Economics 137 – Macroeconomic Policy
Spring 2010

Professor Kevin D. Salyer

Course Goals

1. Discuss and understand macroeconomic policy as **economists –** a more formal and precise discussion than what is presented in *WSJ, Business Week,* and *The Economist*. **We are scientists!**

"Macroeconomics receives a great deal of attention in the newspapers, but this is not the level at which progress is made or continuity is to be discovered." – Robert Lucas, Jr.

2. Bridge (ever so slightly) the gap between undergrad and grad economics.

To reach these goals - the material will be presented at an **advanced undergraduate level –** be prepared!!

Some of the Tools and Techniques We will Use

- Dynamic constrained optimization.
- Indirect utility.
- Probability and statistics (Stats 13 level).

Classroom Etiquette

- No reading the newspaper in class (this includes crossword puzzles).
- Limited talking – No Texting
- Attendance is NOT REQUIRED.
- Do NOT Leave in the middle of lecture.

Get Prepared

This will be a tough course

We will focus primarily on articles from journals.

Use calculus and probability – extensively!

Some Comments from Evals

Student 1: I am a 4^{th} year econ major. I have taken several difficult upper division courses in econ as well as accounting and ag econ courses. I have gotten A's and A+'s in most of these courses, and the lowest grade I've ever gotten is a B+. However, I expect to get a D or lower in this class because I have no idea what you were talking about from the midterm on. Given my past record, I do not believe this reflects me but instead the teaching of this class...I have taken Stats 13 and Calculus 16A and 16B. I got A's in all of them yet had never seen half the math you are talking about.

Student 2: The information covered in this course was above a (sic) undergraduate level. There should be more prerequisites to get into this class or the material should be brought down to the undergraduate level.

Some Comments from Evals

Student 3: Very challenging but rewarding course. Course has really shown me how powerful calculus & statistics can be in economic modeling. Much more interesting than my other econ classes.

Student 4: I thought the class was hard but fair. It did get me more interested in macro economics. I enjoyed the class.

Student 5: This was the most difficult course I have taken in econ, but not overwhelmingly so. It has stimulated my interest and now I am seriously considering going to graduate school for economics.

And the one I like the most – from an unsolicited email:

Hello Professor Salyer,

I took your Econ 137 class (macroeconomic policy) in Spring 2004 and thought it was by far, one of the most difficult econ classes I had ever had and probably will ever have as an undergrad. But I'm writing this email, to thank you for that amazing experience. I say this now because I am currently taking Econ 136 (Topics of Macroeconomics), and I realize that I have such an amazingly better understanding of macroeconomics and its implications in policymaking and in theory. I see it all in an entirely new light, and your class really shaped and improved my fundamental knowledge of macroeconomics. I think the department should consider making your class a major requirement. So, thank you.

In the interest of full disclosure, here is the grade distribution from last year

Overall GPA = 2.8

A's = 29%

B's = 40%

C's = 20%

D's = 7.5%

F's = 4%

Example: Constrained Maximization – Utility maximization

Problem:

$$\max_{(x,y)} U(x,y) \quad subject\ to\ \ p_x x + p_y y = I$$

We want to go up the "hill of happiness" but at the same time, need to satisfy the budget constraint.

One way – eliminate *y*:
From the budget constraint:

$$y = \frac{I}{p_y} - \frac{p_x}{p_y} x$$

Maximization problem becomes

$$\max_x U[x, y(x)]$$

where $$y = \frac{I}{p_y} - \frac{p_x}{p_y} x$$

Take the derivative and set it equal to 0:

$$\frac{\partial U}{\partial x} + \frac{\partial U}{\partial y}\frac{dy}{dx} = 0 \Rightarrow U_x + U_y\left(-\frac{p_x}{p_y}\right) = 0 \Rightarrow \frac{U_x}{U_y} = \frac{p_x}{p_y}$$

Alternative method – modify the original function in such a way that the constraint is satisfied. To do this, introduce the *Lagrange multiplier* , λ and rewrite the maximization problem as:

$$\max_{(x,y,\lambda)}\left[U(x,y)+\lambda\left(I-p_x x-p_y y\right)\right]$$

Necessary Conditions:

$$\lambda : I - p_x x - p_y y = 0.$$
$$x : U_x - \lambda p_x = 0.$$
$$y : U_y - \lambda p_y = 0.$$

yields same marginal condition:

$$\frac{U_x}{U_y} = \frac{p_x}{p_y}$$

We will use this technique when we discuss optimal fiscal policy.

On to the Syllabus

Course Description: This course will study the theory of macroeconomic policy. First we will examine some issues in the conduct of fiscal policy and then turn our attention to the theory and practice of modern monetary policy. The focus of the course will be on relatively recent developments; in several cases, the economists associated with these ideas were awarded the Nobel prize in Economics for their scientific contributions. Recently proposed monetary policy rules will be the topic for the final part of the course.

Note: Several of the topics will be presented at an advanced undergraduate level – it will be assumed that you have had (and remember) the necessary prerequisites. Moreover, calculus and probability will be used in developing the theory. The reason for this emphasis on rigor is to bridge the gap between undergraduate economic education and what economists actually do.

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Office Hours:

Professor Salyer: SSH 1120, Monday 3:30-5:30pm or by appointment.

Paul Gaggl: TBA

Grading: There will be one midterm exam (worth 35%) and a cumulative final exam (55%). The remaining 10% will be determined by performance on homework assignments and class participation.

Note the dates of the midterm and final – there will be no alternate exams given!!

Readings: All articles (see below) are available from the class web site:

http://www.econ.ucdavis.edu/faculty/kdsalyer/LECTURES/ecn137.html

Schedule of Topics

1. Review Material (to be covered in Section)

Reading: Math Handout, Stats Handout, Bond Pricing, Term Structure of Interest Rates

2. Fiscal Policy – the optimal path of taxes. (3/29 – 4/16)

We will first examine the fiscal implications of the current Social Security and Medicare policies. En route, we will briefly discuss the evidence on countercyclical fiscal policy. Then, we will begin our study of optimal policy within dynamic economies. Our focus will be on the optimal path of taxes and the effects of deficits on interest rates.

Readings:

Hakkio, C.J. and E.J. Wiseman, "Social Security and Medicare: The Impending Fiscal Challenge," Federal Reserve Bank of Kansas City *Economic Review* (2006), p. 7-41.

Auerbach, A., "American Fiscal Policy in the Post-War Era," *The Macroeconomics of Fiscal Policy*, R. Kopcke, G. Tootell, R. Triest, MIT Press, 2006.

Blinder, A, "The Case Against the Case Against Fiscal Policy," *The Macroeconomics of Fiscal Policy*, R. Kopcke, G. Tootell, R. Triest, MIT Press, 2006.

Sims, C., "Comment on Blinder," *The Macroeconomics of Fiscal Policy*, R. Kopcke, G. Tootell, R. Triest, MIT Press, 2006.

Barro, R., "The Stimulus Evidence One Year On," WSJ Op-Ed, Feb.23, 2010.

Taylor, J, V. Wieland, et al., "New Keynesian versus Old Keynesian Government Spending Multipliers," Stanford Economics Dept. Working Paper, 2010.

Doepke, M., A. Lehnert, A. Sellgren, *Macroeconomics*, Chapter 14.

3. **Time Inconsistency – The case of the benevolent, dissembling government (4/19 – 4/26)**

The 2004 Nobel Prize was awarded to Ed Prescott and Finn Kydland in large part for their 1977 article on time inconsistency. We explore this concept within the context of optimal taxation of capital and labor.

Readings:

S. Fischer, "Dynamic Inconsistency, Cooperation, and the Benevolent, Dissembling Government," *Journal of Economic Dynamics and Control* (1980), 93-107.

4. **Monetary Policy: History and Evidence (4/28 – 5/05)**

Readings:

Romer, C., "Changes in Business Cycles: Evidence and Explanations," *Journal of Economic Perspectives*, Spring 1999, 23-44.

Goodfriend, M., "Monetary Policy Comes of Age: A 20th Century Odyssey, The Federal Reserve Bank of Richmond *Quarterly Review*, Winter 1997.

Goodfriend, M., "The Monetary Policy Debate Since October 1979: Lessons for Theory and Practice," The Federal Reserve Bank of St. Louis *Review*, March-April 2005, p. 243-262.

MIDTERM FRIDAY MAY 7

5. Rational Expectations and Policy Evaluation: The Lucas Critique (5/10 – 5/17)

Robert Lucas won the 1995 Economic Nobel Prize in part because of his critique of policy evaluation. We look at this in detail.

Reading:

Lucas, R.E., Jr., "Econometric Policy Evaluation: A Critique," *Carnegie-Rochester Conference Series on Public Policy* Volume 1, (*The Phillips Curve and Labor Markets,* K. Brunner and A. Meltzer, eds, Amsterdam, 1976.

6. Rational Expectations and the Policy Invariance Proposition: The Lucas Supply Curve (5/19 – 5/26)

Robert Lucas forcefully demonstrated that the Phillips curve does not necessarily imply a policy trade-off between inflation and output. This contribution was another reason for his winning the Nobel prize.

Reading:

Romer, D, *Advanced Macroeconomics, Chapter 6 excerpt.*

7. The Science of Monetary Policy (5/28 – 6/02)

We examine inflation targeting and interest rate rules.

Readings:

Blinder, Alan, *Monetary Policy in Theory and Practice*, MIT Press, 1998. Chapter 1.

Poole, W., "Optimal Choice of Monetary Policy Instruments in a Simple Stochastic Macro Model," *Quarterly Journal of Economics* (1970), p. 197-216.

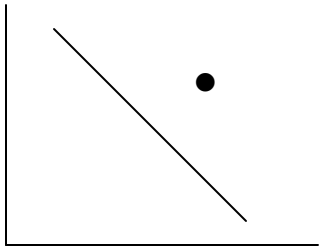
McCallum, B., "Recent Developments in the Analysis of Monetary Policy Rules," St. Louis Federal Reserve *Review* (1999), p. 3-12.

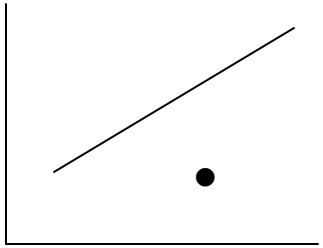
Walsh, C., "Teaching Inflation Targeting: An Analysis for Intermediate Macro," *Journal of Economic Education*, Fall 2002, 333-345.

FINAL, SATURDAY JUNE 5, 8AM

Review of Macroeconomics

Identify which of the curves below is the IS curve and which is the LM curve? Label the axes and discuss the market conditions at the points depicted on the graphs.





Homework Assignment #1

To be turned in during Section

Watch Ed Prescott's Nobel Prize Lecture (at least first 15 minutes) which can be found on the web at:

http://nobelprize.org/economics/laureates/2004/prescott-lecture.html

Answer the following:

1. Prescott talks of the transformation in macroeconomic policy. What were the two characteristics of "old" strategy?
2. What was the characterization of optimal policy before and after the transformation?
3. Why does the Principle of Optimality Fail?