

Homework #6
Uses of Macro Policy
Due April 20

Answer all questions on these sheets, adding extra sheets where necessary.

1. Suppose that the government were to increase its purchases of goods and services by some amount, continuing to spend at the new level from now on, and that it finances this increase in spending by borrowing. That is, it keeps taxes and the money supply both unchanged. For each of the following models in the Mankiw text, show (using appropriate diagrams) how this policy change will affect the economy and determine in particular how it will affect the levels of national saving and investment.
 - a. The closed-economy model of savings and investment in Chapter 3. Do this both for the case where savings depends on the interest rate, and where it does not.

b. The open-economy model of Chapter 5.

c. The growth model of Chapter 7 (using what you found for national saving in parts a and b).

- d. The goods-market equilibrium model (the Keynesian Cross) of Chapter 10 (taking the interest rate and price level both as given).

- e. The IS-LM model (with constant price level) of Chapters 10-11.

h. The AD-AS model of Chapter 13 in the long run.

i. The model of Ricardian Equivalence of Chapter 15.

3. (Adapted from Mankiw, p. 401) Suppose that the tradeoff between unemployment and inflation is determined by the Phillips curve:

$$u = u^n - \alpha(\pi - \pi^e)$$

where u denotes the unemployment rate, u^n the natural rate of unemployment, π the rate of inflation, and π^e the expected rate of inflation. In addition, suppose that the Democratic party always follows a policy of high monetary growth and the Republican party always follows a policy of low monetary growth.

Assume for simplicity that the party in power is able each period to move the economy's unemployment rate to that which will bring about the desired rate of inflation. (A more plausible alternative might be to have it set the rate of monetary expansion that will achieve the desired inflation in the long run, and then let the economy respond to that over time. That would be easier for it to do, but harder for us to analyze.) Assume also that expectations are formed (and labor contracts written, for example) just before the start of a year, at the beginning of which, if it is an election year, a party is chosen and then runs the economy for the rest of the year. When expectations are formed, assume that they are formed rationally, taking all available information into account. But then assume that, once these expectations are formed, they do not change until just before the start of the next year.

What "political business cycle" pattern of inflation and unemployment would you predict under the conditions below? Use the Phillips curve diagram to explain.

- a. Every four years, one of the parties takes control based on a random flip of a coin (or a hanging chad). (Hint: What will expected inflation be prior to the election?)

- b. The two parties take turns.
- c. Returning to the random selection of part a, suppose now that the probability of the Democratic party taking power is p , $0 < p < 1$, while that of the Republican party is $(1-p)$. What, then, will an increase in p do to the unemployment rates in different years? And what will it do to the *average* unemployment rate over time?
- d. How would your answers be altered, do you think, if expectations were formed adaptively? [This one is optional, and I do not promise to give you answers.]