

Economics 101b; Fall 2000; Problem Set 8

Due in class November 9

1. What is the Lucas critique? **The idea that when government policy changes, the way people form their expectations about the future changes.** How would the Lucas critique suggest that you should design a policy to try to reduce inflation from 10% per year down to 2% per year? **You should widely announce the policy as far in advance as possible. You should make sure that policies are announced by credible authorities that can actually carry them out.**

2. What is "dynamic inconsistency"? Why does dynamic inconsistency strengthen the case for having policy rules rather than leaving economic policy to the discretion of authorities? **The idea that after everyone's expectations have already been set, a central bank has a strong incentive to increase inflation unexpectedly. If businesses and workers know about this incentive in advance, they may not believe claims that the central bank will follow a low inflation policy—even if those claims are true. The hope is that a central bank committed to following a policy *rule* is more credible in its claims that it will not succumb to the temptation to inflate created by the problem of dynamic inefficiency.**

3. Under what circumstances should the Federal Reserve focus on keeping the interest rate stable? Under what circumstances should the Federal Reserve focus on keeping the growth rate of the money stock stable? **The Federal Reserve should focus on keeping the interest rate stable if the shocks to the economy primarily come from changes in money demand. The Federal Reserve should focus, instead, on the money stock if**

the shocks to the economy come primarily from the determinants of the position of the IS curve.

4. Suppose that the economy's Phillips curve is given by:

$$u = u^* - \beta(\pi - \pi^e)$$

with β equal to 0.4 and the natural rate of unemployment u^* equal to .06--six percent.

Suppose that the economy has for a long time had a constant inflation rate π equal to 3% per year. Suddenly the government announces a new policy: it will use fiscal policy to boost real GDP by 5% relative to potential--enough by Okun's law to push the unemployment rate down by 2%--and promises it will keep that expanded fiscal policy in place indefinitely.

Suppose that the dominant way of forming expectations in the economy is such that people have *adaptive expectations* of inflation--so that this year's expected inflation is equal to last year's actual inflation. What will be the course of inflation and unemployment in this economy in the years after the shift in fiscal policy? Track the economy out twenty years, assuming that there are no additional shocks.

Year	Unemployment	Inflation	Expected Inflation
0	6%	3%	3%
1	4%	8%	3%
2	4%	13%	8%

and expected inflation and actual inflation rise by 5%-points every year thereafter...

5 & 6 gone over in section...

7. Why do economists today tend to believe that monetary policy is superior to discretionary fiscal policy as a stabilization policy tool? In what circumstances that you can imagine would this belief be reversed? **Because monetary policy acts more rapidly than discretionary fiscal policy. Under circumstances (like a liquidity trap) in which monetary policy loses its power, there is no edge to monetary policy.**

8. The sacrifice ratio is the ratio of the total loss of output (in percentage points of a year's production) to the amount by which inflation is permanently reduced in a disinflation. Suppose that the economy has adaptive expectations. How does the sacrifice ratio depend on the slope of the Phillips curve? Suppose that the economy has rational expectations. Would you expect the sacrifice ratio to be larger or smaller? **Under adaptive expectations, the sacrifice ratio is the slope of the Phillips curve. Under rational expectations, the sacrifice ratio should be smaller: it should be possible to reduce inflation without a big increase in unemployment...**