

ECO 120: Global Macroeconomics
In-class Exercise: Monetary Policy

Your Name: _____

Directions: Work in groups of up to four people and answer the following questions. All papers will be collected, but only one member's paper will be randomly selected and graded and all members of the group will receive the same grade. Failure to complete the worksheet with a group will result in a 15 percentage point penalty.

By signing below, you agree that the following work represents the efforts of everyone in the group, and you are willing to accept as your own grade for the group project the grade earned from this representation of your group's work.

_____ Signature Group Member 1	_____ Print Name	_____ Date
_____ Signature Group Member 2	_____ Print Name	_____ Date
_____ Signature Group Member 3	_____ Print Name	_____ Date
_____ Signature Group Member 4	_____ Print Name	_____ Date

1. The following table shows the real money demand for different real interest rates. The first row is when real GDP is equal to \$4 trillion, the second row is when real GDP is \$6 trillion, and the third row is when real GDP is equal to \$8 trillion:

Interest rate (in percent):	8	7	6	5	4	3
M_d (in trillions \$) when $Y=\$4$ trillion:	2	4	6	8	10	12
M_d (in trillions \$) when $Y=\$6$ trillion:	4	6	8	10	12	14
M_d (in trillions \$) when $Y=\$8$ trillion:	6	8	10	12	15	16

- (a) Graph the money demand when real GDP is equal to \$6 trillion.

- (b) On the same graph, graph the money supply such that the equilibrium real interest rate is 5%.

- (c) On a new graph, graph the money supply and money demand and a shift in one of these curves when the Fed makes a change in policy that results in a new interest rate equal to 6% (Assume an original equilibrium like part (a)). How much did the quantity of money change in the economy?

- (d) On a new graph, graph the money supply and money demand and a shift in one of these curves when real GDP decreases to \$4 trillion (Assume an original equilibrium like part (a)). What is the interest rate and quantity of money in the economy?
- (e) On a new graph, graph the money supply and money demand and a shift in one of these curves when real GDP increases to \$8 trillion (Assume an original equilibrium like part (a)). What is the interest rate and quantity of money in the economy?
2. Suppose an economy is at the long run equilibrium where real GDP is \$400 billion, price level is 100, real interest rate is 6%, the quantity of real money is \$400 billion. Suppose also that when real GDP increases by \$1, consumption increases by \$0.90 and imports increase by \$0.15.
- (a) Graph the original equilibrium in the money market and goods (AS/AD) market (two graphs).

- (b) Suppose a change in expectations causes a decrease in investment of \$6 billion. Graph again the original equilibrium along with the change this causes. Compute the immediate effect on real GDP. Describe and illustrate what will happen to the interest rate, the price level, and quantity of money in the short run.
- (c) Show what curves will shift in the long run. What happens to long run real GDP, real interest rate, real quantity of money, and the price level?
- (d) What policy might the Fed adopt to move the economy back to the original equilibrium (without waiting for long run effects to kick in)? What will happen to the real interest rate, quantity of money, real GDP, and the price level as a result of this policy? Show with appropriate graphs.

3. Suppose an economy is originally at the long run equilibrium when experiences an increase in crude oil prices.
- (a) Show (graph) the effects on the goods market. What happens to real GDP and the price level.
- (b) Suppose the goals of the fed are to keep inflation low (combat increasing price levels) and to keep real GDP equal to potential GDP. Suggest a monetary policy that can remedy the effect of the oil price shock that you illustrated in part (a).