

## Homework Set Twelve

1. (10%) In honor of Senator Mustard's impending retirement, a group of prominent economists sponsor an academic seminar. (Some reporters notice that the language announcing the seminar does not make clear whether it is to celebrate her retirement, or to commemorate her many accomplishments; the economists involved just smile and ignore their queries). In a real coup, Professor Archen Minsol of the University of Lower Slobovia is scheduled to speak. Minsol, well known for his writing on the CES production function, which he has long believed superior to the Cobb-Douglas production function (see <http://www.economyprofessor.com/economictheories/ces-production-function.php>) makes few appearances: rumor is that he suffers from a multiple personality disorder. When he writes, he is able to benefit from the multiple points of view, but travel is too stressful. Minsol's paper will cover the policy of inflation targeting: that is, that the FOMC should adopt a policy of targeting an inflation rate. If the inflation rate is running above the target, it should cut the rate of growth of MB; if it is running below, it should increase the rate of growth of MB.

Alas, he is ill and all that arrived for the conference is a brief outline of the points he intends to cover:

- A policy of targeting the inflation rate would have prevented both the great depression and the high inflation of the late 1970's.
- While a policy of targeting inflation rates may lead to more variability in the rate of growth of the money supply, it may lead to more confidence in monetary policy.
- History teaches that over-reliance on inflation targeting can be undesirable.

Minsol, reached in his sick bed said that any competent student could write a 200 word speech covering these points and the outline was all that was needed.

- Make me proud

2. (10%) Explain whether you agree or disagree with the following statements:
  - a) The Theory of Real Business Cycles predicts that real wages will decline during a recession. By the test of "does it fit the facts" it is inferior to the explanation based on unanticipated inflation.
  - b) A Real Business Cycle occurs when there is a decline in GDP and when there is an increase in the coefficient A in the equation  $Y = AK^{\alpha}L^{(1-\alpha)}$
  - c) If a Real Business Cycle occurs, monetary policy will be ineffective in reducing unemployment.

- d) If monetary policy can ameliorate business cycles only when it comes as a surprise, we should discourage the FOMC from publicizing its actions.
- e) A policy of targeting interest rates will not work as well as a policy of targeting an inflation rate
3. (5%) Alas, we are in a recession. Output is less than the full employment level of output. Two proposals have been advanced to bring us back to full employment. Plan A involves an increase in the money supply, carried out through an open market operation. Plan B provides for the same increase in the money supply, with the following twist. Instead of an open market operation, the government will distribute the increase in the money supply directly to senior citizens. Which plan will have the greater impact on output? If the answer is uncertain, explain why.
  4. (5%) Which of these two plans will have the greater impact on the price level in the long run? Explain your answer.
  5. (5%). East Backwater is in a recession. The United States has promised to aid the country by a gift of \$1000 to every person in the country. Alas, because of political red tape, it will take two years before the funds are made available to the citizens. Assuming that everyone believes that the gift is coming, explain why this may help deal with the recession now.
  6. (5%) Acme Bicycle Company of Eastsea and Acme Bicycle Company of Westsea both sell bicycles for \$100. In both countries, the price of bicycles rises from \$100 to \$106. However, Eastsea has a history of price stability, while Westsea has a history of years in which prices are stable and years in which prices rise by 6%, as well as years in which prices fall by 6%. Which Acme would increase its production the most? Explain your answer.
  7. (5%) Consider the impact of an unexpected increase in government spending on short run GDP when there is imperfect information. Would you expect the increase in GDP to be larger or smaller if the additional government spending was financed by higher taxes on wage income than if it is financed by borrowing?
  8. (5%) Consider the impact of an unexpected increase in government spending on short run GDP when there is imperfect information. Would you expect the increase in GDP to be larger or smaller if the increase in government spending was permanent? Assume the increase is to be financed by a tax on individuals independent of how much they work.
  9. (5%) As we know, a “real” business cycle is caused by a decline in  $A$ , the coefficient in the production function  $Y=AK^\alpha L^{1-\alpha}$ . Explain how a decline in the value of a nation’s exports is equivalent to a real business cycle.

10. (5%) If government policies can ameliorate recessions, they can cause them as well. Explain whether you agree or disagree with this statement.
11. (5%) I believe in the imperfect information model because it shows that the government can do something about recessions. Explain whether you agree or disagree with this statement.
12. (5%) In 1923-24, Germany suffered from a massive hyperinflation, with prices rising a billion fold. (Yes, they were printing a lot of money). The inflation ended when Germany stopped printing money and went back to the gold standard. The announcement that German would stop printing money and would resume the gold standard was widely hailed (which should come as no surprise) and was widely believed (which may come as a surprise in this day and age). In 1981-83, the United States cut the inflation rate from about 13 percent to about 4 percent a year, obviously a smaller change than occurred in Germany, where inflation was running 40 percent a day. Yet, the rise in the Unemployment rate was bigger in the US than in Germany. Explain why the theory of imperfect information predicts that this would happen.
13. (5%) East Knockwurst has been fighting a brutal war, which finally ends. Government defense spending is about to fall dramatically, and the Chief Economist, using the Y and M curve apparatus, predicts a dramatic drop in the price level and a massive recession. Everybody knows that defense spending will fall at the end of the war. Explain why the Chief Economist may well be wrong, and that, while prices might fall, there may be no dramatic recession.
14. (5%) When the government can create “surprise” inflation, it can have a positive effect on the economy. Does it necessarily follow that the government should keep deliberations of the FOMC (Federal Open Market Committee) secret so that any easing of monetary policy comes as a surprise?
15. (10%) Explain whether you agree or disagree with the following statements:
- If we could eliminate business cycles, we could increase consumption
  - If we could eliminate business cycles, we could increase the value of consumption
  - If we could eliminate business cycles, we would eliminate fluctuations in consumption.
  - If we could eliminate business cycles, we would reduce the natural rate of unemployment.
  - If we could eliminate business cycles, we would lower the average inflation rate.

16. (10%) GREEN is currently enjoying a period of relative stability. For a number of years, the unemployment rate has been relatively constant at 6%, and the inflation rate has been steady at about 3%. As a result of an election, a new administration is taking power. Their election was an upset, with the possible exception of the party leader, no one saw it coming. The new party believes that the high level of GDP is responsible for significant environmental degradation. Accordingly, they have mandated a new 25 hour work week. With people working less, they figure a lower level of output and hence less environmental damage. The new administration plans no other changes. In particular, they have pledged no impact on monetary policy. (While a cynic might assume that people will find a way around the new legislation, you should assume the new administration will be able to make the new work week stick.). Show what effects you expect this policy change to have on GREEN's inflation rate, interest rate and unemployment in the current year. Show what effects you expect this policy change to have on GREEN's inflation rate, interest rate and unemployment in the long run.