

*Boston College*  
*Department of Economics*  
**Tommaso Monacelli**  
**Carney, Room 143**

J **EC751.01 Macroeconomic Theory II (Ph. D)** J  
***Part II: Money, Nominal Rigidities and Business Cycles***

- **Office Hours:** Wed 2-4 p.m., or by appointment. In general, you are more than welcome to see me in my office for *any* question concerning the course.
- **Class time:** MW 10:00, Carney 6
- **Textbooks**  
Obstfeld, M and K. Rogoff, *Foundations of International Macroeconomics*, MIT Press [Chps. 8, 9, 10]  
Walsh C.E, *Monetary Theory and Policy*, MIT Press 1998 [Chps. 2, 3, 5]  
Blanchard O.J and S.Fisher *Lectures on Macroeconomics*, MIT Press [Chps. 4, 8]  
Romer, D. *Advanced Macroeconomics*, 2<sup>nd</sup> edition, McGraw Hill [Chps. 5, 6]

The following are not textbooks but extremely useful reviews:

J. Gali (2000) " New Perspectives on Monetary Policy, Inflation and Business Cycle", paper available at [http://www.econ.upf.es/~gali/html\\_files/research.htm](http://www.econ.upf.es/~gali/html_files/research.htm).

M. Woodford (2000), "Optimizing Models with Nominal Rigidities" chpt. 3 of "Interest and Prices", available at <http://www.princeton.edu/~woodford/>.

- **Web page**

News, handouts, codes, problem sets will be posted on the web page of the course reachable at [www2.bc.edu/~monacelt](http://www2.bc.edu/~monacelt).

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- **The course**

This second part of the course covers modern neo-keynesian theories of business cycle fluctuations, with a particular emphasis on the interaction between nominal rigidities (in wages and prices) and monetary policy. The starting point will be a critique of the prototypical RBC model. I will assume that this model is known in detail, although we will commence with that in practicing solution methods of DSGE models. We will then move on to introducing money in a general equilibrium framework and analyze in detail a fully optimizing sticky price description of the business cycle. Particular attention in this context will be devoted to the role of monetary policy. Evaluation of this course will be based on a series of problem sets (30%) and a final exam (70%).

- **Technical endowment**

We will make extensive use of dynamic general equilibrium models, the core modelling framework of modern macroeconomics. Hence we will devote some time to develop essential tools for their analysis and solution. A mathematical requirement is a thorough understanding of the technical appendix in O-R along with few papers that I am suggesting below. A reference to web pages with computer codes solving stochastic systems of difference equations (with alternative methods) is also reported below.

-Blanchard O. and C.M. Khan The Solution of Linear Difference Models under Rational Expectations ,  
*Econometrica* July 1980

-Anderson G. and G. Moore, A Linear Algebraic Procedure for Solving Linear Perfect Foresight Models,  
*Economics Letters* 17, 1985

-Uhlig H., A Toolkit for Analyzing Dynamic Stochastic Models Easily , University of Tilburg (1998).  
The paper and several codes are available at <http://cwis.kub.nl/~few5/center/STAFF/uhlig>

-Perko, L. *Differential Equations and Dynamical Systems* , Springer Verlag 1974

Available on my web page: [www2.bc.edu/~monacelt](http://www2.bc.edu/~monacelt)

-Monacelli T. A Note on the Solution of Singular Linear-Difference Models under Rational Expectations , Manuscript, Boston College 1999, along with companion codes.  
-Monacelli T. and Fabio Natalucci, Solving Non-Singular Systems of Expectational Difference Equations: An Application , Manuscript, Boston College 1999.

- **References for the course**

The textbook chapters used as reference have been listed above. Here is a (non-exhaustive) list of papers.

### **1) Background**

B.King, "Will the Neo-Keynesian Macroeconomics Resurrect the IS-LM Model ?", JEP 1993.

(\*) M.S. Goodfriend and B. King, "The New Neoclassical Synthesis", NBER Macroeconomics Annuals, 1998.

(\*) J.Gali, "The Return of the Phillips Curve and Other Recent Developments in Business Cycle Theories", Mimeo NYU and Universitat Pompeu Fabra, 1999 (available at [www.econ.upf.es/~gali](http://www.econ.upf.es/~gali))

(\*) J.B. Taylor, "Staggered Price and Wage Setting in Macroeconomics", NBER w.p #6754, 1998, now in Handbook of Macroeconomics (J. Taylor and M.Woodford eds.), 1999.

L. Ball and N.G Mankiw, "A Sticky Price Manifesto", Carnegie-Rochester Conference Series on Public Policy, 41 (1995).

### **2) The transition: from RBC to the Neo-Keynesian Approach**

(\*) J. Gali, "Technology, Employment and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations?" AER 1999.

T.Cogley and J.Nason, "Output Dynamics in Real Business Cycle Models", AER 1996.

S. Basu, J.Fernald and M.Kimball, "Are Technology Shocks Contractionary ?", Mimeograph, University of Michigan 1999.

(\*) B. King and S. Rebelo, "Resuscitating Real Business Cycles", Handbook of Macroeconomics (J.Taylor and M.Woodford eds.), 1999 (available at [www.people.Virginia.EDU/~rgk4m](http://www.people.Virginia.EDU/~rgk4m)).

### **3) General Equilibrium Monetary Sticky-Price Models of the Business Cycle**

J.O. Hairault and F.Portier, "Money, New Keynesian Macroeconomics and the Business Cycle", EER 1993.

(\*) T.Yun, "Nominal Price Rigidity, Money Supply Endogeneity and Business Cycles", JME 1996.

R.G.King and A.Wolman, "Inflation Targeting in a St.Louis Model of the 21<sup>st</sup> Century", NBER w.p # 5507, 1996.

(\*) M.Woodford, "Control of the Public Debt: A Requirement for Price Stability ?", NBER w.p 5684, 1996.

B.T. McCallum and E.Nelson, "An Optimizing IS-LM Specification for Monetary Policy and Business Cycle Analysis", NBER w.p # 5875, 1997.

### **4) Real rigidities and Persistence of Monetary Shocks**

(\*) V.V Chari, P.Kehoe and E.McGrattan, "Sticky Price Models of the Business Cycle: Can the Contract Multiplier Solve the Persistence Problem ?", Federal reserve Bank of Minneapolis, Staff Report 217, 1996

O. Jeanne, "Generating Real Persistent Effect of Monetary Shocks: How Much Nominal Rigidity do we Really Need?", EER 42, 1998.

**5) Evidence on Sticky Price Models**

A. K. Kashyap, "Sticky Prices: Evidence from Retail Catalogs", QJE 1995

P. Ireland, "Sticky Price Models of the Business Cycle: Specification and Stability", NBER W.P #7511, 2000

J. W. Keating, "Is Sticky Price Adjustment Important for Output Fluctuations?" Mimeo University of Kansas, 1998

**6) The Analysis of Monetary Policy**

(\*) R. Clarida, J. Gali and M. Gertler, "The Science of Monetary Policy", JEL 2000.

J.B. Taylor, "An Historical Analysis of Monetary Policy Rules", NBER w.p 6768, 1998.

J.J. Rotemberg and M. Woodford, "An Optimization-Based Econometric Framework for the Evaluation of Monetary Policy", NBER Macroeconomics Annual, 1999.