Week 27

AP Macroeconomics

Homework bundle for this week

本周作业合集

exercises.lol

Contents 目录

6. Open Economy—International Trade and Finance Starter Quiz ·课前小测

AP Macroeconomics Name: ______________ Score: ________

1. The balance of payments records:
   - ☐ all money flowing into and out of a country
   - ☐ only exports
   - ☐ only the government budget
   - ☐ the money supply
2. An exchange rate is:
   - ☐ the price of one currency in terms of another
   - ☐ the interest rate on savings
   - ☐ the inflation rate
   - ☐ the price of gold
3. Currencies are bought and sold in the foreign _________ market.

   ____
4. If a country raises its interest rates (others steady), its currency tends to:
   - ☐ appreciate, as foreign investors buy it to hold its bonds
   - ☐ depreciate, as investors flee
   - ☐ stay exactly fixed
   - ☐ disappear
5. Net exports equal exports minus _________.

   ____
6. International capital flows are driven mainly by differences in:
   - ☐ real interest rates between countries
   - ☐ the price of gold
   - ☐ population size
   - ☐ the weather
7. Importing more goods than you export gives a current account _________.

   ____

8. When a currency becomes more valuable and buys more foreign currency, it has ________.

   ____

9. Demand for US dollars comes mainly from:
   - ☐ foreigners buying US exports and assets
   - ☐ Americans buying foreign goods
   - ☐ the US government printing money
   - ☐ falling US interest rates

10. Foreign savers sending money into a high-rate country create a capital ________.

    ____

AP Macroeconomics

1. **all money flowing into and out of a country**

   It is the full record of cross-border money flows.

2. **the price of one currency in terms of another**

   It says how much of one currency buys another.

3. **exchange**

   The foreign exchange (forex) market.

4. **appreciate, as foreign investors buy it to hold its bonds**

   Higher bond returns attract foreign money, raising currency demand.

5. **imports**

   NX = exports − imports.

6. **real interest rates between countries**

   Money moves toward the highest real return.

7. **deficit**

   More money leaves for imports than arrives from exports.

8. **appreciated**

   More foreign currency per unit = appreciation.

9. **foreigners buying US exports and assets**

   To buy US goods or assets, foreigners need dollars first.

10. **inflow**

    A capital inflow is money entering to earn the higher rate.

AP MACROECONOMICS • EXERCISE SHEET

6.1 Balance of Payments Accounts

Name: ______________ Class: __________ Date: ____________ **Total: 9 marks**

KEY WORDS current account 经常账户 • balance of payments 国际收支 • financial (capital) account 金融账户 • capital flows 资本流动

Objective

Build the skills to answer exam questions on **balance of payments accounts**.

You must be able to:

- describe the **balance of payments** 国际收支 as a record of international transactions
- distinguish the **current account** 经常账户 from the **financial (capital) account** 金融账户
- explain why the current and financial accounts broadly offset each other

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ The balance of payments

A record of all a nation's transactions with the rest of the world.

■ Two main accounts

- **Current account** — trade in goods and services (plus income and transfers).
- **Financial (capital) account** — flows of investment and financial assets.

■ They offset

A current-account **deficit** is broadly matched by a financial-account **surplus** (foreign capital flowing in), so the two roughly cancel.

2 Practice

2.1 State what the balance of payments records. [1]

2.2 State the difference between the current account and the financial account. [2]

2.3 State the relationship between the current and financial accounts. [1]

3 Exam-style questions

3.1 The balance of payments records a country's [1]

- **A** national debt
- **B** international transactions
- **C** GDP
- **D** money supply

3.2 Trade in goods and services is recorded in the [1]

- **A** current account
- **B** financial account
- **C** money market
- **D** national debt

3.3 A country runs a large current-account deficit.

(a) Name the account that broadly offsets it. [1]

(b) State what this implies about capital flows. [2]

Solutions

2.1 all of a nation's transactions with the rest of the world.

2.2 the current account records trade in goods and services; the financial account records flows of investment and financial assets.

2.3 they broadly offset each other (a deficit in one is matched by a surplus in the other).

3.1 **B**.

3.2 **A**.

3.3 (a) the financial (capital) account. (b) it runs a surplus — foreign capital flows in to finance the current-account deficit.

1. 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.

B. Assume that new residential construction projects are being implemented in Vortania.

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

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.

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.

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?

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

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

ii. Employment in Vortania

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.

AP Macroeconomics: **2024 Set 2**

3. 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.

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

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

2. 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) Based on your answer to part (a), what will happen to each of the following?

   (i) The capital and financial account balance in the United States
   (ii) 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 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.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

1. 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.

(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.

(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.

(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.

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

(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.

(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?

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

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

AP Macroeconomics: **2019 Set 2**

2. 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) Now assume interest rates increase in the European Union.

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

(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?

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

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

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

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

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

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

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

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

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

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

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

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

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

STOP

END OF EXAM

6.2 Exchange Rates

Name: ______ Class: ______ Date: ______ **Total: 9 marks**

KEY WORDS exchange rate 汇率 • appreciation 升值 • depreciation 贬值 • floating 浮动 • floating exchange rate 浮

Objective

Build the skills to answer exam questions on **exchange rates**.

You must be able to:

- define an **exchange rate 汇率** as the price of one currency in terms of another
- distinguish **appreciation 升值** from **depreciation 贬值**
- explain how a **floating exchange rate 浮动汇率** is set by supply and demand

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ Exchange rate

The **price of one currency** measured in another (e.g. \$1 = €0.90).

■ Appreciation vs depreciation

A currency **appreciates** when it gains value (buys more foreign currency) and **depreciates** when it loses value.

■ Floating rates

A floating exchange rate is set by the **supply of** and **demand for** the currency in the foreign exchange market.

2 Practice

2.1 Define an exchange rate. [1]

2.2 State the difference between appreciation and depreciation. [2]

2.3 State how a floating exchange rate is determined. [1]

3 Exam-style questions

3.1 An exchange rate is the price of [1]

- **A** a good
- **B** one currency in terms of another
- **C** a bond
- **D** labour

3.2 A currency that rises in value has [1]

- **A** depreciated
- **B** appreciated
- **C** inflated
- **D** defaulted

3.3 The US dollar rises in value against the euro.

(a) State whether the dollar has appreciated or depreciated. [1]

(b) State the effect on US exports to Europe. [1]

(c) State the effect on US imports from Europe. [1]

Solutions

2.1 the price of one currency expressed in terms of another.

2.2 appreciation is a rise in a currency's value; depreciation is a fall.

2.3 by the supply of and demand for the currency.

3.1 B.

3.2 B.

3.3 (a) appreciated. (b) they become dearer for Europeans, so US exports fall. (c) European goods become cheaper, so US imports rise.

1. Assume that the economy of Barrikos is in short-run equilibrium, with its economic data summarized in the table provided. The government budget is balanced, and the capital and financial account (CFA) balance is zero.

Cyclical unemployment rate	6%
Natural unemployment rate	4%
Structural unemployment rate	1%
Actual inflation rate	3%
Expected inflation rate	5%

A. What is the numerical value of the actual unemployment rate in Barrikos?

B. Using the relevant numerical values, draw a correctly labeled graph of the short-run and long-run Phillips curves for Barrikos. Indicate the current short-run equilibrium with a point labeled X. Plot the relevant numerical values on the graph.

C. Based on your graph in part B, identify one specific fiscal policy action that the government of Barrikos would take to move the economy toward long-run equilibrium.

D. Assume that the fiscal policy action identified in part C is implemented.

i. Will the government budget in Barrikos move into surplus, move into deficit, or remain balanced? Explain.

ii. Assume there is no change in inflationary expectations. On your graph in part B, show a possible new short-run equilibrium point, labeled Z, that would result from the fiscal policy action identified in part C.

iii. Draw a correctly labeled graph of the loanable funds market, and show the effect of the fiscal policy action identified in part C on the real interest rate.

E. Barrikos has an open economy and a flexible exchange rate. Based solely on the change in the real interest rate in Barrikos shown on your graph in part D (iii), will Barrikos' capital and financial account (CFA) balance move into surplus, move into deficit, or remain the same? Explain.

F. Based on the change in Barrikos' capital and financial account (CFA) balance identified in part E, what will happen to the international value of Barrikos' currency? Explain.

3. Italy and Japan are trading partners and have flexible exchange rates. The Italian currency is the euro and the Japanese currency is the yen.

(a) Suppose that the exchange rate between the euro and the yen is 1 euro = 100 yen. What is the price of an Italian coat in yen if the coat costs 120 euros in Italy?

(b) Assume that real interest rates increase in Japan. Identify what will happen to net financial capital flows between Italy and Japan.

(c) Draw a correctly labeled graph of the foreign exchange market for the yen and show the effect of the increase in real interest rates in Japan on the value of the yen.

(d) Based solely on the change in the exchange rate identified in part (c), what will happen to Italy's exports to Japan? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

MACROECONOMICS
Section II
Total Time—1 hour
Reading Period—10 minutes
Writing Period—50 minutes

Directions: You are advised to spend the first 10 minutes reading all of the questions and planning your answers. You will then have 50 minutes to answer all three of the following questions. You may begin writing your responses before the reading period is over. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. Use a pen with black or dark blue ink.

1. Assume 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.

MACROECONOMICS
Section II
Total Time—60 minutes
Reading Period—10 minutes
Writing Period—50 minutes

Directions: You are advised to spend the first 10 minutes reading all of the questions and planning your answers. You will then have 50 minutes to answer all three of the following questions. You may begin writing your responses before the reading period is over. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. Use a pen with black or dark blue ink.

1. Assume that the 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. 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 <u>or</u> 8 solar panels

   Country Y: 6 furnaces <u>or</u> 12 solar panels

   (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.

   (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?

STOP

END OF EXAM

6.3 The Foreign Exchange Market

Name: ______________ Class: __________ Date: ____________ **Total: 9 marks**

KEY WORDS foreign exchange market 外汇市场 • exchange rate 汇率 • appreciates 升值

Objective

Build the skills to answer exam questions on **the foreign exchange market**.

You must be able to:

- model the **foreign exchange market 外汇市场** with supply of and demand for a currency
- determine the **equilibrium exchange rate**
- relate demand for a currency to demand for that country's exports and assets

1 Worked examples

Study these first. Each one shows the method for a question type used later.

Supply and demand for a currency

Foreigners **demand** a currency to buy that country's **exports** and **assets**; the currency is **supplied** when residents buy foreign goods and assets.

Equilibrium

The exchange rate settles where the quantity of the currency demanded equals the quantity supplied.

Drivers of demand

More demand for a country's exports or assets → more demand for its currency → the currency **appreciates**.

2 Practice

2.1 State what determines the demand for and supply of a currency. [2]

2.2 State what is found at the intersection of currency supply and demand. [1]

2.3 State one reason foreigners demand a country's currency. [1]

3 Exam-style questions

3.1 The equilibrium exchange rate is set by [1]

- **A** the government alone
- **B** supply and demand for the currency
- **C** the CPI
- **D** the money multiplier

3.2 Foreigners demand a currency mainly to buy that country's [1]

- **A** debt only
- **B** exports and assets
- **C** imports
- **D** labour abroad

3.3 Foreign demand for a country's exports rises.

(a) State the effect on the demand for its currency. [1]

(b) State the effect on the exchange rate. [1]

(c) Name this change in the currency's value. [1]

Solutions

2.1 demand comes from foreigners buying the country's exports and assets; supply comes from residents buying foreign goods and assets.

2.2 the equilibrium exchange rate.

2.3 to buy that country's exports or assets (any one).

3.1 B.

3.2 B.

3.3 (a) it rises. (b) the exchange rate rises. (c) appreciation.

3. 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.

Part A

Policymakers in Lizland are considering taking action to close the recessionary gap in the short run.

i. 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.

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.

Part 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.

Part 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.

STOP

END OF EXAM

1. 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.

B. Assume that new residential construction projects are being implemented in Vortania.

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

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.

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.

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?

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

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

ii. Employment in Vortania

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.

3. 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.

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

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

2. 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) Based on your answer to part (a), what will happen to each of the following?

   (i) The capital and financial account balance in the United States
   (ii) 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 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.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

1. 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.

(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.

(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.

(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.

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

(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.

(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?

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

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

AP Macroeconomics: **2019 Set 2**

2. 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) Now assume interest rates increase in the European Union.

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

(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?

MACROECONOMICS
Section II
Total Time—1 hour
Reading Period—10 minutes
Writing Period—50 minutes

Directions: You are advised to spend the first 10 minutes reading all of the questions and planning your answers. You will then have 50 minutes to answer all three of the following questions. You may begin writing your responses before the reading period is over. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. Use a pen with black or dark blue ink.

1. Assume 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.

MACROECONOMICS
Section II
Total Time—60 minutes
Reading Period—10 minutes
Writing Period—50 minutes

Directions: You are advised to spend the first 10 minutes reading all of the questions and planning your answers. You will then have 50 minutes to answer all three of the following questions. You may begin writing your responses before the reading period is over. <u>It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions</u>. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. <u>Use a pen with black or dark blue ink</u>.

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.

   (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. 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 <u>or</u> 8 solar panels

   Country Y: 6 furnaces <u>or</u> 12 solar panels

   (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.

   (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?

STOP

END OF EXAM

AP MACROECONOMICS • EXERCISE SHEET

6.4 Effect of Changes in Policies and Economic Conditions on the Foreign Exchange Market

Name: ____________ Class: __________ Date: ____________ **Total: 8 marks**

KEY WORDS exchange rate 汇率 • appreciates 升值

Objective

Build the skills to answer exam questions on **changes in policies and economic conditions in the foreign exchange market**.

You must be able to:

- analyse how a change in **interest rates** shifts the demand for a currency
- explain how differences in **inflation** or **income** affect the exchange rate
- trace how **monetary** and **fiscal policy** influence the currency's value

1 Worked examples

Study these first. Each one shows the method for a question type used later.

Interest rates

A higher domestic **real interest rate** attracts foreign investors, **raising demand** for the currency, which **appreciates**.

Inflation and income

Higher domestic **inflation** tends to **depreciate** the currency (its goods are dearer); higher domestic **income** raises imports, increasing the **supply** of the currency.

Policy

Contractionary monetary policy (higher rates) tends to **appreciate** the currency; expansionary policy tends to **depreciate** it.

2 Practice

2.1 State the effect of higher domestic interest rates on the demand for the currency. [1]

2.2 State how much higher domestic inflation affects the currency's value. [1]

2.3 State how expansionary monetary policy tends to affect the exchange rate. [1]

3 Exam-style questions

3.1 Higher domestic interest rates _________ the demand for the currency. [1]

- **A** raise
- **B** lower
- **C** do not change
- **D** reduce to zero

3.2 A country with much higher inflation than its trading partners will tend to see its currency [1]

- **A** appreciate
- **B** depreciate
- **C** stay fixed
- **D** disappear

3.3 A central bank raises interest rates sharply.

(a) State the effect on the demand for the currency. [1]

(b) State the effect on the exchange rate. [1]

(c) Name this change. [1]

Solutions

2.1 it raises the demand.

2.2 it tends to depreciate the currency.

2.3 it tends to depreciate the currency (lower rates reduce demand for it).

3.1 **A**.

3.2 **B**.

3.3 (a) it rises. (b) the exchange rate rises. (c) appreciation.

3. 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.

Part A

Policymakers in Lizland are considering taking action to close the recessionary gap in the short run.

i. 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.

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.

Part 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.

Part 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.

STOP

END OF EXAM

1. 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.

B. Assume that new residential construction projects are being implemented in Vortania.

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

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.

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.

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?

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

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

ii. Employment in Vortania

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.

1. Assume that the economy of Barrikos is in short-run equilibrium, with its economic data summarized in the table provided. The government budget is balanced, and the capital and financial account (CFA) balance is zero.

Cyclical unemployment rate	6%
Natural unemployment rate	4%
Structural unemployment rate	1%
Actual inflation rate	3%
Expected inflation rate	5%

A. What is the numerical value of the actual unemployment rate in Barrikos?

B. Using the relevant numerical values, draw a correctly labeled graph of the short-run and long-run Phillips curves for Barrikos. Indicate the current short-run equilibrium with a point labeled X. Plot the relevant numerical values on the graph.

C. Based on your graph in part B, identify one specific fiscal policy action that the government of Barrikos would take to move the economy toward long-run equilibrium.

D. Assume that the fiscal policy action identified in part C is implemented.

i. Will the government budget in Barrikos move into surplus, move into deficit, or remain balanced? Explain.

ii. Assume there is no change in inflationary expectations. On your graph in part B, show a possible new short-run equilibrium point, labeled Z, that would result from the fiscal policy action identified in part C.

iii. Draw a correctly labeled graph of the loanable funds market, and show the effect of the fiscal policy action identified in part C on the real interest rate.

E. Barrikos has an open economy and a flexible exchange rate. Based solely on the change in the real interest rate in Barrikos shown on your graph in part D (iii), will Barrikos' capital and financial account (CFA) balance move into surplus, move into deficit, or remain the same? Explain.

F. Based on the change in Barrikos' capital and financial account (CFA) balance identified in part E, what will happen to the international value of Barrikos' currency? Explain.

3. Assume Malaysia's economy is in a recession and its government currently has a balanced budget.

(a) Identify a specific fiscal policy action that the government of Malaysia would implement to address the recession.

(b) How will the fiscal policy action identified in part (a) affect the real interest rate in Malaysia? Explain.

(c) Malaysia and Japan are trading partners with flexible exchange rates. Malaysia's currency is the ringgit (MYR), and Japan's currency is the yen (JPY). Draw a correctly labeled graph of the foreign exchange market for the ringgit relative to the yen. Show the effect of the change in the real interest rate identified in part (b) on the international value of the ringgit.

(d) As a result of the change in the value of the ringgit shown in part (c), will Malaysia's imports increase, decrease, or remain the same? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

3. 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 <u>solely</u> on the short-run <u>change in real output</u> 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 <u>supply</u> of the Jamaican dollar and the international value of the Jamaican dollar.

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

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

2. The economy of Noralandia is in short-run equilibrium with an actual inflation rate that is currently higher than the expected inflation rate.

   (a) Draw a correctly labeled graph of the short-run and long-run Phillips curves. Label the current short-run equilibrium point as X.

   (b) The banking system in Noralandia has ample reserves. Identify a specific monetary policy action that the central bank of Noralandia would take to bring the inflation rate closer to the expected inflation rate.

   (c) Noralandia has an open economy and a flexible exchange rate. Based solely on the effect of the monetary policy action identified in part (b) on interest rates in Noralandia, will there be an increase, a decrease, or no change in the flow of international financial capital into Noralandia? Explain.

   (d) Based on your answer to part (c), what will happen to the international value of Noralandia's currency? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

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2. 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) Based on your answer to part (a), what will happen to each of the following?

   (i) The capital and financial account balance in the United States
   (ii) 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 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.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

3. Italy and Japan are trading partners and have flexible exchange rates. The Italian currency is the euro and the Japanese currency is the yen.

(a) Suppose that the exchange rate between the euro and the yen is 1 euro = 100 yen. What is the price of an Italian coat in yen if the coat costs 120 euros in Italy?

(b) Assume that real interest rates increase in Japan. Identify what will happen to net financial capital flows between Italy and Japan.

(c) Draw a correctly labeled graph of the foreign exchange market for the yen and show the effect of the increase in real interest rates in Japan on the value of the yen.

(d) Based solely on the change in the exchange rate identified in part (c), what will happen to Italy's exports to Japan? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

1. Assume the United States economy is in short-run macroeconomic equilibrium at an output level greater than potential output.

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

(i) The current equilibrium real output and price level, labeled as Y_1 and PL_1, respectively
(ii) The full-employment output, labeled as Y_F

(b) Assume government spending increases by $100 billion. On your graph in part (a), show the short-run effect of the change in government spending on the equilibrium real output and price level. Label the new equilibrium output as Y_2 and the new equilibrium price level as PL_2.

(c) Assume the marginal propensity to consume is 0.8. As a result of the increase in government spending, what is the numerical value of the maximum change in each of the following in the short run?

(i) Real output
(ii) Household savings

(d) Draw a correctly labeled graph of the money market and show the effect of the change in real output identified in part (c)(i) on the equilibrium nominal interest rate.

(e) Based on the change in the nominal interest rate shown in part (d), what will happen to the prices of previously issued bonds in the short run?

(f) The United States and the European Union are trading partners with flexible exchange rates. The currency in the United States is the dollar, and the currency in the European Union is the euro. Assume the inflation rate in the United States increases relative to the inflation rate in the European Union. As a result of the change in the United States inflation rate, what will happen to each of the following in the foreign exchange market?

(i) The demand for dollars. Explain.
(ii) The international value of the dollar

(g) Suppose the Federal Reserve attempts to keep the value of the dollar constant in the foreign exchange market. Based on the change in the value of the dollar in part (f)(ii), should the Federal Reserve buy or sell each of the following?

(i) The euro
(ii) The dollar

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

1. 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.

(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.

(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.

(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.

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

(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.

(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?

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

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

1. Assume Smithland is in short-run equilibrium at a level of output that exceeds the full-employment level of output.

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

   (i) The current equilibrium real output and price level, labeled Y_1 and PL_1, respectively
   (ii) The full-employment output, labeled Y_F

   (b) Assume Smithland's government cuts individual income taxes. On your graph in part (a), show the short-run effect of the tax cut on equilibrium real output, labeling the new short-run equilibrium real output Y_2.

   (c) Based solely on the change in real output on your graph in part (b), what will happen to each of the following in the short run?

   (i) The natural rate of unemployment
   (ii) Nominal interest rates. Explain.

   (d) Assume instead the central bank intervenes to correct an inflationary output gap. What open-market operation should the central bank take?

   (e) Draw a correctly labeled graph of the money market, and show the effect of the open-market operation identified in part (d) on the nominal interest rate.

   (f) Based solely on the interest rate change identified in part (e), what will happen to the international value of Smithland's currency in the foreign exchange market? Explain.

   (g) Based solely on the exchange rate change identified in part (f), will Smithland's imports increase, decrease, or remain the same? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

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 <u>or</u> 8 solar panels

   Country Y: 6 furnaces <u>or</u> 12 solar panels

   (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?

---

3. 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?

      (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?

STOP

END OF EXAM

6.5 Changes in the Foreign Exchange Market and Net Exports

Name: ____________ Class: ________ Date: __________ **Total: 9 marks**

KEY WORDS net exports 净出口 • currency appreciation 升值 • currency depreciation 贬值

Objective

Build the skills to answer exam questions on **changes in the foreign exchange market and net exports**.

You must be able to:

- explain how a **currency appreciation 升值** lowers **net exports 净出口**
- explain how a **currency depreciation 贬值** raises net exports
- connect exchange-rate changes to shifts in **aggregate demand**

1 Worked examples

Study these first. Each one shows the method for a question type used later.

Appreciation lowers net exports

A stronger currency makes exports **dearer** abroad and imports **cheaper** at home, so **net exports fall**.

Depreciation raises net exports

A weaker currency makes exports **cheaper** and imports **dearer**, so **net exports rise**.

Link to AD

Net exports are a component of AD, so an appreciation shifts **AD left** and a depreciation shifts **AD right**.

2 Practice

2.1 State the effect of a currency appreciation on net exports. [1]

2.2 State the effect of a currency depreciation on net exports. [1]

2.3 Explain how a currency appreciation affects aggregate demand. [2]

3 Exam-style questions

3.1 A currency appreciation makes a country's exports [1]

- **A** cheaper abroad
- **B** dearer abroad
- **C** unchanged in price
- **D** free

3.2 A depreciation of the currency [1]

- **A** raises net exports
- **B** lowers net exports
- **C** has no effect on net exports
- **D** lowers the price of imports

3.3 A country's currency depreciates.

(a) State the effect on the price of its exports abroad. [1]

(b) State the effect on net exports. [1]

(c) State the effect on aggregate demand. [1]

Solutions

2.1 they fall.

2.2 they rise.

2.3 an appreciation lowers net exports, which shifts aggregate demand to the left.

3.1 **B**.

3.2 **A**.

3.3 (a) they become cheaper. (b) net exports rise. (c) AD shifts right (increases).

1. 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.

B. Assume that new residential construction projects are being implemented in Vortania.

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

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.

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.

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?

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

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

ii. Employment in Vortania

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.

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3. Assume Malaysia's economy is in a recession and its government currently has a balanced budget.

(a) Identify a specific fiscal policy action that the government of Malaysia would implement to address the recession.

(b) How will the fiscal policy action identified in part (a) affect the real interest rate in Malaysia? Explain.

(c) Malaysia and Japan are trading partners with flexible exchange rates. Malaysia's currency is the ringgit (MYR), and Japan's currency is the yen (JPY). Draw a correctly labeled graph of the foreign exchange market for the ringgit relative to the yen. Show the effect of the change in the real interest rate identified in part (b) on the international value of the ringgit.

(d) As a result of the change in the value of the ringgit shown in part (c), will Malaysia's imports increase, decrease, or remain the same? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

3. 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.

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

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

AP Macroeconomics: **2023 Set 2**

2. 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) Based on your answer to part (a), what will happen to each of the following?

(i) The capital and financial account balance in the United States
(ii) 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 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.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

3. Italy and Japan are trading partners and have flexible exchange rates. The Italian currency is the euro and the Japanese currency is the yen.

   (a) Suppose that the exchange rate between the euro and the yen is 1 euro = 100 yen. What is the price of an Italian coat in yen if the coat costs 120 euros in Italy?

   (b) Assume that real interest rates increase in Japan. Identify what will happen to net financial capital flows between Italy and Japan.

   (c) Draw a correctly labeled graph of the foreign exchange market for the yen and show the effect of the increase in real interest rates in Japan on the value of the yen.

   (d) Based solely on the change in the exchange rate identified in part (c), what will happen to Italy's exports to Japan? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

1. Assume Smithland is in short-run equilibrium at a level of output that exceeds the full-employment level of output.

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

(i) The current equilibrium real output and price level, labeled Y_1 and PL_1, respectively
(ii) The full-employment output, labeled Y_F

(b) Assume Smithland's government cuts individual income taxes. On your graph in part (a), show the short-run effect of the tax cut on equilibrium real output, labeling the new short-run equilibrium real output Y_2.

(c) Based solely on the change in real output on your graph in part (b), what will happen to each of the following in the short run?

(i) The natural rate of unemployment
(ii) Nominal interest rates. Explain.

(d) Assume instead the central bank intervenes to correct an inflationary output gap. What open-market operation should the central bank take?

(e) Draw a correctly labeled graph of the money market, and show the effect of the open-market operation identified in part (d) on the nominal interest rate.

(f) Based solely on the interest rate change identified in part (e), what will happen to the international value of Smithland's currency in the foreign exchange market? Explain.

(g) Based solely on the exchange rate change identified in part (f), will Smithland's imports increase, decrease, or remain the same? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

MACROECONOMICS
Section II
Total Time—1 hour
Reading Period—10 minutes
Writing Period—50 minutes

Directions: You are advised to spend the first 10 minutes reading all of the questions and planning your answers. You will then have 50 minutes to answer all three of the following questions. You may begin writing your responses before the reading period is over. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. Use a pen with black or dark blue ink.

1. Assume 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. The Federal Reserve can influence the supply of money.

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

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

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

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

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

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

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

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

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

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

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

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

STOP

END OF EXAM

6.6 Real Interest Rates and International Capital Flows

Name: ______________ Class: __________ Date: ____________ **Total: 8 marks**

KEY WORDS capital flows 资本流动 • capital inflows 资本流入 • exchange rate 汇率 • current account 经常账户 • appreciates 升值

Objective

Build the skills to answer exam questions on **real interest rates and international capital flows**.

You must be able to:

- explain how a higher domestic **real interest rate** attracts foreign **capital inflows** 资本流入
- relate capital flows to demand for the currency and the exchange rate
- connect the **financial account** to the **current account** through these flows

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ **Interest rates and capital flows**

A higher domestic **real interest rate** offers investors a better return, so **capital flows in** from abroad.

■ **Capital flows and the currency**

Those inflows **raise demand** for the domestic currency, so it **appreciates**.

■ **Linking the accounts**

Capital inflows are recorded in the **financial account** and are the flip side of the **current account** — the two broadly offset.

2 Practice

2.1 State the effect of a higher domestic real interest rate on capital flows. [1]

2.2 State how capital inflows affect the demand for the currency. [1]

2.3 State the connection between the financial account and the current account. [1]

3 Exam-style questions

3.1 A higher domestic real interest rate attracts [1]

- **A** capital outflows
- **B** capital inflows
- **C** more imports
- **D** lower saving

3.2 Capital inflows _________ the demand for the domestic currency. [1]

- **A** raise
- **B** lower
- **C** do not change
- **D** remove

3.3 A country raises its real interest rate above the world rate.

(a) State the effect on capital flows. [1]

(b) State the effect on the demand for its currency. [1]

(c) State the effect on the exchange rate. [1]

Solutions

2.1 it attracts capital inflows.

2.2 it raises the demand for the currency.

2.3 they broadly offset each other (a financial-account surplus matches a current-account deficit).

3.1 **B**.

3.2 **A**.

3.3 (a) capital flows in. (b) it rises. (c) the currency appreciates.

1. The economy of Micanapy is in short-run equilibrium and is experiencing an inflationary gap.

Part A

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

i. The current equilibrium real output and price level, labeled Y_1 and PL_1, respectively

ii. The full-employment real output, labeled Y_F

Part B

Assume that policymakers take no action to close the inflationary gap. Explain how Micanapy's economy will self-adjust to full employment in the long run.

Part C

Suppose instead that Micanapy's central bank is considering using monetary policy to close the inflationary gap in the short run. The banking system in Micanapy has limited reserves.

i. Identify a specific open-market operation that the central bank of Micanapy would implement to close the inflationary gap in the short run.

ii. Draw a correctly labeled graph of the money market in Micanapy, and show the effect of the open-market operation identified in part C (i) on the nominal interest rate.

Part D

Based solely on the interest rate change shown on your graph in part C (ii), will each of the following increase, decrease, or remain the same in the short run?

i. International financial capital flows into Micanapy. Explain.

ii. The price of previously issued bonds in Micanapy

iii. Private domestic investment spending in Micanapy

Part E

Based solely on the change in private domestic investment spending identified in part D (iii), will the unemployment rate in Micanapy increase, decrease, or remain the same in the short run? Explain.

1. Assume that the economy of Barrikos is in short-run equilibrium, with its economic data summarized in the table provided. The government budget is balanced, and the capital and financial account (CFA) balance is zero.

Cyclical unemployment rate	6%
Natural unemployment rate	4%
Structural unemployment rate	1%
Actual inflation rate	3%
Expected inflation rate	5%

A. What is the numerical value of the actual unemployment rate in Barrikos?

B. Using the relevant numerical values, draw a correctly labeled graph of the short-run and long-run Phillips curves for Barrikos. Indicate the current short-run equilibrium with a point labeled X. Plot the relevant numerical values on the graph.

C. Based on your graph in part B, identify one specific fiscal policy action that the government of Barrikos would take to move the economy toward long-run equilibrium.

D. Assume that the fiscal policy action identified in part C is implemented.

i. Will the government budget in Barrikos move into surplus, move into deficit, or remain balanced? Explain.

ii. Assume there is no change in inflationary expectations. On your graph in part B, show a possible new short-run equilibrium point, labeled Z, that would result from the fiscal policy action identified in part C.

iii. Draw a correctly labeled graph of the loanable funds market, and show the effect of the fiscal policy action identified in part C on the real interest rate.

E. Barrikos has an open economy and a flexible exchange rate. Based solely on the change in the real interest rate in Barrikos shown on your graph in part D (iii), will Barrikos' capital and financial account (CFA) balance move into surplus, move into deficit, or remain the same? Explain.

F. Based on the change in Barrikos' capital and financial account (CFA) balance identified in part E, what will happen to the international value of Barrikos' currency? Explain.

3. Assume Malaysia's economy is in a recession and its government currently has a balanced budget.

(a) Identify a specific fiscal policy action that the government of Malaysia would implement to address the recession.

(b) How will the fiscal policy action identified in part (a) affect the real interest rate in Malaysia? Explain.

(c) Malaysia and Japan are trading partners with flexible exchange rates. Malaysia's currency is the ringgit (MYR), and Japan's currency is the yen (JPY). Draw a correctly labeled graph of the foreign exchange market for the ringgit relative to the yen. Show the effect of the change in the real interest rate identified in part (b) on the international value of the ringgit.

(d) As a result of the change in the value of the ringgit shown in part (c), will Malaysia's imports increase, decrease, or remain the same? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

2. The economy of Noralandia is in short-run equilibrium with an actual inflation rate that is currently higher than the expected inflation rate.

   (a) Draw a correctly labeled graph of the short-run and long-run Phillips curves. Label the current short-run equilibrium point as X.

   (b) The banking system in Noralandia has ample reserves. Identify a specific monetary policy action that the central bank of Noralandia would take to bring the inflation rate closer to the expected inflation rate.

   (c) Noralandia has an open economy and a flexible exchange rate. Based solely on the effect of the monetary policy action identified in part (b) on interest rates in Noralandia, will there be an increase, a decrease, or no change in the flow of international financial capital into Noralandia? Explain.

   (d) Based on your answer to part (c), what will happen to the international value of Noralandia's currency? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

3. Italy and Japan are trading partners and have flexible exchange rates. The Italian currency is the euro and the Japanese currency is the yen.

   (a) Suppose that the exchange rate between the euro and the yen is 1 euro = 100 yen. What is the price of an Italian coat in yen if the coat costs 120 euros in Italy?

   (b) Assume that real interest rates increase in Japan. Identify what will happen to net financial capital flows between Italy and Japan.

   (c) Draw a correctly labeled graph of the foreign exchange market for the yen and show the effect of the increase in real interest rates in Japan on the value of the yen.

   (d) Based solely on the change in the exchange rate identified in part (c), what will happen to Italy's exports to Japan? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

1. 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.

   (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.

   (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.

   (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.

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

   (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.

   (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?

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

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

2. Assume a country's economy is currently operating below full employment.

   (a) Identify a fiscal policy action the country's government could implement to restore full employment.

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

   (c) Based solely on the real interest rate change shown in part (b), what will happen to each of the following?
      (i) Net exports. Explain.
      (ii) The stock of physical capital. Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

2. Assume the expected inflation rate in a country is 3%, the current unemployment rate is 6%, and the natural rate of unemployment is 4%.
   (a) Draw a correctly labeled graph of the short-run and long-run Phillips curves. Label the current short-run equilibrium as point X and plot the numerical values above on the graph.
   (b) Is the actual inflation rate greater than, less than, or equal to the expected inflation rate of 3%?
   (c) Assume loans were made taking into account the expected inflation rate of 3%. Will lenders be better off or worse off after they realize the actual inflation rate identified in part (b) ? Explain.
   (d) Based on the relationship between the actual and the expected inflation rates identified in part (a), what will happen to the natural rate of unemployment in the long run?

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3. Assume that households in Econland increase their savings for retirement.
   (a) Using a correctly labeled graph of the loanable funds market, show how the increase in savings will affect the equilibrium real interest rate.
   (b) Based solely on the real interest rate change identified in part (a), what will happen to Econland's purchases of foreign assets? Explain.
   (c) Consider the foreign exchange market for Econland's currency.
      (i) Based on your answer to part (b), what will happen to the international value of Econland's currency?
      (ii) Based on your answer to part c (i), would Econland's central bank buy or sell its currency in the foreign exchange market to offset the change in the value of its currency?

STOP

END OF EXAM

2. 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) Now assume interest rates increase in the European Union.

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

      (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?