Econ 102 –Spring 2014 – Week 16

Exercise 1

The economy of River Plate is characterized by the following equations:

C = 100 + .75(Y – T) – P	(consumption)
T-TR = 200	(net taxes)
G = 240	(government spending)
X – M = -40	(net exports)
I = 1000 – 1600r	(investment)
Ms=2000	(money supply)
Md=3500 – 6000r	(money demand)
AD: Y = C + I + G + (X – M)	(aggregate demand)
AS: Y = 4P-3W-2Q	(aggregate supply)

where r is the nominal interest rate, P is the GDP Deflator, W is the average wage, and Q is the oil price. Suppose that W=50, and Q=25. Answer the questions below:

a) Calculate the monetary equilibrium (find r and M that clear the money market)

ANS: 2000=500-6000r, so r=.25, M=2000

b) Find the equilibrium where AD=AS

ANS: First find I=1000-1600(.25)=600
Then, Y= 4*(100 -.75*200+600+240-40-P)
Y=3000 - 4P (AD)
Y=4P-3*50-2*25=4P – 200 (AS)
Equilibrium: 3000-4P=4P-200, so P=400 and Y=1400

c) Assume the current reserve ratio is rr=0.40 and that people do not keep any cash (i.e. they deposit all their money in banks). If the new rr=0.333, what is the impact on the equilibrium?

ANS: We know that when rr=.4 Ms=2000. Therefore, the money multiplier is mm=1/.4=2.5 and the monetary base is Mo=2000/2.5=800
Now, since the new mm=1/.333=3 the money supply is Ms=800*3=2400
The new monetary equilibrium is given by 2400=3500-6000r which implies r=0.1833
Hence, I=706.67, AD: Y=3426.67-4P
Equilibrium: Y=1613.33 and P=453.33

d) Suppose the economy is currently operating at maximum capacity (Long Run Equilibrium). If the size of the labor force increases, what will happen to W, L and P in the new long run equilibrium? Explain using a graph.

ANS: The wage rate decreases, employment increases, and the price level decreases.
With an increase in the labor force, the LRAS and SRAS curves will shift to the right as business production increases. The shifts will create a new equilibrium point at a lower price level.

Exercise 2

An economy is at the full employment level of output. Suppose people in this country begin purchasing more foreign cars. Answer the following questions:

a) What will happen to the domestic price level? How does the new short run equilibrium look like? Draw a graph. Explain how the economy adjusts to the LR equilibrium.

ANS: The price level will decrease. An increase in the amount of foreign cars purchased means more imports. This decreases net exports, lowering the GDP. With a lower GDP, the aggregated demand curve shifts to the left and creates a new equilibrium point at a lower price level.

b) Suppose now that the government devaluates the domestic currency. How is the new adjustment path? Explain.

ANS: I will depend upon the magnitude of the domestic currency devaluation. Basically the shift in AD curve could compensate the extra demand of foreign cars, by reducing other imports and/or increasing exports

Exercise 3

A rise in productivity increases potential output, but some worry that demand for the additional output will be insufficient even in the long run. How would you respond?

ANS: as the rise in productivity increases potential output, the LRAS curve shifts to the right. If, in the short run, there is now a recessionary gap (Y<Yfe), nominal wages will fall, shifting the SRAS curve to the right. This results in a fall in P and a rise in Y.
As prices fall, we move along the AD curve due to the wealth and interest effects of a change in P. Eventually, as LR macroeconomic equilibrium is reestablish, Y will rise to be equal to Yfe.