Student ID.....

Chapter 6 : IS-LM

Homework After midterm #1.

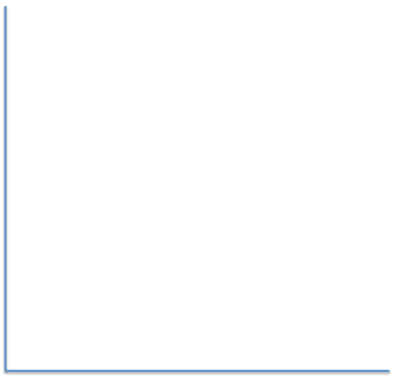
NOTE THAT EXAM QUESTIONS WILL INCLUDE ONLY ESSAY QUESTION. PLEASE ATTACH A SEPARATE SHEET IF THE SPACE PROVIDED IS NOT ENOUGH.

Question 1: The Early 1980's The early 1980s were an exciting time for the macroeconomy. President Reagan was attempting a tax cut revolution while the Federal Reserve, under Chairman Paul Volcker, was attempting to control inflation.

a. President Reagan's tax policies were a crucial part of his economic plan. The most important policy tool was a massive tax cut (30 percent in three years). Use an IS-LM diagram to show how tax cuts would affect the economy. Assume that monetary policy does not change in this question.

b. Now say that President Reagan's fiscal policies were expansionary while Volcker's monetary policy was contractionary. How would these two contemporaneous policies be represented in a single IS-LM diagram? Write a few sentences to explain your diagram. Can you say anything definitive about how output and interest rates would change?

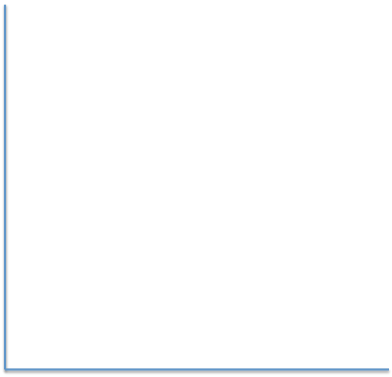
- **Answer a**. Effect of a tax cut.
- DAE
- ISLM



- Expansionary Fiscal policy ; DAE shifts to the .....

  output ..... for all levels of r
- IS curve shifts to the .....

- Money Market



Expansionary Fiscal Policy $Tax \downarrow \Rightarrow DAE \uparrow \Rightarrow Y$..... from ..... to .....
$Y \uparrow \Rightarrow M^d$..... $\Rightarrow$ r..... $\Rightarrow$ I..... $\Rightarrow$ DAE..... $\Rightarrow Y$..... from ..... to .....

For the case $G \uparrow$; $G \uparrow \Rightarrow r \uparrow \Rightarrow I \downarrow$ is called "**crowding out effect**"

- Money demand shifts to the .....

- **Answer b**. Effect of a tax cut and Contractionary Monetary Policy.

- ISLM

- Tax cut , IS curve shifts to the .....
- Contractionary monetary policy, MS ..... $\Rightarrow$ r..... for all levels of ..... $\Rightarrow$ LM curve shifts to the .....
- Effect of tax cut and contractionary policy on r:
  1. tax cut IS ..... $\rightarrow r$.....
  2. contractionary monetary policy $\Rightarrow r$.....
- Effect of tax cut and contractionary policy on Y:
  1. tax cut IS ..... $\rightarrow Y$.....
  2. contractionary monetary policy $\Rightarrow Y$.....

- Total effect on ..... depends on the relative magnitude of the shift.

  1. $\Delta IS > \Delta LM \Rightarrow r$...., Y.....
  2. $\Delta IS < \Delta LM \Rightarrow r$...., Y.....
  3. $\Delta IS = \Delta LM \Rightarrow r$...., Y.....

- MS..... $\Rightarrow r$..... $\Rightarrow I$.... $\Rightarrow Y$...

- $Tax \downarrow \Rightarrow DAE \uparrow \Rightarrow Y$.....
  $Y \uparrow \Rightarrow M^d$..... $\Rightarrow r$..... $\Rightarrow I$..... $\Rightarrow DAE$..... $\Rightarrow Y$.....

- when we have the tax cut policy together with contractionary monetary policy.

- Contractionary monetary policy causes investment to decrease further. It hence reduces the effect of the tax cut policy on output.

- The total effect depends on the relative size of the policy.

  – If the effect of contractionary monetary policy is the dominant effect, output .....
  – If the effect of the tax cut policy is the dominant effect, output .....
  – If the effect of the tax cut policy is equalt to the effect of contractionary monetary policy, output .....
  – interest rate ..... for certain.

Question 2: Japan in the 1990s The 1990s were characterized as the "lost decade" for Japan. Growth in per-capita GDP was very low as the economy stagnated. As usual, economists debated at length whether Japan should try to use monetary or fiscal policy to solve its problems. The IS-LM model played a key role in these debates. Remember that the Japanese economy is in a pretty deep recession. This question is about trying to understand which policy the government should use to try to pull Japan out of a recession. Should it be expansionary or contractionary? More crucially, should the government use monetary policy or fiscal policy?

a. To start thinking about which policy the government should follow, let's first think about the situation in Japan and what the LM curve looks like for Japan. Interest rates were extremely low in Japan at this time. When interest rates get close to zero, the demand for money is extremely high (say close to infinity). In this case, what does the LM curve look like? (Note that nominal interest rates cannot be lower than zero, so the LM curve cannot cross the horizontal axis of the IS-LM diagram). Draw a picture of what the LM curve may look like for Japan.

b. Now, let's think about the IS-LM equilibrium in Japan. Which part of this LM curve do you think the Japanese economy is in equilibrium at? Indicate this on your graph and draw in the IS curve now to give you an equilibrium at that point.

c. To decide whether it should use monetary or fiscal policy, let's think about what happens to the LM curve when there is an injection of liquidity into the system, i.e. the government uses expansionary monetary policy. How does the LM curve shift and how does this affect output and interest rates? Therefore, how effective a tool is monetary policy for pulling the economy out of the recession in Japan?

d. Given where Japan is, is fiscal policy more or less effective than the usual case (i.e. the standard case we have talked through in class)? Can you show this with an IS-LM diagram? Compare the Japan case to the usual case using an IS-LM diagram for each.

e. How do these findings inform the choice of policy for Japan in the 1990s?