MACROECONOMICS

Section II

Planning Time—10 minutes

Writing Time—50 minutes

Directions: You have fifty minutes to answer all three of the following questions. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. In answering the questions, you should emphasize the line of reasoning that generated your results; it is not enough to list the results of your analysis. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes.

1. The United States is experiencing a high rate of unemployment.

   (a) Identify one fiscal policy action that Congress might initiate to decrease the unemployment rate.

   (b) Assume that the policy you identified in part (a) reduced unemployment, but the economy is still operating below full employment. Using a correctly labeled aggregate demand-aggregate supply graph, show and explain how the action you identified would affect each of the following.

      (i) Output

      (ii) Price level

   (c) Explain how the policy you identified in part (a) would affect short-term interest rates.

   (d) Given that the economy is still below full employment, identify the open market policy the Federal Reserve could implement to increase the money supply.

   (e) Using correctly labeled graphs, show and explain how the increase in money supply will affect each of the following in the short run.

      (i) Short-term interest rates

      (ii) Output

      (iii) Price level

2. Explain how each of the following will affect long-run aggregate supply (potential real gross domestic product).
   (a) A decrease in the labor force participation rate
   (b) An increase in the government deficit following a reduction in personal income taxes
   (c) A decrease in the quantity of inputs required to produce a unit of output
   (d) An increase in the quantity and quality of education
   (e) An increase in the rate of savings

3. Initially, the real interest rates in the United States and Japan are equal to 7 percent. The real interest rate in the United States increases to 8 percent while the real interest rate in Japan decreases to 6 percent.
   (a) How and why will capital flows be affected by this change in real interest rates?
   (b) Using a correctly labeled graph for the yen market, show and explain how the value of the yen will change relative to the value of the dollar.
   (c) Explain how the change in the value of the yen will affect each of the following in the United States.
      (i) Imports from Japan
      (ii) Exports to Japan

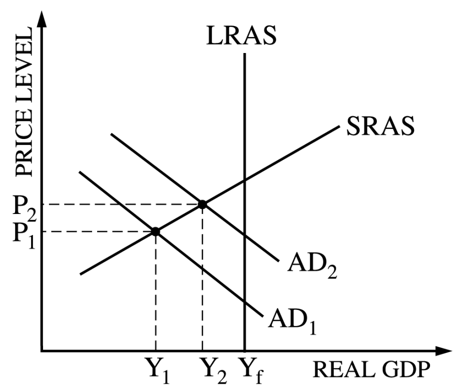
END OF EXAMINATION

Question 1

Correct Answer:

Part a: Expansionary fiscal policy would involve either an increase in government expenditures or a decrease in taxes.

Part b:

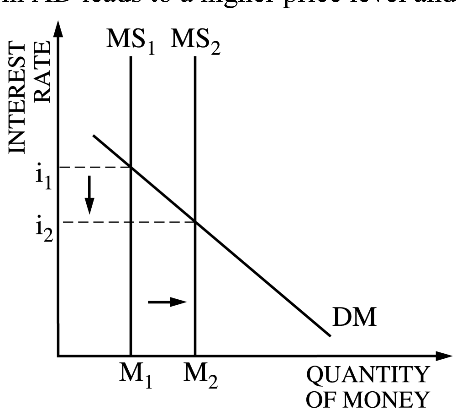


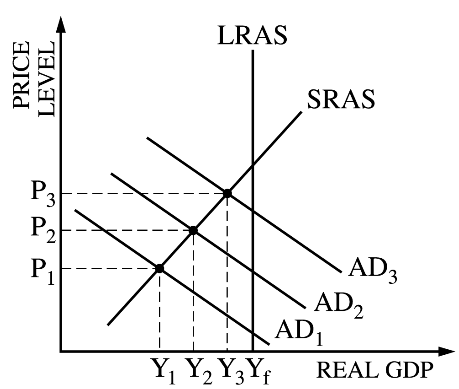
The increase in government spending increases aggregate demand, causing real GDP to increase toward but not completely to the full employment real GDP, Y_f. The increase in AD causes price level and real GDP both to increase. The student needed to recognize that the equilibrium real output (or GDP) was below potential GDP both before and after the expansionary policy.

Part c: The increased borrowing by the government to fund the expansionary policy would increase the demand for loanable funds, increasing interest rates. Alternatively, an increase in income will increase the demand for money and interest rates.

Part d: The expansionary open-market policy that the Federal Reserve should use is to buy bonds.

Part e: This purchase of bonds will increase bank reserves and increase the money supply, lowering the rate of interest. The lower interest rate leads to greater spending on interest-sensitive items such as investment in plant and equipment and consumer durables, increasing aggregate demand or shifting the AD curve rightward. The outward shift in AD leads to a higher price level and real GDP.





Question 1 (cont'd.)

Grading Rubric:

Point allocations: [1+4+1+1+4=11 points]

a) **1 point:** Fiscal Policy to reduce unemployment: G up or T down (or increase in Transfer payments)

b) **1 Point for each of the 4 responses = 4 points**

1 point: Correctly labeled AS and AD graph with appropriate slopes (even vertical AS okay for this point).

1 point: Showing a difference between actual GDP and full employment GDP – must have some notion of full employment output.

1 point: AD outward shift (must not be linked to a money supply change). Accept AS shift with only if accompanied by an explanation relating to a (a) personal tax cut with labor supply increase or (b) corporate income tax cut

1 point: Price level up and GDP up (need both for the full point—0 or 1 here) [Actual result is a function of the shape of AS curve, P would be constant with a perfectly elastic AS curve.]

May receive point for correctly interpreting the result of either an expansionary (rightward) AD shift or AS shift. No point may be awarded for correctly interpreting the result of a contractionary (leftward) shift of either AD or AS.

c) **1 Point:** Increase in interest rates: with <u>one</u> of the following explanations:

(i) government spending (or tax decrease) should lead to deficit funding—increase in demand for loanable funds; OR an increase in the demand for money

(ii) price level increase causes interest rate increase (nominal rate = real rate + inflation rate)

NOTE: crowding out alone cannot serve as explanation w/o using argument (i) a
[Explanation needed to receive the 1 point; no assertion for the interest rate should be accepted.]

d) **1 Point:** Monetary Policy: Fed. Reserve should buy government bonds (Question asks for open-market action, not any other type of expansionary monetary policy)

e) **1 Point for each of the 4 responses = 4 Points**

1 point: Correctly labeled and drawn money market graph (with r and M on the axes, and money demand, and money supply functions)

1 point: Show an increase in the money supply and a decrease in interest rate (or good explanation of this process when there is no graph)

1 point: Linkage of interest rate (down) to investment and/or other interest-sensitive components (up) to AD (out)

1 point: Price level up and GDP up (need both for the full point—0 or 1 here) – Price level can be consistent with flat AS if both AD curves intersect a perfectly elastic aggregate supply curve.

Question 1 (cont'd.)

Commentary:

This long question tested the student's understanding of aggregate analysis and discretionary fiscal and monetary policies. The final scoring distribution was very effective in separating students across the different grading points. Many students were unable to recognize that the economy was operating below full employment in parts a and b. Greater care is needed to contrast the portion of the aggregate supply curve associated with full employment or potential GDP with an equilibrium level below potential GDP.

Many students were unable to show a linkage between the expansionary fiscal policy and higher interest rates in part c. Simply stating "crowding out" was insufficient to earn the point. The crowding out of private spending is the result of higher interest rates and not the process that drives up interest rates.

Students often did not provide a fully correct graph of the money market, as asked. Finally, many students did not understand that the expansionary monetary policy required to answer the question was an open-market operation. Many incorrectly suggested other forms of expansionary monetary policy, e.g., lower the required reserve ratio.