AP®

AP® Macroeconomics
2014 Free-Response Questions

CollegeBoard

MACROECONOMICS
Section II
Planning Time—10 minutes
Writing Time—50 minutes

Directions: You have 10 minutes to read all of the questions in this booklet, to sketch graphs, to make notes, and to plan your answers. You will then 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 operating below the full-employment level of real gross domestic product with a balanced budget.

   (a) Draw a correctly labeled graph of aggregate demand, short-run aggregate supply, and long-run aggregate supply, and show each of the following in the United States.

   (i) Current output and price level, labeled as Y_1 and PL_1, respectively

   (ii) Full-employment output, labeled as Y_f

   (b) The United States government increases spending on goods and services by $100 billion, which is financed by borrowing. How will the increase in government spending affect each of the following?

   (i) Cyclical unemployment

   (ii) The natural rate of unemployment

   (c) If the marginal propensity to consume is equal to 0.75, calculate the maximum possible change in real gross domestic product that could result from the $100 billion increase in government spending.

   (d) Using a correctly labeled graph of the loanable funds market, show the effect of the $100 billion increase in government spending on the real interest rate.

   (e) Based on the real interest rate change in part (d), what is the effect on the long-run economic growth rate? Explain.

   (f) Now assume that instead of financing the $100 billion increase in government spending by borrowing, the United States government increases taxes by $100 billion. With this equal increase in government spending and taxes, will the real gross domestic product increase, decrease, or remain the same? Explain.

2. The Federal Reserve can influence the supply of money.

   (a) Assume that the Federal Reserve targets a lower federal funds rate.

      (i) What open market operation can the Federal Reserve use to achieve the lower target?

      (ii) Given your answer to part (a)(i), what will happen to the price of government bonds?

   (b) Using a correctly labeled graph of the money market, show the effect of the open market operation from part (a)(i) on the nominal interest rate.

   (c) Assume that the Federal Reserve buys government bonds from commercial banks. Based only on this transaction, will the level of required reserves in the commercial banks increase, decrease, or remain the same?

   (d) Another monetary policy action involves changing the discount rate. Define the discount rate.

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3. The United States and South Korea are trading partners, and the United States has a zero current account balance. Assume now that the inflation rate in the United States decreases relative to the inflation rate in South Korea.

   (a) Based on the decrease in the inflation rate in the United States, will United States exports to South Korea increase or decrease?

   (b) Based on the change in United States exports in part (a), answer each of the following.

      (i) Will the United States current account balance remain at zero, be in surplus, or be in deficit?

      (ii) What will happen to real gross domestic product in the United States in the short run? Explain.

   (c) The South Korean currency is the won. Draw a correctly labeled graph of the foreign exchange market for the United States dollar. Show the effect of the lower inflation rate in the United States on the won price per United States dollar.

STOP

END OF EXAM

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AP® Macroeconomics
2013 Free-Response Questions

MACROECONOMICS

Section II

Planning Time—10 minutes

Writing Time—50 minutes

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1. Assume that the United States economy is operating at full employment.

   (a) Using a correctly labeled graph of the long-run aggregate supply, short-run aggregate supply, and aggregate demand, show each of the following.

      (i) Current price level, labeled PL_1

      (ii) Current output level, labeled Y_1

   (b) Assume that personal savings in the United States increase. Using a correctly labeled graph of the loanable funds market, show the impact of the increase in personal savings on the real interest rate.

   (c) Based on the real interest rate change identified in part (b),

      (i) will interest-sensitive expenditures increase, decrease, or remain unchanged?

      (ii) what will happen to the rate of economic growth? Explain.

   (d) Assume that the real interest rate of the euro zone increases relative to the real interest rate of the United States. Draw a correctly labeled graph of the foreign exchange market for the euro and show the impact of the change in the real interest rate in the euro zone on each of the following.

      (i) Demand for the euro. Explain.

      (ii) Value of the euro relative to the United States dollar

   (e) Assume that the United States current account balance is zero. Based on the change in the value of the euro identified in part (d)(ii), will the United States current account balance now be in surplus, be in deficit, or remain at zero?

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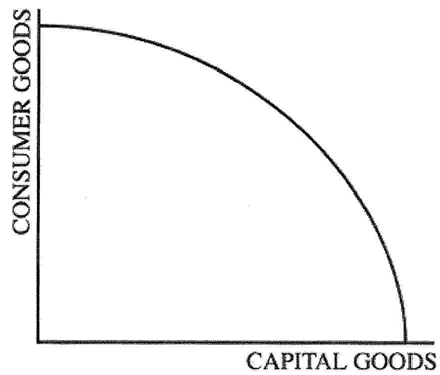
2. Assume that the country of Fischerland produces only consumer goods and capital goods.



(a) The graph above shows the production possibilities curve for Fischerland. The production of which of the following exhibits increasing opportunity costs: consumer goods only, capital goods only, both goods, or neither good?

(b) Redraw the graph given above. Show a point that represents fully employed and efficiently used resources on the redrawn graph and label it A.

(c) Assume there is a recession in Fischerland. On your graph in part (b), label as C a point representing the recession.

(d) Identify a fiscal policy action that the Fischerland government can take to address the recession.

(e) Assume instead that no discretionary policy actions are taken. Will short-run aggregate supply increase, decrease, or remain the same in the long run? Explain.

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3. Inflation and expected inflation are important determinants of economic activity.

(a) Draw a correctly labeled graph of a short-run Phillips curve.

(b) Using your graph in part (a), show the effect of an increase in the expected rate of inflation.

(c) What is the effect of the increase in the expected rate of inflation on the long-run Phillips curve?

(d) Given the increase in the expected rate of inflation from part (b),

(i) will the nominal interest rate on new loans increase, decrease, or remain unchanged?

(ii) will the real interest rate on new loans increase, decrease, or remain unchanged?

(e) Assume that the nominal interest rate is 8 percent. Borrowers and lenders expect the rate of inflation to be 3 percent, and the growth rate of real gross domestic product is 4 percent. Calculate the real interest rate.

STOP

END OF EXAM

AP®

AP® Macroeconomics
2012 Free-Response Questions

MACROECONOMICS
Section II
Planning Time—10 minutes
Writing Time—50 minutes

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1. Assume that the country of Rankinland is currently in recession.

   (a) Assume that Rankinland produces only food and clothing. Draw a correctly labeled production possibilities curve for Rankinland. Show a point that could represent the current output combination and label it A.

   (b) Assume that the Central Bank of Rankinland pursues an expansionary monetary policy.

      (i) Identify the open-market operation that the Central Bank would use.

      (ii) Draw a correctly labeled money market graph and show the short-run effect of the expansionary monetary policy on the nominal interest rate.

      (iii) Assuming no change to the price level, what happens to the real interest rate as a result of the expansionary monetary policy? Explain.

      (iv) Given your answer to part (b)(iii) regarding the real interest rate, what happens to the real gross domestic product (GDP) in the short run? Explain.

   (c) Suppose Rankinland has a current account deficit. Rankinland's currency is called the bera.

      (i) What will initially happen to the current account deficit in Rankinland solely due to the change in the real GDP from part (b)(iv) ? Explain.

      (ii) What will happen to the international value of the bera solely due to the change in the real GDP from part (b)(iv) ? Explain.

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2. The following is a simplified balance sheet for Mi Tierra Bank in the United States.

Mi Tierra Bank

Assets		Liabilities	
Required reserves	$10,000	Demand deposits	$100,000
Excess reserves	$5,000		
Loans	$85,000	Owner's equity	$ 0

(a) What is the reserve requirement?

(b) Assume that Luis withdraws $5,000 in cash from his checking account at Mi Tierra Bank.

(i) By how much will Mi Tierra Bank's reserves change based on Luis' withdrawal?

(ii) What is the initial effect of the withdrawal on the M1 measure of money supply? Explain.

(iii) As a result of the withdrawal, what is the new value of excess reserves on the balance sheet of Mi Tierra Bank based on the reserve requirement from part (a) ?

(c) Assume that the next day John withdraws from Mi Tierra Bank an amount that exceeds the bank's excess reserves. Assuming that no loans are called in, how can Mi Tierra Bank cover its required reserves?

3. Assume the economy of Andersonland is in a long-run equilibrium with full employment. In the short run, nominal wages are fixed.

(a) Draw a correctly labeled graph of short-run aggregate supply, long-run aggregate supply, and aggregate demand. Show each of the following.

(i) Equilibrium output, labeled Y_1

(ii) Equilibrium price level, labeled PL_1

(b) Assume that there is an increase in exports from Andersonland. On your graph in part (a), show the effect of higher exports on the equilibrium in the short run, labeling the new equilibrium output and price level Y_2 and PL_2, respectively.

(c) Based on your answer in part (b), what is the impact of higher exports on real wages in the short run? Explain.

(d) As a result of the increase in exports, export-oriented industries in Andersonland increase expenditures on new container ships and equipment.

(i) What component of aggregate demand will change?

(ii) What is the impact on the long-run aggregate supply? Explain.

STOP

END OF EXAM

CollegeBoard
Advanced Placement Program

AP® Macroeconomics
2011 Free-Response Questions

MACROECONOMICS

Section II

Planning Time—10 minutes

Writing Time—50 minutes

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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?

GO ON TO THE NEXT PAGE.

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

CollegeBoard
Advanced Placement Program

AP® Macroeconomics
2011 Free-Response Questions
Form B

MACROECONOMICS

Section II

Planning Time—10 minutes

Writing Time—50 minutes

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1. Assume that the economy of Meekland is in a long-run equilibrium with a balanced government budget.

   (a) Using a correctly labeled graph of aggregate supply and aggregate demand, show each of the following.

   (i) Long-run aggregate supply

   (ii) The output level, labeled Y_E, and the price level, labeled PL_E

   (b) Assume consumer confidence falls. Show on your graph in part (a) the short-run impact of the change in consumer confidence and label the new equilibrium price level and output Y_1 and PL_1, respectively.

   (c) Using a correctly labeled graph of the short-run and long-run Phillips curves, show the effect of the fall in consumer confidence on inflation. Label the initial long-run equilibrium point A and the new short-run equilibrium point B.

   (d) If the government and the central bank do not pursue any discretionary policy change, how does the fall in consumer confidence affect government transfer payments in Meekland? Explain.

   (e) Draw a correctly labeled graph of the loanable funds market in Meekland and show the effect of the change in government transfer payments you identified in part (d) on the real interest rate.

   (f) In the absence of any changes in fiscal and monetary policies, in the long run will the short-run aggregate supply curve shift to the left, shift to the right, or remain unchanged as a result of the fall in consumer confidence? Explain.

2. Assume that yesterday the exchange rate between the euro and the Singaporean dollar was 1 euro = 0.58 Singaporean dollars. Assume that today the euro is trading at 1 euro = 0.60 Singaporean dollars.

   (a) How will the change in the exchange rate affect each of the following in Singapore in the short run?

   (i) Aggregate demand. Explain.

   (ii) The level of employment. Explain.

   (b) Suppose that Singapore wants to return the exchange rate to 1 euro = 0.58 Singaporean dollars.

   (i) Should the Singaporean central bank buy or sell euros in the foreign exchange market?

   (ii) Instead of buying or selling euros, what domestic open-market operation can the Singaporean central bank use to achieve the same result? Explain.

	2009 Quantity	2009 Price (base year)	2010 Quantity	2010 Price
Food	6	$2.5	8	$ 2.5
Clothes	5	$6	10	$10
Entertainment	2	$4	5	$ 5

3. (a) The outputs and prices of goods and services in Country X are shown in the table above. Assuming that 2009 is the base year, calculate each of the following.

   (i) The nominal gross domestic product (GDP) in 2010

   (ii) The real GDP in 2010

   (b) If in one year the price index is 50 and in the next year the price index is 55, what is the rate of inflation from one year to the next?

   (c) Assume that next year's wage rate will be 3 percent higher than this year's because of inflationary expectations. The actual inflation rate is 4 percent. At the beginning of next year, will the real wage be higher, lower, or the same as today?

   (d) Assume that Sara gets a fixed-rate loan from a bank when the expected inflation rate is 3 percent. If the actual inflation rate turns out to be 4 percent, who benefits from the unexpected inflation: Sara, the bank, neither, or both? Explain.

STOP

END OF EXAM