

## Problem Set C2

### Econ 302 - Haworth

**Due date:** Friday, August 7 (by 11:59pm)

*Note that Blackboard tends to shut down at 10pm, but that, if it does, then you can still email your problem set to Professor Haworth (bmhaworth@louisville.edu)*

1. Use the IS-LM model to predict the short run effects of each of the following shocks below. Explain how each shock affects income, interest rates, consumption and investment.

- The invention of a new high-speed computer chip has many firms upgrading their computer systems. I.e. increasing the amount of money they spend on machinery.
- Increases in credit card fraud raise the frequency with which consumers make transactions in cash.
- Societal changes lead to households increasing the percentage of their income devoted to savings.
- A new Federal Reserve Chairman is appointed, and this Chairman is much less concerned about future inflation than previous Chairs. As a result, many households begin to expect increases in inflation within the next year or so.
- Examine each of the 4 events above and explain how the Fed could use monetary policy to maintain constant income within this economy.

2. Assume the following equations for an economy

(note that all variables have their same definitions from class)

$$C = 200 + 0.75(Y - T)$$

$$I = 200 - 25r$$

$$G = 100$$

$$T = 100$$

$$L(r, Y) = Y - 100r$$

$$M = 1000$$

$$P = 2$$

C = consumption, Y = income (GDP)

I = investment, r = interest rate

G = government spending

T = taxes

L(r, Y) = demand for real money balances

M = money supply

P = price level

- What is the equilibrium level of income (Y) and equilibrium interest rate (r) in this economy?
- Assume that government spending (G) increases by 50. How does the IS curve shift and what would be the new equilibrium level of income and equilibrium interest rate?
- Assume that (instead) the money supply (M) increases by 200. How does the LM curve shift and what would be the new equilibrium level of income and equilibrium interest rate?
- Assume that (instead) the price level (P) increases from 2 to 4. How does the LM curve shift and what would be the new equilibrium level of income and equilibrium interest rate? What happens with IS and LM, and what would be the new equilibrium level of income and equilibrium interest rate?

3. Suppose that the government wants to raise investment, but keep output constant. In the IS-LM model, what mix of monetary and fiscal policy will achieve this goal?

4. If the US government wants to cut taxes and run budget deficits while the Fed maintains tight monetary policy, then how would this combination affect IS-LM?