

Econ 3334 – Intermediate Macroeconomics

Problem Set #2

Due Feb 26th

All problems are from Mankiw's *Macroeconomics* (6th Ed.)

1. (Chap 11, Prob 1) According to the IS/LM model, what happens to the interest rate, income, consumption, and investment under the following circumstances?
 - a. The central bank increase the money supply
 - b. The government increases government purchases
 - c. The government increases taxes
 - d. The government increases government purchases and taxes by equal amounts
2. (Chap 11, Prob 2) Use the IS/LM model to predict the effects of each of the following shocks on income, the interest rate, consumption, and investment. In each case, explain what the Fed should do to keep income at its initial level.
 - a. After the invention of a new high-speed computer chip, many firms decide to upgrade their computer systems (Hint: investment demand shifts up)
 - b. A wave of credit-card fraud increases the frequency with which people make transactions in cash (Hint: Money demand (L) shifts up)
 - c. A best-seller titled *Retire Rich* convinces the public to increase the percentage of their income devoted to savings. (Hint: the MPC declines)
3. (Chap 11, Prob 3) [NOTE: If you can get through this problem, you are in good shape for the midterm] Consider the economy of Hicksonia.
 - a. The consumption function is given by $C = 200 + 0.75(Y - T)$. The investment function is given by $I = 200 - 25r$. Government purchases and taxes are both equal to 100. From this information, graph the loanable funds market curves, and then graph the IS curve, with r ranging from zero to 8.
 - b. The money demand function is $(M/P) = Y - 100r$. The money supply is 1,000 and the price level is 2. From this information, graph the money market, and then graph the LM curve with r ranging from 0 to 8.
 - c. Using your IS and LM curves, derive the equilibrium interest rate r and the equilibrium level of output, Y .
 - d. Now suppose G is raised from 100 to 150. How does the IS curve shift? What is the new equilibrium interest rate and level of output?
 - e. Now, return G to 100. Instead, the money supply goes from 1,000 to 1,200. How does the LM curve shift? What is the new equilibrium interest rate and level of output?

- f. Using $G = 100$ and $M = 1,000$, suppose the price level rises from 2 to 4. What happens? What are the new equilibrium interest rate and level of output?
 - g. Derive and graph an equation for the aggregate demand curve. What happens to this AD curve if fiscal or monetary policy changes, as in parts (d) and (e)?
4. (Chapter 11, prob. 7) The Fed is considering two alternative strategies for monetary policy. A) Hold M constant and let the interest rate adjust or B) Adjust M to hold the interest rate constant. In the IS/LM model, which policy will better stabilize output under the following conditions?
- a. All the shocks to the economy arise from exogenous shifts to demand for goods and services (Hint: This means all shocks are movements in the IS curve)
 - b. All the shocks to the economy arise from exogenous changes to the demand for money (Hint: This means all shocks are movements in the LM curve)