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DI MILANO



## Ph.D. in ECONOMICS – Universities of Milan and Pavia

### ECONOMIC FLUCTUATIONS Academic year 2025-26 – Second Term

Real Business Cycle and New Keynesian models by Prof. Guido Ascari. (18 hours)

**Course organization:** 20 hours of lectures

**Course Assessment:** written exam

#### Part 1: Real Business Cycle and New Keynesian models by Prof. Guido Ascari

**Guido Ascari**, University of Pavia

**Office hours:** After the lectures, or by appointment by email

**Venue:** Department of Economics and Business, University of Pavia, Via San Felice 5, Pavia

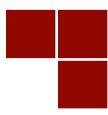
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#### Course description

The course introduces students to dynamic general-equilibrium models of economic fluctuations: the real-business-cycle theory and the new-Keynesian theory. The analysis focuses on the micro-foundations of modern macroeconomic models and on the role of price rigidities for the real effects of monetary policy. The basic new Keynesian model of economic fluctuations is introduced to examine the effects of monetary policy on economic activity and inflation. Analysis of a medium scale Dynamic Stochastic General Equilibrium (DSGE) model. We will refer mainly to Christiano, Eichenbaum and Evans (2005) to introduce frictions in the New Keynesian model (price and wage indexation, wage stickiness, variable capacity utilization, habits in consumption, adjustment costs on investments). We shall discuss impulse response functions to different types of shocks.

#### Learning objectives

The aim of the course is to provide a good knowledge of dynamic general-equilibrium models of economic fluctuations: the real business cycle theory and the new-Keynesian theory. The analysis shows how to build macroeconomic models from microeconomic principles. Students will develop



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the basic skills for the analysis of output fluctuations and inflation dynamics with special attention to the role of monetary policy.

### Course outline and References

#### 1. Equilibrium Real Business Cycle Fluctuations

- Economic Cycle: Measurement, Definition
- The Lucas legacy
- Competitive Business Cycle Theory: the basic model
- A primer in simulating a Real Business Cycle Model
- Capturing dynamics: real frictions

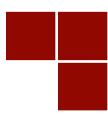
#### 2. Nominal Rigidities and New Keynesian Models

- Effects of Monetary Policy: Some facts
- A classical monetary model
- The New Keynesian model-
  - Monopolistic competition and nominal rigidities
  - The basic 3 equations NK model: dynamics and the Taylor principle
- The medium-scale models

### References

#### 1. - RBC

- Lucas, R.E., 1976, Econometric Policy Evaluation: A Critique, *Carnegie-Rochester Conference Series on Public Policy*, Vol. 1, pp. 19-46.
- Lucas, R.E., 1987, *Models of Business Cycles*, 1985 Yrjö Jahnsson Lectures, Basil Blackwell, Oxford.
- King, R.G. and Rebelo, S.T., 1999, Resuscitating Real Business Cycle, in, Taylor, J.B and Woodford M., *Handbook of Macroeconomics*, North Holland, ch. 14.
- Hansen, G.D., e Wright, R., 1992, The Labor Market in Real Business Cycle Theory, *Federal Reserve Bank of Minneapolis Quarterly Review*, 2-12.
- Rebelo, S.T., 2005, Real Business Cycle Models: Past, Present and Future, *Scandinavian Journal of Economics*, 107, 217-238.
- George McCandless,(2008, The ABCs of RBCs, Harvard University Press.
- Romer, D., 2011, *Advanced Macroeconomics*, Mc Graw Hill, Fourth edition, ch. 5.
- Fundamental ‘old’ contributions:



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- Kydland, F.E., e Prescott, E.C., 1982, Time to Build and Aggregate Fluctuations, *Econometrica*, Vol. 50, N. 6, pp. 1345-1370.
- Long, J.B., e Plosser, C.I., 1983, Real Business Cycles, *Journal of Political Economy*, Vol. 91, pp. 39-69.
- Campbell, J.Y., 1994, Inspecting the Mechanism: An Analytical Approach to the Stochastic Growth Model, *Journal of Monetary Economics*, Vol. 33, pp. 463-506.
- Cooley, T.F., 1995, a cura di, *Frontiers of Business Cycle Research*, Princeton University Press, Princeton, New Jersey.

#### *Interesting “Old” Debates on RBC models*

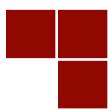
- ***NBER Macroeconomics Annual 1986***, MIT Press, Cambridge, Massachusetts: Eichenbaum, M., e Singleton, K.J., 1986, Do Equilibrium Real Business Cycle Theories Explain Postwar U.S. Business Cycles?; Barro, R.J., Comments; Mankiw, N.G., 1986, Comments.
- ***Journal of Economic Perspectives, 1989, Vol. 3, N. 3***: Plosser, C.I., Understanding Real Business Cycles, pp. 51-77; Mankiw, N.G., Real Business Cycles: A New Keynesian Perspective, pp. 79-89.
- ***Federal Reserve Bank of Minneapolis Quarterly Review, Fall 1986***: Manuelli, R.E., 1986, Modern Business Cycle Analysis: A Guide to the Prescott-Summers Debate, pp. 3-8; Prescott, E.C., 1986, Theory Ahead of Business Cycle Measurement, pp. 9-22; Summers, L.H., 1986, Some Skeptical Observations on Real Business Cycle Theory, pp. 23-27.

## 2. - NK Model

- Blanchard, O. and N. Kiyotaki, “Monopolistic Competition and the Effects of Aggregate Demand”, *American Economic Review* 77(4), September 1997, pp.647-666.
- Gali, J., Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework, Princeton, N.J.: Princeton University Press 2008 or 2015. Chap 1-3
- Romer, D., Advanced Macroeconomics, McGrawHill, Fourth edition, 2011. Chap. 6 and 7.
- Walsh, C. E., Monetary Theory and Policy (3rd edition), MIT press, 2010. Chap. 8 and 6.

## Medium scale DSGE

- Christiano L., Eichenbaum M. and Evans C., 2005. *Nominal Rigidities and the Dynamic Effects of a Shock to Monetary Policy*, *Journal of Political Economy*.
- Smets, F. and Wouters, R. (2007). Shocks and frictions in US business cycles: A Bayesian DSGE approach. *American Economic Review*, 97(3):586–606.



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