AP Macro Lecture Guide: Balance of Payments

Lesson Author

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Standards and Benchmarks (see page 14)

Lesson Description

In this interactive lecture guide, students work as a class to categorize transactions in the current account and capital and financial account. Then students analyze the balance of payments to calculate the balance of trade and identify the impacts on the aggregate demand / aggregate supply model, the foreign exchange market, and the loanable funds market.

Grade Level

High School

Concepts

Balance of payments
Balance of trade
Current account (CA)
Capital and financial account (CFA)
Export
Import
Trade deficit
Trade surplus

Objectives

Students will be able to

- define the current account (CA), the capital and financial account (CFA), and the balance of payments;
- explain how changes in the components of the CA and CFA affect a country's balance of payments;
- calculate the CA, the CFA, and the balance of payments; and
- identify how changes to the CA and CFA impact the foreign exchange and the loanable funds markets.

Compelling Question

What can the balance of payments tell us about an economy?

Time Required

50 minutes

Materials

- PowerPoint slide deck
- Handouts 1 and 2, one copy of each for each student
- Handout 2 Answer Key, one copy for the teacher

Procedure

1. Display slide 1 and discuss the following:
   - What kinds of resources and products do countries trade with each other? (*Answers will vary but may include U.S. airplanes, anime from Japan/Korea, European cars, or agriculture products.*)
   - How are those purchases paid for? (*Answers will vary but may include sending and receiving payments from another country that may even involve exchanging currency.*)

2. Display slide 2. Explain to students that the **balance of payments** is an accounting system that records a country's international transactions. It consists of two accounts: the **current account (CA)** and the **capital and financial account (CFA)**. The current account records net exports, net income from abroad, and net unilateral transfers (such as remittances), while the capital and financial account records financial capital transfers and purchase/sales of assets between countries.

3. Explain to students that transactions are recorded as positive inflows (credits) or negative outflows (debits) within these accounts. The sum of all entries, both credit and debit, should equal zero (CA + CFA = 0).

4. Distribute a copy of *Handout 1: Balance of Payments Worksheet* to each student. Tell them that as a class you are going to practice categorizing and recording international transactions in the balance of payments. The worksheet will help them track various transactions between the U.S. and Japan in both the current account and the capital and financial account.

5. Display slide 3. Explain to students what is recorded in the current account: net exports, net income, and net transfers.

6. Explain to students that Round 1 of the activity is going to focus on the current account. As each transaction is shown on the slide, students should determine if it is a debit or credit in each country's balance of payments chart. They should then record the transaction on their handout.

7. Display slide 4. Tell students that the United States purchases electronic equipment from Japan for $75. Discuss the following:
   - Would this transaction be considered a credit or debit to the U.S. current account? *(Debit*)
   - Why would this be a debit from the U.S. current account? *(The transaction causes cash to leave the U.S. account to pay for the electronic equipment*.)

8. Explain to students that if it is a debit in the U.S. account it must be a credit in Japan's current account. Money that is flowing out of the U.S. account as payment is received as income (credit) in Japan's current account. Instruct students to briefly describe the transaction in row 1 on their worksheet and then put a "+75" in Japan's credit column and a "–75" in the U.S. debit column. Discuss the following:
   - Why would this be a credit for Japan's current account? (*Japan received the money from the U.S. as payment when they sold the electronic equipment*.)

9. Display slide 5 to allow students to check their answers and make sure they recorded the first transaction correctly with –75 in the U.S. debit column and +75 in the credit column. Review with students that an **import** is a resource, good, or service that is produced abroad but sold domestically. An **export** is a resource, good, or service that is produced domestically then sold abroad. Discuss the following:
   - Would this transaction be an import or an export for the U.S.? (*Import: The electronic equipment was produced abroad in Japan but purchased by the U.S.*)

10. Display slide 6. Tell students that Japan purchases agriculture products from the United States for $15. Discuss the following:
    - Would this transaction be considered a credit or debit for Japan's current account? (*Debit*)
    - Would this transaction be considered an import or export for Japan? *(Import*)

11. Display slide 7 to allow students to check their answers. Ensure that students recorded the agriculture products as +15 in the U.S. credit column and –15 in Japan's debit column, with a brief description in the transaction column of row 2.

12. Display slide 8. Tell students that a U.S. citizen receives $10 in remittances from a Japanese citizen. Review with students that remittances are payments or monetary gifts sent from an individual in one country to an individual in another country. For example, a relative living in another country sends you money for your birthday. Tell students that this transaction is neither an import nor an export. It is a transfer payment. Transfer payments are also recorded in the current account. Discuss the following:

- Which country would record this as a credit to their current account? (*U.S.: The remittance funds were sent to the U.S., making it a credit [inflow] to the current account.*)
- How would this transaction be recorded for Japan? (*As a debit from their current account because the remittances are leaving Japan [outflow]*)

13. Display slide 9 to allow students to check their answers. Ensure that students correctly recorded +10 in the U.S. credit column and –10 in Japan's debit column, with a brief description in the transaction column of row 3. Instruct students to sum up the debits and credits in each column of the worksheet. Allow a few minutes for students to calculate.

14. Display slide 10 and make sure all students have the correct answers.

15. Display slide 11. Explain to students that they're now going to look at what the numbers tell us. One key part of the current account is the **balance of trade**, which shows whether a country is selling more to other countries (exports) or buying more from them (imports). We calculate balance of trade by subtracting imports from exports, which gives us net exports. If the result is positive, the country has a **trade surplus**; it's exporting more than it's importing. If it's negative, the country has a **trade deficit**; it's importing more than it's exporting. The balance of trade isn't just a number. It can affect bigger things such as how much total spending happens in the economy (aggregate demand) and how much other countries want our money (currency exchange rates). Tell students to use their worksheet to calculate the balance of trade and see what story it tells about your country's economy.

16. Display slide 12. Allow students a few minutes, either in small groups or individually, to answer the questions in the Round 1 section of Handout 1. Discuss the following (answers also provided on slide 13):

    1. What are net exports for the U.S.? (*–75 + 15 = –60*)

    2. What is the current account balance for the U.S.? (*–60 + 10 = –50*)

    3. Is the U.S. current account in a deficit or surplus? (*Deficit*)

    4. Is the U.S. balance of trade positive or negative? Explain. (*Negative: Since U.S. net exports are negative, the U.S. is running a trade deficit; it is spending more on goods and services from other countries than it is earning from selling [exporting] to them.*)

    5. How do you think this balance of trade will impact demand for U.S. dollars? Explain. (*Demand for U.S. dollars will decrease, as yen are needed to pay for the increased imports.)*

    1. What are net exports for Japan? (*+75 – 15 = 60*)

    2. What is the current account balance for Japan? (*60 – 10 = 50*)

    3. Is Japan's current account balance in a deficit or surplus? (*Surplus*)

    4. Is Japan's balance of trade positive or negative? Explain. (*Positive: Since Japan's net exports are positive, Japan is running a trade surplus; it is earning more from selling goods and services abroad than it is spending.*)

5. How do you think this balance of trade will impact demand for Japanese yen? Explain. (*Demand for yen will increase, as the exports from Japan need to be purchased in yen*.)

17. Display slide 14. Explain to students that the balance of trade matters because it can impact other areas of the economy. Trade surpluses and deficits can impact aggregate demand and the demand for a country's currency in the foreign exchange market.

    Teaching Note: This is a good place to remind students that net exports (or the balance of trade) are a component of GDP (C + I + G + NX = GDP, with X being net exports).

18. Display slide 15. Explain to students that balance of payment transactions also affect the foreign exchange market. This is because countries often require payment in the currency of that country so that it is easier for them to pay for domestic costs such as wages and utilities. Exchanging currencies to make purchases affects the supply and demand for currencies that can be illustrated on a market graph. Discuss the following:

    - If the U.S. needs more yen to purchase the additional imports (remember, the U.S. is in a trade deficit), what would you expect to happen to the demand for yen in the foreign exchange market? (*Demand for yen would increase, as more yen are needed to purchase those imports.*)

19. Display slide 16 to show how the trade deficit in the U.S. impacts the foreign exchange market for yen.

    Teaching Note: The foreign exchange market graph is the next new concept in the College Board's AP Macroeconomics Course and Exam Description (CED), following the balance of payments. Students will not be familiar with the graph but should still be able to follow the logic if foreign currency is discussed in the context of a supply and demand model. This connection can lay the groundwork for instruction on the foreign exchange model.

20. Display slide 17 and explain that in Round 2, the focus will be on the capital and financial account, which records financial capital transfers and purchases and sales of assets between countries. Another way to think of this account is that it tracks store-of-value transactions, or the purchases and sales someone holds over time that store value. Examples include when someone purchases real estate in another country or a foreign bank purchases U.S. Treasury bonds.

21. Tell students that for each transaction, they should record it as either a debit or a credit on the appropriate country's capital and financial account in the Round 2 section of Handout 1.

22. Display slide 18. Tell students that the U.S. Treasury sells bonds totaling $35 to Japan. Discuss the following:

    - Would this transaction be a debit or credit on the U.S. capital and financial account? (*Credit: The U.S. sold the bonds, so they would receive the payment as a credit on the account.*)
    - Would this transaction be a debit or credit in Japan's capital and financial account? (*Debit: Japan purchased the bonds, which means the funds were debited from their account.*)

- Why does a credit in one country's account result in a corresponding debit in another country's account? (*The money that flows out of one country is received by the country on the other side of the transaction.*)

23. Display slide 19 to allow students to check their answers. Ensure that students correctly put +35 in the U.S. credit column and –35 in Japan's debit column.

24. Display slide 20. Tell students that a Japanese company purchases land in the U.S. for $20 to build a new factory. Discuss the following:
    - Would this transaction be a debit or credit for Japan? (*Debit*)
    - Would this transaction be a debit or credit for the U.S.? (*Credit*)

25. Display slide 21 to allow students to check their answers. Ensure that students have correctly labeled the sell of the land as a +20 in the U.S. credit column and the purchase of the land as a –20 in Japan's debit column.

26. Display slide 22. Tell students that a U.S. citizen purchases stock in a Japanese car company for $5. Discuss the following:
    - Which country would record this transaction as a debit? (*U.S.*)
    - Which country would record this transaction as a credit? (*Japan*)

27. Display slide 23 to allow students to check their answers. Ensure that students correctly recorded the stock purchase as a –5 in the U.S. debit column and the sale of the stock as a +5 in Japan's credit column. Instruct students to total their columns.

28. Display slide 24 to allow students to check their answers. Review the following:
    - The debit and credit columns of the U.S. and Japan inverse because an expenditure by one country becomes income for another. Every dollar is accounted for with no leakages.
    - The circular flow of money between countries is an extension of the circular flow model from Unit 2 of the CED.

29. Display slide 25. Tell students that you are going to do some analysis based on the capital and financial accounts they have constructed.

30. Allow students a few minutes, either in small groups or individually, to answer the questions in the Round 2 section of Handout 1. Discuss the following (answers also provided on slide 26):
    1. What is the capital and financial account balance for the U.S.? (*+55 – 5 = 50*)
    2. Is the U.S. capital and financial account in a deficit or surplus? (*Surplus*)
    3. What is the balance of payments for the U.S.? (*–50 + 50 = 0*)

4. How will the capital and financial account balance impact the loanable funds market in the U.S.? (*The supply of loanable funds will increase, as there are more capital and financial inflows than outflows.)*

1. What is the capital and financial account balance for Japan? (*–55 + 5 = –50*)

2. Is Japan's capital and financial account in a deficit or surplus? (*Deficit*)

3. What is the balance of payments for Japan? (*+50 – 50 = 0*)

4. How will the capital and financial account balance impact the loanable funds market in Japan? (*The supply of loanable funds will decrease, as there are more capital and financial outflows than inflows.)*

31. Display slide 27. Remind students that the supply of loanable funds includes capital inflows as assets are purchased or stored in financial institutions. Discuss the following:

    - If the U.S. has a capital and financial account surplus, what would you expect to happen to the supply of loanable funds in the U.S.? (*It would increase because the additional inflow from the capital and financial account increases the supply of laonable funds.*)

32. Display slide 28 to allow students to see how the surplus in the capital and financial account increases the supply of loanable funds.

33. Display slide 29 and review that the balance of payments records the transactions in the current account and the capital and financial account.

34. Display slide 30 and ask students, "Why does CA + CFA = 0?" (*Answers will vary.*)

35. Display slide 31 and review the following:

    - CA + CFA = 0 because money is flowing from one country to another with no leakages.
    - Income for one country is an expenditure for another and vice versa. Students can see on their handouts that money is flowing circularly between the U.S. and Japan.

36. Display slide 32 and discuss the following:

    - Why does a deficit in one country's trade account generally create a surplus in the other country's trade account? (*Countries with a trade deficit will have to cover the cost by borrowing [often from other countries], which will create financial inflows to that country.*)

37. Display slide 33. Tell students they are now going to explore how changes in the balance of trade can be shown on the aggregate demand / aggregate supply model they studied in a previous unit of the CED. Instruct students to graph an AD/AS model for the U.S. that is operating at an equilibrium below full employment in the graph section on Handout 1. Ensure that students' graphs have the long-run equilibrium correct in relationship to the short-run equilibrium for aggregate supply and demand, as seen on the slide. Discuss the following:

- Based on your Round 1 chart, does the U.S. have a balance of trade deficit or surplus? (*Deficit*)
- Will negative net exports impact aggregate supply or aggregate demand? (*Aggregate demand*)
- Will the change to a trade deficit cause an increase, a decrease, or no change to aggregate demand? (*A decrease*)
- Give students a few minutes to show this change on their graph.

38. Display slide 34 to allow students to see how to correctly show the decrease in aggregate demand on the graph.

39. Display slide 35. Instruct students to draw a loanable funds market graph. You may need to remind students that this graph shows the market between savers and borrowers and that they learned about it in Unit 4 of the CED. Ensure that students' graphs are correctly labeled, as shown on the slide. Discuss the following:
    - Based on your Round 2 chart, does the U.S. have a capital and financial account deficit or surplus? (*Surplus)*
    - Would a surplus mean more loanable funds, or financial capital, are flowing into or out of the United States? (*There is more inflow than outflow.)*

40. Display slide 36 to allow students to see the increase in the supply of loanable funds on the graph.

41. Instruct students to illustrate the increase in inflows, based on the identified surplus in the U.S. capital and financial account, on the loanable funds graph. (*Students should draw an increase in the supply of loanable funds.*) Review the following:
    - The supply of loanable funds comes from savings. A surplus in the capital and financial account means there is more money flowing into the U.S. than is flowing out.
    - The increase in the supply of loanable funds reduces the interest rate for borrowing. This would make it less expensive to borrow and might encourage business investment and interest-sensitive consumption to increase. This could potentially impact GDP.

Closure

42. Display slide 37 and discuss the following:
    - What types of transactions are recorded in the current account? (*The current account includes goods, services, transfer payments, and net income from abroad.*)
    - What types of transactions are recorded in the capital and financial account? (*The capital and financial account includes financial assets such as stocks and bonds and direct foreign investment such as purchasing real estate or a business.*)

- How is balance of payments different from balance of trade? (*Balance of payments records the flow of money used to make international sales and purchases. Balance of trade refers to net exports or how many goods and services are sold abroad minus purchases of goods and services from other countries.*)
- Why does the balance of payments (CA + CFA) equal zero? (*As an accounting principle, a buy [debit] for one country is a sell [credit] for another. In a closed system [no leakages], all current account deficits are offset by capital and financial account surpluses.*)
- How does the balance of trade potentially impact the value of foreign currencies on the foreign exchange market? (*As there is more demand for the goods, services, and financial assets of a foreign country by another country, there will also be an increase in the demand for the currency of the foreign country needed to make those purchases/investments.*)
- What can the capital and financial account balance tell us about the loanable funds market? (*A capital and financial account in a surplus represents an inflow of foreign investors, which is part of the supply of loanable funds.*)

Reinforcement Activity

43. Distribute a copy of *Handout 2: Balance of Payments Practice* to each student to review key skills taught in this lesson. Review the answers provided on *Handout 2: Balance of Payments Practice—Answer Key*.

Handout 1: Balance of Payments Worksheet (page 1 of 2)

Round 1: The Current Account

U.S. Current Account		
Transaction	**U.S. debit**	**U.S. credit**
1		
2		
3		
Total		

1. Calculate net exports (exports – imports) for the U.S.
2. Calculate the current account balance.
3. Is the U.S. current account in a deficit or surplus?
4. Is the U.S. balance of trade positive or negative? Explain.
5. How do you think this balance of trade would impact demand for U.S. dollars? Explain.

Japan's Current Account		
Transaction	**Japan's debit**	**Japan's credit**
1		
2		
3		
Total		

1. Calculate net exports (exports – imports) for Japan.
2. Calculate the current account balance.
3. Is Japan's current account in a deficit or surplus?
4. Is Japan's balance of trade positive or negative? Explain.
5. How do you think this balance of trade would impact demand for Japanese yen? Explain.

Round 2: The Captial and Financial Account

U.S. Capital and Financial Account		
Transaction	**U.S. debit (outflows)**	**U.S. credit (inflows)**
1		
2		
3		
Total		

1. Calculate the capital and financial account balance for the U.S.
2. Is the U.S. capital and financial account in a deficit or surplus?
3. Using your charts from Rounds 1 and 2, calculate the balance of payments for the U.S. (CA + CFA = 0)
4. How will the capital and financial account balance impact the loanable funds market in the U.S.?

Japan's Capital and Financial Account		
Transaction	**Japan's debit (outflows)**	**Japan's credit (inflows)**
1		
2		
3		
Total		

1. Calculate the capital and financial account balance for Japan.
2. Is Japan's capital and financial account in a deficit or surplus?
3. Using your charts from Rounds 1 and 2, calculate the balance of payments for Japan. (CA + CFA = 0)
4. How will the capital and financial account balance impact the loanable funds market in Japan?

Handout 1: Balance of Payments Worksheet (page 2 of 2)

Let's Graph!

Based on the information from your charts in Round 1, show the impact of the change in net exports on an AD/AS model for the U.S. (Assume that the U.S. is currently operating at an equilibrium below full employment.)

Based on the information from your charts in Round 2, show the impact of capital inflows on the loanable funds graph for the U.S.

Handout 2: Balance of Payments Practice

U.S. Balance of Payments Transactions	
Category	**Amount**
Export of goods & services	$1,000
Import of goods & services	–$550
Net transfers	–$50
Net remittances	–$10
Net investment income	$110
Capital going abroad	–$3,800
Capital coming in	$3,300

1. What is the balance of trade?

2. Is this a surplus or a deficit?

3. What is the balance on the current account?

4. What is the balance on the capital and financial account?

5. Based on the table above, what will happen to the demand for U.S. currency on the foreign exchange market?

6. Assume the U.S. economy is operating below full employment. Based on the balance of trade identified above, draw a graph to show the impact on the equilibrium price and output.

7. Based on the U.S. capital and financial account balance above, draw a graph to show the impact on the loanable funds market.

Handout 2: Balance of Payments Practice—Answer Key

U.S. Balance of Payments Transactions	
Category	**Amount**
Export of goods & services	$1,000
Import of goods & services	–$550
Net transfers	–$50
Net remittances	–$10
Net investment income	$110
Capital going abroad	–$3,800
Capital coming in	$3,300

1. What is the balance of trade? *$450*

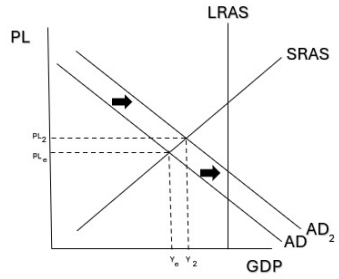
2. Is this a surplus or a deficit? *Surplus*

3. What is the balance on the current account? *$500*

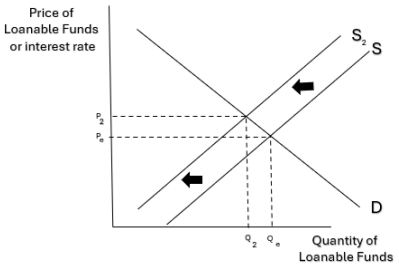
4. What is the balance on the capital and financial account? *–$500*

5. Based on the table above, what will happen to the demand for U.S. currency on the foreign exchange market?
   Demand for the currency will increase. The trade surplus indicates that more goods are being exported than imported, so more currency will be needed by foreign countries to make those purchases.

6. Assume the U.S. economy is operating below full employment. Based on the balance of trade identified above, draw a graph to show the impact on the equilibrium price and output.



7. Based on the U.S. capital and financial account balance above, draw a graph to show the impact on the loanable funds market.



Standards and Benchmarks

National Content Standards in K-12 Economics

Standard 9: International Trade

International trade can increase the total amount of goods and services available, but these gains are not distributed equally between or within countries. Governments use trade policies such as tariffs or subsidies to change trade flows with different countries.

Benchmarks

9.H.1: Net exports equal the value of exports (goods and services sold to other countries) minus the value of imports (goods and services bought from other countries). Net exports can be either positive (trade surplus) or negative (trade deficit).