If the average grade on the quizzes, which we denote by X, is larger or equal to 10 values then the final grade is equal to $X*(N*5\%) + Y*(100\% - N*5\%)$. The N is the number of quizzes done, X is the average grade in the quizzes and Y the grade in the final exam. The next examples illustrate how to use the formula. Example 1, if $N=6$, and $X=12$ then the final grade is $12*(30\%) + Y*(70\%)$. Example 2, if $N=3$, and $X=13$ then the final grade is $13*(15\%) + Y*(85\%)$. Example 3, if $X=8$ then the final grade is $Y*(100\%)$.

Appeal Period:
The final grade in this period is the one obtained in a written (re-sit) exam with similar features and rules as the normal period's (first) exam.

Course Overview (part 1)

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The main aim of the first part of the course is that you will be able to understand models of the economy and to use them to address some fundamental questions concerning macro policy. Since most major policy questions are quantitative, the course has a quantitative component. The course will cover standard analytic methods (like Lagrangians) and the computational methods commonly used in economics. I will largely teach all this from the very beginning, but I will expect that you to know calculus, probability theory, and statistics.

Textbook:
The main text is Harold Cole, 2020, "Monetary and Fiscal Policy through a DSGE Lens", Oxford University Press.

In addition, there are supplemental readings. Learning to program in Matlab is an important aspect of the course, but programming knowledge will not be assessed. There are many options here including some online ones which are free:

Amos Gilat's "Matlab: An Introduction with Applications".

http://www.maths.dundee.ac.uk/software/MatlabNotes.pdf

Preliminary List of Supplemental Readings:

1. G. McCandless and W.Weber, "Some Monetary Facts," Federal Reserve Bank of Minneapolis Quarterly Review.
2. Atkeson and Kehoe, "Depression and Deflation: Is there an empirical link?" Federal Reserve Bank of Minneapolis Staff Report.
3. Cole and Kocherlakota, "Why Zero Interest Rates are Good and How to Get Them," Federal Reserve Bank of Minneapolis, Quarterly Review, Spring 1998.
4. R. King, "The Phillips Curve and U.S. Macroeconomic Policy: Snapshots, 1958-1996," Economic Quarterly of the Federal Reserve Bank of Richmond, Fall 2008.
5. Atkeson, Chari and Kehoe, "Taxing Capital Income: A Bad Idea," Federal Reserve Bank of Minneapolis Quarterly Review Summer 1999.
6. E. Prescott, "Why Do Americans Work So Much More Than Europeans?" Federal Reserve Bank of Minneapolis Staff Report 321.

Lecture 1: Cash-in-Advance Model
1. Household's problem
2. The asset market
3. Optimal policy
4. Quantitative analysis
5. Varying velocity
6. Negative interest rates

Cole, Chapters 2, 3 and 4

Lecture 2: The Stochastic Cash-in-Advance Model
1. Markov process
2. Stochastic model
3. Statistical model
4. Monetary facts

Cole, Chapters 5, 6 and 7

Lecture 3: Price-Setting and Information Frictions
1. Price setting
2. Information friction
3. Sticky prices or sticky wages

Cole, Chapter 10

Lecture 4: A Model of Money and Capital
1. Balance growth path
2. Kaldor's growth facts

Cole, Chapter 14

Lecture 5: Modelling Government Expenditures
1. Extending the model
2. Quantitative results

Cole, Chapter 16 and 18

Lecture 6: Business Cycle Model with Capital
1. Calibrating the model
2. Quantitative analysis

Cole, Chapter 20

Lecture 7: Dynamic Adjustment with Capital

Cole, Chapter 19