UNIVERSITY OF SOUTHERN CALIFORNIA

Department of Economics

ECON 505: Macroeconomic Theory I

Syllabus

Fall 2004, HOH 300, T,Th 2:00 ¡ 3:50

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Textbooks

Required Books

1. Lars Ljungquist and Thomas J. Sargent, Recursive Macroeconomic Theory, The MIT Press (2000)
2. Nancy L. Stokey and Robert E. Lucas, with Edward C. Prescott, Recursive Methods in Economic Dynamics, Harvard University Press (1989)

Suggested Further Books

1. Robert Barro and Xavier Sala-i-Martin, Economic Growth, McGraw-Hill (1995)
2. Olivier J. Blanchard and Stanley Fischer, Lectures on Macroeconomics, The MIT Press (1989)
3. Thomas Cooley, Frontiers of Business Cycle Research, Princeton University Press (1995)
4. David Romer, Advanced Macroeconomics, McGraw-Hill (1996)
5. Thomas Sargent, Dynamic Macroeconomic Theory, Harvard University Press (1987)

Goal of the Course

This is a …rst 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. This should motivate to learn the techniques and makes it possible to apply the techniques in assignments. There will be both theoretical exercises and numerical assignments. After the course everybody will be able to speak the Arrow Debreu and recursive language, write simple code in MATLAB, GAUSS or Fortran (or the like), and apply these techniques to interesting questions in Macro, Public Finance, Money, Labor, Growth and Development or other areas.

Grading

Homework Assignments	30%
Class Presentation	10%
Midterm Exam	20%
Final Exam	40%

Homework Assignments:

There will be about …ve graded homework assignments. I encourage students to study in a group. However, the homework assignment that you hand in must be your own work. Late assignments are discounted by 20% for every 24-hour period for which they are late.

Class Presentation:

Every student will present a recent working paper. You will have 30-45 minutes for the presentation. The idea is to use the Toolset developed in the course and the discussion of economic issues, and apply them critically to a research paper. All students are required to read the paper that is being presented as I can randomly ask students questions related to the presentation.

Exams:

The midterm exam is on Thursday, October 21, 2004. The …nal exam is on Thursday, December 9, 2004, from 11:00 to 1:00 p.m. If you miss the midterm exam due to a medical emergency that can be documented and veri…ed, then the weight of the midterm will be added to the …nal exam. Otherwise, a grade of zero will be given for the missed midterm. If you miss the …nal exam and have a medical emergency that can be documented and veri…ed, then there will be a makeup …nal to be arranged as soon as possible. Otherwise, a grade of zero will be given for the missed …nal exam.

Academic Accommodations:

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of veri…cation for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m. - 5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Course Outline

The articles indicated with a star will form the basis of the material covered in class. Some of the other articles will serve as background reading.

1. Solow Growth Model. Robert Barro and Xavier Sala-i-Martin, Economic Growth, McGraw-Hill (1995), Ch.1. and notes.

2. Arrow-Debreu Equilibria, Sequential Markets Equilibria and Pareto Optimality in Simple Dynamic Economies (2 week)

   - *Lecture note #1 by Dirk Kruger
   - *Kehoe, T. (1989): "Intertemporal General Equilibrium Models," in F. Hahn (ed.) The Economics of Missing Markets, Information and Games, Claredon Press
   - Liungquist and Sargent, Chapter 7.
   - Negishi, T. (1960): "Welfare Economics and Existence of an Equilibrium for a Competitive Economy," Metroeconomica, 12, 92-97.

3. The Neoclassical Growth Model and Dynamic Programming (3 weeks)

   - *Lecture note #2 (#3 optional) by Dirk Kruger
   - Cooley, T. and E. Prescott (1995): "Economic Growth and Business Cycles," in T. Cooley (ed.) Frontiers of Business Cycle Research, Princeton University Press.
   - Prescott, E. and R. Mehra (1980): "Recursive Competitive Equilibrium: the Case of Homogeneous Households," Econometrica, 48, 1356-1379.
   - Ljungquist and Sargent, Chapter 2-4.
   - *Stokey et al., Chapter 2-4.

4. The Welfare Theorems in In…nitenite Dimensions (1 week)

   - *Lecture note #4 by Dirk Kruger
   - Debreu, G. (1983): "Valuation Equilibrium and Pareto Optimum, in Mathematical Economics: Twenty Papers of Gerard Debreu, Cambridge University Press.
   - *Stokey et al., Chapter 15 and 16

5. Overlapping Generations Economies: Theory and Applications (3 weeks)

   - *Lecture notes #5 by Dirk Kruger
   - *Barro, R. (1974): "Are Government Bonds Net Wealth?," Journal of Political Economy, 82, 1095-1117.
   - Blanchard and Fischer, Chapter 3
   - *Diamond, P. (1965): "National Debt in a Neo-Classical Growth Model," American Economic Review, 55, 1126-1150.
   - Gale, D. (1973): "Pure Exchange Equilibrium of Dynamic Economic Models," Journal of Economic Theory, 6, 12-36.
   - *Geanakoplos, J (1989): "Overlapping Generations Model of General Equilibrium," in J. Eatwell, M. Milgrate and P. Newman (eds.) The New Palgrave: General Equilibrium
   - Imrohoroglu, A., Imrohoroglu, S. and Joines D. (1995): "A Life Cycle Analysis of Social Security", Economic Theory, Volume 6, 83-114.
   - *Kehoe, T. (1989): "Intertemporal General Equilibrium Models," in F. Hahn (ed.) The Economics of Missing Markets, Information and Games, Claredon Press
   - Ljungquist and Sargent, Chapter 8 and 9.

- Samuelson (1958): “An Exact Consumption Loan Model of Interest, With or Without the Social Contrivance of Money,” Journal of Political Economy, 66, 476-82.
- Wallace, N. (1980): “The Overlapping Generations Model of Fiat Money,” in J.H. Kareken and N. Wallace (eds.) Models of Monetary Economies, Federal Reserve Bank of Minneapolis.

6. Models with Heterogeneous Agents (2 week)

- Lecture note #6 by Dirk Kruger
- Sargent and Ljungquist, Chapter 14.
- Stokey et al., Chapters 7-14.
- Rios-Rull, V. (1999): “Computation of Equilibria in Heterogeneous-Agent Models,” in: R. Marimonand A. Scott (eds.) Computational Methods for the Study of Dynamic Economies, Oxford University Press, 238-265.

  – Application: Borrowing Constraints

- Deaton, A. (1991): “Saving and Liquidity Constraints,” Econometrica, 59, 1221-1248.
- Carroll, C. (1997): “Bu¤er-Stock Saving and the Life Cycle/Permanent Income Hypothesis,” Quarterly Journal of Economics, 112, 1-55.
- Aiyagari, R. (1994): “Uninsured Risk and Aggregate Saving,” Quarterly Journal of Economics, 109, 659-684.
- Aiyagari, A. (1995): “Optimal Capital Income Taxation with Incomplete Markets, Borrowing Constraints, and Constant Discounting,” Journal of Political Economy, 103, 1158-1175.
- Aiyagari R. and McGrattan, E. (1998): “The Optimum Quantity of Debt,” Journal of Monetary Economics, 42, 447-469

  – Application: Welfare Cost of Business Cycles

- Lucas, R. Models of Business Cycles. New York: Basil Blackwell, 1987. Chapter 3.
- Imrohoroglu, Ayse. (1989): “Cost of Business Cycles with Indivisibilities and Liquidity Constraints”, Journal of Political Economy, vol.97, no. 6, 1364-1383.
- Krusell, P. and Smith, A. (1998): “On the Welfare E¤ects of Eliminating Business Cycles.” Review of Economic Dynamics, January 1999, 2(2), pp. 245-72.
- Storesletten, K., Telmer, C., and A. Yaron. ”The Welfare Cost of Business Cycles Revisited: Finite Lives and cyclical variation in Idiosncratic Risk.” European Economic Review, June 2001, 45(7), pp. 1311-39.
- Lucas, R. Macroeconomic Priorities, AEA Presidential Address, January 2003. Available on http://home.uchicago.edu/~sogrodow/