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First Prelim  
ECON 1120 – Professor Steven Kyle  
October 16, 2008

Section Number:

**PART I: Multiple Choice. 10 points (each question is worth ½ point).**

1. What is *not* true about the production possibility frontier?
  - a) It is the maximum amount of goods and services that can be produced with a given quantity of resources and technology
  - b) When the technology of producing one good improves, the frontier moves outwards.
  - c) When a country has poor management practices, the economy may be operating at a point outside the frontier.
  - d) Production possibility frontiers bowing outwards imply an increase in opportunity costs as production is increasingly specialized in one good.

Answer: C

2. "Crowding out" refers to
  - a) A decrease in demand for a good when the price of a substitute drops
  - b) The effect on the unemployment rate of additions to the labor force
  - c) The decrease in investment resulting from an increase in government spending
  - d) The decrease in the investment multiplier resulting from an increase in government spending

Answer: C

3. If the Fed increases the money supply at the same time government spending is increased, then the interest rate will
  - a) Go up
  - b) Go down
  - c) Stay the same
  - d) Could go up or down

Answer: D

4. Suppose the supply of coffee is *inelastic*. What can we conclude with certainty?
  - a) A large increase in demand will result in a small change in quantity supplied
  - b) A large increase in demand will result in a small change in price
  - c) The slope of the supply curve of coffee is close to zero
  - d) The slope of the supply curve of coffee is 1

Answer: A

5. Suppose the government has just passed a new minimum wage law. What can we say about the consequences of this new law on the labor market (assuming that the new minimum wage is *binding*)?
  - a) There will be a decrease in unemployment

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- b) All poor people will benefit from this new law
- c) The number of jobs supplied will be less than the number of applicants
- d) The minimum wage level is set *below* the competitive equilibrium wage level

Answer: C

6. When your father attended Cornell in 1980, he paid \$400 for rent. Now it turns out that you live in the same apartment in which he lived, and pay \$500 for rent. Suppose that the CPI in 1980 was 200. In 2008, the CPI is 250.
- a) In real terms, you're paying *more* than your father
  - b) In real terms, you're paying *less* than your father
  - c) In real terms, you're paying the same amount
  - d) The answer cannot be determined from the information given

Answer: C

7. For an economy, the growth rate of *real* GDP is
- a) Approximately equal to the sum of the nominal GDP growth rate and the rate of inflation
  - b) Approximately equal to the nominal GDP growth rate divided by the rate of inflation
  - c) Approximately equal to the nominal GDP growth rate
  - d) Approximately equal to the nominal GDP growth rate minus the rate of inflation

Answer: D

8. Refer to the following table. Suppose that there are three goods (goods A, B and C) in this economy. Subscript 1 stands for 'year 1' and subscript 2 stands for 'year 2'.

Good	Quantity <sub>1</sub>	Quantity <sub>2</sub>	Price <sub>1</sub>	Price <sub>2</sub>
A	5	10	\$0.50	\$0.40
B	5	4	\$0.40	\$1.00
C	10	12	\$0.70	\$0.50

Using 'year 2' as the base year, what is the real GDP in 'year 1' and 'year 2', respectively?

- a) year 1: \$11.5 year 2: \$15.0
- b) year 1: \$12.0 year 2: \$15.0
- c) year 1: \$12.0 year 2: \$14.0
- d) year 1: \$11.5 year 2: \$14.0

Answer: C

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9. When reserve requirements on banks are increased we would expect equilibrium GDP to
- a) Go up
  - b) Go down
  - c) Stay the same
  - d) Could go either way

Answer: B

10. When planned investment decreases by a certain amount, the equilibrium level of output \_\_\_\_\_ by a \_\_\_\_\_ amount.
- a) increases, greater
  - b) increases, lesser
  - c) decreases, lesser
  - d) decreases, greater

Answer: D

11. Suppose that the consumption function is given by  $C = .8Y + 150$ . Government spending is zero. If planned investment increases by 100, then equilibrium output increases by
- a) 0
  - b) 100
  - c) 125
  - d) 500
  - e) 750

Answer: D

12. If the government increases spending and increases taxes by the *same amount*, then equilibrium output
- a) Increases
  - b) Decreases
  - c) Remains the same
  - d) Can either increase or decrease

Answer: A

13. Suppose the government increases taxes by 200 while holding government spending constant. The marginal propensity to consume is .2. What happens to output?
- a) Output increases by 250
  - b) Output increases by 50
  - c) Output stays the same
  - d) Output decreases by 50

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Answer: D

14. Assume that the Federal Reserve purchases \$1,000 of treasury bonds and the required reserve ratio is .05. If no bank holds any excess reserves then the money supply will
- a) Increase by \$1,000
  - b) Increase by \$20,000
  - c) Decrease by \$1,000
  - d) Decrease by \$20,000

Answer: B

15. The money supply measure M1 includes
- a) All currency held outside banks
  - b) All savings accounts
  - c) All money market accounts
  - d) All of the Above

Answer: A

16. If there is excess demand in the money market, \_\_\_\_\_.
- a) The Fed will increase the money supply to meet the excess demand
  - b) In the short run, money demand will increase (shift right), raising the opportunity cost of holding money, thereby reducing the quantity of money demanded in the long run
  - c) The interest rate will increase until the quantity of money demanded is equal to the quantity of money supplied
  - d) Money demand will decrease (shift left) until the excess demand is eliminated.

Answer: C

17. During 2003, we began to stop worrying that inflation was a problem. Instead we began to worry about deflation, a decline in the price level. Assume that the Fed decided to hold the money supply constant. What impact would deflation have on interest rates?
- a) The money demand curve would shift up and to the right (increase in demand) and interest rates would rise.
  - b) The money demand curve would shift down and to the left (decrease in demand) and interest rates would fall.
  - c) There would be a movement downward along the money demand curve and interest rates would fall.
  - d) A decline in the price level would have no effect on interest rates.

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Answer: B

18. The opportunity cost of holding money \_\_\_\_\_
- a) is the foregone interest from holding interest bearing assets
  - b) decreases with inflation
  - c) depends on how much money you have in your wallet.
  - d) is independent of the Fed's interest rate policy.

Answer: A

19. Which of the following is the most likely result of an unexpected increase in investor confidence, leading to a sharp increase in orders for new plants and equipment?
- a) Income or GDP increases, consumption falls, saving declines, investment increases, demand for money increases and rate of interest increases.
  - b) Income or GDP increases, consumption increases, saving increases, investment increases, demand for money increases and rate of interest increases.
  - c) Income or GDP increases, rate of interest falls, investment decreases, consumption increases, saving increases, demand for money increases.
  - d) Income or GDP increases, consumption increases, saving increases, investment declines, demand for money falls and rate of interest increases.

Answer: B

20. During the third quarter of 1997, Japanese GDP was falling at an annual rate of over 11 percent. Many blame the big increase in Japan's taxes in the spring of 1997, which was designed to balance the budget. Usually, if taxes are increased
- a) interest rate increases, planned investment falls, planned aggregate expenditure falls and aggregate income or output increases.
  - b) disposable income declines, consumption falls, planned aggregate expenditure falls and aggregate income or output declines.
  - c) disposable income declines, consumption falls, planned investment increases, planned aggregate expenditure increases and aggregate income or output increases.
  - d) disposable income increases, investment increases, planned aggregate expenditure falls and aggregate income or output declines.

Answer: B

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**PART II: Short Answer. 10 points (each question is worth 2 points).**

Answer each question and draw a graph if requested. You must show your work to receive full credit.

1. (2 points) List and briefly describe the three tools the Fed can use to conduct monetary policy.

*Reserve Requirements: The Fed can implement monetary policy by changing the fraction of bank assets that banks must hold in reserve with the Fed.*

*Open Market Operations: The Fed can buy and sell Treasury Bonds in order to expand or contract the money supply. By buying bonds, the Fed expands the money supply. The Fed takes money out of the system by selling bonds.*

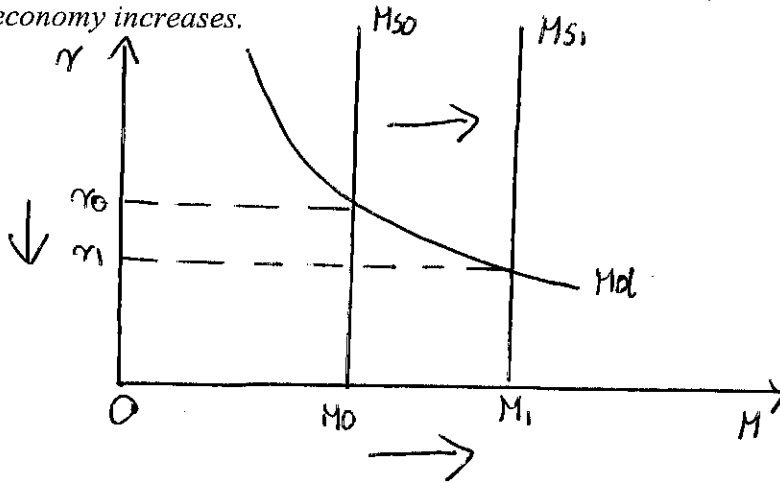
*Discount Window Lending: The Fed can expand the money supply by directly lending to financial institutions via its discount window.*

2. (2 points) Suppose the government increases taxes  $T$  by \$300 billion and increases government spending  $G$  by \$200 billion. The marginal propensity to consume (MPC) in this economy is 0.50. What is the resulting (combined) effect on equilibrium output  $Y$ ?

*The tax multiplier is given by  $(-MPC)/(1-MPC) = -0.50/0.50 = -1$ . So a \$300 billion increase in  $T$  lowers output by \$300 billion. The government spending multiplier is  $1/(1-MPC) = 1/0.50 = 2$ . So a \$200 billion increase in  $G$  increases output by \$400 billion. The combined effect is that output rises by \$100 billion.*

3. (2 points) Suppose the Fed decides to buy treasury bonds back from the public. Analyze the effect of the Fed's action in the money market. Make sure to describe the results with respect to the amount of money in circulation and the interest rate.

*When the Fed buys bonds from the public, it expands the money supply. As a result, the money supply curve shifts outward to the right. The money demand curve does not change. Altogether, the equilibrium interest rate decreases, and the amount of money in the economy increases.*



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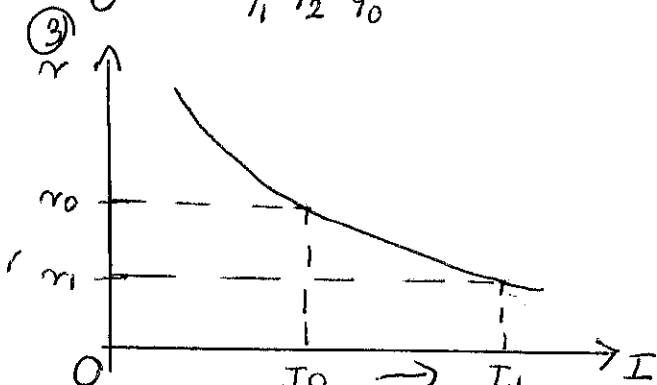
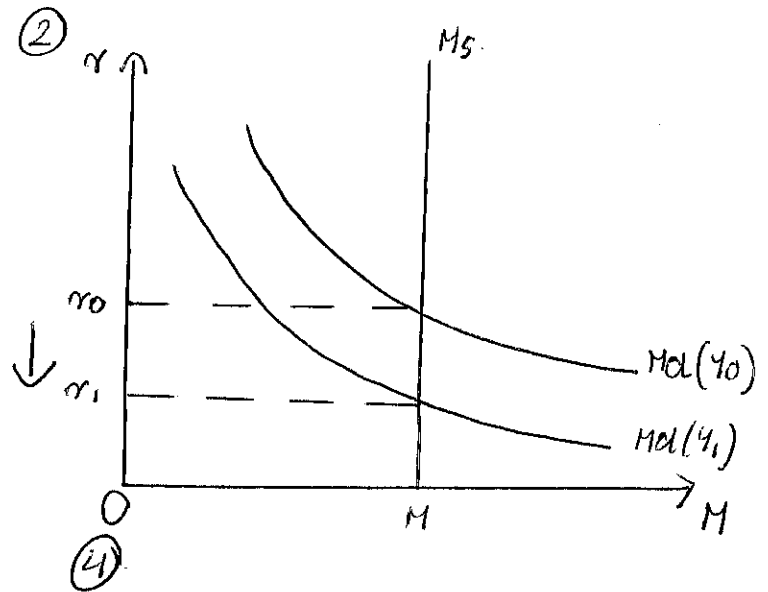
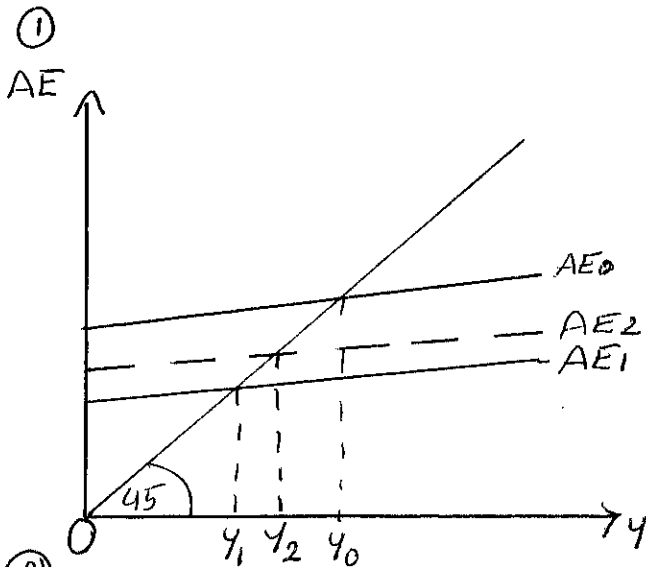
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4. (2 points) Suppose you are offered two options. The first option allows you to buy a \$1,000 bond today that pays 10% interest per year for 5 years. The second option allows you to buy a \$1,000 bond tomorrow that pays 12% interest per year for 5 years. Which option would you choose? Based on your answer, discuss the relationship between the interest rate  $r$  paid on a new bond and the price of all existing bonds.

*The second option is better since by waiting only one more day, you can get a higher interest on the bond for the next 5 years. This reflects the relationship between the price of all existing bonds and the interest rate. As the interest rate rises, it become more attractive to hold newly issued bonds instead of old bonds which pay less. Old bonds become less valuable (their price goes down) as the interest rate rises – a negative relationship.*

5. (2 points) Briefly describe and discuss how the economy is affected when the government decides to increase taxes (assuming government spending does not change).

*Increasing taxes is a form of contractionary fiscal policy. As a result of higher taxes, disposable income decreases, shifting down the planned expenditure curve. Equilibrium output decreases. Then the money demand curve shifts to the left, thereby decreasing the interest rate. The lower interest rate causes planned investment to rise, shifting the planned expenditure curve up. The overall effect is that equilibrium output decreases.*



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**PART III: Newspaper Analysis. 10 points (each question is worth 5 points).**

**Answer each question and draw a graph if requested. You must show your work to receive full credit.**

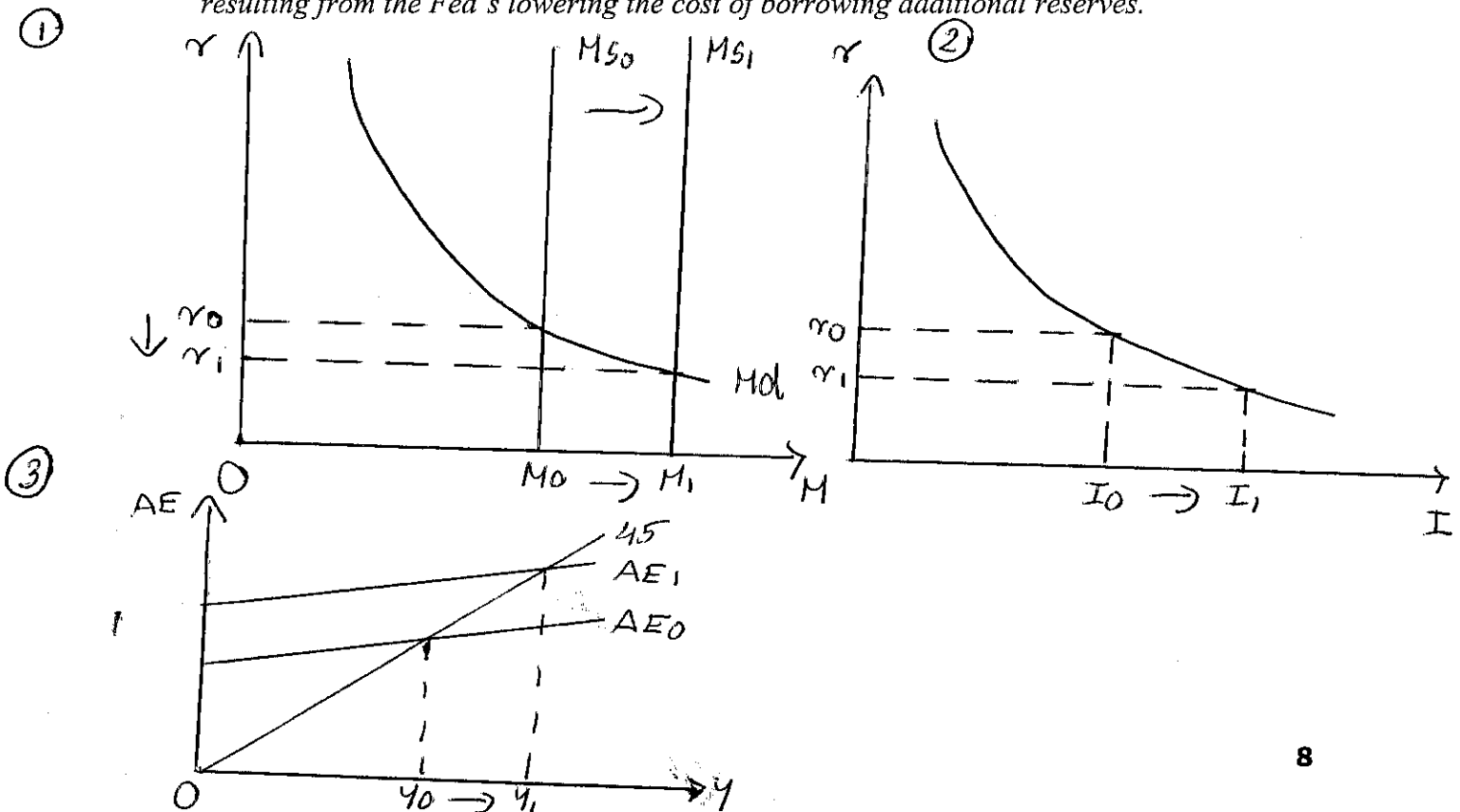
- 1 (5 points) Read the following excerpt from an article that appeared in the New York Times on October 8, 2008:

**Central Banks Coordinate Cut in Rates**

“The Fed said in a statement that, because of weakening economic activity, it had cut the Federal funds target rate by half a percentage point, to 1.5 percent. It also cut its discount rate by the same amount.....Consumer prices have climbed sharply, largely because of huge increases in energy and commodity prices. As recently as the Fed’s policy meeting three weeks ago, the central bank’s official position was that its concerns about slowing economic growth were roughly equal to its concerns about rising prices. In reality, many policy makers were more worried about the onset of a recession — which many private economists say has already arrived. But there were still disagreements among members of the Federal Open Market Committee, which sets interest rates.”

- 1.1. (2 points) Using the money market graph, discuss what happens to the quantity of money in the economy as a result of the Fed’s decision. (Hint: how is this decision to lower the interest rate implemented?)

*The lower interest rate is achieved by expanding the money supply. As a result, the money supply curve shifts outward to the right. The money demand curve does not change. The new equilibrium interest rate is lower, and the money supply is higher than before. A more complete answer could continue to talk about the money creation process resulting from the Fed’s lowering the cost of borrowing additional reserves.*





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- 1.2 (2 points) The article cited above mentions that although policy-makers were concerned about inflation, they decided to lower the interest rate in order to boost economic activity. Discuss how expansionary monetary policy achieves the goal of increasing output.

*Expansionary monetary policy results in a lower interest rate (see above). The lower interest rate increases the level of investment  $I$ . As a result, planned expenditure  $C+I+G$  increases by the same amount as investment. As the planned expenditure curve shifts up, equilibrium output (the level of output where actual and planned expenditures are equal) increases. The higher level of output then shifts out the money demand curve.*

- 1.3 (1 point) What other tools are at the disposal of the Fed to achieve the goal of increasing money supply? What other tools are at the disposal of the President and Congress to stimulate the economy to achieve a higher level of output?

*The Fed could lower reserve requirements and/or the discount rate and/or engage in open market operations. The President and Congress can increase spending or decrease taxes.*

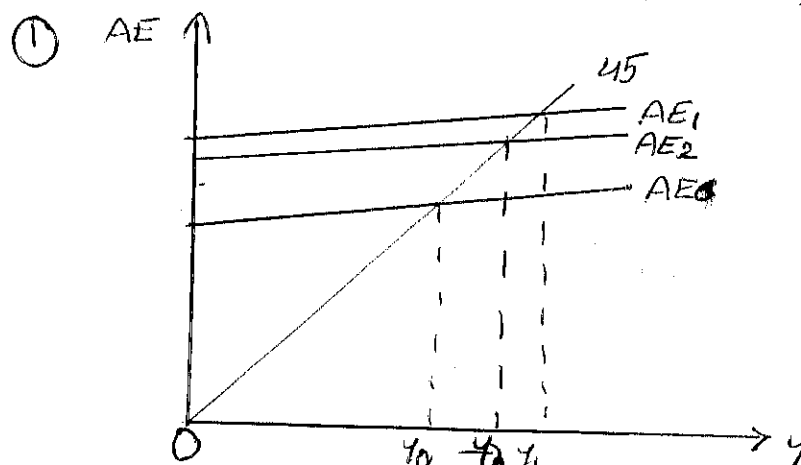
2. (5 points) Read the following excerpt from an article which appeared in the New York Times on October 4, 2008:

**Bailout plan wins approval, democrats vow tighter rules**

“After the House reversed course and gave final approval to the \$700 billion economic bailout package, President Bush quickly signed it into law on Friday, authorizing the Treasury to undertake what could become the most expensive government intervention in history.”

- 2.1. (1 point) What is the immediate effect of this bailout package on planned expenditure? What is the effect on equilibrium income? Graphically illustrate the effect of this change in government spending (assume that taxes do not change).

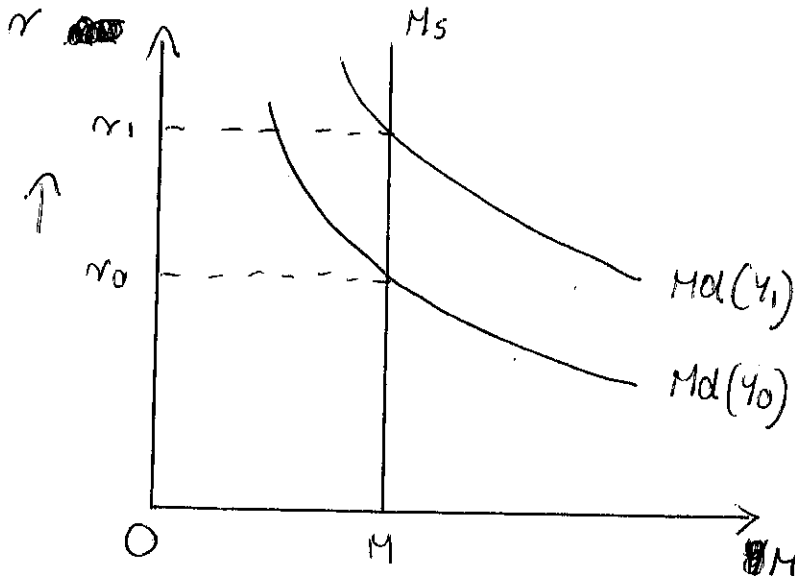
*As government spending  $G$  increases by \$700 billion, planned expenditure increases by the same amount. As a result, equilibrium output increases. This shifts out the money demand curve, increasing the interest rate, and crowding out private investment. As a result, the initial increase in output is reduced to some extent. The overall effect of an increase in  $G$  is a rise in equilibrium output and the interest rate, and lower planned investment.*



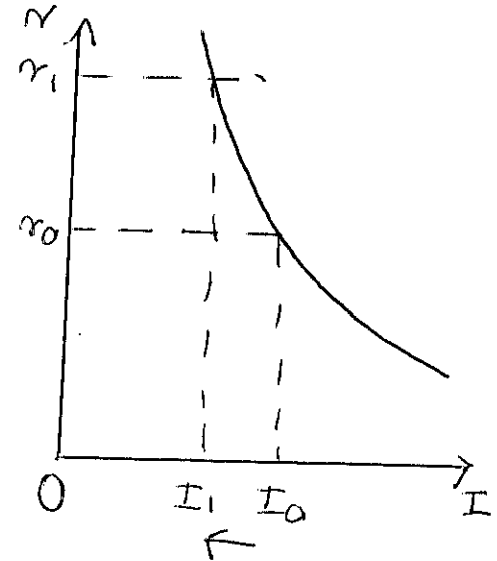
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③



- 2.2. (2 points) Will the resulting change in output be less or more than \$700 billion? Why? Now assume that the marginal propensity to consume is 0.8. What then is the resulting change in output?

*The government spending multiplier is given by  $1/(1-MPC)$ . This value is always greater than one, so the resulting change in equilibrium output is more than \$700 billion. If the marginal propensity to consume is 0.8, the government spending multiplier is 5. Output then increases by  $5 * \$700 \text{ billion} = \$3,500 \text{ billion}$ .*

- 2.3 In order to avoid a recession, the government decides to use the expansionary monetary policy described in the first part, together with the expansionary fiscal policy described in the excerpt above. State the effect of this macroeconomic policy mix on 1) output; 2) the interest rate; 3) investment; and 4) consumption. (Hint: it is sufficient to state whether there will be an increase, decrease, no change, or ambiguous – you do <sup>NOT</sup> need to show why).

*This mix of macroeconomic policy will have the following effects: output increases, the effect on the interest rate and the level of investment is ambiguous, and consumption increases. This can be shown graphically by looking at two sets of the three-panel model – one showing the effects of expansionary fiscal policy and the other the effects of expansionary monetary policy. Output increases in both cases, as will consumption due to the multiplier effect. The effects on interest rates and investment move in opposite directions so the ultimate direction of movement depends on the size of the monetary vs. the fiscal stimulus.*