

Economics G6222
Advanced Macroeconomic Analysis II: Economic Fluctuations
Fall 2008

Meetings: Tuesdays 9:00 AM-10:50 AM in IAB 326.

Office Hours: Schmitt-Grohé, Tuesdays, 11:00 AM - 12:00 PM in IAB 1109B or by appointment

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Requirements: The grade will be based on classroom participation, homework assignments, and a midterm and a final examination.

Description: This course introduces students to equilibrium business cycle theories and methods for evaluating such theories. The course extends the canonical real business cycle model to analyze models with cyclical variation in markups, models of endogenous fluctuations, and models of news-driven short-run fluctuations. Attention is given to numerical methods to approximate the dynamics implied by stochastic general equilibrium models, with particular emphasis given to perturbation methods. The course will also include an operational introduction to full and limited-information approaches to the estimation of DSGE models.

Outline of the Material to be Covered in Part I (taught by Stephanie Schmitt-Grohé)

1. Real Business Cycle Theory

Stock, James H. and Mark W. Watson. "Business Cycle Fluctuations in U.S. Macroeconomic Time Series." In *Handbook of Macroeconomics*, edited by John B. Taylor and Michael Woodford. Elsevier Science 1999, 3-64.

King, Robert G. and Sergio T. Rebelo. "Resuscitating Real Business Cycles." In *Handbook of Macroeconomics*, edited by John B. Taylor and Michael Woodford. Elsevier Science 1999, 927-1007.

Barro, Robert, and Robert G. King. "Time Separable Preferences and International Substitution Models of Business Cycles." *Quarterly Journal of Economics* 99 (1984): 817-839.

King, Robert G. Charles I. Plosser, and Sergio T. Rebelo. "Production, growth and business cycles: I. The basic neoclassical model." *Journal of Monetary Economics* 21 (March-May 1988): 195-232.

King, Robert G. Charles I. Plosser, and Sergio T. Rebelo. "Production, growth and business cycles: II. New directions." *Journal of Monetary Economics* 21 (March-May 1988): 309-341.

Kydland, Finn E. and Edward C. Prescott. "Time to Build and Aggregate Fluctuations." *Econometrica* 50 (November 1982): 1345-1370.

Hansen, Gary D. "Indivisible labor and the business cycle." *Journal of Monetary Economics* 16 (November 1985): 309-327.

Burnside, Craig A., Martin Eichenbaum, and Sergio Rebelo. "Labor Hoarding and the Business Cycle." *Journal of Political Economy* 101 (1993): 245-273.

Greenwood, Jeremy, Zvi Hercowitz and Gregory W. Huffman. "Investment, Capacity Utilization, and the Real Business Cycle." *The American Economic Review* 78 (June 1988): 402-417.

Burnside, Craig and Martin Eichenbaum. "Factor-Hoarding and the Propagation of Business-Cycle Shocks." *The American Economic Review* 86 (December 1996): 1154-1174.

Hornstein, Andreas. "Monopolistic competition, increasing returns to scale, and the importance of productivity shocks." *Journal of Monetary Economics* 31 (June 1993): 299-316.

Rotemberg, Julio J. and Woodford, Michael. "Oligopolistic Pricing and the Effects of Aggregate Demand on Economic Activity." *Journal of Political Economy* 100 (December 1992): 1153-207.

2. Perturbation Methods for the Numerical Analysis of Business Cycle Models

- (a) Log-linear approximation
- (b) Computing Second Moments
- (c) Computing Impulse Response Functions

Schmitt-Grohé, Stephanie. "Perturbation Methods for the Numerical Analysis of DSGE Models." Lecture Notes, Columbia University.

Klein, Paul. "Using the generalized Schur form to solve a multivariate linear rational expectations model." *Journal of Economic Dynamics and Control* 24 (2000): 1405-1423.

Schmitt-Grohé, Stephanie and Martín Uribe. "Solving Dynamic General Equilibrium Models Using a Second-Order Approximation to the Policy Function." *Journal of Economic Dynamics and Control* 28 (January 2004): 755-75.

3. Evaluating Business Cycle Models

- (a) GMM Estimation
- (b) Bayesian Estimation
- (c) Measuring Productivity Shocks
- (d) Sources of Aggregate Fluctuations

Prescott, Edward C. "Theory ahead of business cycle measurement." *Quarterly Review, Federal Reserve Bank of Minneapolis* 10 (1986): 9-22.

Cogley, Timothy and James M. Nason. "Output Dynamics in Real-Business-Cycle Models." *American Economic Review* 85 (June 1995): 492-511.

Christiano, Lawrence and Martin Eichenbaum. "Current Real-Business-Cycle Theories and Aggregate Labor-Market Fluctuations." *American Economic Review* 82 (June 1992): 430-50.

Fisher, Jonas D. M. "The Dynamic Effects of Neutral and Investment-Specific Technology Shocks." *Journal of Political Economy* 114 (June 2006): 413-51.

Galí, Jordi. "Technology, Employment, and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations?." *The American Economic Review* 89 (March 1999): 249-271.

Galí, Jordi and Luca Gambetti. “On the Sources of the Great Moderation.” mimeo, June 2008.

Rotemberg, Julio J. and Michael Woodford. “Real-Business-Cycle Models and the Forecastable Movements in Output, Hours, and Consumption.” *The American Economic Review* 86 (March 1996): 71-89.

Sbordone, Argia M. “Interpreting the Procyclical Productivity of Manufacturing Sectors: External Effects or Labor Hoarding?.” *Journal of Money, Credit and Banking* 29 (February 1997): 26-45.

Watson, Mark. “Measures of Fit for Calibrated Models.” *Journal of Political Economy* 101 (1993): 1011-1041.

Otrok, Christopher. “On measuring the welfare cost of business cycles.” *Journal of Monetary Economics* 47 (February 2001): 61-92.

4. The Welfare Costs of Business Cycles

Lucas, Robert E., Jr., *Models of Business Cycles*, 1987, Oxford: Basil Blackwell.

Kim, Jinill and Sunghyun Henry Kim. “Spurious welfare reversals in international business cycle models.” *Journal of International Economics* 60 (2003): 471-500.

Kim, Jinill, S. Kim, Ernst Schaumburg, and Christopher Sims. “Calculating and Using Second Order Accurate Solutions of Discrete Time Dynamic Equilibrium Models.” mimeo, June 2003. [Available online at <http://www.kellogg.northwestern.edu/faculty/schaumburg/htm/Documents/KKSS.pdf>]

5. Endogenous Business Cycle Theory

Benhabib, Jess and Roger E.A. Farmer. “Indeterminacy and Sunspots in Macroeconomics.” In *Handbook of Macroeconomics*, edited by John B. Taylor and Michael Woodford. Elsevier Science 1999, 387-448.

Farmer, Roger E.A., and Jang-Ting Guo. “Real Business Cycles and the Animal Spirits Hypothesis.” *Journal of Economic Theory* 63 (June 1994): 42-72.

Benhabib, Jess, and Roger Farmer. “Indeterminacy and increasing returns.” *Journal of Economic Theory* 63 (June 1994): 19-41.

Woodford, Michael. “Stationary sunspot equilibria: The case of small fluctuations around a deterministic steady state.” 1986, available at <http://www.columbia.edu/~mw2230/Sunspot.pdf>.

Schmitt-Grohé, Stephanie. “Comparing Four Models of Aggregate Fluctuations Due to Self-Fulfilling Expectations.” *Journal of Economic Theory* 72 (January 1997): 96-147.

Schmitt-Grohé, Stephanie. “Endogenous Business Cycles and the Dynamics of Output, Hours, and Consumption.” *American Economic Review* 90 (December 2000): 1136-59.