

Macroeconomics and Policy Analysis

Instructor: Hiroaki Miyamoto
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1 Goal of the Course

This is a course in dynamic macroeconomic theory. It is based on general equilibrium theory and consists of several self-contained modules. In each module we will combine the learning of techniques with a particular topic in Macro, Public Finance, Money, Labor, Growth and Business-cycle or other areas. The purpose of this course is to familiarize students with the techniques and models of aggregate dynamic economics. In this course we will spend a fair amount of time developing techniques for dynamic analysis and applying the results to the study of traditional macroeconomic questions.

2 Prerequisites

Even though we will discuss the basic material in class, it is absolutely necessary that you are familiar with basic notions of calculus, optimization and probability and statistics. This is a graduate course in economics.

3 Basic Materials

We will use a variety of different sources. There are no required textbooks. I plan to make lecture notes for some specific topics. The followings are good references in this course.

- Lars Ljungqvist and Thomas J. Sargent, Recursive Macroeconomic Theory, 2nd edition, The MIT Press (2004)
- Nancy L. Stokey and Robert E. Lucas, with Edward C. Prescott, Recursive Methods in Economic Dynamics, Harvard University Press (1989)
- Olivier J. Blanchard and Stanley Fischer, Lectures on Macroeconomics, The MIT Press (1989)

- Thomas Cooley, *Frontiers of Business Cycle Research*, Princeton University Press (1995)
- David Romer, *Advanced Macroeconomics*, McGraw-Hill (1996)
- Thomas Sargent, *Dynamic Macroeconomic Theory*, Harvard University Press (1987)
- Christopher Pissarides, *Equilibrium Unemployment Theory*, MIT Press (2000)

4 Grading

Grades will be based on three things, with equal weights on each: a final exam, your research project, and classroom presentation and problem sets. There will be both theoretical exercises and numerical assignments.

I encourage you to work in groups when solving homework problems. However, I expect you to turn in your own version of the answer. Late assignments **will not be accepted**.

5 Administrative Details

- Instructor: Hiroaki Miyamoto
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- Office hours: Wed. 10:00 - 11:00, or by appointment.

6 Tentative Course Outline

1. Introduction: Dynamic Optimization
2. The Growth Model: A Planner's Perspective
 - (a) One sector growth model
 - (b) Steady-state analysis
 - (c) Dynamic paths
 - (d) Tax and Fiscal policies
 - (e) Temporary and permanent shocks

- Lars Ljungqvist and Thomas J. Sargent, Recursive Macroeconomic Theory, 2nd edition, The MIT Press (2004)
 - Nancy L. Stokey and Robert E. Lucas, with Edward C. Prescott, Recursive Methods in Economic Dynamics, Harvard University Press (1989)
 - Olivier J. Blanchard and Stanley Fischer, Lectures on Macroeconomics, The MIT Press (1989)
 - David Romer, Advanced Macroeconomics, McGraw-Hill (1996)
 - Thomas Sargent, Dynamic Macroeconomic Theory, Harvard University Press (1987)
 - Cass, D. 1965. Optimum Growth in an Aggregative Model of Capital Accumulation, Review of Economic Studies, Vol 32, pp 233-240.
 - Brock, W. A. and L. J. Mirman. 1972. Optimal Economic Growth and Uncertainty: The Discounted Case, Journal of Economic Theory, Vol. 4, pp 479-513.
3. The Growth Model: Competitive Equilibrium and the Planner's Solution.
- (a) Equivalence of the planner solution and the competitive equilibrium.
 - (b) Sequential budget constraints
 - (c) The impact of budget deficits
 - (d) The effect of alternative spending policies
 - (e) Population growth
 - (f) Heterogeneous agents
4. Consumption and Asset Prices
- (a) Consumption and income
 - (b) The permanent income theory of consumption
 - (c) Prices of state contingent commodities
 - (d) Stocks, bonds and derivatives
 - (e) Modigliani-Miller theorem
 - (f) Government debt and the Ricardian proposition
 - Lucas, R. E. Jr. 1978. Asset Prices in an Exchange Economy, Econometrica, Vol. 46, pp 1429-1445.
 - Brock, W. A. 1982. Asset Prices in a Production Economy, in J. J. McCall (ed) The Economics of Information and Uncertainty, University of Chicago Press.

- Barro, R. E. 1974. Are Government Bonds Net Wealth?, *Journal of Political Economy*, Vol 82, No. 6, pp 1095-1117.
- Mehra, R. J. and E. C. Prescott. 1985. The Equity Premium: A Puzzle”, *Journal of Monetary Economics*, Vol. 15, No. 2, pp 335-359.
- Hansen, L. E. and K. J. Singleton. 1983. Stochastic Consumption, Risk Aversion, and the Temporal Behavior of Asset Returns, *Journal of Political Economy*, Vol. 91, No. 2, pp 249-265.
- Modigliani, F. and M. H. Miller (1958), “The Cost of Capital, Corporation Finance, and the Theory of Investment”, *American Economic Review*, Vol. 48, No. 3, pp 261-297.

5. Search Models

- (a) A Labor market model.
- (b) General equilibrium search models
- (c) Coordination problems
- (d) Matching Models

- Romer, D. 1996, *Advanced Macroeconomics*, McGraw-Hill, Chapter 10.
- Ljungqvist, L. and T. Sargent. 2004 *Recursive Macroeconomic Theory*, Chapters 6 and 26.
- Mortensen, D. T. 2003. *Wage Dispersion: Why Are Similar Workers Paid Differently?*, MIT Press.
- Mortensen, D. T. and C. A. Pissarides. 1994. Job creation and job destruction in the theory of unemployment. *The Review of Economic Studies* 61: 397-415.
- Pissarides, C. A. 2000. *Equilibrium Unemployment Theory*, MIT Press.
- Shimer, R. 2005. The cyclical behavior of equilibrium unemployment and vacancies. *American Economic Review* 95, no. 1: 25-49.
- Miyamoto, H. and Y. Shirai. 2006. Job Flows and Unemployment in an Equilibrium Unemployment Model with Firm-Specific Skill Training, *The Japanese Economic Review*, Vol.57 Issue 4, pp.547-561.
- Miyamoto, H. and Y. Takahashi. 2009. Technological Progress, On-the-Job Search, and Unemployment, *ISER Discussion Paper*, No. 734.

6. Monetary Models

- (a) Cash-in-Advance

(b) Money-in-the-Utility Theories

(c) Monetary and Fiscal Policy

- Walsh, C. E. 2003. Monetary Theory and Policy 2nd edition, MIT Press.

7. Calibration and Simulation