Economics 751.01

Macroeconomic Theory II

Part I: Asset Markets and Business Cycle Models

Spring 2001

Lectures: Monday and Wednesday, 10 am – 12 pm
Carney Hall, Room 6

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Office Hours: Wednesday, 2-4 pm and by appointment

Discussion Sessions: TBA

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Office Hours: TBA

Course Description:

The course will focus on the consequences of uncertainty and unexpected shocks for the economy. The first part will analyze the implications of various asset market structures for asset pricing and consumption. The main purpose will be to understand how agents use trade in assets to protect themselves from uncertainty. The second part will focus on dynamic, stochastic, general equilibrium models of the business cycle that rely on different assumptions about the asset menu available to agents. The goals will be: (1) To understand the general principles by which models are formulated and the techniques by which they are solved. (2) To understand how the models can be evaluated according to their ability to account for and explain economic data. The last two lectures will discuss asset pricing implications of and policy analysis in business cycle models.

Course Materials:

I will make copies of my lecture notes available. The required textbook is:

Cooley, Thomas F., ed., 1995: "*Frontiers of Business Cycle Research*," Princeton: Princeton University Press. (C1995 in what follows.)

The following book is strongly recommended, though not required:

Ljungqvist, Lars, and Thomas J. Sargent, 2000: "*Recursive Macroeconomic Theory*," Cambridge: MIT Press. (LS2000 in what follows.)

In addition, some recommended papers are listed below.

Background Readings:

I will assume familiarity with some time series concepts, difference equations manipulation and solution, and dynamic programming. Chapters 1-4 of LS2000 would be an excellent background reading (when necessary, I will recall definitions and results from these chapters in lecture). On difference equations, see also Chapter 9 of Thomas J. Sargent's "Macroeconomic Theory" (second edition, San Diego: Academic Press, 1987). The Supplements to Chapter 2 (pp. 715-741) of Maurice Obstfeld and Kenneth Rogoff's "Foundations of International Macroeconomics" (Cambridge: MIT Press, 1996) are an alternative reference on optimization and solution of difference equations. Part of the material in Chapters 2 and 3 of C1995 will be covered in lecture or in the discussion sessions led by Petronilla Nicoletti. I also suggest the following readings:

- Blanchard, Olivier, and C. M. Kahn (1980): "The Solution of Linear Difference Models under Rational Expectations," *Econometrica* 48: 1305-1311.
- Sims, Christopher (2000): "Solving Linear Rational Expectations Models," *unpublished manuscript*, Princeton University. Available at: http://www.princeton.edu/~sims/#gensys (including Matlab codes).
- Uhlig, Harald (1997): "A Toolkit for Analyzing Nonlinear Dynamic Stochastic Models Easily," *unpublished manuscript*, CentER, University of Tilburg. Available at: http://cwis.kub.nl/~few5/center/STAFF/uhlig/toolkit.dir/toolkit.htm (including Matlab codes).

Course Requirements and Grading:

There will be four problem sets and an in-class closed-books exam, to be held on Wednesday, February 28. Problem sets will count for 25 percent of the grade and the exam will count for 75 percent. Problem sets turned in after the relevant deadline will not be considered. Detailed answers to problem sets will be made available.

Lecture Topics and References:

Part 1 (4 lectures):

1. Competitive Equilibrium with Complete Markets, LS2000, Chapter 7.
2. Asset Pricing, LS2000, Chapter 10.
3. Self-Insurance and Incomplete Markets Models, LS2000, Chapters 13 and 14.

Part 2 (6 lectures):

1. Economic Growth and Business Cycles: C1995, Chapter 1.
2. The Basic Real Business Cycle Model: King, Robert G., Charles I. Plosser, and Sergio T. Rebelo (1988*a*): "Production, Growth, and Business Cycles (I): The Basic Neoclassical Model," *Journal of Monetary Economics* 21: 195-232. Also: Campbell, John (1994): "Inspecting the Mechanism: An Analytical Approach to the Stochastic Growth Model," *Journal of Monetary Economics* 33: 463-506.
3. New Directions at the End of the 1980s: King, Robert G., Charles I. Plosser, and Sergio T. Rebelo (1988*b*): "Production, Growth, and Business Cycles (II): New Directions," *Journal of Monetary Economics* 21: 309-341.
4. The Frontier in 1995 (I): Business Cycles and Aggregate Labor Market Fluctuations: C1995, Chapter 5.
5. The Frontier in 1995 (II): Dynamic General Equilibrium Models with Imperfectly Competitive Product Markets: C1995, Chapter 9.
6. The Frontier in 1995 (III): Money and the Business Cycle: C1995, Chapter 7. (Time permitting.)

Wrap Up (2 lectures):

1. Asset Pricing Implications of Equilibrium Business Cycle Models: C1995, Chapter 10. Also:
- Boldrin, Michele, Lawrence J. Christiano, and Jonas D. M. Fisher (1995): "Asset Pricing Lessons for Modeling Business Cycles," *unpublished manuscript*, University of Minnesota, Northwestern University, and Federal Reserve Bank of Chicago.
- Cochrane, John H. (1991): "Production-Based Asset Pricing and the Link Between Stock Returns and Economic Fluctuations," *Journal of Finance* 46: 207-234.
- Jermann, Urban (1998): "Asset Prices in Production Economies," *Journal of Monetary Economics* 41: 257-275.
- Lettau, Martin (2000): "Inspecting the Mechanism: Closed-Form Solutions for Asset Prices in Real Business Cycle Models," *unpublished manuscript*, Federal Reserve Bank of New York.
2. Policy Analysis in Business Cycle Models, C1995: Chapter 12.