



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Growth Theory and Empirics: An International Perspective

2021-1-F5602M004-F5602M007M

Learning objectives

This course is designed to present you key developments in advanced macroeconomic theory, which are used to explain the determination of economic growth, consumption and investment at a global level. Through this course, you will acquire a logical and consistent framework for assessing analytically key macroeconomic issues and develop the ability to employ the correct macroeconomic tool(s) to evaluate specific policy proposals. You will be introduced to inter-temporal dynamic optimisation and the related equilibrium concepts. This course aims at providing you with strong mathematical and analytical foundations, for assessing and critically evaluating the impact of different macroeconomic policies.

3. Compare and contrast the implications for macroeconomic policy of different economic theories.

Contents

This course is the first part of a the larger module "Global Macroeconomics". The model is organised around the

discussion of a number of broad topics: Growth, Real Business Cycles, New Keynesian models, Financial Crisis, Unconventional Policies.

The course "Growth Theory and Empirics: An International Perspective" can be divided in two parts:

1. The long-run: Growth theories
2. The short-run: Ramsey model, Decentralised Economy, Diamond model

The first part addresses two key issues: i) what determines long-run growth; ii) why is per capita income in some countries higher than elsewhere. Topics include the role of technical change, savings rate, population growth, knowledge dynamics. We will also incorporate endogenous growth, i.e. endogeneity of productivity growth to economic incentives. A backbone of this part of the course will be the cross-country comparison of data and model's predictions.

The second part of the course provides the backbone for general equilibrium micro-founded macroeconomic models. We will introduce a simple neoclassical consumption model and we will increase the level of complexity addressing issues as distortive taxation, optimal pension systems in the context of Overlapping Generation Models, and real-business cycles fluctuations.

Detailed program

There will be approximately 35 hours _____

Week #1

1. International facts about economic growth
2. Solow model
3. Solow model extensions and Romer model
4. Growth in Open Economy: a global view
5. Neoclassical Consumption Model
6. Practice Session: Dynare and Solow (tutorial)

Week #2

1. Ramsey model (part 1)
2. Ramsey model (part 2)
3. Ramsey model, with flexible labor
4. Dynamic General Equilibrium Model (DGE): decentralised economy (part 1)
5. Practice Session: Ramsey model (tutorial)

Week #3

1. DGE: decentralised Economy (part 2)
2. Diamond model (OLG) and Pension Systems: an international comparison
3. Revision lecture (mock exam description)
4. Practice Session: revision exercises, Q&A _

Week #4

MID-TERM evaluation: practical **homework** on Matlab and **written exam**.

Prerequisites

The course is self-contained in the sense that I will cover all the material during lectures _____

Teaching methods

Lectures are designed to:

- cover together the main points and structure of each topic;
- introduce, apply and analyse the material;
- suggest ways of improving your learning and analytical assessment of the material;
- provide guidance to further research and reading for each topic;

Tutorials are undertaken in parallel with the lectures and are structured so as to develop _____

Assessment methods

The total mark of the course “Global Macroeconomics” is based on the weighted average from the evaluations of part 1 and 2. In particular, for the module Growth Theory and Empirics: An International Perspective there will be two assessments:

- **Group-Homework** (10% of total mark): the homework will be published on the course e-learning page on the 20th of May at 12.30 (Milan time) and will be due by the 24th of May at 12.30 (Milan time), via e-mail to Dr Barbaro. The homework will be done in groups and the details of its structure will be provided during the course.

- **Written mid-term exam** (40% of total mark): the individual written exam will take place online on Webex on the 20th of May 2021 between 10.00 and 12.30 (Milan time). The individually written exam will include 4 questions with equal weight and you will have to answer 3 of them, on your choice.

The mark of the homework will be valid until the second exam session on 9th of July 2021. For the exam session of September, the homework will no longer be valid.

Those students who set the mid-term exam will be entitled to sit a final exam on June that will cover only the program of Global Macroeconomics-part 2. This advantage is valid only for the first final exam session on 21st of

June 2021. For the subsequent exam sessions, the final exam will include both the program of part 1 and 2 and the mark obtained in the mid-term exam will be no longer valid for the total mark.

If a student did not submit one or both homework, will be assessed uniquely on the written exam. If a student submitted one or two homework can still decide to not use the mark of the homework and be assessed only on the written exam.

If you have questions about the assessments do not hesitate to contact the Lecturers.

Textbooks and Reading Materials

Suggested:

- Romer, D. Advanced Macroeconomics, 5th (or earlier) edition, McGrawHill
- Wickens, M. Macroeconomic theory, 2nd edition, Princeton University Press
- Jones, C. Macroeconomics, 4th edition, Norton

Additional:

- McCandless, G. The ABCs of RBCs, Harvard University Press
- Supplementary readings will be provided for each topic _____

Semester

Second semester: April-May 2021.

Teaching language

The course and the evaluations will be in English.
