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 Page 2
(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

Page 3

1. (a) Using a correctly labeled aggregate supply and aggregate demand graph, show the impact of a sudden, large decrease in private investment spending on each of the following.

    (i) Output

    (ii) Price level

   (b) Using the results in part (a), explain how employment is affected.

   (c) Identify one specific fiscal policy that might be implemented to offset the effects of the decrease in investment, and explain how the policy would affect each of the following in the short run.

    (i) Aggregate demand

    (ii) Output and the price level

    (iii) Real interest rates

   (d) Identify an open-market operation that the central bank might implement to offset the effects of the decrease in investment, and explain how the policy would affect each of the following in the short run.

    (i) Real interest rates

    (ii) Aggregate demand

    (iii) Output and the price level

   (e) If the central bank continues the open-market operation described in (d), explain the long-run effects on each of the following.

    (i) Inflation

    (ii) Value of the domestic currency in foreign exchange markets

2. The government replaces the income tax with a national sales tax that generates the same revenue. Assume throughout the question that the economy stays at full employment.

   (a) What is the effect of the change in tax policy on each of the following?

      (i) Consumption

      (ii) National saving

   (b) Using a correctly labeled graph of the loanable-funds market, explain how the change in tax policy will affect each of the following.

      (i) Real interest rate

      (ii) Investment

Page 5

   (c) Explain how this change in policy will affect long-run economic growth.

3. Country X has a flexible exchange rate and international capital mobility. Political turmoil outside of Country X generates capital flow into Country X.

(a) Using a correctly labeled foreign-exchange market graph, explain the impact of the capital inflow on the international value of the currency of Country X.

(b) For Country X, explain the effect of the change in the international value of its currency on each of the following.

(i) Exports

(ii) Imports

Page 6

1. Assume that a country's economy is operating below full employment and has a balanced trade, and that the government is running a budget deficit.

(a) Draw a correctly labeled aggregate demand and aggregate supply graph and show the economy's current output and price level.

(b) Suppose that the country's government increases spending to achieve full-employment output. On your graph in part (a), show the short-run effect that the increased deficit spending would have on each of the following.

(i) Aggregate demand

(ii) Output

(iii) Price level

(c) Using a correctly labeled loanable-funds market graph, show the effect of the increase in deficit spending on the real interest rate.

(d) Given your answer in part (c), explain how the international value of the country's currency will be affected.

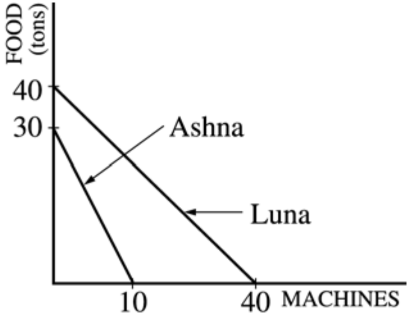
(e) Based on your answer in part (d), respond to each of the following.

(i) Explain the effects on the country's exports and imports.

(ii) Identify the effect on the country's trade balance.

(f) Given the results in the loanable-funds market discussed in part (c), explain how this government deficit spending would influence long-run growth.

Page 7



2. Using equal amounts of resources, the countries of Ashna and Luna can each produce any combination of food and machines described by their production possibilities curves above.

   (a) Which country has an absolute advantage in the production of machines? Explain.

   (b) Which country has an absolute advantage in the production of food? Explain.

   (c) Which country has a comparative advantage in the production of machines? Explain.

   (d) With trade between these two countries, which country will import food? Explain.

   (e) Give an example of terms of trade acceptable to both countries.

Page 8

3. (a) Draw a correctly labeled graph showing the short-run and long-run Phillips curves for Country X.

   (b) Identify how each of the following affects inflation, unemployment, and the short-run Phillips curve.

      (i) An increase in government spending

      (ii) A drop in inflationary expectations

   (c) Identify the effect of increased unemployment-insurance benefits on the long-run Phillips curve.

Page 9

1. Assume that the United States economy is in a severe recession with no inflation.

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

      (i) Full-employment output

      (ii) Current output level

      (iii) Current price level

   (b) The federal government announces a major decrease in spending. Using your graph in part (a), show how the decrease in spending will affect each of the following.

      (i) Level of output

      (ii) Price level

   (c) Explain the mechanism by which the decrease in government spending will affect the unemployment rate.

   (d) The Federal Reserve purchases bonds through its open-market operations.

      (i) Using a correctly labeled graph, show the effect of this purchase on the interest rate.

      (ii) Explain how the change in the interest rate will affect output and the price level.

   (e) Explain how the change in the interest rate you identified in part (d) will affect each of the following.

      (i) International value of the dollar relative to other currencies

      (ii) United States exports

      (iii) United States imports

2. Country Y is experiencing severe and unanticipated inflation.

(a) Explain the effect of this inflation on each of the following.

(i) A family with savings in a fixed-interest-rate time deposit account

(ii) A business repaying a long-term, fixed-interest-rate loan

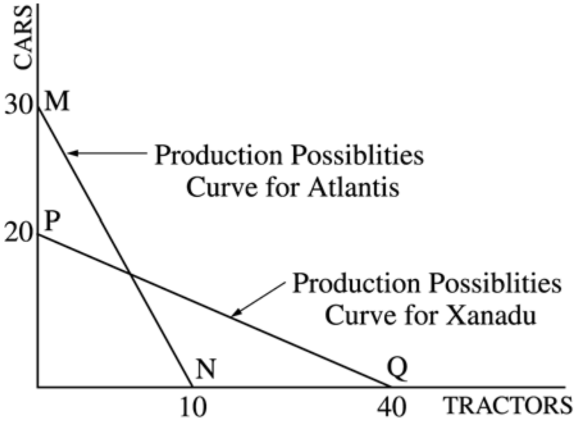
(b) Identify one fiscal policy action that could be implemented to reduce inflation.

(c) Identify an open-market operation that could be implemented to reduce inflation.

(d) Suppose that Country Y continues to experience high inflation in the long run. Indicate the effect of this inflation on the nominal interest rate in Country Y.

(e) If Country Y's inflation is high relative to that of other countries, explain the effect of this inflation on the international value of Country Y's currency.

Page 11



3. Assume that two countries, Atlantis and Xanadu, have equal amounts of resources. Atlantis can produce 30 cars or 10 tractors or any combination, as shown by the line MN in the figure above. Xanadu can produce 20 cars or 40 tractors or any combination, as shown by the line PQ in the figure above.

   (a) Which country has an absolute advantage in the production of tractors? Explain how you determined your answer.

   (b) Which country has a comparative advantage in the production of cars? Using the concept of opportunity cost, explain how you determined your answer.

   (c) If the two countries specialize and trade with each other, which country will import cars? Explain why.

   (d) If the terms of trade are such that one car can be exchanged for one tractor, explain how Atlantis will benefit from such trade.

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

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

      (i) Full-employment output

      (ii) Current output

      (iii) Current price level

   (b) Identify an open-market operation that could restore full employment in the short run.

   (c) Using a correctly labeled graph of the money market, show how the open-market operation you identified in part (b) affects the interest rate in the short run.

   (d) Explain how the change in the interest rate you identified in part (c) will affect aggregate demand.

   (e) Show on the graph in part (a) how the change in the interest rate you identified in part (c) will affect output and price level.

   (f) Instead of the open-market operation in part (b), suppose that no policy actions are taken to address the unemployment problem. With flexible prices and wages, explain how each of the following will eventually change.

      (i) Short-run aggregate supply

      (ii) Output and price level

Page 13

2. (a) Assume that national saving in the United States increases. Explain the effect of this increase on the real interest rate in the United States.

(b) Suppose that real interest rates in the rest of the world remain unchanged.

(i) Explain the effect of the real interest rate change in the United States that you identified in part (a) on the demand for the United States dollar in the foreign exchange market.

(ii) As a result of the effect you identified in (i), what will happen to the international value of the United States dollar?

(c) Given your answer in part (b), indicate how each of the following will change.

(i) United States imports

(ii) United States exports

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3. The Federal Reserve buys $5,000 in bonds from Clark Consulting Services, which then deposits the money in a checking account at First Generation Bank.

(a) As a result of the Federal Reserve's action, what is the change in the money supply if the required reserve ratio is 100 percent?

(b) If the required reserve ratio is reduced to 10 percent, calculate the following.

(i) The maximum amount this bank could lend from this deposit

(ii) The maximum increase in the total money supply from the Federal Reserve's purchase of bonds

(c) If banks keep some of the deposit as excess reserves, how will this influence the change in the money supply that was determined in part (b)(ii)? Explain.

(d) If the public decides to hold some money in the form of currency rather than in demand deposits, how will this influence the change in the money supply that was determined in part (b)(ii)? Explain.

Page 15

1. Assume that a country's economy is in equilibrium.

   (a) Using a correctly labeled aggregate demand and aggregate supply graph, show how an increase in the price of oil, an important natural resource, will affect the following in the short run.

      (i) Real output

      (ii) Price level

   (b) Using a correctly labeled graph, show how the increase in the price of oil affects the short-run Phillips curve.

   (c) Assume that the central bank of the country responds to the higher price of oil by increasing the money supply.

      (i) Explain the process by which the increase in the money supply will affect the aggregate demand in the short run.

      (ii) Indicate how the increase in the money supply will affect real output and the price level.

   (d) Now assume that instead of using monetary policy in response to the oil price increase, the government reduces business taxes, which results in lower production costs. Using a new correctly labeled graph, show the effect of the reduction in business taxes on the following.

      (i) Real output

      (ii) Price level

2. Due to an international financial crisis, Canada experiences a significant inflow of funds from other countries. Explain the effect that this inflow of funds will have on the following.

(a) The international value of the Canadian dollar

(b) Canadian net exports

(c) The real interest rate in Canada

(d) The level of investment in Canada

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OUTPUT PER WORKER PER DAY		
Country	Units of Cloth	Units of Food
Newland	10	2
Beeland	10	1

3. The table above gives the production alternatives of two nations that are producing cloth and food, using equal amounts of resources.

(a) (i) Calculate the opportunity cost of producing a unit of cloth in Newland.

(ii) Calculate the opportunity cost of producing a unit of food in Beeland.

(b) (i) Which nation has the comparative advantage in cloth production?

(ii) Which nation has the comparative advantage in food production?

(c) Now assume that the productivity of Beeland's workers triples for each good.

(i) Which country has a comparative advantage in food production?

(ii) Explain how you determined your answer.

1. Assume that a country's economy is currently at equilibrium along an upward-sloping short-run aggregate supply curve. Suppose that the country's central bank conducts an open-market sale of government bonds.

(a) Using a correctly labeled graph of the money market, show how the open-market sale of bonds will affect each of the following.

(i) Money supply

(ii) Interest rate

(b) Indicate whether the interest rate you identified in (a) (ii) is a real or a nominal rate.

(c) Under what condition will the nominal interest rate differ from the real interest rate?

(d) Using a correctly labeled graph of aggregate demand and aggregate supply, show the short-run effect of the open-market operation on each of the following.

(i) Real output

(ii) Price level

(e) On a correctly labeled graph of the Phillips curve, show how the open-market operation will affect the following in the short run. Use an arrow to show the direction of change.

(i) Unemployment rate

(ii) Inflation rate

Page 19

(f) Identify a fiscal policy action that would offset the impact on real output and price level that you identified in (d).

2. Labor productivity is output per unit of labor. An increase in labor productivity is a source of economic growth.

   (a) Identify two sources of increase in labor productivity. Page 20

   (b) Assume that a country's economy is at full employment. Productivity has been rising. Using a correctly labeled graph of aggregate demand and aggregate supply, show the long-run effect of the growth in productivity on each of the following.

      (i) Real output

      (ii) Price level

   (c) Assume that the economy produces only two goods, good X and good Y. Using a correctly labeled production possibility diagram, show the effect of the increase in labor productivity. Page 20

3. Assume that an increase in government spending increases the budget deficit in Country A.

(a) Using a correctly labeled graph of the loanable funds market, show the effect of the increase in Country A's budget deficit on the real interest rate.

(b) Given your answer in (a), what is the effect on business investment in Country A?

(c) The exchange rate between Country A's dollar and Country B's peso is determined in a flexible exchange market. Using a correctly labeled graph of the foreign exchange market for Country A's dollar, show how the interest rate change you identified in (a) affects the international value of Country A's dollar.

(d) Given your answer to (c), explain how the competitiveness of Country A's goods changes relative to Country B's goods.

Page 21

1. Assume that the United States economy is currently in equilibrium at the full-employment level of real gross domestic product.

   (a) Draw a correctly labeled graph of aggregate demand and aggregate supply showing each of the following in the United States.

      (i) Output level

      (ii) Price level

   (b) Japan is a major importer of United States products. Assume that the Japanese economy goes into a recession.

      (i) Explain the impact of the Japanese recession on the United States equilibrium output and price levels.

      (ii) Show these effects on your graph in part (a).

   (c) Assume that the Federal Reserve takes action to curb the effects of the Japanese recession on the United States economy.

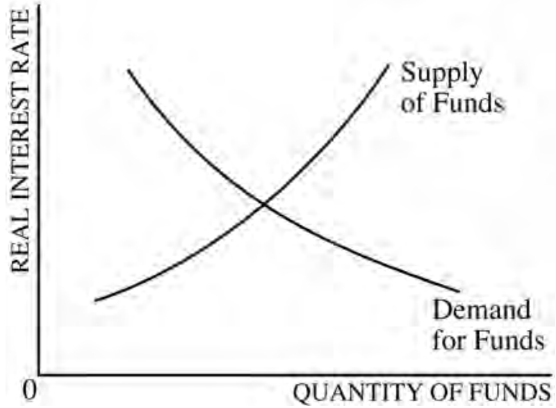
      (i) What open-market operation would the Federal Reserve undertake?

      (ii) Use a correctly labeled graph of the money market to show how the Federal Reserve policy action will affect the nominal interest rate.

      (iii) Explain how the change in the nominal interest rate in part (c) (ii) will affect aggregate demand, price level, and real output in the United States.

   (d) Define the real interest rate.

   (e) Indicate the effect of the open-market operation you identified in part (c) (i) on the real interest rate in the United States.



2. The graph above shows the loanable funds market for a country.

   (a) Assume that now the country's government increases deficit spending. Explain how the increase in deficit spending will affect the real interest rate.

   (b) Indicate how the real interest rate change you identified in part (a) will affect investment in plant and equipment.

   (c) Explain how the real interest rate change you identified in part (a) will affect long-term economic growth.

   (d) Explain how the real interest rate change you identified in part (a) will affect each of the following in the foreign exchange market.

      (i) The demand for the country's currency

      (ii) The value of the country's currency

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3. Assume that the table below shows the unemployment and inflation data in Country X as a result of a shift in aggregate demand.

Period	Unemployment Rate	Inflation Rate
Last year	2%	8%
This year	5%	4%

(a) Draw a correctly labeled graph of a short-run Phillips curve for Country X, showing the actual unemployment and inflation rates for both years. Label the Phillips curve as SRPC.

(b) Now assume that the short-run aggregate supply curve has shifted to the left.

(i) Identify one factor that could cause the aggregate supply curve to shift to the left.

(ii) On the graph, show how this shift would affect the short-run Phillips curve.

(c) Assume that the natural rate of unemployment in Country X is 5 percent. Draw a correctly labeled graph of the long-run Phillips curve and label it as LRPC.

(d) What is the relationship between the unemployment rate and the inflation rate in the long run?

1. Assume that a country's economy is operating at less than full employment.

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

   (i) Long-run aggregate supply curve

   (ii) Current output and price level

   (b) Assume that policy makers take no policy action and that prices and wages are flexible. Explain what will happen to each of the following.

   (i) Short-run aggregate supply

   (ii) Employment

   (c) Now assume that instead of taking no policy action, the government implements a special tax incentive to encourage individuals to increase saving for retirement. Draw a correctly labeled graph of the loanable funds market. Show how the real interest rate is affected.

   (d) Given your answer in part (c), explain how aggregate supply is affected in the long run.

Page 25

2. Banks play an important role in determining changes in the money supply.

   (a) Assume that a bank receives a cash deposit of $9,000 from a customer. What is the immediate impact of this transaction on the money supply? Explain.

   (b) Suppose that the reserve requirement is 10 percent and banks voluntarily keep an additional 10 percent in reserves. Calculate each of the following.

      (i) The maximum amount by which this bank will increase its loans from the transaction in part (a)

      (ii) The maximum increase in the money supply that will be generated from the transaction in part (a)

   (c) Assume that the government increases spending by $9,000, which is financed by a sale of bonds to the central bank.

      (i) Indicate what will happen to the money supply.

      (ii) Explain what will happen to the money demand.

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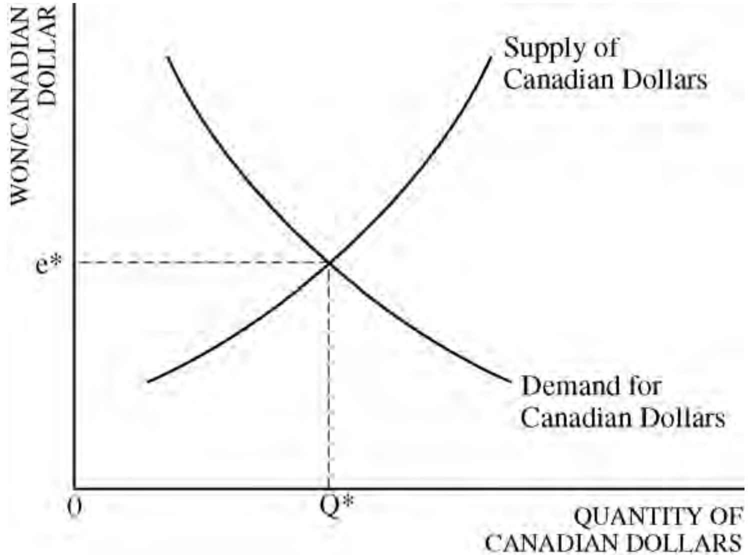

3. Assume that South Korea and Canada are trading partners. The equilibrium exchange rate between the Canadian dollar and the South Korean currency, the won, is shown in the graph of the foreign exchange market, above.

   (a) Explain how each of the following will affect the demand for the Canadian dollar.

      (i) The inflation rate in Canada is higher than the inflation rate in South Korea.

      (ii) Real interest rates in Canada fall relative to real interest rates in South Korea.

   (b) Given your answer to part (a)(ii), indicate how the value of the Canadian dollar is affected.

   (c) As a result of the currency change in part (b), what will happen to Canadian exports to South Korea? Explain.

1. Assume that the United States economy is currently operating at an equilibrium below full employment.

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

      (i) Long-run aggregate supply

      (ii) Current equilibrium output and price level

   (b) Now assume a significant increase in the world price of oil, a major production input for the United States. Show on your graph in part (a) how the increase in the oil price affects each of the following in the short run.

      (i) Short-run aggregate supply

      (ii) Real output and price level

   (c) Given your answer in part (b), explain what will happen to unemployment in the United States in the short run.

   (d) Assume that the United States trades with Japan. Draw a correctly labeled graph of the foreign exchange market for the United States dollar. Based on your indicated change in real output in part (b), show and explain how the supply of the United States dollar will be affected in the foreign exchange market.

   (e) Given your answer in part (d), indicate what will happen to the value of the United States dollar relative to the Japanese yen.

2. Interest rates are important in explaining economic activity.

(a) Using a correctly labeled graph of the money market, show how an increase in the income level will affect the nominal interest rate in the short run.

(b) Using a correctly labeled graph of the loanable funds market, show how a decision by households to increase saving for retirement will affect the real market interest rate in the short run.

(c) Suppose that the nominal interest rate has been 6 percent with no expected inflation. If inflation is now expected to be 2 percent, determine the value of each of the following.

(i) The new nominal interest rate

Page 29

(ii) The new real interest rate

3. The unemployment rate is an important indicator of the health of the United States economy.

(a) Assume that with the economy at full employment, the government implements an expansionary fiscal policy. How does the actual unemployment rate at the new short-run equilibrium compare with the natural rate of unemployment?

(b) Assume that a significant number of workers are involuntarily changed from full-time to part-time employment. Explain how this will affect the number of people who are officially classified as unemployed.

(c) Assume that the government reduces the level of unemployment compensation.

(i) Explain how this affects the natural rate of unemployment.

(ii) Using a correctly labeled graph, show how this affects the long-run Phillips curve.

Page 30

1. Assume that declining stock market prices in the United States cause many United States financial investors to sell their stocks and increase their money holdings.

   (a) Draw a correctly labeled graph of the money market and show the impact of the financial investors' actions on each of the following.

      (i) Demand for money

      (ii) Nominal interest rate

   (b) Due to the decline in wealth caused by the change in stock prices, the general price level in the United States falls relative to the price level in Japan, a trading partner. Use a correctly labeled graph of the foreign exchange market for the United States dollar to show the impact of the change in relative price levels on each of the following.

      (i) Demand for the dollar

      (ii) Price of the dollar (yen/dollar)

   (c) How will the change in the price of the dollar you indicated in part (b) (ii) affect net exports of the United States? Explain.

   (d) Using a correctly labeled aggregate demand and aggregate supply graph, show how the change in net exports in part (c) will affect each of the following in the short run.

      (i) Aggregate demand

      (ii) Output and price level

   (e) Given your answers to part (d), what will happen to unemployment in the short run? Explain.

q2 macro 2007

2. In recent years, the Federal Reserve has made targeting the federal funds rate a main focus of its monetary policy.

   (a) Define the federal funds rate.

   (b) If the Federal Reserve wants to lower the federal funds rate, what open-market operation would be appropriate?

   (c) Assume that the open-market operation that you indicated in part (b) is equal to $10 million. If the required reserve ratio is 0.2, calculate the maximum change in loans throughout the banking system.

   (d) Indicate the effect of the open-market operation that you indicated in part (b) on the nominal interest rate.

   (e) Assume that the Federal Reserve's action results in some inflation. What would be the impact of the open-market operation on the real rate of interest? Explain.

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q3 macro 2007

3. Indicate whether each of the following is counted in the United States gross domestic product for the year 2006. Explain each of your answers.

   (a) The value of a used textbook sold through an online auction in 2006

   (b) Rent paid in 2006 by residents in an apartment building built in 2000

   (c) Commissions earned in 2006 by a stockbroker

   (d) The value of automobiles produced in 2006 entirely in South Korea by a firm fully owned by United States citizens

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1. Assume the United States economy is in recession.

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

(i) Current price level, labeled PL_1

(ii) Current output, labeled Y_1

(b) Now assume the euro zone, a major trading partner of the United States, enters into a recession.

(i) What will be the effect on United States exports to the euro zone? Explain.

(ii) On your graph in part (a), show the effect of the change identified in part (b)(i) on real output in the United States.

(iii) What will be the effect of the change identified in part (b)(ii) on unemployment in the United States?

(c) Assume the euro zone recession causes a decrease in the demand for United States dollars in the foreign exchange market.

(i) Will the euro appreciate, depreciate, or remain unchanged against the dollar? Explain.

(ii) Draw a correctly labeled graph of the foreign exchange market for dollars, and show the effect of the decrease in the demand for dollars on the exchange rate for dollars.

(d) Assume the United States implements a combination of expansionary fiscal and monetary policies. In the absence of complete crowding out, what will be the effect of these policies on each of the following?

(i) Aggregate demand in the United States

(ii) The price level in the United States

(iii) Interest rates in the United States. Explain.

2. Assume the economy of Ucheland is currently at full employment. The government of Ucheland reduces the tax rate on household interest earnings.

Q2 Macroeconomics 2018

(a) What will happen to private savings in Ucheland?

(b) Draw a correctly labeled graph of the loanable funds market, and show the effect of the change in private savings identified in part (a) on the equilibrium real interest rate.

(c) Given the real interest rate change identified in part (b), answer the following questions.

(i) What is the short-run effect on aggregate demand? Explain.

(ii) What is the long-run effect on potential real gross domestic product in Ucheland? Explain.

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3. Countries face trade-offs between producing consumer goods and producing capital goods.

(a) Country X takes one hour to produce a unit of consumer goods and two hours to produce a unit of capital goods. Country Y takes two hours to produce a unit of consumer goods and four hours to produce a unit of capital goods. Which country has a comparative advantage in the production of consumer goods? Explain.

The following table shows labor-market data for Country X.

Q3 Macroeconomics 2018

Employed	180,000
Frictionally unemployed	10,000
Structurally unemployed	5,000
Cyclically unemployed	5,000
Not in the labor force	100,000

(b) Calculate the unemployment rate in Country X. <u>Show your work.</u>

(c) Calculate the labor force participation rate in Country X. <u>Show your work.</u>

(d) Draw a correctly labeled graph of the production possibilities curve for Country X, with consumer goods on the horizontal axis and capital goods on the vertical axis. Indicate a point on your graph, labeled Z, that reflects the current level of unemployment.

1. Assume that Australia and New Zealand are trading partners. Australia's economy is currently in recession.

   (a) Now assume that Australia begins to recover from its recession. Using a correctly labeled graph of aggregate demand and aggregate supply for New Zealand, show the impact of Australia's rising income on each of the following in the short run.

      (i) Aggregate demand in New Zealand. Explain.

      (ii) Output in New Zealand

   (b) Using a correctly labeled graph of the money market for New Zealand, show the effect of the output change in part (a)(ii) on the following.

      (i) Demand for money. Explain.

      (ii) The nominal interest rate

   (c) Assume that the price level in New Zealand rises. Given your answer to part (b)(ii), explain what will happen to real interest rates.

   (d) Although recovering, Australia remains in recession and its government takes no action. Indicate whether each of the following curves will shift to the left, shift to the right, or remain unchanged in the long run in Australia.

      (i) Aggregate supply

      (ii) Aggregate demand

2. (a) Assume that businesses are granted a tax credit on spending for machinery. Using a correctly labeled graph of the loanable funds market, show the effect of the business sector's response on the real interest rate. Page 38

(b) Now assume instead that the tax rate on interest income from household savings is lowered and there is no change in government budget deficit. Using a second correctly labeled graph of the loanable funds market, show the effect of the households' response on the real interest rate.

(c) Given your answer to part (b), explain what will happen to the country's production possibilities curve in the long run. Page 38

3. Assume that the real interest rate in both the United States and the European Union equals 4.5 percent.

(a) Assume that the real interest rate in the United States falls to 3.75 percent.

(i) How will the flow of financial capital between the United States and the European Union be affected? Explain.

(ii) Using a correctly labeled graph of the foreign exchange market for the euro, show how the value of the euro would change relative to the United States dollar in a flexible exchange rate system.

(b) Explain how the change in the value of the euro in part (a)(ii) would affect the European Union's net exports.

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1. Assume that the economy of Country Z is operating on the upward-sloping portion of its short-run aggregate supply curve. Assume that the government increases spending.

   (a) How will the increase in government expenditures affect each of the following in the short run?

      (i) Aggregate demand

      (ii) Short-run aggregate supply

   (b) Using a correctly labeled graph of aggregate demand and aggregate supply, show the effect of the increase in government expenditures on real output and the price level.

   (c) Assume that the government funded this increase in expenditure by borrowing from the public. Using a correctly labeled graph of the loanable-funds market, show the effect of the increase in government borrowing on the real interest rate.

   (d) Given the change in the real interest rate in part (c), what will be the effect on each of the following on the foreign exchange market?

      (i) Supply of Country Z's currency. Explain.

      (ii) The value of Country Z's currency

   (e) Given your answer in part (d) (ii), what will be the effect of the change in the value of Country Z's currency on Country Z's exports? Explain.

q2 macro 2008b

2. Suppose that Mexico decreases its tariff rates on all of its imports of automobiles from abroad.

   (a) Will each of the following groups benefit from the decrease in the tariff rate?

      (i) Mexican consumers

      (ii) Mexican automobile manufacturers. Explain.

   (b) How would the decrease in the tariff rates affect each of the following in Mexico?

      (i) Current account balance. Explain.

      (ii) Capital account balance

   (c) Given the change in Mexico's current account in part (b)(i), what will happen to the aggregate demand in Mexico?

OUTPUTS AND PRICES IN GALA LAND

This Year's Output	**This Year's Price**
400 loaves of bread	$6 per loaf
1,000 gallons of water	$2 per gallon
800 pieces of fruit	$2 per piece

3. Gala Land produces three final goods: bread, water, and fruit. The table above shows this year's output and price for each good.

   (a) Calculate this year's nominal gross domestic product (GDP).

   (b) Assume that in Gala Land the GDP deflator (GDP price index) is 100 in the base year and 150 this year. Calculate each of the following.

      (i) The inflation rate, expressed as a percentage, between the base year and this year

      (ii) This year's real GDP

   (c) Since the base year, workers have received a 20 percent increase in their nominal wages. If workers face the same inflation that you calculated in part (b)(i), what has happened to their real wages? Explain.

   (d) If the GDP deflator in Gala Land increases unexpectedly, would a borrower with a fixed-interest-rate loan be better off or worse off? Explain.

q1 macro 2008

1. Assume the United States economy is operating at full-employment output and the government has a balanced budget. A drop in consumer confidence reduces consumption spending, causing the economy to enter into a recession.

   (a) Using a correctly labeled graph of the short-run Phillips curve, show the effect of the decrease in consumption spending. Label the initial position "A" and the new position "B".

   (b) What is the impact of the recession on the federal budget? Explain.

   (c) Assume that current real gross domestic product falls short of full-employment output by $500 billion and the marginal propensity to consume is 0.8.

      (i) Calculate the minimum increase in government spending that could bring about full employment.

      (ii) Assume that instead of increasing government spending, the government decides to reduce personal income taxes. Will the reduction in personal income taxes required to achieve full employment be larger than or smaller than the government spending change you calculated in part (c)(i) ? Explain why.

   (d) Using a correctly labeled graph of the loanable funds market, show the impact of the increased government spending on the real interest rate in the economy.

   (e) How will the real interest rate change in part (d) affect the growth rate of the United States economy? Explain.

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2. Balance of payments accounts record all of a country's international transactions during a year.

   (a) Two major subaccounts in the balance of payments accounts are the current account and the capital account. In which of these subaccounts will each of the following transactions be recorded?

      (i) A United States resident buys chocolate from Belgium.

      (ii) A United States manufacturer buys computer equipment from Japan.

q2 macro 2008

   (b) How would an increase in the real income in the United States affect the United States current account balance? Explain.

   (c) Using a correctly labeled graph of the foreign exchange market for the United States dollar, show how an increase in United States firms' direct investment in India will affect the value of the United States dollar relative to the Indian currency (the rupee).

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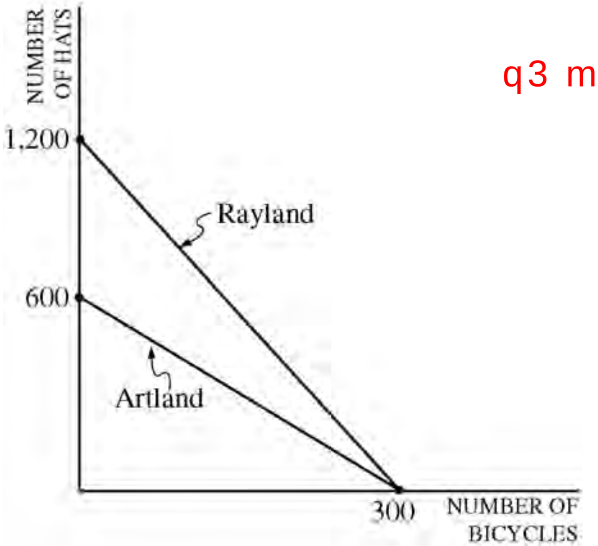
q3 macro 2008



3. The diagram above shows the production possibilities curves for two countries: Artland and Rayland. Using equal amounts of resources, Artland can produce 600 hats or 300 bicycles, whereas Rayland can produce 1,200 hats or 300 bicycles.

   (a) Calculate the opportunity cost of a bicycle in Artland.

   (b) If the two countries specialize and trade, which country will import bicycles? Explain.

   (c) If the terms of trade are 5 hats for 1 bicycle, would trade be advantageous for each of the following?

      (i) Artland

      (ii) Rayland

   (d) If productivity in Artland triples, which country has the comparative advantage in the production of hats?

1. The unemployment rate in the country of Southland is greater than the natural rate of unemployment.

   (a) Using a correctly labeled graph of aggregate demand and aggregate supply, show the current equilibrium real gross domestic product, labeled Y_C, and price level in Southland, labeled PL_C.

   The president of Southland is receiving advice from two economic advisers—Kohelis and Raymond—about how best to reduce unemployment in Southland.

   (b) Kohelis advises the president to decrease personal income taxes.

      (i) How would such a decrease in taxes affect aggregate demand? Explain.

      (ii) Using a correctly labeled graph of the short-run Phillips curve, show the effect of the decrease in taxes. Label the initial equilibrium from part (a) as point A, and the new equilibrium resulting from the decrease in taxes as point B.

   (c) Raymond advises the president to take no policy action.

      (i) What will happen to the short-run aggregate supply curve in the long run? Explain.

      (ii) Using a new correctly labeled graph of the short-run Phillips curve, show the effect of the change in the short-run aggregate supply you identified in part (c)(i).

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2. In Country Z, the required reserve ratio is 10 percent. Assume that the central bank sells $50 million in government securities on the open market.

(a) Calculate each of the following.

(i) The total change in reserves in the banking system

(ii) The maximum possible change in the money supply

(b) Using a correctly labeled graph of the money market, show the impact of the central bank's bond sale on the nominal interest rate.

(c) What is the impact of the central bank's bond sale on the equilibrium price level in the short run?

(d) As a result of the price level change in part (c), are people with fixed incomes better off, worse off, or unaffected? Explain.

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3. Assume that the real interest rates in both Canada and India have been 5 percent. Now the real interest rate in India increases to 8 percent.

   (a) Using a correctly labeled graph of the foreign exchange market for the Canadian dollar, show the effect of the higher real interest rate in India on each of the following.

      (i) Supply of the Canadian dollar. Explain.

      (ii) The value of the Canadian dollar, assuming flexible exchange rates

   (b) Using a correctly labeled graph of the loanable funds market in Canada, show how the increase in the real interest rate in India affects the real interest rate in Canada.

Page 48

1. A country's economy is in a short-run equilibrium with an output level less than the full-employment output level. Assume an upward-sloping aggregate supply curve.

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

      (i) Full-employment output, labeled as Y_F

      (ii) Equilibrium real output and price level, labeled as Y_E and PL_E, respectively

   (b) Assume that the country's government increases domestic military expenditures. On the graph from part (a), show how the increased military expenditures affect the following in the short run.

      (i) Aggregate demand

      (ii) Equilibrium real output and price level, labeled as Y_2 and PL_2, respectively

   (c) Using a correctly labeled graph of the short-run Phillips curve, show the effect of the increased military expenditures in the short run, labeling the initial point as A and the new point as B.

   (d) Assume that the increased military spending is financed through government borrowing. What will happen to the real interest rate? Explain.

   (e) Assume that the economy produces only two goods: military goods and civilian goods. Using a correctly labeled production possibilities curve, show the effect of the increase in military expenditures from part (b), labeling the initial point as C and the new point as D.

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2. The central bank of the country of Sewell sells bonds on the open market. q2 macro 2010 formb

(a) Assume that banks in Sewell have no excess reserves. What is the effect of the central bank's action on the amount of customer loans that banks in Sewell can make?

(b) Using a correctly labeled graph of the money market, show the effect of the central bank's action on the nominal interest rate in Sewell.

(c) What is the effect of the central bank's action on each of the following in Sewell?

(i) Price level

(ii) Real interest rate. Explain.

(d) Given your answer in part (c)(ii), how is the international value of Sewell's currency, the ono, affected? Explain.

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3. How does each of the following changes affect the real gross domestic product and price level of an open economy in the short run? Explain each.

(a) An increase in the price of crude oil, an important natural resource

(b) A technological change that increases the productivity of labor

(c) An increase in spending by consumers

(d) The depreciation of the country's currency in the foreign exchange market

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1. Assume that the United States economy is currently in long-run equilibrium.

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

      (i) The long-run aggregate supply curve

      (ii) The current equilibrium output and price levels, labeled as Y_E and PL_E, respectively

   (b) Assume that the government increases spending on national defense without raising taxes.

      (i) On your graph in part (a), show how the government action affects aggregate demand.

      (ii) How will this government action affect the unemployment rate in the short run? Explain.

   (c) Assume that the economy adjusts to a new long-run equilibrium after the increase in government spending.

      (i) How will the short-run aggregate supply curve in the new long-run equilibrium compare with that in the initial long-run equilibrium in part (a) ? Explain.

      (ii) On your graph in part (a), label the new long-run equilibrium price level as PL_2.

   (d) In order to finance the increase in government spending on national defense from part (b), the government borrows funds from the public. Using a correctly labeled graph of the loanable funds market, show the effect of the government's borrowing on the real interest rate.

   (e) Given the change in the real interest rate in part (d), what is the impact on each of the following?

      (i) Investment

      (ii) Economic growth rate. Explain.

2. A drop in credit card fees causes people to use credit cards more often for transactions and demand less money.

   (a) Using a correctly labeled graph of the money market, show how the nominal interest rate will be affected.

   (b) Given the interest rate change in part (a), what will happen to bond prices in the short run?

   (c) Given the interest rate change in part (a), what will happen to the price level in the short run? Explain.

   (d) Identify an open-market operation the Federal Reserve could use to keep the nominal interest rate constant at the level that existed before the drop in credit card fees. Explain.

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3. A United States firm sells $10 million worth of goods to a firm in Argentina, where the currency is the peso.

(a) How will the transaction above affect Argentina's aggregate demand? Explain.

q3 macro 2010

(b) Assume that the United States current account balance with Argentina is initially zero. How will the transaction above affect the United States current account balance? Explain.

(c) Using a correctly labeled graph of the foreign exchange market for the United States dollar, show how a decrease in the United States financial investment in Argentina affects each of the following.

(i) The supply of United States dollars

(ii) The value of the United States dollar relative to the peso

(d) Suppose that the inflation rate is 3 percent in the United States and 5 percent in Argentina. What will happen to the value of the peso relative to the United States dollar as a result of the difference in inflation rates? Explain.

Page 54

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.

   q1 macro 2011

      (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?

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.

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3. Sewell Bank has the simplified balance sheet below.

q3 macro 2011

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?

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

q1 macro 2012

   (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?

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q3 macro 2012

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.

q1 macro 2013

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.

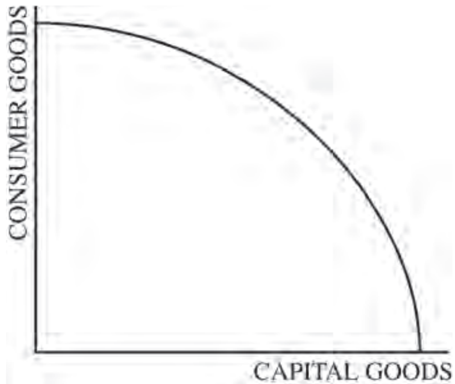
      (i) Demand for the euro. Explain.

      (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?

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

q2 macro 2013



(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.

q1 macro 2014

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 <u>maximum</u> 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. q2 macro 2014

(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?

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

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.

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q3 macro 2014

q1 macro 2015

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

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

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

      (ii) Full-employment output, labeled as Y_f

   (b) Assume that the Federal Reserve targets a new federal funds rate to reach full employment. Should the Federal Reserve target a higher or lower federal funds rate?

   (c) Given the Federal Reserve action you identified in part (b), draw a correctly labeled graph of the money market and show the effect on the nominal interest rate.

   (d) The policy makers pursue a fiscal policy rather than the monetary policy in part (b). Assume that the marginal propensity to consume is 0.8 and the value of the recessionary gap is $300 billion.

      (i) If the government changes its spending without changing taxes to eliminate the recessionary gap, calculate the minimum required change in government spending.

      (ii) If the government changes taxes without changing government spending to eliminate the recessionary gap, will the minimum required change in taxes be greater than, smaller than, or equal to the minimum required change in government spending in part (d)(i) ? Explain.

   (e) Assume the government lowers income tax rates to eliminate the recessionary gap. Will each of the following increase, decrease, or stay the same?

      (i) Aggregate demand. Explain.

      (ii) Long-run aggregate supply. Explain.

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2. Country X and Country Y are trading partners, and both produce furnaces and solar panels. The countries can produce the following amounts using equal amounts of resources.

Country X: 6 furnaces or 8 solar panels

Country Y: 6 furnaces or 12 solar panels

q2 macro 2015

(a) Which country has an absolute advantage in producing solar panels?

(b) Calculate the opportunity cost of a furnace in Country Y.

(c) Which country has the comparative advantage in producing furnaces? Explain.

(d) If the terms of trade were that 2 furnaces are exchanged for 1 solar panel, should Country X produce solar panels domestically or import solar panels from Country Y?

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3. Exchange rates and interest rates are important for macroeconomic decision making.

q3 macro 2015

(a) How does an increase in Japan's government budget deficit affect each of the following?

(i) The real interest rate in the short run in Japan. Explain.

(ii) Private domestic investment in plant and equipment in Japan

(b) Draw a correctly labeled graph of the foreign exchange market for the euro, and show the effect of the change in the real interest rate in Japan from part (a)(i) on each of the following.

(i) Supply of euros. Explain.

(ii) Yen price of the euro

(c) To reverse the change in the yen price of the euro identified in part (b)(ii), should the European Central Bank buy or sell euros in the foreign exchange market?

Page 69

1. Suppose that the United States economy is in a deep recession.

   (a) Using a correctly labeled aggregate demand and aggregate supply graph, show the equilibrium price level and real gross domestic product.

   (b) There is a debate in Congress as to whether to decrease personal income taxes by a given amount or to increase government purchases by this amount. Which of these two fiscal policies will have a larger impact on real gross domestic product? Explain.

   (c) Explain how a decrease in personal income taxes will affect each of the following in the short run.

      (i) Consumption

      (ii) Real gross domestic product and the price level

      (iii) Imports

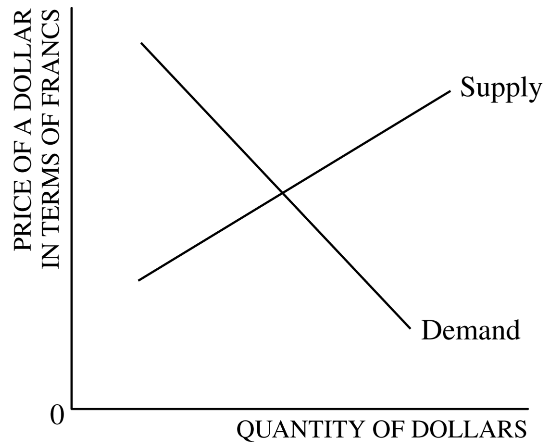
      (iv) Exports

   (d) Explain the mechanism by which an increase in net investment will cause each of the following to change.

      (i) Aggregate demand

      (ii) Long-run aggregate supply

2. Assume that the United States and France are the only two countries in the world and that exchange rates between the two countries are flexible.



(a) Assume that there is an increase in the United States demand for French goods. Explain how this increase in demand will affect each of the following.

(i) The supply of dollars

(ii) The international value of the dollar

(b) Assume that there is an increase in real interest rates in the United States, but not in France. Explain how this increase in interest rates will affect each of the following.

(i) The international value of the dollar in the foreign exchange market

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(ii) The quantity of dollars supplied in the foreign exchange market

3. Assume an economy with no international sector.

   (a) Using a correctly labeled money-market graph, show how a decrease in the money supply will affect interest rates.

   (b) Explain how the change in the interest rate you identified in part (a) will directly affect each of the three components of aggregate demand for this closed economy.

   (c) Using a correctly labeled aggregate demand and aggregate supply graph, show how the change in the interest rate you identified in part (a) will affect each of the following in the short run.

      (i) Output

      (ii) Price level

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1. Assume that the economy is operating below the full-employment level of output and that the government's budget is balanced.

   (a) Using a correctly labeled aggregate demand and aggregate supply graph, show how an increase in government spending will affect each of the following in the short run.

      (i) Real output

      (ii) Price level

   (b) Explain how this increase in government spending will affect each of the following in the short run.

      (i) Real interest rates

      (ii) Investment

   Now assume that instead of increasing government spending, the government decreases corporate-profits taxes.

   (c) Using a correctly labeled aggregate demand and aggregate supply graph, show and explain how this decrease in corporate-profits taxes will affect each of the following.

      (i) Aggregate demand

      (ii) Long-run aggregate supply

      (iii) Real output

      (iv) Price level

   (d) Assume that this country produces two goods, X and Y. Draw a correctly labeled production possibilities curve for this economy. Now show on the graph how this decrease in corporate-profits taxes will affect this economy's production possibilities curve.

2. A movement toward a unified monetary policy within the European Union has led to an increase in real interest rates in member countries, but not in the United States. Explain how this increase in real interest rates will affect each of the following.

    (a) Purchases of United States financial assets by foreigners
    (b) The international value of the United States dollar
    (c) United States exports
    (d) United States imports

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3. Janet Smith deposits $1,000 of her cash holdings in her checking account at First Federal Bank. The reserve requirement is 20 percent and the bank has no excess reserves.

(a) What is the immediate effect of her deposit on the money supply? Explain why.
(b) What is the maximum amount of money First Federal can initially loan out? Explain how you determined this amount.
(c) What is the maximum amount of money the entire banking system can create? Explain how you determined this amount.
(d) Give one reason why the money supply may not increase by the amount you identified in (c).

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1. Assume that the economy of Country X has an actual unemployment rate of 7%, a natural rate of unemployment of 5%, and an inflation rate of 3%.

(a) Using the numerical values given above, draw a correctly labeled graph of the short-run and long-run Phillips curves. Label the current short-run equilibrium as point B. Plot the numerical values above on the graph.

(b) Assume that the government of Country X takes no policy action to reduce unemployment. In the long run, will each of the following shift to the right, shift to the left, or remain the same?

(i) Short-run aggregate supply curve. Explain.

(ii) Long-run Phillips curve

(c) Identify a fiscal policy action that could be used to reduce the unemployment rate in the short run.

(d) Draw a correctly labeled graph of aggregate demand and short-run aggregate supply, and show the impact on the equilibrium price level and real gross domestic product (GDP) of the fiscal policy action identified in part (c).

(e) Based on the change in real GDP identified in part (d), will the supply of Country X's currency in the foreign exchange market increase, decrease, or remain the same? Explain.

(f) Based on your answer to part (e) and assuming a flexible exchange rate system, will Country X's currency appreciate, depreciate, or remain the same in the foreign exchange market?

2. Assume that an economy is in long-run equilibrium. Assume that consumers wish to hold less money because they use credit cards more frequently to purchase goods and services than cash.

   (a) Draw a correctly labeled graph of the money market and show the effect of the reduced holdings of money on the equilibrium nominal interest rate in the short run.

   (b) Based on the change in the interest rate in part (a), what will happen to each of the following in the short run?

      (i) Prices of previously issued bonds

      (ii) The price level and real income. Explain.

   (c) With a constant money supply, based on your answer to part b(ii), will the velocity of money increase, decrease, or remain the same, or is the change indeterminate?

   (d) If the central bank wishes to reverse the change in the interest rate identified in part (a), what open market operation would it use?

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3. A country is at full employment and produces two types of goods: consumer goods and capital goods.

   (a) Draw a correctly labeled graph of the production possibilities curve, with consumer goods on the horizontal axis and capital goods on the vertical axis. Indicate a point on your graph, labeled X, that represents full employment and a possible combination in which both goods are being produced.

   (b) Assume there is an increase in the country's national savings. Draw a correctly labeled graph of the loanable funds market, showing the change in the real interest rate from the increase in savings.

   (c) On the same graph from part (a), show another point, labeled Z, that represents full employment and a new combination of consumer goods and capital goods consistent with the increase in the country's national savings.

   (d) Referring to your answer to part (c), will the long-run aggregate supply curve shift to the right, shift to the left, or remain the same? Explain.

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1. Assume that the United States economy is currently in a short-run equilibrium with the actual unemployment rate above the natural rate of unemployment.

(a) Draw a single correctly labeled graph with both the long-run Phillips curve and short-run Phillips curve. Label the current short-run equilibrium point P.

(b) Assuming no policy actions are taken, will the short-run Phillips curve shift to the right (upward), shift to the left (downward), or remain the same in the long run? Explain.

(c) If the Federal Reserve Bank wants to lower unemployment, what expansionary open-market operation should it use?

(d) How will the open-market operation you identified in part (c) affect each of the following?

(i) Federal funds rate. Explain.

(ii) Real interest rate in the short run.

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(e) Given your answer in part (d)(ii), what is the effect on real gross domestic product (GDP) in the short run? Explain.

(f) Japan and the United States are major trading partners. Indicate how the change in real GDP you identified in part (e) will affect the demand for the Japanese yen in the foreign exchange market.

(g) Draw a correctly labeled graph of the foreign exchange market for the Japanese yen, showing the effect of the change in demand identified in part (f) on the value of the Japanese yen relative to the United States dollar.

2. The following is the balance sheet of First Superior Bank.

Assets		Liabilities and Equity	
Reserves	$200	Demand deposits	$2,000
Loans	$1,800	Equity (net worth)	$0

Assume that the required reserve ratio is 10 percent.

(a) What is the dollar value of new loans that First Superior Bank can make? Explain.

(b) Mr. Smith deposits $100 of cash in a demand deposit account in First Superior Bank. Calculate the maximum amount of new loans that First Superior Bank can now make.

(c) As a result of Mr. Smith's $100 cash deposit, calculate the maximum change over time in each of the following in the banking system.

   (i) Loans

   (ii) Demand deposits

(d) As a result of Mr. Smith's $100 cash deposit, calculate the maximum change over time in the money supply.

(e) Provide one reason why the actual change in money supply can be smaller than the maximum change you identified in part (d).

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3. The following table shows the number of donuts or cupcakes that John and Erica can each produce in one day.

	Donuts	Cupcakes
John	200	100
Erica	150	50

(a) Who has the absolute advantage in producing donuts? Explain.

(b) Who has the comparative advantage in producing donuts? Explain.

(c) Assume that John and Erica decide to specialize according to their comparative advantages and that one cupcake is exchanged for four donuts.

(i) Indicate whether or not specialization and trade are beneficial to John.

(ii) Indicate whether or not specialization and trade are beneficial to Erica.

(d) Assume that Erica discovers a new cupcake production technique that will increase her daily production of cupcakes only. Using donuts on the horizontal axis, draw a correctly labeled production possibilities curve for Erica, before and after the technology change in cupcake production.