Syllabus

This is a seminar in macroeconomic theory. The goal is to introduce you to current areas of research in macroeconomics, and in particular, business cycle theory. You should plan on reading a lot in the early weeks, in which we will focus on background papers. When we move into dynamic programming, (about or maybe just before the midpoint of the semester) you will probably want to do some outside reading in math textbooks (books will be suggested in class); however, our specific goal will be to understand which techniques have contributed to the particular problems encountered by macroeconomists, why we need those techniques to solve the current problems, and how each technique corresponds to the economic issues.

My office hours will be on Tuesday afternoons from 1:00 to 4:00 p.m. in Econ. Room 12, and by appointment. A particularly effective study technique is for you to work through the articles and class lectures with a study group and for the study group to come together to my office hours with any questions that cannot be answered alone. I reserve the right to announce a change in my schedule of office hours if it is not working out well.

The only exam will be a final exam. I will try to give some practice questions a few weeks before the exam. Class participation is encouraged -- remember, your ultimate goal is to find an exciting area of research.

The attached course outline and reading list is preliminary and covers only the first few lectures. Most of the articles to be covered are not yet on the list and will be added during the first few weeks of class. Actual reading assignments will be announced in class; this list contains many books and articles that are supplementary, and in most cases, classic, for completeness. Please bring your reading list to class with you each day.
I. What is a business cycle, anyway?

In the early 1920s, Wesley C. Mitchell performed the most exhaustive empirical study of the behavior of economic variables during business cycles to date. Here are two of his three resulting books, along with Haberler's famous macro textbook, which summarized all of the pre-Keynesian models of business cycles. Notice the dates. When did the Great Depression start in the United States? in the U.K.?


Haberler, Gottfried, Prosperity and Depression. Geneva: The League of Nations, 1936


Some economists have argued that business cycles have changed: lower amplitude; perhaps some variables exhibiting different behavior. Others have suggested that such observations might be artifacts of our changing methods of data collection. Finally, Nelson and Plosser's time series evidence leads us to wonder whether there might be no such thing as a business cycle at all!

Sims, Christopher (article reference to be supplied in class)

Nelson and Plosser (articles on distinguishing empirically between stochastic growth and business cycles; ref. to be supplied)

Romer, Christina (to be supplied; recalculating GNP data to make consistent time series)

II. Empirical evidence and the Keynesian model

There are very few, if any, empirical tests of the Keynesian model. This is rather sobering, given that macroeconomic policy in most countries was for 50 years premised on the prescriptions of the model, and in many countries is still based almost entirely on that model. However, the model was designed to fit the existing facts (in the early 1930s), and Keynes alone accomplished this difficult theoretical achievement in the face of widespread belief that it was impossible for classical and neoclassical models to exhibit the observed business cycle-like behavior of many variables. Initial objections to the model were based on theoretical rather than empirical grounds; initial estimates of the model were not intended as tests and introduced the Phillips curve (sometimes called the "missing equation") in part to improve the fit; and only recently have some empirical tests begun to surface.

We will examine some evidence, beginning with raw time series plots, focussing on three U.S. cycles: the Great Depression, the 1970s recessions and inflation, and the 1981 recession and recovery. Of particular interest is the behavior of wages, interest rates (real and nominal), the price level, and the effects of fiscal and monetary policy. How can we design a test to see if the labor market is not clearing? Do fitted macro models have desirable properties? short-run? long-run? What evidence supports the policy prescriptions of the Keynesian model?


Mishkin, Frederick (ref. to be supplied: articles on the effects on long and short-term interest rates of changes in monetary policy)

III. Theoretical concerns about the Keynesian model

Theoretical objections to the Keynesian model began early, and in 1968 were summarized by Friedman in a way that answered the profession's challenge to find something fundamentally problematic. (However, there is a good case to be made for seeing Friedman as a Keynesian more than as a monetarist! Friedman never objected to the basic Keynesian model itself, and phrased all of his objections in the paradigm of the model -- for example, many of his arguments consist of assertions that elasticities would take the punch out of its policy prescriptions.) In retrospect we can see that most of the objections fall under the category of worrying that the model was inconsistent with the microeconomic foundations which had been carefully tested and which were widely believed. Subcategories of these concerns were: the model's long run does not result in the long run of neoclassical economic theory; the model does not directly incorporate the possibility that private citizens learn and form expectations of the future and behave differently depending on the nature of those expectations; the model's assertion that labor markets do not clear is not convincing since labor markets do not appear to have any of the features which economists think keep markets from clearing (like externalities, public-goods aspects, monopoly; unions have greatly diminished over the last decades).

Friedman, M., "The Role of Monetary Policy," Presidential Address to the American Economic Association, American Economic Review, 58, No. 1, (March 1968), 1-17


The Lucas articles on this reading list are all reprinted in this recommended paperback:


The arguments came to a head with Lucas's stunning policy critique, which is not a critique of the Keynesian model alone, but of any model which does not rest on microeconomic foundations. Other articles lead us into the problem of finding a business cycle in a dynamic, market-clearing setting.


IV. A Market-clearing model of business cycles: what is money? what is fiscal policy?

Even before the policy critique, Lucas had already been working on the effects of introducing expectations into market-clearing models, in an attempt to find an alternative model of business cycles. He built on a then-obscure article of Samuelson’s, who had developed what is now called the "overlapping generations model" for entirely different reasons. Lucas’s difficult 1972 article formalized Friedman’s idea about information lags and labor markets, and simultaneously introduced rational expectations in a usable way. A main theme behind much of the subsequent literature is that money appears to have a lot to do with business cycles; if cycles are caused by monetary policy or monetary frictions, we must begin by having better models both of what money is in the first place and of how the effects of changes in the money supply work their way through the economy. Secondly, if cycles are caused by real ("supply" shocks, although supply (and demand) shocks in optimizing models based on microeconomic foundations do not correspond one-to-one with supply (demand) shocks in the Keynesian model), can we write down market-clearing models which exhibit business cycles? Finally, since the models of cycles must ultimately be made consistent with long-run growth models, what can be said about cycles and growth?

Samuelson, P.A., "An exact consumption-loan model of interest with or without the contrivance of money," JPE 66, (1958)


Other branches of literature concerned with taking account of private expectations when the government changes fiscal or monetary policy developed the issues called Ricardian Equivalence and time-consistency:

(Ricardian equivalence: refs. to be supplied)


Other models of money and reasons to hold it are also available, and are especially useful when studying macroeconomic problems that are not related to business cycles but where the economist wants the model to be able to be incorporated in the ultimate dynamic optimizing models.

Stockman, Allan (ref. to be supplied: money in the utility function)

Svensson, (ref. to be supplied: cash-in-advance model of money)

(Refs. to be supplied: some easy-to-read thought-provoking articles on the what-is-money debate: Wallace, etc.)

V. Real models of business cycles; dynamic optimization. Refs. to be provided later in semester