**Economics 102**

**Spring 2013**

**Homework #6**

**Due: 5/06/13**

**Directions**: The homework will be collected in a box **before** the lecture. Please place your name, TA name and section number on top of the homework (legibly). Make sure you write your name as it appears on your ID so that you can receive the correct grade. Please remember the section number for the section **you are registered**, because you will need that number when you submit exams and homework. Late homework will not be accepted so make plans ahead of time. Please **show your work eligibly and neatly**; otherwise you will not receive full credit. Good luck!

1. Aggregate Demand and Aggregate Supply

For each of the following situations assume the economy is initially in long run equilibrium (label this point A in your graph) then draw the short-run impact of the described change and label the new short-run equilibrium as point B in your graph. Finally draw the new long run equilibrium situation after full adjustment to the described changes and label this long run equilibrium as point C in your graph.

Your graph for each situation should contain the initial LRAS, AD and AS curves as well as the any new curves that occur in response to the described change. On the graph be sure to mark the actual path the economy follows as it moves along the AS and AD curves.

Give a brief description in words of what happens in the short run and long run in each scenario.

1. Government spending grows substantially.
2. There is an enormous drought that affects crop yields throughout the country.
3. Consumer confidence falls dramatically.
4. The price of oil plummets due to a trade agreement.

2. Aggregate Expenditure

We have been given the following equations and information describing the (closed) economy of Macroland.

Money Market:

MD=15-200r

MS=5

Note that the interest rate, r , is written as a decimal (e.g., an interest rate of 1% would be written as 0.01 in the equation).

Goods Market:

C=50+.75(Y-T)-P

T=40

G=40

I=200-200r

Aggregate Demand / Aggregate Supply

AD: Y=C+I+G+(X-M)

AS: Y=4P

1. Find the equilibrium interest rate in the money market.
2. Find the AE curve as a function of Y and P.
3. Set AE=Y to find goods market equilibrium. Your answer should be an equation with Y as a function of P.
4. Use the AD-AS model to find the equilibrium price level and output.
5. Suppose the Fed sells bonds. When measured in the same units as the money supply above, the Fed sells enough bonds that after the money multiplier process the money supply changes by 2 units. (Note: if the Fed is *selling* bonds, does the money supply increase or decrease?) What are the new equilibrium interest rate, price level, and output level? (Hint: follow the same steps as in parts a through d.)
6. Money Market and the Quantity Theory of Money:

Suppose that demand for money in the country of Latvia depends on the interest rate r. Money demand in Latvia is represented by the function MD = 2500 + (25/r)$M^{d}=700+ \frac{10}{r}$. The current supply of money in Latvia is M=3500. Note that the interest rate, r , is written as a decimal (e.g., an interest rate of 1% would be written as 0.01 in the equation).

1. Suppose the money market in Latvia is in equilibrium. What is the initial equilibrium level of interest rate in Latvia?
2. Suppose that the central bank in Latvia determines that the equilibrium interest rate should be equal to 5%. What is the level of the money supply required for the interest rate to be at this level? Assume that the demand for money remains unchanged.
3. Now, suppose that the current interest rate in Latvia is 2.5% and that the Fed has pursued monetary policy so that the supply of money is at the level that should result in an equilibrium interest rate of 5% (this is the level of money supply you determined in part (b) of this problem). At an interest rate of 2.5%, what is the amount of excess supply of money or excess demand for money? How will the market adjust back to the equilibrium? Describe this process making sure that you make reference to what is happening in the bond market.
4. Given the initial money supply and the initial information, suppose that the government of Latvia wants to maintain an interest rate of 1%. What action would the government of Latvia need to take in order to ensure an interest rate of 1% in equilibrium?
5. Keynesian Model

The economy is populated by three people: Moe, Larry, and Curly. The following table reports the level of expenditures for each of the people in this economy. Assume that there are no net taxes or government spending, no foreign sector, and that the level of business spending on investment is equal to zero in this economy. Note that the first column specifies the level of individual income.

|  |  |  |  |
| --- | --- | --- | --- |
| Level of Individual Income (Aggregate Income in this economy would be 3\*Individual Income for each level of income given in this table) | Moe’sSpending | Larry’s Spending | Curly’s Spending |
|  500 |  1000 |  1000 |  500 |
| 2000 |  1900 |  1600 |  2000 |

1. Calculate the aggregate consumption function for this economy.
2. Find the Aggregate Expenditure (AE) function for this economy. This AE equation should be written with respect to aggregate production (Y).
3. What is the level of the income-expenditure equilibrium (assume that there is no government sector, no foreign sector, and that business spending on investment is equal to 0)? How much income will each Moe, Larry, and Curly have at equilibrium (assume they will share the aggregate income equally)?