Macroeconomics
D11-2
Winter, 1995
Christiano

Syllabus

1. General Information.

2 Lectures are MW 9-10:30, 153 Kresge. Recitation is F, 9-11. The TA is Dev Handa, room 226 Anderson, tel: 491-5398, email: drhanda@nwu.edu, office hours: Anderson 138, time TBA.

My office number is 318, Anderson. My university office number is 491-8231. Other numbers where you can reach me are 251-5712 and 312-322-2360. Email: lchrist@merle.acns.nwu.edu.

2 The grades will be determined as follows: homeworks, 30%; midterm, 30%; final, 40%. There will be approximately seven homework assignments. You are encouraged to work in teams of up to five students on these problem sets, and only one should be submitted per group.

2 Goals.

Macroeconomics is about two things: (i) developing positive models that can help us understand the behavior of the key macroeconomic variables, employment, unemployment, interest rates, output, etc. (ii) using these models to make judgements about what the government should, or should not do. Classic questions on this dimension include what the government should do about spending, taxation and money.

We begin the course with a review of some basic tools of modern dynamic economic theory. This is done within the context of the basic building block of modern macroeconomics: the infinite lived, deterministic, homogeneous agent growth model. The key tool developed here is dynamic programming, which we will also apply to search models of unemployment and of the demand for money. We then extend the basic growth model by incorporating uncertainty and a labor/leisure choice. This allows us to discuss the Real Business Cycle approach to business cycles. We will consider the pluses and minuses of these models for understanding real-world business cycles. The minuses will
motivate considering models with increasing returns and imperfect competition. This in turn will lead us to confront various exotic possibilities not present in the basic growth model: multiple equilibria, sunspot equilibria, and equilibria characterized by chaos.

Time permitting, we will finish the quarter by studying optimal fiscal policy in dynamic equilibrium models.

² The two textbooks for the course are:


I will also distribute handouts from time to time.

² Outline

1. Basic Building Block Model and Mathematical Underpinnings (six classes).

We will begin by introducing the basic Robinson Crusoe model, discuss the existence and uniqueness of a solution, which is an optimal sequence of consumption/saving decisions over time. (Hence, we call it the sequence problem.) We will subsequently interpret the model as a general equilibrium model of an economy with many agents. Following Stokey/Lucas, Chapter 2, we will introduce and prove the first and second fundamental welfare theorems in the context of two particular market interpretations. We then establish that there is an alternative, equivalent, recursive representation of the model. Representing the model in this form is convenient because it permits invoking an existing body of mathematical results useful for proving existence and uniqueness results, and for deriving properties of the solution.


(c) Application: understanding Japan's postwar savings behavior (Christiano, Minneapolis Fed Quarterly Review, 1989)

2. Extensions of the basic model (five classes).


(b) introducing uncertainty (Farmer, chapter 8)
   i. search in the labor market (SL 305-315, add Sargent)
   ii. search in monetary theory (Kiyotaki and Wright, AER, 1993).

(c) introducing uncertainty and labor/leisure choice - the real business cycle model (handout)

3. Imperfect competition and increasing returns (Matsuyama, manuscript) (four classes)

(a) Internal versus external increasing returns (Farmer, Chapter 7).


4. Optimal Fiscal and Monetary Policy (three classes).