Econ 202: Intermediate Macroeconomics
Problem Set 4: IS-LM
Spring 2019

This assignment is due in **hard copy** at the **beginning** of class on **Tuesday March 7**. Remember that the process of how you arrive at an answer is as important as the answer itself. Therefore, full credit will require you to show all steps and work, clearly label all graphs, and fully explain any answers that ask for an explanation.

Question 1: Analyzing macroeconomic policy using the IS-LM model

a. Contractionary fiscal policy:
   i. Use an IS-LM diagram to show the effects of a decrease in government spending on output and the interest rate. Label your figure completely, and briefly explain your answer.
   ii. What is the effect on the equilibrium levels of consumption and investment? (Do they increase, decrease or remain unchanged?).
b. Contractionary monetary policy:
   i. Use an IS-LM diagram to show the effects of contractionary monetary policy on output and the interest rate. Label your figure completely, and explain your answer.
   ii. What is the effect on the equilibrium levels of consumption and investment?
c. Based on your answers to (a) and (b), are the macroeconomic effects of contractionary fiscal policy and monetary policy identical? Why or why not?

Question 2: A numerical example of the IS-LM model

For this question, round your answers to two decimal points when necessary. Consider an economy in which the goods market is characterized by the following behavioral equations:

$$C = 200 + 0.25Y_d$$
$$I = 150 + 0.25Y - 1000i$$
$$G = 250$$
$$T = 200$$
$$\bar{i} = 0.05$$

a. Derive the IS curve.
   [Hint: Remember that the IS curve is the relationship between i and Y that keeps goods markets in equilibrium. Your solution to this question should, therefore, **not** be a number defining the level of Y, but an equation that tells you the level of Y at each i].
b. What are the equilibrium levels of GDP and the interest rate in this economy?
c. What is the level of the real money supply? Use the expression:

$$M/P = 2Y - 8000i$$

d. Solve for equilibrium values of C and I. Use these values to verify the value you obtained for Y.
e. Suppose that government spending increases to $G = 400$. What are the effects of expansionary fiscal policy on Y, I, C and the real money supply?

Question 3: Using a policy mix

Suppose that policymakers want to increase output (Y) while keeping the interest rate constant. What mix of fiscal and monetary policy is needed to meet these objectives?

Show a figure that supports your answer, and briefly explain your figure (which curves shift and why, and the effect on equilibrium GDP).