MACRODYNAMICS: COMPETING PERSPECTIVES

The basic problem of macrodynamics is to provide a cohesive understanding for the way in which key macro variables (output, employment, price levels, capital stocks,...) move together over time. At present there is no consensus among macroeconomists concerning which paradigm best explains the movement in key macro variables for decentralized market economies. Consequently, it is not surprising to see major policy disagreements persist concerning which macro variables government should attempt to control in order to achieve price stability, growth, and high employment.

Econ 604 will examine a spectrum of competing paradigms for macrodynamics in an attempt to understand the fundamental agreements and disagreements that underly current research in growth, business cycles, and coordination issues. Part I of the course will focus on key paradigms that are currently being used to study the sources of economic growth: standard neoclassical descriptive and optimal growth models; overlapping generations models; and endogenous growth models. Part II will focus on alternative approaches to business cycle theory. Part III will focus on coordination issues arising in dynamic macroeconomic systems: for example, time inconsistency; adaptation and learning; and self-organization and emergent behavior.

Prerequisites: Economics 602

Lecture Meeting Time and Place: MW, xxxxx, xxxxxxxxxxxxx; Discussion Section (Moderated by the T.A.): F xxxxxxxxxx, xxxxxxxxxxxxx.

Grading: Grades will be determined on the basis of one midterm exam (100 points), one final exam (100 points), and various graded exercises (approximately 60 points). Class discussion will count for extra credit in case of a borderline grade.


Reading Assignments: Required readings will be assigned from a variety of journal articles, monographs, and books. All required readings have been placed on closed reserve in the Econ/Soc Reading Room (Third
Floor, Heady Hall), together with a selection of recommended readings. The books placed on closed reserve for Econ 604 are listed below.

**Books Placed on Closed Reserve for Econ 604**


**TOPICS AND READINGS**
PLEASE NOTE: The syllabus contains many more topics than can be covered in a one semester course (or perhaps a lifetime). The exact selection of topics to be covered in Econ 604 will depend on the backgrounds and interests of the students.

For those topics that are selected for coverage, double-starred readings are required readings and single-starred readings are highly recommended readings that complement the required readings by providing a more general contextual overview of the literature and that may be useful for understanding class lectures and for answering exercise and exam questions. [Some of the single-starred readings may be assigned as required discussion section readings as the course proceeds.] Other supplemental (un-starred) readings are also listed for students wishing more specialized and detailed coverage. Additional required and recommended readings may be added at a later time.

All required readings are on closed reserve in the Reading Room (Third Floor, Heady Hall 368). When book chapters are required, generally the books themselves will be on closed reserve rather than individual chapters. When journal articles are required, it will generally be the articles that are on closed reserve rather than the journal issues in which they appear.

PART ONE: MAJOR PARADIGMS FOR MACRO GROWTH

I. INTRODUCTION

A. Background and Overview


** N. Gregory Mankiw, “A Quick Refresher Course in Macroeconomics,” Journal of Economic Literature 28 (December 1990), 1645-1660, CLOSED RESERVE.

** Review Time Series Data Hand-Outs from Econ 602

* O. Blanchard and S. Fischer, Chapter 1 (pp. 1-36), CLOSED RESERVE.


* W. Peterson, op. cit., Chapters on Growth, Business Cycles, and Forecasting, Intermediate-Level Review, CLOSED RESERVE.


B. Construction and Analysis of Macrodynanic Models

** Hand-Outs (Structure of Macrodynanic Models; Seven Basic Steps for Analyzing a Macrodynamic Model; The Concept of the “Basic Causal Differential System”)

** D. Harris, Chapter 1 (pp. 3-24), CLOSED RESERVE.

** R. Ramanathan, Chapter 1 (pp. 1-4), CLOSED RESERVE.

Other Suggested Readings:
II. NEOCLASSICAL AGGREGATE GROWTH MODELS

A. Introduction

** D. Harris, Chapter 2 (pp. 25-48), CLOSED RESERVE.
** W. Peterson, Chapter on Growth. CLOSED RESERVE

B. A Simple Fore-Runner of the Solow-Swan Descriptive Growth Model

** In-Class Exercise
* R. G. D. Allen, Chapter II (pp. 197-211), CLOSED RESERVE.
* R. Ramanathan, Chapter 2 (pp. 5-17) and Chapter 3 (pp. 18-31), CLOSED RESERVE.

C. Neoclassical Descriptive Growth Models
** Hand-Outs (The Basic Solow-Swan Descriptive Growth Model; Notes on Differential Equations; Summary: Solow-Swan Model Equations; An Illustrative Two-Sector Descriptive Growth Model)

* Barro and Sala-i-Martin, Chapter 1: Growth Models with Exogenous Savings Rate (the Solow-Swan Model), pp. 14-58, CLOSED RESERVE.

* Romer, Chapter 1: The Solow Growth Model, pp. 5-37, CLOSED RESERVE.

* R. Ramanathan, Chapter 3: Basic Neoclassical Growth Models, pp. 32-72, CLOSED RESERVE.

* D. Harris, Chapter 9: The Neoclassical Approach, pp. 212-230, CLOSED RESERVE.

* Ramanathan, Chapter 10: Two-Sector Growth Models (pp. 272-295), CLOSED RESERVE.


D. Neoclassical Optimal Growth Models

** Hand-Outs (The Basic Optimal Growth Model; Critique of Neoclassical Growth Models.)

* Barro and Sala-i-Martin, Chapter 2: Growth Models with Consumer Optimization (the Ramsey Model), pp. 59-95, CLOSED RESERVE.

* Romer, Chapter 2: Behind the Solow Model—Infinite Horizon and Overlapping Generations Models, pp. 38-72, CLOSED RESERVE.

* R. Ramanathan, Chapter 9: Optimal Growth (pp. 254-272), CLOSED RESERVE.

Other Suggested Readings:

R. G. D. Allen, Chapter 11 (pp. 211-215), Chapter 13 (pp. 236-258), and Chapter 14 (pp. 259-274), CLOSED RESERVE.


J. Gray, “Dynamic Instability in Rational Expectations Models: An Attempt to Clarify,” International Economic Review 25 (Feb 1984), 93-122. [Explores conditions under which the popular procedure of focusing only on stable solutions for dynamic macroeconomic rational expectations models can be justified. Also provides economic motivation for transversality conditions.]


Policies for Long-Run Economic Growth: A Symposium sponsored by the Federal Reserve Bank of Kansas City, August 1992, edited collection of articles by A. Greenspan, M.


### III. THE OVERLAPPING GENERATIONS ECONOMY

#### A. Introduction

** Hand-Out (The Basic Pure Exchange OG Economy)


** Other Suggested Readings:


P. Samuelson, “An Exact Consumption-Loan Model of Interest With or Without the Social Contrivance of Money,” *Journal of Political Economy* 66 (1958), 467-482. [Seminal paper that first introduced the overlapping generations model.]

B. Government Fiscal Policy in OG Economies

** Hand-Out (Government Intervention in Pure Exchange OG Economies)


* Romer, Chapter 2: Behind the Solow Model – Infinite Horizon and OG Models, pp. 72-88 (the Diamond OG Model), CLOSED RESERVE.

O. Blanchard and S. Fischer, op. cit., Chapter 4 (pp. 154-212), CLOSED RESERVE.

Douglas Gale, *Money: In Equilibrium*, Chapters 4-7 plus Bibliographical Notes (pp. 337-340), CLOSED RESERVE.


Other Suggested Readings:


O. Blanchard and S. Fischer, Chapter 3 (pp. 91-114) and Chapter 5 (especially pp. 226-232). CLOSED RESERVE.


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C. Intermediation and Financial Institutions in OG Economies


Other Suggested Readings:


Douglas Gale, *Money: In Equilibrium*, Chapter 4 (pp. 163-181), plus Bibliographical Notes (pp. 337-338), CLOSED RESERVE.


IV. ENDOGENOUS GROWTH MODELS

A. Introductions to the Literature


* Barro and Sala-i-Martin, Chapter 4: One-Sector Models of Endogenous Growth, pp. 140-170, CLOSED RESERVE.

* Romer, Chapter 3: Beyond the Solow Model – New Growth Theory, pp. 95-145, CLOSED RESERVE.


** B. Research Stressing Human Capital and Innovation


*** C. Research Stressing Income Distribution


** D. Research Stressing Endogenous Fertility


Other Suggested Readings:

O. Blanchard and S. Fischer, Chapter 2 (pp. 37-47), CLOSED RESERVE.


**PART TWO: THEORIES OF THE BUSINESS CYCLE**

**I. AN OVERVIEW OF COMPETING BUSINESS CYCLE THEORIES**

* W. Peterson, Chapter on Business Cycles and Forecasting, CLOSED RESERVE.


* Ramanathan, Chapter 3 (pp. 56-72), CLOSED RESERVE.


**Other Suggested Readings:**


**II. EQUILIBRIUM BUSINESS CYCLE THEORIES**
A. Overview


B. Monetary Equilibrium Business Cycle Theory: The Lucas Viewpoint


* O. Blanchard and S. Fischer, op. cit., Chapter 7 (pp. 356-371), CLOSED RESERVE


* K. Hoover, *The New Classical Macroeconomics*, op. cit., Chapter 9: Two Types of Monetarism? (pp. 213-230). [Attempts to clarify the relation between the monetarism of Milton Friedman and the role of money as perceived by Lucas and other new classical macroeconomists.] CLOSED RESERVE.

* K. Hoover, *The New Classical Macroeconomics*, op. cit., Chapter 10: An Austrian Revival? (pp. 231-257). [Challenges attempts by some to identify the philosophical underpinnings of new classical macro with the Austrian School of Hayek and Von Mises; argues, e.g., that the latter would reject the rational expectations treatment of uncertainty.] CLOSED RESERVE.


C. Real Equilibrium Business Cycle Theory


** Romer, Chapter 4:Real Business Cycle Theory, pp. 146-194. [Detailed technical discussion of versions of the basic Kydland-Prescott real bc model.] CLOSED RESERVE

* A. Blanchard and S. Fischer, op. cit., Chapter 7: Competitive Equilibrium Business Cycles, pp. 320-355. [Detailed examination of the possible role of intertemporal substitution and income effects in the propagation of shock terms in equilibrium business cycle models.] CLOSED RESERVE


T. Cogley and J. M. Nason “Effects of the Hodrick-Prescott filter on trend and difference stationary time series,” *Journal of Economic Dynamics and Control* 19 (1995), 253-278. [The authors claim that the Hodrick-Prescott (1980) filter used to remove trends in univariate series (particularly in real bc studies) can generate business cycle periodicities and comovement even if none are present in the original data.]

** Three Suggested Readings:

A. Kirman, “Whom or What Does the Representative Individual Represent?,” *Journal of Economic Perspectives* 6 (Spring 1992), 117-136. [A critique of the assumption commonly made in real business cycle and other new classical macro studies that the consumer and producer sectors of an economy consist of a single “representative” consumer and a single “representative” producer.]


### III. THE NEW-KEYNESIAN APPROACH TO BUSINESS CYCLE THEORY

** Romer, Chapter 5:Traditional Keynesian Theories of Fluctuations, pp. 195-240, and Chapter 6:Microeconomic Foundations of Incomplete Nominal Adjustment, pp. 241-308, CLOSED RESERVE.

* O. Blanchard and S. Fischer, op. cit., Chapter 9 (pp. 426-504), CLOSED RESERVE


O. Blanchard and S. Fischer, op. cit., Chapter 8 (pp. 372-426), CLOSED RESERVE


M. Woodford, “Structural Slumps,” Journal of Economic Literature 32 (December 1994), 1784-1815. [A summary and assessment of E. Phelps’ new book of the same title (see above), which presents a systematic analysis of the determinants of aggregate employment and economic activity, with new microeconomic models of labor market and product market imperfections placed center stage.]

Other Suggested Readings:


S. Williamson, “Recent Developments in Modelling Financial Intermediation,” *Quarterly Review*, Federal Reserve Bank of Minneapolis, Summer 1987. [Illustrates how a business cycle might arise in an economy buffeted by technological shocks in which credit markets are characterized by asymmetric information. Williamson’s model is an equilibrium model with real shocks and a financial propagation mechanism and represents a bridge between real b.c. theory and new Keynesian b.c. theory.]

### IV. ENDOGENOUSLY GENERATED BUSINESS CYCLES


#### Other Suggested Readings:


J. Gleick, *Chaos*, Penguin Books, N.Y., 1987. (NOTE: This popular science book gives a fascinating heuristic (i.e., intuitive rather than rigorous) introduction to chaos that ties together research from a broad array of disciplines.)
PART THREE: COORDINATION ISSUES IN DYNAMIC MACROECONOMIES

I. TIME INCONSISTENCY, CREDIBILITY, AND REPUTATION

A. The Basic Problem of Time-Inconsistent Government Policy
   O. Blanchard and S. Fischer, op. cit., Chapter 11 (pp. 566-629), CLOSED RESERVE.
   S. Fischer, “Dynamic Inconsistency, Cooperation, and the Benevolent Dissembling Government,”

B. The General Problem of Credible Government Commitments in Macrodyanmic Economies
   Douglas Gale, *Money: In Equilibrium*, Chapter 3 (pp. 93-135) plus Bibliographical Notes (p. 337), CLOSED RESERVE.
   A. Blinder, “Issues in the Coordination of Monetary and Fiscal Policy,” Chapter 19 (pp. 330-342) in T. Havrilesky, op. cit., CLOSED RESERVE.
   Romer, Chapter 9: Inflation and Monetary Policy, pp. 388-438, CLOSED RESERVE.

C. Reputational Equilibria for Macrodyanmic Economies

Other Suggested Readings:

II. SELF-ORGANIZATION IN DECENTRALIZED MARKET ECONOMIES

A. Adaptation, Learning, and Innovation in Socio-Economic Systems


P. Krugman, The Self-Organizing Economy, Blackwell Publishers, 1996. [Combining strands from many disciplines, from location theory to biology, presents a view of how an economy structures itself in space and time.]


Other Suggested Readings:


W. Brian Arthur, “Self-Reinforcing Mechanisms in Economics,” pages 9-27 in P. W. Anderson et al., op. cit. [The role of increasing returns and other positive feedback mechanisms in socio-economic systems, leading to path-dependent outcomes.]


J. Foster, *Evolutionary Macroeconomics*, Unwin-Hyman, Boston, 1989. [A thoughtful critique of past and current macro analysis, and a proposed framework for evolutionary macro foundations allowing for time-varying structure.]


S. Levy, *Artificial Life*, Vintage Books, 1993. [An engaging introduction to the new field of artificial life. If you have any interest at all in the simulation of socio-economic systems, you should definitely give this book a read.]


**B. Evolutionary Game Modelling of Socio-Economic Systems**


R. Selten, “Evolution, Learning, and Economic Behavior,” *Games and Economic Behavior* 3 (1991), pp. 3-24. [Socratic discussion among an economist, a Bayesian, a population geneticist, a naturalist, and an experimentalist concerning the role of learning and evolution in economic processes.]

**Other Suggested Readings:**


R. Axelrod, *The Evolution of Cooperation*, Basic Books, N.Y., 1984. [Key study motivating much of the work on socio-economic systems currently under way at the Santa Fe Institute in Santa Fe, New Mexico.]


