

Past-paper walk-through

The Foreign Exchange Market ■ 6.3

eXercise

Questions in this set

- 2026 Q3
- 2025 Set 1 Q1
- 2024 Set 2 Q3
- 2023 Set 2 Q2
- 2021 Set 1 Q1
- 2019 Set 2 Q2
- 2018 Q1
- 2016 Q1
- 2015 Q3

Reading the mark scheme

- **B1** a mark that stands on its own – the point is either made or not.
- **M1** a *method* mark: the right approach, even if the number is wrong.
- **A1** an *answer* mark, and it usually needs its M mark first.
- **C1** a working mark on the way to the answer.
- **//** separates answers the examiner accepts equally.
- **ecf** = error carried forward: a later part is marked on your own earlier answer.
- **owtte** = “or words to that effect” – the wording need not match.

Question 3

2026 ■ Q3

Lizland is a small island nation, and its currency is the Lizland crown (LIZ). The economy of Lizland is in short-run macroeconomic equilibrium with a 600 million crown recessionary gap.

(a)(i) Policymakers in Lizland are considering taking action to close the recessionary gap in the short run.

The central bank of Lizland is considering implementing monetary policy. The banking system of Lizland has ample reserves. Identify a specific monetary policy action the central bank of Lizland would implement to close the recessionary gap in the short run.

(a)(ii) The government of Lizland is also considering changing its spending, and the marginal propensity to consume is 0.75. Calculate the minimum change in government spending and identify the direction of the change required to fully close the 600 million crown recessionary gap in the short run. Show your work.

Question 3

2026 ■ Q3

Lizland is a small island nation, and its currency is the Lizland crown (LIZ). The economy of Lizland is in short-run macroeconomic equilibrium with a 600 million crown recessionary gap.

(b) Assume that the government of Lizland decides to change its spending as calculated in part A (ii). Based solely on this change, will the price level in Lizland increase, decrease, or remain the same in the short run? Explain.

Question 3

2026 ■ Q3

Lizland is a small island nation, and its currency is the Lizland crown (LIZ). The economy of Lizland is in short-run macroeconomic equilibrium with a 600 million crown recessionary gap.

(c) The nations of Lizland and Andoh are trading partners with flexible exchange rates. The currency of Andoh is the Andoh note (AND). Draw a correctly labeled graph of the foreign exchange market for the Lizland crown (LIZ). Based solely on the change in the price level in part B, show the change in the international value of the Lizland crown on your graph.

Question 1

2025 Set 1 ■ Q1

Assume that the economy of Vortania is in long-run equilibrium.

(a) Draw a correctly labeled graph of the short-run and long-run Phillips curves for the economy of Vortania, and label the long-run equilibrium point as P.

Question 1

2025 Set 1 ■ Q1

Assume that the economy of Vortania is in long-run equilibrium.

(b) Assume that new residential construction projects are being implemented in Vortania.

(b)(i) Will real output in Vortania increase, decrease, or remain the same in the short run? Explain.

(b)(ii) Assuming no change in inflationary expectations, on your graph in part A, show the short-run effect of the new residential construction projects on Vortania's economy, labeling the new short-run equilibrium point as S.

Question 1

2025 Set 1 ■ Q1

Assume that the economy of Vortania is in long-run equilibrium.

(c) Vortania and Rhodara are trading partners with flexible exchange rates. The currency of Vortania is the Vortanian crown (VTC), and the currency of Rhodara is the Rhodaran mark (RHM). Assume that Vortania's capital and financial account (CFA) balance is zero. Now assume that Vortania imposes new tariffs on imports from Rhodara. Draw a correctly labeled graph of the foreign exchange market for the Vortanian crown, and show the effect of the tariffs on the SUPPLY of the Vortanian crown and the international value of the Vortanian crown.

Question 1

2025 Set 1 ■ Q1

Assume that the economy of Vortania is in long-run equilibrium.

(d) Based solely on the change in the international value of the Vortanian crown shown in part C, will Vortania's net exports increase, decrease, or remain the same in the short run?

Question 1

2025 Set 1 ■ Q1

Assume that the economy of Vortania is in long-run equilibrium.

(e) Based on the change in net exports identified in part D, what will happen to each of the following in the short run?

(e)(i) The capital and financial account (CFA) balance in Vortania. Explain.

(e)(ii) Employment in Vortania

Question 1

2025 Set 1 ■ Q1

Assume that the economy of Vortania is in long-run equilibrium.

(f) Assume the central bank of Vortania wants to return the Vortanian crown to its international value before the imposition of the tariffs. Would the central bank buy or sell Vortanian crowns in the foreign exchange market? Explain.

Solution 1

(a)

Mark scheme

- Draw a downward-sloping short-run Phillips curve (SRPC) with Inflation Rate (%) on the vertical axis and Unemployment Rate (%) on the horizontal axis (1 point). Then add a vertical long-run Phillips curve (LRPC) at the natural rate of unemployment U_N , and label the point where the SRPC crosses the LRPC as P (1 point). 2 points total.

Solution 1

(b)

Mark scheme

- This line is only the stem introducing part B ('Assume that new residential construction projects are being implemented in Vortania'); it states an assumption and has no separately scorable content of its own. Both points for part B are earned under B(i) and B(ii).

Solution 1

(b)(i)

Mark scheme

- Real output will INCREASE in the short run. New residential construction projects raise investment spending (a component of aggregate demand), which increases aggregate demand and moves the economy along the SRPC to higher output. 1 point for stating 'increase' with this investment-spending explanation.

Solution 1

(b)(ii)

Mark scheme

- On the graph from part A, plot a new point S on the (unchanged) SRPC to the LEFT of point P — i.e., at lower unemployment and higher inflation than P. Because inflationary expectations are unchanged, the SRPC itself does not shift; the economy simply moves along the existing SRPC as aggregate demand rises. 1 point.

Solution 1

(c) Mark scheme

- Draw the foreign exchange market for the Vortanian crown (VTC): vertical axis = price of VTC in RHM/VTC, horizontal axis = Quantity of VTC, with a downward-sloping demand curve D_{VTC_1} and an upward-sloping supply curve S_{VTC_1} intersecting at exchange rate e_1 and quantity Q_1 (1 point). Then show that the tariffs on Rhodaran imports cause Vortanians to buy fewer Rhodaran goods, so they supply fewer crowns in the foreign exchange market: the supply curve shifts LEFT to S_{VTC_2} , raising the equilibrium exchange rate to $e_2 > e_1$ (an appreciation of the crown) and lowering the quantity traded to $Q_2 < Q_1$ (1 point). 2 points total.

Solution 1

(d)

Mark scheme

- Vortania's net exports will DECREASE. The crown appreciated (part C), making Vortanian exports more expensive to foreigners and Rhodaran imports cheaper to Vortanians, so exports fall and imports rise, decreasing net exports. 1 point.

Solution 1

(e)

Mark scheme

- This line is only the stem introducing part E ('Based on the change in net exports identified in part D, what will happen to each of the following in the short run?'); it has no separately scorable content of its own. Both points for part E are earned under E(i) and E(ii).

Solution 1

(e)(i)

Mark scheme

- The capital and financial account (CFA) balance in Vortania will move into SURPLUS. Because the current account (CA) moved into deficit (net exports fell, part D) and the balance of payments must balance ($CA + CFA = 0$), the CFA balance must move into surplus to offset the CA deficit. 1 point.

Solution 1

(e)(ii)

Mark scheme

- Employment in Vortania will DECREASE. The fall in net exports (part D) is a fall in a component of aggregate demand, so AD decreases, decreasing short-run real output and therefore employment. 1 point.

Solution 1

(f)

Mark scheme

- The central bank of Vortania would SELL Vortanian crowns in the foreign exchange market. Selling crowns increases the supply of VTC, which depreciates the crown back toward its pre-tariff international value, reversing the appreciation from part C. 1 point.

Question 3

2024 Set 2 ■ Q3

Assume that Jamaica has a cyclical unemployment rate of 4% and a balanced capital and financial account (CFA).

- (a)** Identify a specific fiscal policy action that Jamaica's government would take to bring its economy to full employment.
- (b)** Based solely on the short-run change in real output resulting from the fiscal policy action identified in part (a), what will happen to Jamaica's net exports? Explain.
- (c)** Assume that Jamaica and Turkey are trading partners with flexible exchange rates. Jamaica's currency is the Jamaican dollar (JMD), and Turkey's currency is the lira (TRY). Draw a correctly labeled graph of the foreign exchange market for the Jamaican dollar relative to the lira, and show the effect of the change in net exports identified in part (b) on the supply of the Jamaican dollar and the international value of the Jamaican dollar.

Question 3

(d) How will the change in net exports identified in part (b) affect Jamaica's capital and financial account (CFA)? Explain.

Solution 3

(a)

Mark scheme

- An expansionary fiscal policy action: an increase in government spending, a decrease in taxes, or an increase in transfer payments (any one of these) would move Jamaica's economy to full employment.

Solution 3

(b)

Mark scheme

- Jamaica's net exports will decrease. Explanation: the expansionary fiscal policy raises Jamaica's short-run real output/income; higher real income increases Jamaican demand for internationally traded goods, raising imports, which (holding exports constant) causes net exports ($X - M$) to fall.

Solution 3

(c) Mark scheme

- Draw a foreign-exchange-market graph for the Jamaican dollar with the exchange rate (TRY/JMD) on the vertical axis and Quantity of JMD on the horizontal axis: a downward-sloping demand curve D_{JMD_1} and an upward-sloping supply curve S_{JMD_1} intersect at initial equilibrium exchange rate e_1 and quantity Q_1 (1 point for a correctly labeled graph). For the second point, shift the supply curve for JMD rightward, from S_{JMD_1} to S_{JMD_2} (the fall in net exports from part (b) means Jamaicans supply more JMD to buy the additional imports), producing a new equilibrium exchange rate $e_2 < e_1$ at quantity $Q_2 > Q_1$ — the Jamaican dollar depreciates against the lira.

Solution 3

(d)

Mark scheme

- Jamaica's capital and financial account (CFA) will move into surplus.
Explanation: the fall in net exports from part (b) means Jamaica's current account (CA) moves into deficit; since the balance of payments must balance ($CA + CFA = 0$), the CFA must move into an offsetting surplus.

Question 2

2023 Set 2 ■ Q2

The United States and South Africa are trading partners with flexible exchange rates, and the United States current account balance with South Africa is zero.

(a) Assume real income in the United States increases while real income in South Africa remains the same. Will United States net exports increase, decrease, or remain unchanged? Explain.

(b)(i) Based on your answer to part (a), what will happen to each of the following?
The capital and financial account balance in the United States

(b)(ii) Based on your answer to part (a), what will happen to each of the following?
Actual unemployment in South Africa in the short run. Explain.

(c) The currency of the United States is the dollar (USD), and the currency of South Africa is the rand (ZAR). Draw a correctly labeled graph of the foreign exchange

Question 2

market for the rand and show the effect of the increase in real income in the United States on the international value of the rand.

Solution 2

(a)

Mark scheme

- United States net exports will decrease. Explanation: as U.S. real income rises while South Africa's real income is unchanged, U.S. demand for South African (foreign) goods increases, which increases U.S. imports, so net exports (exports minus imports) fall.

Solution 2

(b)(i)

Mark scheme

- The capital and financial account balance in the United States will move into surplus (increase). This offsets the larger current account deficit caused by the fall in net exports, consistent with the balance of payments identity (current account + capital/financial account = 0).

Solution 2

(b)(ii)

Mark scheme

- Actual unemployment in South Africa will decrease in the short run.
Explanation: the rise in U.S. imports from South Africa means South African exports increase, which increases South African aggregate demand and real GDP, so more workers are hired and unemployment falls.

Solution 2

(c) Mark scheme

- Graph 1: axes are the exchange rate (USD/ZAR, price of rand) on the vertical axis and Quantity of Rand on the horizontal axis, with an upward-sloping supply curve S_{Rand_1} and a downward-sloping demand curve D_{Rand_1} intersecting at equilibrium exchange rate e_1 and quantity Q_1 , both curves and axes correctly labeled. Graph 2 (second point): the demand curve for rand shifts rightward ($D_{Rand_1} \rightarrow D_{Rand_2}$), because higher U.S. real income raises U.S. demand for South African goods and hence demand for rand; this raises the equilibrium exchange rate from e_1 to e_2 and quantity from Q_1 to Q_2 — i.e., the rand appreciates.

Question 1

2021 Set 1 ■ Q1

Assume the economy of Sweden is in long-run equilibrium and has a surplus in its current account.

(a) Is the Swedish capital and financial account in deficit, in surplus, or in balance? Explain.

Question 1

2021 Set 1 ■ Q1

Assume the economy of Sweden is in long-run equilibrium and has a surplus in its current account.

(b) Draw a correctly labeled graph of short-run aggregate supply, long-run aggregate supply, and aggregate demand curves for Sweden, and show the current equilibrium real output, labeled Y_1 , and the current equilibrium price level, labeled PL_1 .

Question 1

2021 Set 1 ■ Q1

Assume the economy of Sweden is in long-run equilibrium and has a surplus in its current account.

(c) Assume the United Kingdom decreases its imports from Sweden. On your graph in part (b), show the new equilibrium real output, labeled Y_2 , and the new equilibrium price level, labeled PL_2 , as a result of this change.

Question 1

2021 Set 1 ■ Q1

Assume the economy of Sweden is in long-run equilibrium and has a surplus in its current account.

(d) As a result of the decrease in the United Kingdom's imports from Sweden, would policy makers in Sweden be more concerned about cyclical unemployment or inflationary pressures in the short run? Explain.

Question 1

2021 Set 1 ■ Q1

Assume the economy of Sweden is in long-run equilibrium and has a surplus in its current account.

(e) If the Swedish central bank's goal is to return the economy to long-run equilibrium, what open-market operation should it use?

Question 1

2021 Set 1 ■ Q1

Assume the economy of Sweden is in long-run equilibrium and has a surplus in its current account.

(f) The currency of the United Kingdom is the pound, and the currency of Sweden is the krona. Draw a correctly labeled graph of the foreign exchange market for the krona, and show the impact of the decrease in the United Kingdom's imports from Sweden on the value of the krona in the foreign exchange market.

Question 1

2021 Set 1 ■ Q1

Assume the economy of Sweden is in long-run equilibrium and has a surplus in its current account.

(g) If the Swedish central bank's goal is to reverse the exchange rate change shown in part (f) by changing the interest rate, what open-market operation should it use?

Question 1

2021 Set 1 ■ Q1

Assume the economy of Sweden is in long-run equilibrium and has a surplus in its current account.

(h) Explain how the open-market operation identified in part (g) would reverse the change in the exchange rate.

Solution 1

(a)

Mark scheme

- The Swedish capital and financial account (CFA) is in deficit. Explanation: the current account (CA) is stated to be in surplus, and by the balance-of-payments identity $CA + CFA = 0$, so if CA is positive, CFA must be negative, i.e., in deficit.

Solution 1

(b) Mark scheme

- Draw a correctly labeled AD-AS graph with vertical axis 'Price Level' and horizontal axis 'Real GDP': an upward-sloping $SRAS_1$ curve and a downward-sloping AD_1 curve intersecting at price level PL_1 and real output Y_1 (dashed reference lines to both axes). [1 point] For the second point, the same graph must additionally show a vertical LRAS curve located exactly at Y_1 , i.e., LRAS, $SRAS_1$, and AD_1 all intersect at one point (PL_1 , Y_1), confirming the economy begins in long-run equilibrium. [1 point] Total 2 points for a correctly labeled three-curve graph (LRAS, $SRAS_1$, AD_1) meeting at (Y_1 , PL_1).

Solution 1

(c)

Mark scheme

- On the graph from part (b), shift AD_1 leftward to AD_2 (arrow pointing left), producing a new intersection with $SRAS_1$ at a lower real output Y_2 ($Y_2 < Y_1$) and a lower price level PL_2 ($PL_2 < PL_1$), both shown with dashed reference lines to the axes. This reflects the UK's decreased imports from Sweden reducing Swedish net exports and shifting AD left.

Solution 1

(d)

Mark scheme

- State that Swedish policymakers would be more concerned about cyclical unemployment than inflationary pressures in the short run. Explain: the decline in exports to the United Kingdom lowered real output below full employment (Y_2 is below the LRAS level Y_1), pushing unemployment above the natural rate of unemployment.

Solution 1

(e)

Mark scheme

- The Swedish central bank should buy bonds — an expansionary open-market purchase that increases the money supply and lowers interest rates, stimulating AD back toward long-run equilibrium output Y_1 .

Solution 1

(f) Mark scheme

- Draw a correctly labeled foreign-exchange market graph for the krona: vertical axis 'Pounds per Krona,' horizontal axis 'Quantity of Krona,' with an upward-sloping supply curve S_1 and a downward-sloping demand curve D_1 intersecting at exchange rate e_1 and quantity Q_1 (dashed lines to axes). [1 point] For the second point, show the demand curve for krona shifting leftward from D_1 to D_2 (the UK now buys fewer Swedish goods, so it needs fewer krona to pay for them), giving a new lower equilibrium exchange rate e_2 ($e_2 < e_1$, marked below e_1) — i.e., a decrease in the value of the krona. [1 point] Total 2 points.

Solution 1

(g)

Mark scheme

- Sweden's central bank should sell bonds — a contractionary open-market sale that raises domestic interest rates, intended to reverse the krona's depreciation shown in part (f).

Solution 1

(h)

Mark scheme

- Explain that selling bonds decreases the money supply and increases interest rates in Sweden; the higher interest rates increase financial capital inflows into Sweden, which increases demand for the krona in the foreign exchange market, thereby leading to an appreciation (increase in value) of the krona — reversing the exchange-rate change from part (f).

Question 2

2019 Set 2 ■ Q2

The European Union and the United States are trading partners.

(a) If the current account balance is zero, will an increase in United States real income result in a current account surplus, deficit, or no change? Explain.

(b) Draw a correctly labeled graph of the foreign exchange market for the euro. On your graph, show the effect of the increase in United States real income on the value of the euro relative to the United States dollar.

(c)(i) Now assume interest rates increase in the European Union.

What is the effect of the increase in interest rates in the European Union on the demand for the United States dollar? Explain.

(c)(ii) Based on your answer to part (c)(i), what is the effect on the value of the United States dollar relative to the euro?

Solution 2

(a)

Mark scheme

- The U.S. current account will move into (or further into) DEFICIT.
Explanation: an increase in U.S. real income raises U.S. demand for goods and services, including goods and services imported from the European Union; with exports unchanged, this rise in imports worsens net exports and pushes the current account balance toward deficit.

Solution 2

(b) Mark scheme

- Draw a foreign exchange market graph for the euro: price = Dollar per Euro on the vertical axis, Quantity of Euro on the horizontal axis, with a downward-sloping demand curve D_1 and an upward-sloping supply curve S_1 intersecting at the initial equilibrium exchange rate e_1 and quantity Q_1 . Then show the effect of the increase in U.S. real income: because higher U.S. income raises U.S. demand for European (euro-priced) goods and services, the DEMAND for euros shifts RIGHTWARD from D_1 to D_2 , raising the equilibrium exchange rate from e_1 to a higher e_2 — i.e. the euro APPRECIATES relative to the U.S. dollar (equivalently, the dollar depreciates against the euro). Full credit requires: (1) a correctly

Solution 2

labeled initial FX market graph for the euro, and (2) the demand for euros shifting right with the value of the euro rising from e_1 to e_2 .

Solution 2

(c)(i)

Mark scheme

- The DEMAND for the U.S. dollar will DECREASE. Explanation: as interest rates rise in the European Union, EU financial assets become relatively more attractive (offer higher returns) than U.S. assets, so financial capital flows from the European Union to the United States decrease; with fewer investors needing dollars to purchase U.S. assets, the demand for the dollar falls.

Solution 2

(c)(ii)

Mark scheme

- The value of the U.S. dollar relative to the euro will DEPRECIATE (fall). Since the demand for the dollar decreased (from part (c)(i)) while the supply of dollars is unchanged, the equilibrium price of the dollar in terms of euros falls — the dollar depreciates against the euro (equivalently, the euro appreciates against the dollar).

Question 1

2018 ■ Q1

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.

(a)(i) Current price level, labeled PL_1

(a)(ii) Current output, labeled Y_1

Question 1

2018 ■ Q1

Assume the United States economy is in recession.

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

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

(b)(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.

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

Question 1

2018 ■ Q1

Assume the United States economy is in recession.

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

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

(c)(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.

Question 1

2018 ■ Q1

Assume the United States economy is in recession.

(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?

(d)(i) Aggregate demand in the United States

(d)(ii) The price level in the United States

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

Solution 1

(a)

Mark scheme

- Draw a correctly labeled graph with Price Level on the vertical axis and Real GDP on the horizontal axis, showing a downward-sloping AD curve and an upward-sloping SRAS curve intersecting at one point, plus a vertical LRAS curve drawn to the right of that intersection (at Y_1), indicating the economy is currently producing below potential/full-employment output Y_f . This earns the point for drawing a vertical LRAS curve to the right of Y_1 .

Solution 1

(a)(i)

Mark scheme

- Label the price level at the intersection of AD and SRAS as PL_1 (a dashed line from the intersection to the price-level axis). Together with correctly drawn AD/SRAS curves and the Y_1 label, this earns the one point for 'showing PL_1 and Y_1 at the intersection of AD and SRAS.'

Solution 1

(a)(ii)

Mark scheme

- Label the output level at the intersection of AD and SRAS as Y_1 (a dashed line from the intersection to the real-GDP axis). No separate point is allocated beyond 1(a)(i) — the scoring guidelines award a single combined point for showing both PL_1 and Y_1 at the AD-SRAS intersection.

Solution 1

(b)

Mark scheme

- Setup/preamble sentence introducing the euro-zone recession scenario; carries no points of its own. The 3 points for part (b) are scored across (b)(i)-(b)(iii).

(b)(i)

Mark scheme

- United States exports to the euro zone will decrease. Explanation: the recession lowers income in the euro zone, which reduces euro-zone demand for United States goods (exports).

Solution 1

(b)(ii)

Mark scheme

- On the graph from part (a), show a leftward shift of the aggregate demand curve from AD to AD_2 , with the new intersection with $SRAS$ occurring at a lower output level $Y_2 < Y_1$ (and a lower price level), showing lower U.S. real output.

Solution 1

(b)(iii)

Mark scheme

- Unemployment in the United States will increase, since lower real output/aggregate demand means firms need less labor, raising unemployment.

Solution 1

(c)

Mark scheme

- Setup/preamble sentence introducing the decrease in demand for U.S. dollars in the foreign exchange market; carries no points of its own. The 2 points for part (c) are scored across (c)(i)-(c)(ii).

Solution 1

(c)(i)

Mark scheme

- The euro will appreciate against the U.S. dollar. Explanation: the supply of euros (offered in exchange for dollars) decreases as the demand for dollars falls, OR equivalently, since the dollar depreciates against the euro, the euro must appreciate against the dollar.

Solution 1

(c)(ii)

Mark scheme

- Draw a correctly labeled graph of the foreign exchange market for dollars (Euro/U.S. Dollar exchange rate on the vertical axis, Quantity of U.S. Dollars on the horizontal axis) with an upward-sloping supply curve (S) and a downward-sloping demand curve (D) for dollars. Show the demand curve shifting leftward to D' , producing a lower equilibrium exchange rate $e_2 < e_1$ — i.e., a depreciation of the dollar (equivalently, an appreciation of the euro).

Solution 1

(d)

Mark scheme

- Setup/preamble sentence introducing the combined expansionary fiscal and monetary policy scenario; carries no points of its own. The 3 points for part (d) are scored across (d)(i)-(d)(iii).

Solution 1

(d)(i)

Mark scheme

- Aggregate demand in the United States will increase, since both expansionary fiscal policy (higher government spending / lower taxes) and expansionary monetary policy (lower interest rates stimulating investment/consumption) raise aggregate demand.

Solution 1

(d)(ii)

Mark scheme

- The price level in the United States will increase, since the rightward shift of aggregate demand raises the equilibrium price level along the upward-sloping SRAS curve.

Solution 1

(d)(iii)

Mark scheme

- The change in the interest rate is indeterminate. Explanation: expansionary fiscal policy and expansionary monetary policy have opposite effects on interest rates — expansionary fiscal policy tends to increase the interest rate (government borrowing to finance the higher spending increases the demand for loanable funds), while expansionary monetary policy tends to increase the money supply and decrease the interest rate. Because these two effects work in opposite directions, the net effect on interest rates cannot be determined without more information.

Question 1

2016 ■ Q1

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.

Question 1

2016 ■ Q1

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

(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.

Question 1

2016 ■ Q1

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

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

Question 1

2016 ■ Q1

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

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

Federal funds rate. Explain.

(d)(ii) Real interest rate in the short run.

Question 1

2016 ■ Q1

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

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

Question 1

2016 ■ Q1

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

(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.

Question 1

2016 ■ Q1

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

(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.

Solution 1

(a)

Mark scheme

- Draw a single graph with unemployment rate (%) on the horizontal axis and inflation rate (%) on the vertical axis. Show a vertical Long-Run Phillips Curve (LRPC) at the natural rate of unemployment, and a downward-sloping Short-Run Phillips Curve (SRPC). Label the current short-run equilibrium point P on the SRPC to the right of (i.e., at a higher unemployment rate than) the LRPC. One point is earned for a correctly labeled graph showing a vertical LRPC and a downward-sloping SRPC; one point is earned for showing point P on the SRPC to the right of the LRPC.

Solution 1

(b)

Mark scheme

- The SRPC will shift to the left (downward) in the long run. Because the economy is producing at a level of output below full employment (at point P, unemployment is above the natural rate), this creates higher unemployment, which lowers inflationary expectations. Lower inflationary expectations lead to lower nominal wages and lower input costs over time, which shifts the SRPC to the left.

Solution 1

(c)

Mark scheme

- The Federal Reserve should conduct an expansionary open-market operation by buying (purchasing) government bonds on the open market.

Solution 1

(d)(i)

Mark scheme

- The federal funds rate will decrease. Buying bonds injects reserves into the banking system, increasing the money supply; with more reserves available in the federal funds market, banks bid the federal funds rate down.

(d)(ii)

Mark scheme

- The real interest rate will decrease in the short run, since the nominal (federal funds) rate falls while inflationary expectations do not adjust immediately.

Solution 1

(e)

Mark scheme

- Real GDP will increase in the short run. A lower real interest rate makes borrowing cheaper, increasing interest-sensitive spending — both consumption (of durable goods) and investment in plant and equipment. This increase in spending raises aggregate demand, which increases real GDP.

Solution 1

(f)

Mark scheme

- The demand for the Japanese yen will increase in the foreign exchange market. Higher U.S. real GDP/income raises U.S. demand for Japanese goods (imports from Japan), and Americans need more yen to purchase those goods, so the demand curve for yen shifts right.

Solution 1

(g)

Mark scheme

- Draw a correctly labeled graph of the foreign exchange market for the Japanese yen: quantity of yen on the horizontal axis, price of yen in US dollars (US\$/yen) on the vertical axis, with an upward-sloping supply curve (S) and an original demand curve (D1) intersecting at equilibrium price e_1 . One point is earned for a correctly labeled graph of the market. One point is earned for shifting the demand curve rightward to D2 (consistent with part (f)), producing a new, higher equilibrium price $e_2 > e_1$ — i.e., the yen appreciates relative to the U.S. dollar.

Question 3

2015 ■ Q3

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

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

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

(a)(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.

(b)(i) Supply of euros. Explain.

(b)(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?

Solution 3

(a)

Mark scheme

- Setup — effects of an increase in Japan's government budget deficit are graded via (a)(i) real interest rate and (a)(ii) private investment below.

Solution 3

(a)(i)

Mark scheme

- The real interest rate in Japan will INCREASE in the short run. Explanation: a larger government budget deficit increases government borrowing, which decreases the supply of loanable funds available to the private sector (or increases the total demand for loanable funds), raising the equilibrium real interest rate.

Solution 3

(a)(ii)

Mark scheme

- Private domestic investment in plant and equipment in Japan will **DECREASE** — a crowding-out effect: the higher real interest rate from part (a)(i) raises the cost of borrowing for firms, reducing investment spending.

Solution 3

(b)

Mark scheme

- Draw a correctly labeled foreign exchange market graph for the euro: vertical axis = yen price of the euro, horizontal axis = quantity of euros, with an original supply curve S and demand curve D for euros intersecting at price e and quantity Q . One point is earned for this correctly labeled graph (axes, curves, and initial equilibrium).

Solution 3

(b)(i)

Mark scheme

- The supply of euros INCREASES — shift the supply curve rightward from S to S' . Explanation: the higher real interest rate in Japan (from part (a)(i)) makes Japanese financial assets relatively more attractive, so European investors buy more Japanese assets; to do so they must sell (supply) more euros to obtain yen, increasing the supply of euros in the foreign exchange market. One point is earned for shifting the supply curve right with this explanation (European purchases of Japanese financial assets increase due to the relatively higher rate of return in Japan).

Solution 3

(b)(ii)

Mark scheme

- The yen price of the euro **DECREASES** — from e to e' , as the rightward shift of the euro supply curve (S to S') moves the equilibrium down along demand curve D to a lower price and higher quantity Q' . One point is earned for showing this decrease in the yen price of the euro.

Solution 3

(c)

Mark scheme

- The European Central Bank should BUY euros in the foreign exchange market. Buying euros increases the demand for euros, which raises the yen price of the euro back toward its original level e , reversing the decrease from part (b)(ii).