

**Econ 116b**  
**Problem Set 4**

**Short Answers**

1. Does an increase in the money supply shift the IS curve to the right? Explain.
2. Is monetary policy more effective when investment is highly responsive to the interest rate than when it is not very responsive? Show graphically and provide economic intuition.
3. Is fiscal policy more effective when the demand for money is highly responsive to the interest rate than when it is not very responsive? Show graphically and provide economic intuition.
4. In the standard AS-AD model does an increase in the price level shift the AD curve to the left? Explain.

**IS-LM Analysis**

1. Consider the following economy:

$$C = 100 + .5(Y - T)$$

$$I = 60 - 5r$$

$$Y = C + I + G$$

$$G = T = 80$$

$$M^d = 400 + Y - 10r$$

$$M^s = M^d$$

$$M^s = M$$

- (a) Assume that the Fed sets the interest rate at 3 percent and keeps it at this level. Find consumption, investment, and output in equilibrium. What value of the money supply ( $M$ ) is consistent with an interest rate of 3 percent?
- (b) What is the equilibrium level of  $Y$  and the equilibrium value of  $r$  for a money supply of 500?
- (c) Derive the IS and LM curves algebraically.

- (d) If the Fed keeps the interest rate at 3 percent and  $G$  increases by 100, what is the new equilibrium value of  $Y$ ? What is the equilibrium value of  $M$ ? If  $G$  increases by 100 and the Fed increases the interest rate to 4 percent in response to this, what is the new equilibrium value of  $Y$ ? What is the equilibrium value of  $M$ ?

### **Discounting**

1. An inventor creates a machine that will produce 5 wigits per year indefinitely. Each wigit is worth \$100 and will always be worth this much.
  - (a) Suppose the interest rate is 5 percent and will remain at this level forever. If the inventor offered to sell you the machine for \$9000, would you accept it?
  - (b) If the interest rate were instead 10 percent, would you change your mind?

### **AS-AD Analysis**

1. Use the AS-AD framework to analyse the consequences of the following events. Assume that the economy is in equilibrium to start with and discuss what the new equilibrium will be after the change. Use graphs in your answers.
  - (a) The price of oil increases 50 percent.
  - (b) The Fed increases the money supply in a booming economy.
  - (c) The Fed increases the money supply in a recessionary economy.