UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Business Cycles in The Global Economy. Facts and Theory

2122-1-F5602M004-F5602M008M

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 optimization 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.

Having taken this course, you should be able to:

1. Derive analytically and analyze advanced micro-founded models of the economy and explain their main economic intuitions.

2. Be able to interpret the "stylized facts" in the field of macroeconomics using advanced tools of modern macroeconomic theory.

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

Contents

This module is the second part of a the course "Global Macroeconomics". In the first part "Growth Theory and Empirics: An International Perspective" you have discussed the main facts and theories about economic growth. In this second part "Business Cycles in The Global Economy. Facts and Theory", we will instead cover the main fact and theories about economic fluctuations (the Real Business Cycle theory and the New-Keynesian model), with a

special emphasis on the implications for macroeconomic policies (e.g. fiscal and monetary policies). We will also apply the theories to interpret recent economic events, such as the global financial crisis of 2008-09, and the recent COVID-19 pandemic crisis.

Detailed program

There will be about 35 hours lectures, and 12 hours of tutorials, and will cover the following topics.

1. **Background and Evidence about Economics Fluctuations**
(historical perspective, stylized facts, trend/cycle decomposition, co-movements of GDP and its components)

2. **The Real Business Cycle Approach**
(the basic model, extensions, the effects of fiscal and monetary policies in the model and in the data, analytical solution methods, numerical solution methods)

3. **The New-Keynesian Approach**
(empirical evidence sticky-prices, a model nominal price rigidities, equilibrium dynamics under alternative monetary rules, recent developments)

4. **Economic Fluctuations in the Open-Economy**
(the role of trade and capital (im)balances)

A more detailed schedule will be made available on the course website.

Prerequisites

The course is self-contained, and all the material will be covered during lectures and tutorials. However, students are supposed to be familiar with the following concepts, studied in previous courses:

- the basic IS-LM-AS-AD model
- principles of differentiations and constrained optimization
- principles of time-series analysis (standard deviations, correlation, VAR)

For the practical applications. Some previous knowledge of a programming language (such as MATLAB) is not required, but would be useful.

Teaching methods

Lectures are designed to:

- cover together the main points and structure of each topic;
- introduce, apply and analyze 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 your quantitative skills and ability to apply the principles of macroeconomics outside the context in which they are introduced in the lectures. Tutorial classes will be devoted to learning how to code and simulate the dynamic macro models seen during the lectures, through the use of Matlab and Dynare.

Assessment methods

The total mark of the course “Global Macroeconomics” is based on the average from the evaluations of part 1 and part 2 (each part is worth 50% of the total grade). For this part, the grade is determined as follows:

- **Written Exam** (>=40% of total mark).

- **Group-Homework** (<=10% of total mark).

Textbooks and Reading Materials

Suggested Textbooks
Galí, J., "Monetary Policy, Inflation and the Business Cycle”, Princeton University Press, 2014, 2nd edition. (JG)

Additional Textbook:

McCandless, G., "The ABCs of RBCs", Harvard University Press, 2008 (ABC)

Readings (additional readings will be distributed during the course)

1. **Background and Evidence about Economics Fluctuations**
(historical perspective, stylized facts, trend/cycle decomposition, co-movements of GDP and its components)

- Stock, J. and M. Watson (2000): “Business Cycle Fluctuations in U.S. Macroeconomic Time-Series”, in J.B. Taylor and M. Woodford eds., Handbook of Macroeconomics, vol. 1A, 3-64.

- Rebelo, S. (2005): “Real business cycle models: Past, present, and future?”, NBER Working Papers, 11401.

2. **The Real Business Cycle Approach**
(the basic model, extensions, the effects of fiscal and monetary policies in the model and in the data, analytical solution methods, numerical solution methods)

- King R. and S. Rebelo (1999): "Resuscitating Real Business Cycles, in Taylor and Woodford, Handbook of Macroeconomics, Vol. 1B, 1999, pp. 931-42

- JG, Chapter 2.

- ABC, Chapter 6.

- Rotemberg J. and M. Woodford (1999): "The Cyclical Behavior of Prices and Markups", Handbook of Macroeconomics, Vol. 1B, 1999, pp. 1051-1135 (only part 1 and part 2.1).

3. **The New-Keynesian Approach**

(empirical evidence sticky-prices, a model nominal price rigidities, equilibrium dynamics under alternative monetary rules, extensions and recent developments)

- JG, Chapter 3

- Christiano, L., M. Eichenbaum, and Charles L. Evans (1999): “Monetary Policy Shocks: What Have We Learned and to What End?”, in J.B. Taylor, and M. Woodford eds., Handbook of Macroeconomics, vol. 1A, 65-148.

- Smets, F. and R. Wouters (2007): “Shocks and Frictions in US Business Cycles: A Bayesian DSGE Approach.” American Economic Review, 97(3): 586-606.

4. **Economic Fluctuations in the Open-Economy**
(the role of trade and capital (im)balances)

- JG, Chapter 7

- Backus D., P. Kehoe and F. Kydland (1992), “International Real Business Cycles”, Journal of Political Economy, 100(4), p. 745-75.

- Schmitt-Grohe, S. and Martin Uribe (2017), "Open Economy Macroeconomics", Princeton University Press, Chapters 1 and 4.

Semester

II semester

Teaching language

English