

# Econ 210C: Macroeconomic Theory

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University of California, San Diego - Spring 2011

MW, 10:00am-11:20am, Econ 300

Office Hours: Davide Mon, 11.30 - 12.30pm (or by appointment); Myungkyu Tuesdays, 9-10am

## Course description

The purpose of the course is to introduce the basic models macroeconomists use to study fluctuations. We first consider real business cycle models and the sources of business cycle fluctuations. We then provide an overview of the literature on monetary aspects of the business cycle, with a special emphasis on inflation dynamics and their implications for monetary policy. We will cover both the main theoretical models and some relevant empirical evidence. The final grade will be determined by problem sets (20%) one midterm (30%) and a final exam (50%). The midterm is tentatively scheduled on Wednesday, April 27th.

There are no required books for the course. However I shall use some material from:

- Galí J. “Monetary Policy, Inflation and the Business Cycle”, Princeton University Press, 2008. (JG)
- Walsh C.E. “Monetary Theory and Policy”, 3rd ed., MIT Press, 2010. (CW)

Additional readings are indicated below. Required readings are marked with an asterisk.

## Course outline and reading list

### Part I: Real Business Cycles

#### 1. Introduction. Stylized business cycle facts.(1 lecture)

Trends/cycles decompositions. Co-movements of GDP 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.
- Kydland F. and E.C. Prescott (1990): ”Business Cycles: Real Facts and a Monetary Myth,” *Quarterly Review*, Federal Reserve Bank of Minneapolis.
- Ramey G. and V.A. Ramey (1995): “Cross-Country Evidence on the Link Between Productivity and Growth,” *American Economic Review*, vol. 85, no. 5, 1138-1151.
- Rebelo, S. (2005): “Real business cycle models: Past, present, and future?”, *NBER Working Papers*, 11401.

#### 2. Basic Real Business cycle models (3 lectures)

The benchmark business cycle model. Log-linearization. Solution methods of (linear) rational expectations models. Structural VARs. The effects of productivity shocks.

- Blanchard O. and C. Kahn (2002): “The Solution of Linear Difference Models under Rational Expectations”, *Econometrica*, 48, 1305-1311.
- Galí J. (1999): “Technology, Employment, and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations?” *American Economic Review*, 89(1), pp. 249-271.
- (\*) Galí J. and P. Rabanal (2004): Technology Shocks and Aggregate Fluctuations: How Well Does the Real Business Cycle Model Fit Postwar U.S. Data? *NBER Macro Annual*.
- (\*) King R. and S. Rebelo, Resuscitating Real Business Cycles, in Taylor and Woodford, *Handbook of Macroeconomics*, Vol. 1B, 1999, pp. 931-42
- Kydland, F.E. and E.C. Prescott (1982): “Time to Build and Aggregate Fluctuations”, *Econometrica*, 50(6), pp.1345-1370.

### 3. Some extensions to the benchmark model (2 lectures)

Why do we need extensions? Labor market frictions, multisector economies, open economies, news shocks.

- Backus, Kehoe and Kydland (1992), “International Real Business Cycles”, *Journal of Political Economy*, 100(4), p. 745-75.
- Den Haan W., G. Ramey and J. Watson (2000) “Job Destruction and Propagation of Shocks”, *American Economic Review*, vol. 90(3).
- (\*) Hansen L.P. (1985): “Indivisible Labor and the Business Cycle, *Journal of Monetary Economics*, 16, 309-27.
- Greenwood J., Z. Hercowitz and G.W. Huffman (1988): “Investment, Capacity Utilization, and the Real Business Cycle”, *American Economic Review*, 78 (3).
- (\*) Jaimovich N. and S. Rebelo (2009): “Can News about the Future Drive the Business Cycle? *American Economic Review*, 99(4).

### 4. Fiscal policy over the business cycle (2 lectures)

The effects of government spending shocks. Taxation over the business cycle. Optimal fiscal policy.

- (\*) Baxter M., and R. King (1993): Fiscal Policy in General Equilibrium, *American Economic Review*, 83: 315-334.
- Chari, V. V. and P.J Kehoe, Patrick (1999): “Optimal Fiscal and Monetary Policy, in John B. Taylor and Michael Woodford, eds., *Handbook of Macroeconomics*, Amsterdam, The Netherlands: Elsevier Science, 1671-1745.
- Ramey V. (2011): “Identifying Government Spending Shocks: Its All in the Timing, *The Quarterly Journal of Economics*, forthcoming.

## Part II: Monetary Policy and the Business Cycles

### 1. Studying the effects of monetary policy. Introduction and some evidence. (2 lectures).

Long-Run and Short-Run Evidence on Money, Output and Prices. The Narrative Approach. The VAR approach. The Structural approach.

- (\*) CW, chapter 1.
- (\*) Christiano, L., M. Eichenbaum, and Charles L. Evans (1998): “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.
- McCandless, George T. and W. Weber (1995): “Some Monetary Facts”, Federal Reserve Bank of Minneapolis, *Quarterly Review*.

### 2. Introducing Money in the Neoclassical Model (3 lectures).

Money in the Utility Function (MIU) models. Cash in Advance constraint models. The Welfare Costs of Inflation and the Friedman- Rule. The Cashless Economy. Neutrality of Money. Price - Level determination under different monetary rules.

- (\*) CW, chapter 2-3.
- (\*) JG, chapter 2.
- (\*) Cooley, T. and G. Hansen (1989) “Inflation Tax in a Real Business Cycle Model”, *American Economic Review*, 79, issue 4, 733-748.
- Friedman, M. (1969): *The Optimum Quantity of Money and Other Essays*, Aldine Press, Chicago, IL.
- Sidrauski, M. (1967): “Inflation and Economic Growth”, *Journal of Political Economy*, 104, issue 4, 661-682.
- Correia, I., and P. Teles: “The Optimal Inflation Tax”, *Review of Economic Dynamics*, 2, issue 2, 325 - 346.

### 3. The Basic New-Keynesian Framework (3 lectures).

Empirical evidence on sticky-prices. The Calvo model. The New-Keynesian Phillips curve. Equilibrium dynamics under alternative monetary rules.

- (\*) JG, chapter 3.
- Yun, T. (1996): “Nominal Price Rigidity, Money Supply Endogeneity and Business Cycles”, *Journal of Monetary Economics* 37, 345-370.

### 4. Monetary Policy Design in the Basic New-Keynesian Framework. (2 lectures) Simple monetary policy rules. The Taylor Principle. A Welfare criterion. Optimal monetary policy and its implementation. Cost-push shocks. Discretion vs. Commitment. The Zero-Lower Bound.

- (\*) JG, chapters 4 and 5.
- Adam, K. and R. Billi (2006): “Optimal Monetary Policy under Commitment with a Zero Bound on Nominal Interest Rates”, *Journal of Money, Credit and Banking*, 38, issue 7, 1877-1905.
- Barro, R. and D. Gordon (1983) “A Positive Thoery of Monetary Policy in a Natural Rate Model”, *Journal of Political Economy*, 91, issue 4, 589-610.
- Benigno P. and M. Woodford (2005): “Inflation Stabilization and Welfare: The Case of a Distorted Steady State”, *Journal of the European Economic Association* 3, issue 6, 1185-1236.
- Bullard J. and K. Mitra (2002): “Learning About Monetary Policy Rules”, *Journal of Monetary Economics*, vol. 49, issue 6, 1105-1130.
- (\*) Clarida, R., J. Galí and M. Gertler (1999): “The Science of Monetary Policy: A New-Keynesian Perspective”, *Journal of Economic Literature*, 37, 1661-1707.
- Eggertsson, G., and M. Woodford (2003): “The Zero-Bound on Interest Rates and Optimal Monetary Policy”, *Brooking Papers on Economic Activity*, 1, issue 1, 139-211.
- Orphanides, A (2003): “The Quest for Prosperity Without Inflation”, *Journal of Monetary Economics*, 50, 633-663.
- Schmitt-Grohè, S. and M. Uribe (2004): “Optimal Fiscal and Monetary Policy under Sticky Prices”, *Journal of Economic Theory* 114, 198-230.
- Yun, T. (2005): “Optimal Monetary Policy with Relative Price Distortions”, *American Economic Review*, vol. 95, issue 1, 89-109.
- (\*) Woodford, M. (2001): “The Taylor Rule and Optimal Monetary Policy”, *American Economic Review* 91, issue 2, 232-237.