

**University of Kansas
Department of Economics**

**Economics 810
Macroeconomics 1**

**Spring 2006
Professor Keating**

Office: 226-B Summerfield Hall

Phone: 864-2837

Office Hours: Mondays and Wednesdays: 2 to 3:30 PM (and often longer);
Otherwise I am usually available by appointment.

Grading: Grades are determined by performance on two midterm exams (30% each) and a final exam (40%). The midterms are in-class exams on Wednesday, February 22 and on Wednesday, April 12. The comprehensive final is on Tuesday May 16 from 10:30 am to 1 pm in this class room.

Readings: The texts for this course include: *Advanced Macroeconomics* (3rd Edition) by David Romer, *Economic Growth* (2nd Edition) by Robert J. Barro and Xavier Sala-i-Martin, and *Lectures in Macroeconomics* by Olivier Jean Blanchard and Stanley Fischer.

Each text has unique strengths. Romer provides a good organization of the material and often provides a nice intuitive explanation. The texts by Barro and Sala-i-Martin and by Blanchard and Fischer provide deeper technical knowledge that one must acquire if one wants to read literature on the research frontier. (I did not order *Recursive Macroeconomic Theory* by Lars Ljungqvist and Thomas J. Sargent, but this book is an excellent introduction to advanced techniques in macroeconomic analysis.)

There are a few suggested readings from *Interest and Prices* by Michael Woodford and from *Monetary Theory and Policy* (2nd Edition) by Carl Walsh, but these texts have not been ordered. Woodford's text is technically sophisticated and is particularly focused on recent research into monetary policy rules using a New-Keynesian framework. Walsh's text emphasizes all types of monetary issues.

Texts are referenced below by the last names of authors. The course will probably only cover closed-economy macro topics. If you are interested in open-economy macroeconomic questions an excellent text is *Foundations of International Macroeconomics* by Maurice Obstfeld and Kenneth Rogoff.

While this syllabus includes many important articles, it contains more readings than one is able to digest in a single semester. This lengthy reading list is designed to provide you with additional resources in case you want a deeper understanding of some topics, now or sometime in the future. If you want to develop an expertise in the area of macroeconomics, you will eventually need to become familiar with most of these articles. I will let you know which articles are essential for this course.

The University subscribes to most of the journals referenced here. And nearly all published papers are available on the Web. For example, Elsevier (North Holland) makes the last year or so downloadable to subscribers of *Journal of Monetary Economics*, *Journal of Economic Dynamics and Control*, *European Economic Review*, *Journal of Econometrics*, *Journal of Public Economics*, *Journal of International Economics* and some other economics journals. Another source called JSTOR provides Web access to all but the last few years of *American Economic Review*, *Econometrica*, *Economic Journal*, *Journal of Applied Econometrics*, *Journal of Economic History*, *Journal of Economic Literature*, *Journal of Economic Perspectives*, *Journal of Industrial Economics*, *Journal of Money, Credit and Banking*, *Journal of Political Economy*, *Quarterly Journal of Economics*, *Review of Economic Studies*, and *Review of Economics and Statistics*. And some journals even make their most recent publications Web-accessible to non-subscribers.

There are many references to National Bureau of Economic Research working papers (denoted as NBER WP). Since the Economics Department subscribes to this series you can download these papers for yourself or use the department's hard copy (if you can find it) to make a copy for yourself. The

syllabus references other working papers, some which come from other universities and some from the Federal Reserve System. Most items from the 12 Federal Reserve Banks and from the Board of Governors of the Federal Reserve System may be ordered free of charge or downloaded from the Web.

See the KU Department of Economics Web page <http://www.ku.edu/~econ/> or my Web page for easy connections to various other sources of information from the Web. Also, ECONLIT is a useful tool for tracking down papers, mostly ones that are published or in the collection of NBER Working Papers. Other working papers archives can also be found on the KU Web page. I will use Blackboard and my Web page, <http://www.people.ku.edu/~jkeating/>, to distribute some course information (e.g. the syllabus, homework questions, homework solutions, etc.).

Homework will be assigned with some regularity. The questions will sometimes be drawn from the texts. I will not collect your answers but I will typically provide solutions to the questions. It is very important that you work hard on these questions as they are useful “leading indicators” of future exam questions.

Abbreviations:

ECMT=Econometrica

JMCB=Journal of Money, Credit, and Banking

AER=American Economic Review

QJE=Quarterly Journal of Economics

RESTAT=Review of Economics and Statistics

CRCS=Carnegie-Rochester Conference Series

JEL=Journal of Economic Literature

JME=Journal of Monetary Economics

JPE=Journal of Political Economy

JFE=Journal of Financial Economics

EER=European Economic Review

JEDC=Journal of Economic Dynamics and Control

RESTUD=Review of Economic Studies

Course Outline

Foundations of Macroeconomic Analysis

Blanchard, O. "What Do We Know About Macroeconomics that Fisher and Wicksell Did Not?" QJE 115, no. 4 (November 2000): 1375-1410.

Woodford, M. "Revolution and Evolution in Twentieth-Century Macroeconomics." *Frontiers of the Mind in the Twenty-First Century*. Ed. P. Gifford. Cambridge, MA: Harvard University Press, 2000.

Blanchard and Fischer, Chapter 1

Walsh, Chapter 1

Woodford, Chapter 1

McCandless G. Jr. & W.E.Weber “Some Monetary Facts” Federal Reserve Bank of Minneapolis Quarterly Review, Vol. 19, No. 3, Summer 1995, pp. 2–11

Stock J. and M. Watson “Business cycle fluctuations in U.S. macroeconomic time series” Chapter 1 in *Handbook of Macroeconomics* (also available as an NBER WP)

Stock, James & Mark Watson “[Has the Business Cycle Changed? Evidence and Implications](#)” in Monetary Policy and Uncertainty, Kansas City Federal Reserve Bank’s 2003 Symposium

Stock, James & Mark Watson “Has the Business Cycle Changed and Why?”, NBER Macroeconomics Annual, 2002 (available as [NBER Working Paper # 9127](#))

Backus D., P. Kehoe “International evidence on the historical properties of business cycles” AER 1992

Feldstein M. and C. Horioka “Domestic savings and international capital flows” *Economic Journal* 1980

Lucas R. “Understanding Business Cycles” in *Studies in Business Cycle Theory* by R.Lucas, MIT Press

(also published in CRCS 1977)

The Solow Growth Model

Romer, Chapter 1

Barro and Sala-i-Martin, sections 1.1,1.2

Solow R. "A contribution to the theory of economic growth" QJE 1956

Solow R. "Technical change and the aggregate production function" RESTAT 1957

Swan T.W. "Economic growth and capital accumulation" *Economic Record*, 1956

Romer P.M. "Capital accumulation in the theory of long-run growth" in *Modern Business Cycle Theory*
ed. R. Barro.

Lucas R. "Why capital doesn't flow from rich to poor countries?" AER 1990

Jones C. *Introduction to Economic Growth*, 2nd Ed, 2002, McGraw Hill, Chapter 2

Mankiw G. "The growth of nations" Brookings Papers on Economic Activity 1995

Stiroh "What drives productivity growth?" New York Fed Review 2001

Empirical Evidence on Growth

Barro R. "Notes on growth accounting" NBER WP

Barro and Sala-i-Martin, Chapters 10,11,12

Denison E. *Trends in American Economic Growth: 1929-1982* Brookings

Mankiw N., D. Romer and D. Weil "A contribution to the empirics of economic growth" QJE 1992

Bernanke B. & R. Gürkaynak "Is Growth Exogenous? Taking Mankiw, Miron and Weil Seriously"
NBER Macroeconomics Annual, 2001

Barro R. "Economic growth in a cross-section of countries" QJE 1991

Fischer S. "The role of macroeconomic factors in growth" JME 1993

Jones C. *Introduction to Economic Growth*, 2nd Ed, 2002, McGraw Hill, Chapters 1 and 3.

Durlauf S. and D. Quah "The new empirics of economic growth" *Handbook of Macroeconomics* (also
available as an NBER WP)

Easterly W. and R. Levine "Its not factor accumulation: Stylized Facts and Growth Models" World Bank
Economic Review 2001

Levine R., N.Loayza & T.Beck "Financial Intermediation and Growth:Causality and Causes" JME 2000

Rousseau P. and R.Sylla "Financial systems, economic growth and Globalization" NYU WP, 2001

Two-Period Dynamic Structures (the Overlapping Generations Model)

Romer: Sections 2.8 and 2.9

Barro & Sala-i-martin: Appendix to Chapter 3

Blanchard & Fischer: Chapter 3

Infinite Horizon Models

Barro and Sala-i-Martin, Chapter 2, Appendix on Mathematical Methods, Chapter 3

Romer, Chapter 2 Part A

Blanchard and Fischer, Chapter 2
 Sargent T. *Dynamic Macroeconomic Theory*, Chapter 1
 Burnside C. notes on *Dynamic Optimization*, Chapter 2,3,4
 Ramsey F. "A mathematical theory of saving" *Economics Journal*, 1928.
 Cass D. "Optimum growth in an aggregative model of capital accumulation" *Review of Economics Studies*, 1965
 Koopmans T. "On the concept of optimal economic growth" in *The Economic Approach to Development Policy*, North Holland, Amsterdam, 1965

Endogenous Growth Theory

Romer, Chapter 3
 Barro and Sala-i-Martin, Chapter 1.3,4,5
 Jones L. and R. Manuelli "The sources of growth" 1994 University of Wisconsin working paper
 Jones L. and R. Manuelli "Endogenous growth theory: An introduction" JEDC 1997
J. of Economic Perspectives, Winter 1994, Articles On New Growth Theory
 Romer P. "Increasing returns and long-run growth" JPE 1986
 Romer P. "Endogenous technological change" JPE 1990
 Lucas R. "On the mechanics of economic development" JME 1988
 Rebelo S. "Long-run policy analysis and long-run growth" JPE 1991
 Arrow K. "The economic implications of learning by doing" *Review of Econ. Studies* 1962
 Jones C. *Introduction to Economic Growth*, 2nd Ed, 2002, McGraw Hill, Chapters 4,5,6,7,8
 Galor O. and O.Moav "Natural selection and the origin of economic growth" QJE 2002

Real Business Cycle Theory

Romer, Chapter 4
 Blanchard and Fischer, pages 277-283 and Chapter 7
 McCallum B. "Real business cycle models," in *Modern Business Cycle Theory*, ed R. Barro
 King R. and S. Rebelo "Resuscitating real business cycles" *Handbook of Macroeconomics* (also available as an NBER WP)
 Cochrane J. "Solving real business cycle models by solving systems of first order conditions" U. of Chicago, B-School WP
 Campbell J. "Inspecting the mechanism: An analytical approach to the stochastic growth model," JME 1994.
 Taylor J. & H. Uhlig "Solving Nonlinear Stochastic Growth Models: A Comparison of Alternative Solution Methods" *Journal of Business and Economic Statistics*, 1990
 Uhlig H. "A Toolkit for Analyzing Nonlinear Stochastic Dynamic Models" in Marimon R. and A.Scott (eds) *Computational Methods for the Study of Dynamic Economies*, Oxford, 1999
 King R., C. Plosser and S. Rebelo "Production, Growth and Business Cycles: I. The Basic Neoclassical Model," JME 1988 (and the unpublished Technical Appendix)
 Prescott E. "Theory ahead of business cycle measurement," CRCS, 1986
 Hansen G. "Indivisible Labor and the Business Cycle" JME 1985, 309-27.
J. of Economic Perspectives, Summer 1989, Articles On Real Business Cycle Theory
 Farmer R., *The Macroeconomics of Self-Fulfilling Prophecies*, Ch 5

Frontiers of Business Cycle Research, ed T.Cooley, Chapters 1,2,3
 Stokey N. and R. Lucas (with E. Prescott) *Recursive Methods in Economic Dynamics*, 1989, Harvard
 Marcet A. "Introduction to Parametrized Expectations Methods" in Marimon R. and A.Scott (eds)
Computational Methods for the Study of Dynamic Economies, Oxford, 1999
 Kydland, F. and E. Prescott "Time to Build and Aggregate Fluctuations," ECMT 1982
 Long, J. and C. Plosser "Real Business Cycles," JPE 1983
 King R. and Plosser C. "Money, Credit, and Prices in a Real Business Cycle," AER, 1984
 McCallum B. "On 'Real' and 'Sticky-Price' Theories of the Business Cycle," JMCB, 1986
 Mankiw N.G. "Real business cycles: A new Keynesian perspective," J. of Economic Perspectives, 1989
 Simkins, S. "Do real business cycle models exhibit business cycle behavior?," JME 1994.
 Cogley, T. and J. Nason 1995 AER "Output dynamics in real business cycle models"
 McGrattan E. "A progress report on business cycle models," Minneapolis Fed Quarterly Review, 1994.
 Baxter M. and R. King "Fiscal policy in general equilibrium" AER 1993

Evidence on RBC Models

Sims, C. "Macroeconomics and Reality," ECMT 1980
 Sims, C. "Comparison of Interwar and Postwar Business Cycles: Monetarism Reconsidered," AER 1980
 McCallum, B. "A Reconsideration of Sims' Evidence Concerning Monetarism," *Economic Letters*, 1983
 Litterman R. and Weiss L. "Money, Real Interest Rates, and Output: A Reinterpretation of Postwar U.S.
 Data," ECMT, 1985
 Eichenbaum M. and Singleton K. "Do Equilibrium Real Business Cycle Theories Explain Post-War U.S.
 Business Cycles?," NBER Macroeconomics Annual, 1986.
 Boschen J. and L. Mills, "Tests of the relation between money and output in the real business cycle
 model," JME, 1988.
 Christiano, L and M. Eichenbaum, "Current Real-Business-Cycle Theories and Aggregate Labor-Market
 Fluctuations" AER, 1992
 Burnside C., M. Eichenbaum and S. Rebelo "Labor Hoarding and the Business Cycle, JPE, 1993.
 Altonji J. "Intertemporal substitution in labor supply: Evidence from micro data" JPE 1986
 Watson, M "Measures of Fit for Calibrated Models" JPE, 1993, pp. 1011-41.
 Kim K. and A. Pagan "The econometric analysis of calibrated macroeconomic models" in M.H. Pesaran
 and M. Wickens (eds.) *Handbook of Applied Econometrics*, 1995, pages 356-390
 Pagan A. "On Calibration" in D.E.A. Giles and A. Ullah, *Handbook of Applied Economic
 Statistics*, Marcel Dekker, New York, 605-618, 1997?
 Rotemberg, J and M Woodford, "Real-Business-Cycle Models and the Forecastable Movements in
 Output, Hours, and Consumption" AER, 1996, 71-89.
 Keating J. "Structural Approaches to Vector Autoregressions," St Louis Fed Review, 1992
 Keating J. "Postwar US Business Cycles in Models with Long-Run Monetary Neutrality" working paper
 Lawrence J. Christiano, Martin Eichenbaum and Charles L. Evans, "Monetary policy shocks: What have
 we learned and to what end?" Chapter 2 in *Handbook of Macroeconomics*, 1999, vol 1A, 65-148

Solving Models with Rational Expectations

Chapter 3: [Macroeconomics Lecture Notes for a Masters Course](#), Gregor Smith, unpublished, 2000
 McCallum B. *Monetary Economics: Theory and Policy*, Chapter 8

Farmer R., *The Macroeconomics of Self-Fulfilling Prophecies*, Chapters 2 and 3
 Blanchard, O. and C. Kahn, "The Solution of Linear Difference Models under Rational Expectations"
 ECMT 1980
 McCallum, B "On Non-Uniqueness in Rational Expectations Models: An Attempt at
 Perspective" JME 11(2), March 1983, pages 139-68..
 McCallum B. "Role of the Minimal State Variable Criterion in Rational Expectations Models"
International Tax and Public Finance; Nov. 1999, pages 621-39 (also NBER WP)
 McCallum, B "Solutions to Linear Rational Expectations Models: A Compact Exposition"
Economics Letters; 61(2), November 1998, pages 143-47. (also NBER WP)
 Blanchard and Fischer, pages 356-361, Section 5.1 and the Appendix to Chapter 5
 Cagan, P. "The Monetary Dynamics of Hyperinflation" 1956 in *Studies in the Quantity Theory of Money*
 ed. M. Friedman
 Whiteman, C. Linear rational expectations models : A user's guide, University of Minnesota Press, 1983.
 King R.G., & M.W. Watson "The Solution of Singular Linear Difference Systems Under Rational
 Expectations" *International Economic Review*, 1998
 Soderlind P. "Solution and Estimation of Rational Expectations Macro models with Optimal Policy"
 EER 1999, 813-823
 Sargent T. *Macroeconomic Theory*, Chapters 9 and 11
 Burnside C. notes on *Dynamic Optimization*, Chapter 1

Imperfect Information Business Cycle Models (New Classical Macroeconomics)

Romer, Chapter 6 Section A
 Muth, J.F. "Rational expectations and the theory of price movements" ECMT 1961
 Lucas R. "Expectations and the neutrality of money," *Journal of Economic Theory*, 1972
 Lucas R. "Some International Evidence on Output-Inflation Trade-offs," AER, 1973
 McCallum B. "Rational Expectations and Macroeconomic Stabilization Policy," JMCB, 1980
 Lucas, R. "Econometric Policy Evaluation: A Critique" CRCS 1976
 Sargent, T. and N Wallace, "Rational Expectations, the Optimal Monetary Instrument and the Optimal
 Money Supply Rule" JPE 1975.

Evidence on Imperfect Information Models

Barro R. and Hercovitz "Money Stock Revisions and Unanticipated Money Growth" JME 6(2), April
 1980, pages 257-67.
 Barro R. and Rush M. "Unanticipated money and economic activity," in S. Fischer, ed. *Rational
 expectations and economic policy*, NBER, 1980
 Boschen J. and H. Grossman "Tests of equilibrium macroeconomics using contemporaneous monetary
 data," JME, 1982
 Mishkin R. *A Rational Expectations Approach to Macroeconomics*, NBER, 1983
 Gordon R. "Price Inertia and Policy Ineffectiveness in the United States," JPE, 1982
 Gray J. and D. Spencer "Price Prediction Errors and Real Activity: A Reassessment", *Economic Inquiry*,
 1990
 Keating "Identifying VAR models under rational expectations," JME, 1990

Monetarism

- Friedman M. "The role of monetary policy," AER, 1968
Friedman M. and A. Schwartz "Money and business cycles," RESTAT 1963.
Tobin J. "Post hoc ergo propter hoc" QJE 1970.

Empirical Evidence on Price Stickiness

- Wynne M. "Sticky prices: What is the evidence?," Federal Reserve Bank of Dallas, *Economic Review*, First Quarter 1995
Carlton D. "The rigidity of prices," AER 1986
Cecchetti S. "The frequency of price adjustment: A study of the newsstand price of magazines," *Journal of Econometrics*, 1986
Roberts J., D. Stockton and S. Struckmeyer, "Evidence on the Flexibility of Prices," RESTAT, 1994
Kashyap A. "Sticky Prices: New Evidence from Retail Catalogs" QJE, 1995
Blinder A. "On sticky prices: Academic theories meet the real world," in *Monetary Policy*, ed. N.G. Mankiw, 1994
Blinder A., E. Canetti, D. Lebow and J. Rudd, *Asking About Prices: A New Approach to Understanding Price Stickiness*, Russell Sage Publishers, 1998
Rotemberg J. "Prices, Output, and Hours: An Empirical Analysis Based on a Sticky Price Model", JME 1996
Keating J. "Is Sticky Price Adjustment Important for Output Fluctuations?" KU working paper
Bils, M, and P. Klenow. "Some Evidence on the Importance of Sticky Prices." JPE 112, no. 5 (2004): 947-985.

Models of Sticky Price Adjustment

- Romer, Chapter 5, Chapter 6 Parts B and C
Woodford, Chapter 3
Blanchard and Fischer, Chapter 8
Walsh: Chapters 2 and 5
Erceg C., D.W.Henderson, A.T.Levin "Optimal monetary policy with staggered wage and price contracts" JME 46, 2000, pp.281-313
Mankiw G. & R. Reis "Sticky Information versus Sticky Prices: A Proposal to Replace the New-Keynesian Phillips Curve" QJE 2002 (and also NBER WP 8290)
Fischer S. "Long-term Contracts, Rational Expectations, and the Optimal Money Supply Rule," JPE, 1977
Taylor J. "Aggregate dynamics and staggered contracts," JPE, 1980
J. of Economic Perspectives, Winter 1993, Articles On New-Keynesian Economics
Mankiw N. "Small menu costs and large business cycles: A macroeconomic model of monopoly" QJE 1985
Blanchard O. and N. Kiyotaki "Monopolistic competition and the effects of aggregate demand" AER 1987
Caplin A. and D. Spulber "Menus costs and the neutrality of money" QJE 1991
Caplin A. and J. Leahy "State-dependent pricing and the dynamics of money and output" QJE, 1991

Ball L. and D. Romer "Real rigidities and the non-neutrality of money" *Review of Econ. Studies* 1990

Rotemberg J. "The new-Keynesian microfoundations" *NBER Macroeconomics Annual* 1987

Gordon R. "What is new-Keynesian economics?" *J. of Economic Literature* 1990

Carlton D. "The theory and the facts of how markets clear: Is industrial organization valuable for understanding macroeconomics?" Chapter 15 in *Handbook of Industrial Organization*, Vol 1

Kerr W. and R. King "Limits on interest rate rules in the IS model" *Richmond FRB Review* 1996

Ohanian L., A. Stockman and L. Kilian "The effects of real and monetary shocks in a business cycle model with some sticky prices," *JMCB*. 1995

Farmer R. "Sticky prices," *Economic Journal* 1991

Farmer R. "Nominal price stickiness as a rational expectations equilibrium," *JEDC* 1992

Benhabib J. and R. Farmer "Two New Keynesian Theories of Sticky Prices" working paper

King R. and M. Watson, "Money, Prices, Interest Rates and the Business Cycle", *RESTAT*, 1996

Rotemberg J. and M. Woodford "Dynamic general equilibrium models with imperfectly competitive product markets" in *Frontiers in Business Cycle Research* ed. T. Cooley.

Rotemberg J.J., M. Woodford "The cyclical behavior of prices and costs" Chapter 16 *Handbook of Macroeconomics*

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

King R. and M. Watson, "Money, Prices, Interest Rates and the Business Cycle", *RESTAT*, 1996

Bernanke B., M. Gertler and S. Gilchrist "The financial accelerator in a quantitative business cycle framework" *Handbook of Macroeconomics* (also available as an NBER WP)

Cho J. and T. Cooley, 1995, *Economic Theory* "The business cycle with nominal contracts"

Calvo, G. "Staggered Prices in a Utility Maximizing Framework." *JME*, 12, no. 3 (1983): 383-398.

Benabou R. (1988) "Search, Price Setting and Inflation" *RESTUD*

Golosov, M., and R. Lucas. "Menu Costs and Phillips Curves." NBER WP#10187, 2003.

Gertler M. And Leahy J. (2005) "A Phillips Curve with an Ss Foundation" preliminary WP

Models of Aggregate Labor Markets

Shimer R. , R. Rogerson & R. Wright "Search theoretic models of the labor market: A survey" *JEL*, 2005

Romer, Chapter 10

Blanchard & Fischer Sections 9.1, 9.2, 9.3 and 9.4

Shapiro C. and J. Stiglitz "Equilibrium unemployment as a worker discipline device" *AER* 1984

Lilien D. "Structural shifts and cyclical unemployment" *JPE* 1982

Abraham K. and L. Katz "Cyclical unemployment: Sectoral shifts or aggregate disturbances" *JPE* 1986

Fitzgerald T. "An Introduction to the Search Theory of Unemployment" *Cleveland Fed Review*

D.T. Mortensen, C.A. Pissarides "New developments in models of search in the labor market" Chapter 39, *Handbook of Labor Economics*, Volume 3B.

Hall, R.E. "Labor-market frictions and employment fluctuations" Chapter 17 *Handbook of Macroeconomics*

C.A. Pissarides, *Equilibrium Unemployment Theory*, 2nd Ed, 2000, MIT Press