ES312 – Intermediate Macroeconomics

Dr. Todd R. Yarbrough

Problem Set #1

1. Use the following data to answer the proceeding questions about the economy of Yarbroughskistan, a little known former soviet satellite state which operates under a closed market based economy.

$$Demand = Z = C + \bar{I} + G$$

$$Equilibrium \Rightarrow Y = Z$$

$$C = c_0 + c_1(Y - T)$$

$$c_0 = \$1,000$$

$$c_1 = 0.7$$

$$T = \$1,000; \bar{I} = \$4,000; G = \$4,000$$

   i. What is the current equilibrium value for output $= Y$ for Yarbroughskistan?

   ii. Suppose that the government of Yarbroughskitan decides to undertake a large-scale infrastructure project, which will increase government spending $= \triangle G = \$500$. What is the new equilibrium value for output $= Y$?

   iii. Suppose instead the government cuts taxes $= \triangle T = -\$500$. What is the new equilibrium value for output $= Y$?

   iv. Answer parts i and ii again, but assume that $c_1 = 0.8$ instead.

   v. From the initial economic position, suppose that a recession causes baseline consumption to drop by $= \triangle c_0 = -\$300$ and marginal propensity to consume to fall by $= \triangle c_1 = -0.1$. What is the equilibrium value of output $= Y$. How big of an autonomous spending increase would Yarbroughskistan need to get back to initial equilibrium output?

2. Below you see the money market for the country of Dagnyville, a small closed economy on the planet Dog.

$$\text{Real Money Supply} = \frac{M}{P}$$

$$\text{Money Demand} = M^d = YL(i)$$

   i. Show graphically the money market in equilibrium.

   ii. Assume that the central bank wants to target lower interest rates. How do they do this? Show in a graph.

   iii. Suppose the liquidity function which describes the negative relationship between interest rates and money demand causes the money demand curve to be very steep. Does this make it easier or harder for the central bank to target higher or lower interest rates? What about if the curve is flatter?

   iv. Suppose the the reserve requirement $rr = 0.10$ and the monetary base $b = \$1,000,000$ If banks hold no excess reserves, what is the current money supply stock.

3. Show in a series of graphs how we find the IS and LM curves from the goods market and money market respectively. Then answer the following questions.

   i. Explain the two tools of fiscal policy, government spending G and taxes T. Be sure to show and discuss in which direction such policy will shift either the IS or LM curve.

   ii. Explain the four tools of monetary policy, open market operations, discount rate, reserve requirement, and interest on reserves held with the central bank. Be sure to show and discuss in which direction such policy will shift either the IS or LM curve.

   iii. Using the IS-LM framework, discuss the concept of investment crowd-out when an increase in autonomous spending occurs in the goods market.

4. Show in a series of graphs the 4 quadrant AS/AD framework, which includes a labor market and production function. Then answer the following questions.

   i. Distinguish between the Classical and Keynesian views of AS/AD.

   ii. Show what happens when a tax cut occurs. Explain the role of price and wage rigidities in the short-run and long-run positions of output Y and Labor L.

   iii. Show what happens if the central bank increases the money supply. Now, provide an explanation for why the multiple rounds of quantitative easing that the U.S. Federal Reserve performed over 2009-2012 did not correspond to inflationary pressure in the macroeconomy.