

Economics 721: Macroeconomics
Monetary Policy, Inflation and the Business Cycle
Professor: Neville Francis (GA 06G)
TA: Huan Zhou

This course will provide an overview of the literature on monetary policy aspects of the business cycle, with special emphasis on optimizing sticky price models, their associated inflation dynamics, and their implications for monetary policy. We will cover the main theoretical models as well as some relevant empirical evidence.

The main textbooks for the course are:

Gali, Jordi (2008): *Monetary Policy, Inflation, and the Business Cycle. An Introduction to the New Keynesian Framework*, Princeton University Press (Princeton NJ)

Walsh, Carl E. (2003): *Monetary Theory and Policy*, Third Edition, MIT Press (Cambridge, MA)

Other books:

Obstfeld and Rogoff (1996): *Foundations of International Macroeconomics*, MIT Press (Cambridge, MA)

Woodford, Michael (2003): *Interest and Prices: Foundations of a Theory of Monetary Policy*, Princeton University Press (Princeton, NJ)

1 Credibility and monetary policy in closed and open economies

(*) Obstfeld and Rogoff, Section 9.5

(*) Walsh, chapter 8

(*) Alesina, Alberto and Lawrence H. Summers (1993), “Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence,” *Journal of Money, Credit and Banking*, 25, 151-162.

(*) Campillo, Marta and Jeffrey A Miron (1997), “Why Does Inflation Differ across Countries?” in *Reducing Inflation: Motivation and Strategy*, edited by Christina Romer and David Romer, NBER and University of Chicago Press.

(*) Barro, Robert J. and David B. Gordon (1983), “Rules, Discretion and Reputation in a Model of Monetary Policy,” *Journal of Monetary Economics*, 12, 101-12.

Obstfeld, Maurice (1994), “The Logic of Currency Crises,” *Cahier économique et monétaire*, Banque de France, No 43, 189-213. (On Obstfeld’s website.)

Romer, David (1993), “Openness and Inflation: Theory and Evidence,” *Quarterly Journal of Economics*, 108, 869-903

2 Money, Prices and Exchange Rates

(*) Obstfeld and Rogoff, Section 8.1, 8.2, 8.4.2, 8.5.

(*) Flood, Robert and Peter Garber (1984), "Collapsing exchange rate regimes: Some linear examples," *Journal of International Economics*, 17, 1-13.

3 Inflation Targeting

(*) Lars E.O. Svensson (1997), "Inflation forecast targeting: Implementing and monitoring inflation targets," *European Economic Review*, 41, 1111-1146.

4 A Classical Monetary Model

Households. Firms. Equilibrium. Neutrality. Monetary policy rules and price level determination. Sources of non-neutrality. Optimal monetary policy. Empirical assessment.

(*) Galí, chapter 1-2

Walsh, chapter 1-2

Woodford, chapters 1-2.

Cooley, Thomas F. and Gary D. Hansen (1995): "Money and the Business Cycle," in T. Cooley ed.: *Frontiers of Business Cycle Research* (Princeton University Press).

Cooley, Thomas F. and Gary D. Hansen (1989): "Inflation Tax in a Real Business Cycle Model," *American Economic Review* 79, 733-748.

Chari, V.V., and Patrick J. Kehoe (1999): "Optimal Fiscal and Monetary Policy," in J.B. Taylor and M. Woodford eds., *Handbook of Macroeconomics*, volume 1C, 1671-1745.

Correia, Isabel, and Pedro Teles (1999): "The Optimal Inflation Tax," *Review of Economic Dynamics*, vol. 2, no.2 325-346.

Romer, Christina, and David Romer (1989): "Does Monetary Policy Matter? A New Test in the Spirit of Friedman and Schwartz," *NBER Macroeconomics Annual*, 4, 121-170.

(*) Christiano, Lawrence J., Martin 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*, volume 1A, 65-148. (also NBER WP 6400).

Peersman, Gert and Frank Smets (2003): "The Monetary Transmission Mechanism in the Euro Area: More Evidence from VAR Analysis," in Angeloni et al. (eds.) *Monetary Policy Transmission in the Euro Area*, Cambridge University Press, (also ECB WP no. 91).

Galí, Jordi (1992): "How Well Does the IS-LM Model Fit Postwar U.S. Data?," *Quarterly Journal of Economics* 709-738.

5 The Basic New Keynesian Model

The Calvo model. The New Keynesian Phillips curve. The output gap and the natural rate of interest. The effects of monetary policy shocks. The Effects of

Technology Shocks. Micro and macro evidence on the New Keynesian Phillips Curve.

(*) Galí, chapter 3.

Walsh, chapter 5.

Woodford, chapter 4.

(*) Yun, Tack (1996): "Nominal Price Rigidity, Money Supply Endogeneity, and Business Cycles," *Journal of Monetary Economics* 37, 345-370.

King, Robert G., and Alexander L. Wolman (1996): "Inflation Targeting in a St. Louis Model of the 21st Century," *Federal Reserve Bank of St. Louis Review*, vol. 78, no. 3. (NBER WP #5507).

Rotemberg, Julio (1982): "Monopolistic Price Adjustment and Aggregate Output," *Review of Economic Studies*, 159, 517-531..

Chari, V.V., Patrick J. Kehoe, Ellen R. McGrattan (2000): "Sticky Price Models of the Business Cycle: Can the Contract Multiplier Solve the Persistence Problem?," *Econometrica*, vol. 68, no. 5, 1151-1180.

Wolman, Alexander (1999): "Sticky Prices, Marginal Cost, and the Behavior of Inflation," *Economic Quarterly*, vol 85, no. 4, 29-48.

Galí, Jordi (1999): "Technology, Employment, and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations?," *American Economic Review*, vol. 89, no. 1, 249-271.

(*) Galí, Jordi and Mark Gertler (1998): "Inflation Dynamics: A Structural Econometric Analysis," *Journal of Monetary Economics*, vol 44, no. 2, 195-222.

Galí, Jordi, Mark Gertler, David López-Salido (2001): "European Inflation Dynamics," *European Economic Review* vol. 45, no. 7, 1237-1270.

Mankiw, N. Gregory and Ricardo Reis (2002): "Sticky Information vs. Sticky Prices: A Proposal to Replace the New Keynesian Phillips Curve," *Quarterly Journal of Economics*, vol. CXVII, issue 4, 1295-1328.

Special issue of the *Journal of Monetary Economics* on "The Econometrics of the Pricing Equation," September 2005.

Álvarez, Luis J. (2006): "Sticky Prices in the Euro Area: A Summary of New Micro Evidence," *Journal of the European Economic Association*, vol. 4, no. 2-3, 575-584.

Bils, Mark and Peter J. Klenow (2004): "Some Evidence on the Importance of Sticky Prices," *Journal of Political Economy*, vol 112 (5), 947-985.

(*) Dhyne, Emmanuel et al. (2006): "Price Changes in the Euro Area and the United States: Some Facts from Individual Consumer Price Data," *Journal of Economic Perspectives*, vol. 20, no. 2, 171-192.

Mackowiak, Bartosz and Frank Smets (2008): "On the Implications of Microeconomic Price Data for Macroeconomic Models," in J. Fuhrer et al. (eds) "Understanding Inflation and the Implications for Monetary Policy: A Phillips Curve Retrospective," MIT Press, Cambridge, Massachusetts, 2009.

Nakamura, Emi and Jón Steinsson (2008): "Five Facts about Prices: A Reevaluation of Menu Cost Models," *Quarterly Journal of Economics*, vol. CXXIII, issue 4, 1415-1464.

6 Monetary Policy Design in the Baseline Model

A benchmark case. Optimal monetary policy and its implementation. The Taylor Principle. Simple Monetary Policy Rules. Second order approximation to welfare losses. Evidence on Monetary Policy Rules.

(*) Galí, chapter 4.

Walsh, chapter 11

Woodford, chapter 6.

Yun, Tack (2005): "Optimal Monetary Policy with Relative Price Distortions" *American Economic Review*, vol. 95, no. 1, 89-109

Blanchard, Olivier and Charles Kahn (1980), "The Solution of Linear Difference Models under Rational Expectations", *Econometrica*, 48, 1305-1311

Bullard, James, and Kaushik Mitra (2002): "Learning About Monetary Policy Rules," *Journal of Monetary Economics*, vol. 49, no. 6, 1105-1130.

(*) Woodford, Michael (2001): "The Taylor Rule and Optimal Monetary Policy," *American Economic Review* 91(2): 232-237 (2001).

Rotemberg, Julio and Michael Woodford (1999): "Interest Rate Rules in an Estimated Sticky Price Model," in J.B. Taylor ed., *Monetary Policy Rules*, University of Chicago Press.

Clarida, Richard, Jordi Galí, and Mark Gertler (2000): "Monetary Policy Rules and Macroeconomic Stability: Evidence and Some Theory," *Quarterly Journal of Economics*, vol. 105, issue 1, 147-180.

(*) Taylor, John B. (1998): "An Historical Analysis of Monetary Policy Rules," in J.B. Taylor ed., *Monetary Policy Rules*, University of Chicago Press.

Orphanides, Athanasios (2003): "The Quest for Prosperity Without Inflation," *Journal of Monetary Economics* 50, 633-663

7 Extensions of the Baseline Model and their Implications for Monetary Policy

Cost-push shocks. Wage rigidities. Open Economy. State-dependent models. Estimated DSGE Models for Policy Analysis.

(*) Galí, chapters 5-7.

Woodford, chapters 6-8.

(*) Clarida, Richard, Jordi Galí, and Mark Gertler (1999): "The Science of Monetary Policy: A New Keynesian Perspective," *Journal of Economic Literature*, vol. 37, no. 4, 1661-1707.

(*) Erceg, Christopher J., Dale W. Henderson, and Andrew T. Levin (2000): "Optimal Monetary Policy with Staggered Wage and Price Contracts," *Journal of Monetary Economics* vol. 46, no. 2, 281-314.

Galí, Jordi (2010): "The Return of the Wage Phillips Curve," unpublished manuscript.

Benigno, Gianluca, and Benigno, Pierpaolo (2003): "Price Stability in Open Economies," *Review of Economic Studies*, vol. 70, no. 4, 743-764.

Galí, Jordi, and Tommaso Monacelli (2005): "Monetary Policy and Exchange Rate Volatility in a Small Open Economy," *Review of Economic Studies*, vol. 72, issue 3, 2005, 707-734.

Clarida, Richard, Jordi Galí, and Mark Gertler (2002): "A Simple Framework for International Monetary Policy Analysis," *Journal of Monetary Economics*, vol. 49, no. 5, 879-904.

Dotsey, Michael, Robert G. King, and Alexander L. Wolman (1999): "State Dependent Pricing and the General Equilibrium Dynamics of Money and Output," *Quarterly Journal of Economics*, vol. CXIV, issue 2, 655-690.

Golosov, Mikhail, Robert E. Lucas (2007): "Menu Costs and Phillips Curves," *Journal of Political Economy* 115 (2), 171-199.

Gertler, Mark and John Leahy (2008): "A Phillips Curve with an Ss Foundation," *Journal of Political Economy* 116 (3), 533-572

Klenow, Peter J. and Oleksiy Kryvtsov (2008): "State-Dependent or Time-Dependent Pricing: Does it Matter for Recent U.S. Inflation?," *Quarterly Journal of Economics*, CXXIII, 863-904.

Midrigan, Virgiliu (2007): "Is Firm Pricing State or Time-Dependent? Evidence from U.S. Manufacturing," *Review of Economics and Statistics*, forthcoming.

Nakamura, Emi and Jón Steinsson (2008): "Five Facts about Prices: A Re-evaluation of Menu Cost Models," *Quarterly Journal of Economics*, vol. CXXIII, issue 4, 1415-1464.

Christiano, Lawrence J., Martin Eichenbaum, and Charles L. Evans (2005): "Nominal Rigidities and the Dynamic Effects of a Shock to Monetary Policy," *Journal of Political Economy*, vol. 113, no. 1, 1-45

Smets, Frank, and Raf Wouters (2003): "An Estimated Dynamic Stochastic General Equilibrium Model of the Euro Area," *Journal of the European Economic Association*, vol 1, no. 5, 1123-1175.

(*) Smets, Frank, and Raf Wouters (2007): "Shocks and Frictions in US Business Cycles: a Bayesian DSGE Approach," *American Economic Review*, vol. 97 (3), 586-606.

Erceg, Christopher J., Luca Guerrieri, Christopher Gust (2006): "SIGMA: A New Open Economy Model for Policy Analysis," *International Journal of Central Banking*, vol. 2 (1), 1-50.

Edge, Rochelle M., Michael T. Kiley and Jean-Philippe Laforte (2007): "Documentation of the Research and Statistics Division's Estimated DSGE

Model of the U.S. Economy: 2006 Version," *Finance and Economics Discussion Series 2007-53*, Federal Reserve Board, Washington D.C.

Coenen, Günter, Peter McAdam, Roland Straub (2006): "Tax Reform and Labour Market Performance in the Euro Area: A Simulation-Based Analysis using the New Area-Wide Model," *Journal of Economic Dynamics and Control*, forthcoming.

Christoffel, Kai, Günter Coenen, and Anders Warne (2008): "The New Area-Wide Model of the Euro Area: A Micro-Founded Open-Economy Model

for Forecasting and Policy Analysis,"

Bayoumi, Tam (2004): "GEM: A New International Macroeconomic Model,"
IMF Occasional Paper no. 239.

8 Empirical Study on Inflation Dynamics

Ball, Laurence & Gregory Mankiw, N. & Reis, Ricardo, 2005. "Monetary policy for Inattentive Economies," *Journal of Monetary Economics*, vol. 52(4), pages 703-725, May.

(*) Rudd, Jeremy & Whelan, Karl, 2006. "Can Rational Expectations Sticky-Price Models Explain Inflation Dynamics?" *American Economic Review*, vol. 96(1), pages 303-320, March.

(*) Rudd, Jeremy & Whelan, Karl, 2005. "New tests of the new-Keynesian Phillips curve," *Journal of Monetary Economics*, vol. 52(6), pages 1167-1181, September.

Rudd, Jeremy & Whelan, Karl, 2005. "Does the Labor Share of Income Drive Inflation?" *Journal of Money, Credit and Banking*, vol. 37(2), pages 297-312, April.