Macroeconomic Theory
Course outline and reading list

In most cases the readings cited do not cover everything that will be done in lecture and that you will be responsible for, and in some cases they go beyond what you will be responsible for. The relation of the readings to the lectures and what you are expected to get from the readings will be discussed in lecture. In the listings below, primary readings are marked with ●, secondary readings with —. “NTBHO” stands for “notes to be handed out”. “LS” stands for the Ljungquist-Sargent manuscript, which is available in postscript format at Thomas J. Sargent’s web site. There is a course web site, which will contain the most recent version of this reading list, notes, problem sets, answers, etc.

1. Preliminaries (mostly section meetings)
   (a) Review of continuous time calculus of variations, or Hamiltonian approach (whichever is more familiar).
   (b) Conditional expectations, iterated expectations.
   (c) Linear stochastic difference and differential equations (TA sessions).
      ● Gregory Chow, *Analysis and Control of Dynamic Economic Systems*, Wiley 1975, Chapters 2-4. This topic is standard and is treated well in other textbooks also.
      (i) Conditions for stability
      (ii) Innovations representation. MA representations.
      (iii) Impulse responses. Structural and reduced form disturbances

2. Linear Rational Expectations Models (CAS 3 lectures)
   ● Sims, “Solving Linear Rational Expectations Models”, available at Sims web site, or on paper from Diane Bowman for copying.
   (a) Permanent income model
   (b) Modern(?) Versions of ISLM
      – Clarida, Richard, Jordi Gali and Mark Gertler, “The Science of Monetary Policy,” (September 1997) (This paper uses a model like the one we study, without saying much about its derivation.) It is available at http://www.econ.nyu.edu/user/gertlerm/index.htm and is or will be available for copying. It is a long paper and is not required reading.

3. Dynamic Stochastic Optimization (CAS, 2 lectures)
   (a) Extending the Hamiltonian approach: Obtaining FOCs with stochastic Lagrange multipliers
      ● Notes to be handed out (NTBHO)
(b) Continuous Time, Certainty Equivalence
(c) Discrete Time, Stochastic
(d) Dynamic Programming: Bellman Equation and FOC’s
   • NTBHO
     (i) Asset Pricing
     (ii) Permanent Income Again
         (A) LQ case
         (B) stochastic r case: linearization
     (iii) The stochastic growth model
           (A) When does it imply the (Robert) Hall “random walk” model is a good approximation?
           (B) When does it imply that some form of ISLM is a good approximation?

4. More Dynamic Programming (2 lectures)
   • Ljungqvist-Sargent, chapters 1 and 4.

5. Search Theory (1 lecture)
   • Ljungqvist-Sargent, chapter 2.

6. Risk sharing and accumulation via asset markets (CS, 3 lectures)
   (a) Two-agent/country model
       • NTBHO
           (i) Bonds only
           (ii) Complete Markets
           (iii) Bonds and “market-completing” equity
7. **Models with Heterogenous Agents**
   (a) Heterogeneity in Endowments (2 lectures)
   - Ljungqvist-Sargent, chapter 9.
   (b) Uninsurable Individual Risks (3 lectures)
   - Ljungqvist-Sargent, chapter 5
   (c) Overlapping Generations (2-3 lectures)
   - To be assigned

8. **Models with price levels**
   (a) *Fiscal Theory of the Price Level* (CS, 3 lectures)
• Sims, “Fiscal Foundations of Price Stability in Open Economies”, available at Sims web page
(i) Model with no money
(ii) With money
(iii) Exchange rates, currency union
(b) Stickiness (CS, 3 lectures)
• Sims, “Stickiness”, available at Sims web site.
• Blanchard and Fischer, Chapter 8.
  – Blanchard, Olivier and Nobuhiru Kiyotaki [1987]. “Monopolistic competition and the effects of aggregate demand”, American Economic Review 77 (September), 647-666
(i) Monopolistic Competition
  (A) with menu costs
  (B) with contracting delay
  (C) with search
(c) Credible Government Policies (2 lectures)
• Ljungqvist-Sargent, chapter 11.