

Homework 3
Economics 101 - Chapters 4 and 9
Due 11-6-09 in class

- 1) Suppose that in Korea the velocity of money is constant, real GDP grows by 6% per year each year, the money stock grows by 9% per year, and the nominal interest rate is 7%.
 - a) Using the quantity theory of money and the Fisher relation, what should be the inflation rate and the real interest rate in Korea?
 - b) Suppose the central bank of Korea decides to lower inflation by lowering the money supply growth rate to 8% (all else constant). Now what would be the equilibrium values of inflation and the real interest rate?
-

- 2) Suppose you are advising a small country (Zimbabwe) on whether to print its own money or to use the money of its larger neighbor (South Africa). In a few sentences, what do you think are likely to be the costs and benefits of a national money, reasoning from the theory in chapter 4? (Hint: be sure to consider the role of *seigniorage*.) Does the relative political stability of the two countries have a role in this decision?
-

- 3) Suppose the real side of an economy is characterized by:

$$\begin{array}{ll} Y = 80K^{1/2} L^{1/2} & K=100 \text{ and } L= 100 \\ G = 3000 & T = 3000 \\ I = 2000 - 6000r & C = 600 + .6(Y-T) \end{array}$$

And suppose the nominal side of this economy is characterized by:

$$\begin{array}{ll} \text{Real money demand:} & (M/P)^d = 0.2Y - 1000r \\ \text{Nominal money supply:} & M = 3000 \end{array}$$

Where P is aggregate price level, and M is nominal stock of money.

- a) Compute the following: Real GDP (Y), real interest rate (r), real wage rate ($\mathbf{W/P}$, in units of goods), aggregate price level (P), and a nominal wage rate (\mathbf{W} , in terms of money).
 - b) Suppose that the government raises the money supply 10% from 3000 to 3300. Report the new values for each of the variables in part (a) above. Does the Classical Dichotomy hold in this economy? Explain.
-

- 4) Economic Fluctuations: A significant scare a decade ago related to the change of the millennium, "Y2K." One worry the Federal Reserve had was that bank computers and ATMs might malfunction on January 1 of the new century. Analyze this situation in terms of aggregate demand and aggregate supply curves from chapter 9 (based on the quantity theory of demand where price is fixed in the short run but flexible in the long run). Regard this as a fall in money velocity that is temporary, just affecting the short run but returning to normal in the long run.

- a) Which should the Federal Reserve have worried about: a possible recession or excessive inflation? Explain.
 - b) Discuss what monetary policy actions you would suggest to prevent any such problems. (Be specific about what you would do in the short run and in the long run.)
-