# AP® Macroeconomics
# 2011 Free-Response Questions

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# MACROECONOMICS

## Section II

**Planning Time—10 minutes**

**Writing Time—50 minutes**

**Directions:** You have 50 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. Use a pen with black or dark blue ink.

1. Assume that the United States economy is currently in a recession in a short-run equilibrium.

   (a) Draw a correctly labeled graph of the short-run and long-run Phillips curves. Use the letter A to label a point that could represent the current state of the economy in recession.

   (b) Draw a correctly labeled graph of aggregate demand and aggregate supply in the recession and show each of the following.

   (i) The long-run equilibrium output, labeled $Y_f$

   (ii) The current equilibrium output and price levels, labeled $Y_e$ and $PL_e$, respectively

   (c) To balance the federal budget, suppose that the government decides to raise income taxes while maintaining the current level of government spending. On the graph drawn in part (b), show the effect of the increase in taxes. Label the new equilibrium output and price levels $Y_2$ and $PL_2$, respectively.

   (d) Assume that the Federal Reserve uses monetary policy to stimulate the economy.

   (i) What open-market policy should the Federal Reserve implement?

   (ii) Using a correctly labeled graph of the money market, show how the policy in part (d)(i) affects nominal interest rates.

   (iii) What will be the impact of the policy on the price level? Explain.

   (e) Now assume instead that the government and the Federal Reserve take no policy action in response to the recession.

   (i) In the long run, will the short-run aggregate supply increase, decrease, or remain unchanged? Explain.

   (ii) In the long run, what will happen to the natural rate of unemployment?



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2. Japan, the European Union, Canada, and Mexico have flexible exchange rates.

   (a) Suppose Japan attracts an increased amount of investment from the European Union.

      (i) Using a correctly labeled graph of the loanable funds market in Japan, show the effect of the increase in foreign investment on the real interest rate in Japan.

      (ii) How will the real interest rate change in Japan that you identified in part (a)(i) affect the employment level in Japan in the short run? Explain.

   (b) Suppose in a different part of the world, the real interest rate in Canada increases relative to that in Mexico.

      (i) Using a correctly labeled graph of the foreign exchange market for the Canadian dollar, show the effect of the change in real interest rate in Canada on the international value of the Canadian dollar (expressed as Mexican pesos per Canadian dollar).

      (ii) How will the change in the international value of the Canadian dollar that you identified in part (b)(i) affect Canadian exports to Mexico? Explain.

3. Sewell Bank has the simplified balance sheet below.

| Assets | | Liabilities | |
|---|---|---|---|
| Required reserves | $2,000 | Demand deposits | $10,000 |
| Excess reserves | $0 | Owner's equity | $10,000 |
| Customer loans | $8,000 | | |
| Government securities (bonds) | $7,000 | | |
| Building and fixtures | $3,000 | | |

   (a) Based on Sewell Bank's balance sheet, calculate the required reserve ratio.

   (b) Suppose that the Federal Reserve purchases $5,000 worth of bonds from Sewell Bank. What will be the change in the dollar value of each of the following immediately after the purchase?

      (i) Excess reserves

      (ii) Demand deposit

   (c) Calculate the maximum amount that the money supply can change as a result of the $5,000 purchase of bonds by the Federal Reserve.

   (d) When the Federal Reserve purchases bonds, what will happen to the price of bonds in the open market? Explain.

   (e) Suppose that instead of the purchase of bonds by the Federal Reserve, an individual deposits $5,000 in cash into her checking (demand deposit) account. What is the immediate effect of the cash deposit on the M1 measure of the money supply?

**STOP**

**END OF EXAM**