Question #1 (From Chapter 18)

Suppose the economy can be described by the following three equations:

$\Delta u = -0.4(g_y - 0.03)$ Okun's Law
$\Delta \Pi = -1(u - 0.06)$ Phillips Curve
$g_y = g_m - \Pi$ Aggregate Demand

What is the natural rate of unemployment for this economy?

Suppose $\Pi=10\%$ and the economy is in long-run equilibrium. What is the growth rate of output and the money supply in the long-run?

Suppose the economy is in long-run equilibrium as above, but the central bank wants to reduce inflation to 5% permanently in two years. What will happen to the unemployment rate and output growth over the next four years? Derive the policy rule for the central bank to accomplish the disinflation.

Question #2 (From Chapter 19)

In the chapter we assumed that normal growth rate of output is zero, and found that the nominal interest rate should equal the real interest rate plus the growth rate of money supply.

How does this relationship change if we assume a more realistic normal growth rate of output of 3% per year?

Does this more realistic assumption affect the nature of the Fisher effect (do we still expect a 1% rise in money growth to cause a 1% rise in the nominal interest rate in the long run)?

Question #3 (From Chapter 21)

Suppose the demand for real money balances is given by $Y[1-(r+\Pi^e)]$, where $Y = 1000$ and $r = 0.10$. Assume that in the short-run, Πe is constant at 25%.

Calculate the amount of seignorage in the short run when money growth is (1) 25% (2) 50% (3) 75%.

In the long-run, $\Pi^e = \Delta M/M$. Calculate the amount of seignorage in the long-run for each of the above three cases.

Are your answers consistent with the short-run and long-run behavior of seignorage as described in the chapter (and hopefully in class)? Explain briefly.

Question #4 (From Chapter 19)

Suppose that a country switches from floating to fixed exchange rates. If everyone believes that the government is committed to maintaining the exchange rate, would you expect the natural rate of unemployment to rise or fall? Why?

Question #5 (From Chapter 19)

Consider a country in a fixed exchange rate regime suffering a negative supply shock (perhaps due to a generous increase in unemployment benefits). Is the peg sustainable? What happens if after the supply shock, the country decides to defend is exchange rate, but foreign investors expect a depreciation anway?

Question #6 (From Chapter 23)

Our model of growth suggests that sustained growth in output per worker requires sustained technological progress. But between 1950 and 1973 Japan had a much higher growth rate than the United States while there were many more technological discoveries in the US than in Japan. Explain this apparent contradiction.