

## **The Balance of Payments**

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What are the economic links among nations? We have seen some linkages in our discussions of international trade and the foreign exchange market. International trade in goods and services allows nations to raise their standards of living by specializing in areas of comparative advantage in production, exporting goods and services in which they are relatively efficient and importing those in which they are relatively inefficient. In a modern economy, trade takes place using different currencies. The foreign exchange market plays an important role for it is the lubricant that facilitates exchange among nations in commodities, services, and financial assets. A country's balance of payments records its economic transactions in goods, services, and assets with the rest of the world. Its major components are the current account and the financial account.

In this lesson, we will examine the definition, the structure, and the presentation of the balance of payments. The linkages between different accounts within the balance of payments and the national income account will be emphasized. The relationship between the central bank's international reserves and the country's money supply will also be a focus.

Main concepts of the lesson:

- Definition and structure of the balance of payments
- Debits and credits
- IMF presentation of the balance of payments
- The trade balance
- The balance on trade and services
- The income account
- The current account
- The financial account
- The overall balance or the official settlement balance
- International reserves

## **Learning objectives**

The objective of this lesson is to understand the definition, structure, and data presentation of the balance of payments; to be familiar with the various accounts within the balance of payments, the connection between the national income account and the balance of payments, and the relationship between a country's international reserves and its money supplies. At the completion of this lesson, you will be able to:

1. Define the balance of payments accurately and understand its structure and data presentations.
2. Understand the credit and debit rules for items in the balance of payments.
3. Define the various accounts within the balance of payments and understand their relationships.
4. Understand the components in the major accounts in the balance of payments including the current account and the financial account.
5. Understand the components of international reserves.
6. Describe the linkage between the national income account and the balance of payments.
7. Understand how changes in a country's international reserves affect the country's money supply.
8. Understand how the flows in the balance of payments affect the exchange rate.

**References:**

Samuelson and Nordhaus. 2005.

Chapter 29: Exchange Rates and the International Financial System

Krugman and Obstfeld. 2003.

Chapter 12: National Income Accounting and the Balance of Payments

Pugel, Thomas A. International Economics, 12th edition, McGraw Hill/Irwin, 2004.

Chapter 16: Payments among Nations

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# Balance of Payments

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A country's balance of payments not only records a country's economic transactions with the rest of the world, it also inherently connects to the national economy. The balance of payments helps us understand a country's position in trade of goods and services in the world, its income and capital flows with other countries and its exchange rate policies.

There are many terminologies associated with the balance of payments, some of which are confusing at times but can be cleared up after careful reading and pondering. Some discussions are also somewhat technical. This lesson requires relatively more time to digest than some other lessons.

## Lesson outline

- Definition of the balance of payments
- The general rule in balance of payments accounting
- The structure of balance of payments
- IMF presentation of the balance of payments
- The current account balance
- The financial account balance
- The overall balance or the official settlement balance (OSB)
- Official international reserves and money supply
- The current account balance and national income account
- The international investment position

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## Balance of Payments

- Definition
    - Statistical statement
    - Systematic
    - Economics transactions
    - A specific time period
  - The general rule in accounting
    - Credits (+): Foreign currency earning
    - Debits (-): Foreign currency spending
    - **Total credits + Total debits = 0**
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The balance of payments (BOP) is a *statistical statement* that *systematically* summarizes, for a *specific time period*, the *economic transactions* of an economy with the rest of the world.

Pay attention to the highlighted terms in the definition. The BOP is a statistical statement, thus giving us numerical information. The statistical information is presented in a systematic manner thus we need to understand the rules of how the numbers are compiled. Economic transactions include transactions in goods, services, factor compensation, and assets. Although trade is an important part of BOP, BOP is not just about trade; its coverage is much broader. BOP summarizes these transactions for a specific time period. So it is a flow concept, like a company's income statement which summarizes a company's revenue and spending for a particular time period.

Here is a definition of transactions in the BOP by the International Monetary Fund (IMF):

*Transactions, for the most part between **residents and nonresidents**, consist of those involving goods, services, and income; those involving financial claims on, and liabilities to, the rest of the world; and those (such as gifts) classified as transfers, which involve offsetting entries to balance - in an accounting sense - one-sided transactions. – IMF, Balance of Payments Statistics Yearbook, 1998, p.xxi.*

The balance of payments records each transaction as either a plus (credit) or a minus (debit). The general rule in BOP accounting is specified as follows:

Credit (+):     A flow for which the country is paid: inflow of funds.  
                     E.g.: Exports of goods, services to foreigners, income generated from  
                     investing abroad, sales of assets to foreign investors

Debit (-): A flow for which the country pays: outflow of funds.  
 E.g.: Imports of goods, travel expenses in foreign countries, income paid to foreign investors, purchases of foreign assets

That is, if a transaction earns or generates foreign currency for the nation, it is called a credit and is recorded as a plus item. If a transaction involves spending foreign currency, it is a debit and is recorded as a negative item.

All credit items in the BOP have to be accounted for by the debit items. So the sum of all the plus numbers in the BOP has to be equal to the sum of the entire debit numbers in absolute values. That is,

<b>Total credits + Total debits = 0</b>
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→ Technically, all the accounts in the *balance* of payments must sum to zero.

This is analogous to an individual's personal account. Suppose by the end of the year, you review your household's income and spending for the year. An inflow of funds is a credit while spending is a debit. Your total inflow has to be accounted for by your spending or saving. The following is a hypothetical illustration:

Credit		Debit	
Salary	800	Housing	-300
Interest earnings	100	Food	-200
Other income	100	Travel	-200
		Other	-200
		Saving	-100
Total	1000	Total	-1000

Your total inflow is \$1,000 including your salary (\$800), your interest earnings (\$100), and other income (\$100). On the right-hand side, your total spending including housing (\$300), food (\$200), travel (\$200), other (\$200) and saving (\$100) sums up to \$1000 as well. Note that your saving is included on the debit side because it accounts for what you have done with the money you have earned. It is important to recognize this – a negative number has no connotation of being bad or negative; it is simply a way of systematically recording the characteristics of the transaction.

Suppose we change the situation as follows:

Credit		Debit	
Salary	800	Housing	-500
Interest earnings	100	Food	-200
Other income	100	Travel	-200
		Other	-200
		Saving	0
Total	1000	Total	-1100

Is this possible – your total income is \$1000 but your total spending is \$1100? This is possible if you can borrow. But the above balance of personal payments is not consistent: it does not show where the extra money (\$100) comes from. So we need to include the borrowing in the above balance so that your balance of personal payments looks like this:

Credit		Debit	
Salary	800	Housing	-500
Interest earnings	100	Food	-200
Other income	100	Travel	-200
<b>Borrowing</b>	<b>100</b>	Other	-200
		Saving	0
Total	1100	Total	-1100

Now your balance of personal payments is balanced. Note the \$100 you borrowed is recorded as positive number since it represents an inflow of funds to you.

Let us now go back to the initial situation, but change it to one like the following:

Credit		Debit	
Salary	800	Housing	-300
Interest earnings	100	Food	-200
Other income	100	Travel	-200
		Other	-100
		Saving	-100
Total	1000	Total	-900

In the above situation, your total debits are \$100 short of the credits. Have you ever been in a situation in which your numbers simply do not add up to account for a specified total? You spent the money but simply cannot recall the transaction. Something is missing but you cannot figure out what. Your balance of personal payments is not balanced. What you need to do now is to create an item called “errors or omissions,” or “statistical discrepancy” to make up the difference so that your balance of personal payments will look like this:

Credit		Debit	
Salary	800	Housing	-300
Interest earnings	100	Food	-200
Other income	100	Travel	-200
		Other	-100
		Saving	-100
		<b>Net errors and omissions</b>	<b>-100</b>
Total	1000	Total	-1000

That is, you recognize the error and omission in your balance of personal payments and make it balanced.

To repeat, the key idea here is that all the credits (positive numbers) and the debits (negative numbers) in the balance of payments have to sum up to zero. Different accounts within the BOP may have positive or negative balances, but the entire BOP has to sum up to zero.

If the balance of payments has to be zero, how come we often hear or read statements like this: “U.S. Chalks Up Record Balance of Payments Deficit (*Wall Street Journal* headline)?” We know now that technically the balance of payments is zero; it cannot have a surplus or deficit. What is often referred to by the media, *and* by academics as well, is really the overall balance deficit or surplus when they talk about balance of payments deficit or surplus. We will define and discuss the overall balance shortly.



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## Balance of Payments: Structure and Presentation

- **Structure**
    - Current Account
    - Financial Account
  - **The IMF Analytic Presentation**
    - A. Current Account**
    - B. Capital Account**
    - C. Financial Account**
    - D. Net Errors and Omissions**
    - E. Reserves and Related Items**
- 

The balance of payments is divided into two major accounts: the current account and the financial account. The current account includes all items of income and outlay – imports and exports of goods and services, investment income, and transfer payments. The financial account records all international purchases or sales of financial assets.

What is now called “the financial account” used to be referred to as the “capital account.” A newly defined capital account by the IMF consists of capital transfers and the acquisition and disposal of nonproduced nonfinancial assets. This new terminology is helpful because it emphasizes that the financial account involves flows of financial assets and liabilities rather than aircraft and factories (Samuelson and Nordhaus, 2005, p. 602). The newly defined capital account is extremely small and can be omitted for analysis for most countries. But because of the transition in the usage of terminologies, a lot of people, including textbook writers, still use the traditional definition of the capital account, or use the terms “financial account” and “capital account” interchangeably. We need to be careful about this in our readings. The general guidance is that, when people mention “capital account” in their discussions, it is more likely that they refer to the financial account. The new definition of the capital account appears mostly in the IMF presentations of balance of payments.

The IMF publishes balance of payments data for its member countries regularly in *Balance of Payments Statistics*. This publication divides the balance of payments for each country in five accounts as shown in the slide above. I strongly recommend that you visit a library and find a copy of this publication so that you will see for yourself the actual balance of payments data and their presentations.

## The Current Account

		U.S. 2002 (billions of US\$)
<b>A</b>	<b>Current Account</b>	<b>-480.86</b>
	Goods: exports f.o.b.	658.38
	Goods: imports f.o.b.	-1164.76
	<b>Balance on Goods</b>	<b>-479.38</b>
	Services: credit	288.72
	Services: debit	-227.38
	<b>Balance on Goods and Services</b>	<b>-418.04</b>
	Income: credit	255.54
	Income: debit	-259.51
	<b>Balance on Goods, Services, and Income</b>	<b>-422.01</b>
	Current transfers: credit	11.50
	Current transfers debit	-70.35

Account A, the current account for the United States for 2002, is presented in the table above. As shown, the current account includes transactions in goods and services, income, and transfer payments.

### Goods (Trade Account)

Exports, f.o.b.

f.o.b.: free on board, a shipping term under which the price quoted applies only at inland shipping point, and the seller arranges for loading of the goods on, or in, railway cars, trucks, barges, or other conveyance furnished for transportation.

$$\text{Trade balance} = \text{Exports (credit)} + \text{Imports (debit)}$$

#### **U.S. Trade Account (2002):**

Credit (exports)	\$685.38 billion	
Debit (imports)	-\$1164.76 billion	
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Trade Balance	-\$479.38 billion	(Deficit)

#### **Japan Trade Account (2002)(not shown in the table):**

Credit (exports)	\$395.58 billion	
Debit (imports)	-\$301.75 billion	
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Trade Balance	\$93.83 billion	(Surplus)

**Services**

- Transportation
- Travel
- Other Services
  - Communications services
  - Construction services
  - Insurance services
  - Financial services
  - Computer and information services
  - Royalties and license fees
  - Other business services
  - Personal, cultural, and recreational services
  - Government services, n.i.e. (Expenditures of embassies and consulates)

**U.S. Services Account (2002):**

Total credit	\$288.72 billion	
Total debit	-\$227.38 billion	
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Balance on services	\$61.37 billion	(Surplus)

**Japan Services Account (2002):**

Total credit	\$65.71 billion	
Total debit	-\$107.94 billion	
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Balance on services	-\$42.23 billion	(Deficit)

**Major U.S. service items (2002):**

Travel (\$24.42 billion net)  
Financial (\$12.19 billion net)  
Royalties and license fees (\$24.88 billion net)

**Balance on Goods and Services**  
**= Trade balance + Balance on services**

**Balance on Goods and Services for the U.S. (2002):**

	-\$479.38 billion (Trade balance)	
+	\$61.37 billion (Balance on services)	
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	-\$418.04 billion	

## Income

Income refers to factor income. Recall that labor and capital are the two main factors of production. Given the fact that there are still a lot more restrictions on labor migration than capital movement across countries, investment income is by far larger than labor income for most countries.

- **Compensation of employees (wages, salaries, and other benefits)**
- **Investment income**
  - **Direct investment income**
    - ✓ Income on equity (dividends, branch profits, and reinvested earnings)
    - ✓ Income on debt (interest)
  - **Portfolio investment income**
    - ✓ Income on equity (dividends)
    - ✓ Income on debt (interest)
  - **Other investment income**
    - ✓ Income on loans (interest)
    - ✓ Other

### **Direct investment**

Direct investment reflects lasting interest of a resident entity in one economy (direct investor) in an entity resident in another economy (direct investment enterprise). Normally direct investment represents controlling ownership of the enterprises that receives the investment.

### **Portfolio investment**

It covers transactions in equity securities and debt securities; the latter are sub-sectorized into bonds and notes, money market instruments, and financial derivatives (such as options) when the derivatives generate financial claims and liabilities.

### **Other investment**

It covers short- and long-term trade credits; loans; currency and deposits; and other accounts receivable and payable.

### **U.S. Income Account (2002):**

Compensation of employees		-\$5.27	billion
Direct investment income: Credit		142.93	
Direct investment income: Debit		-49.46	
Portfolio investment income: Credit		62.40	
Portfolio investment income: Debit		-153.61	
Other investment income: Credit		47.05	
Other investment income: Debit		-48.03	
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Balance on income		-3.97	

<b>Balance on Goods, Services, and Income</b> <b>= Trade Balance + Balance on services + Balance on income</b>
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**Balance on Goods, Services, and Income for the U.S. (2002):**

	-\$479.38 billion (Trade balance)
+	\$61.37 billion (Balance on services)
+	-\$3.97 billion (Balance on income)

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-\$422.01 billion

**Current Transfers**

**General government transfers**

International cooperation, payment of current taxes on income and wealth

**Other transfers**

Workers' remittances, premiums

**U.S. Current Transfer Account (2002):**

General government:	Credit	...
General government:	Debit	-22.22
Other sectors:	Credit	11.50
Other sectors:	Debit	-48.13

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Balance on current transfers -58.85

<b>Current Account Balance</b> <b>= Trade balance</b> <b>+ Balance on services</b> <b>+ Balance on income</b> <b>+ Balance on current transfers</b>
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**Current Account Balance for the U.S., 2002**

	-\$479.39 billion	(Trade balance)
+	\$61.37 billion	(Balance on services)
+	- \$3.97 billion	(Balance on income)
+	- \$58.85 billion	(Balance on current transfers)
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=	-\$480.86 billion	(Current account balance)



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## The “Capital” Account

<b>B</b>	<b>Capital Account</b>	<b>-1.29</b>
	Capital account: credit	1.10
	Capital account: debit	-2.39
	<b>Total, Groups A plus B</b>	<b>-482.14</b>

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The capital account presented above is the newly defined capital account by the IMF. The major components of the *capital account* are *capital transfers* and *acquisition/disposal of nonproduced, nonfinancial assets*. *Capital transfers* consist of those involving transfers of ownership of fixed assets; transfers of funds linked to, or conditional upon, acquisition or disposal of fixed assets; or cancellation, without any counterparts being received in return, of liabilities by creditors. *Capital transfers* included two components: (i) general government, subdivided into debt forgiveness and other, and (ii) other, subdivided into migrants' transfers, debt forgiveness, and other transfers.

– IMF, Balance of Payment Statistics Yearbook, 1998.

Generally, capital transfers result in a change in the stock of assets of an economy, while current transfers affect the level of disposable income and influence the consumption of goods and services.

Although conceptually important, capital account transactions are believed to be generally small for the United States; however, they are important to other countries, and they also may occasionally be significant for the United States, especially in the case of debt forgiveness and the transfer of major U.S. Government assets.

--- Christopher L. Bach, “U.S. International Transactions, Revised Estimates for 1982-98,” Survey of Current Business (U.S. Department of Commerce), July 1999, p. 63.

Balance on capital account for the U.S. (2002):        \$-1.29 billion

<div>Balance of Payments:</div> <div>Structure</div> <div>Financial Account</div>	<b>C</b>	<b>Financial Account</b>	<b>531.68</b>
		Direct investment abroad	-137.84
		Direct investment in country	39.63
		Portfolio investment assets	15.80
		Equity securities	-17.68
		Debt securities	33.48
		Portfolio investment liabilities	421.44
		Equity securities	53.20
		Debt securities	368.24
		Financial derivatives	...
		Financial derivatives assets	...
		Financial derivatives liabilities	...
		Other investment assets	-53.27
		Monetary authorities	...
		General government	-0.03
		Banks	-21.36
		Other sectors	-31.88
		Other investment liabilities	245.91
		Monetary authorities	64.91
		General government	2.66
		Banks	108.72
		Other sectors	69.62
		<b>Total: Groups A Through C</b>	<b>49.54</b>

Account C, the financial account, of the balance of payments includes the following items:

- Direct investment
  - Equity capital
  - Reinvested earnings
  - Other capital
- Portfolio investment
  - Equity securities
  - Debt securities
  - Money market instruments
  - Financial derivatives
- Other investment
  - Trade credits
  - Loans
  - Currency and deposits
  - Other assets and liabilities

The terms “direct investment,” “portfolio investment,” and “other investment” have been defined previously. It is important to note that the items listed above in the financial account represent investment or capital flows in principals, while the income generated from these flows is recorded in the current account. For example, if you (an America resident) invest \$1 million in Japan, it should be recorded as a negative flow in the U.S. financial account. The profits (or dividends, interest) this investment generates for you are recorded in the U.S. current account as investment income.



### Financial Account for the United States, 2002 (billion of \$)

<b>Direct Investment</b>			
<b>Direct investment abroad</b>		<b>-137.84</b>	
<b>Of which: Equity capital</b>	<b>-18.10</b>		
<b>Reinvested earnings</b>	<b>-94.15</b>		
<b>Direct investment in the United States</b>		<b>39.63</b>	
<b>Of which: Equity capital</b>	<b>70.33</b>		
<b>Reinvested earnings</b>	<b>6.76</b>		
<b>Balance on direct investment</b>			<b>-98.20</b>

As we know, the United States is both the largest investor and receiver of international investment. In 2002, the U.S. invested \$137.84 billion abroad (do you know why this number is marked negative above?). It also received \$39.63 billion in direct investment. So the U.S. net investment abroad was \$98.20 billion. As you can see above, much of the U.S. investment abroad was out of retained earnings rather than new capital flows abroad.

<b>Portfolio Investment</b>			
<b>Assets</b>		<b>15.80</b>	
<b>Liabilities</b>		<b>421.44</b>	
<b>Of which: Debt securities</b>	<b>368.24</b>		
<b>Of which: General government</b>	<b>208.26</b>		
<b>Balance on portfolio investment</b>			<b>437.24</b>

By far the largest capital inflow into the United States was portfolio investment, particularly in U.S. debt securities. This is an indication that the United States borrows heavily from other countries. The biggest borrower was the U.S. government.

<b>Other Investment</b>			
<b>Assets</b>		<b>-53.27</b>	
<b>Of which: Currency and deposits by</b>	<b>-21.46</b>		
<b>Other short term assets</b>	<b>-33.01</b>		
<b>Liabilities</b>		<b>245.91</b>	
<b>Of which: Currency and deposits by</b>	<b>130.23</b>		
<b>Other short term assets</b>	<b>113.16</b>		
<b>Balance on other investment</b>			<b>192.64</b>

Capital also flew to the United States in the form of other capital including short-term bank deposits.

<b>Total balance on financial account</b>	<b>531.68</b>
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	Balance on capital account	-1.29
+	Balance on financial account	531.68
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	<b>Balance on capital and financial account</b>	<b>530.39</b>

Recall that the U.S. current account balance for 2002 is -\$480.86 billion.

Then what is the balance on the current account and the capital and financial account?

	Current account balance	-\$480.86 billion
+	Capital and financial account balance	\$530.39 billion
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	<b>Balance on current, capital and financial account</b>	<b>\$49.54 billion</b>

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## Reserves account

E	<b>Reserves and Related Items</b>	-3.69
	Reserve assets	-3.69
	Use of Fund credit and loans	...
	Exceptional financing	...

Reserve assets consist of those external assets that are readily available to and controlled by **monetary authorities** for direct financing of payments imbalances, for indirectly regulating the magnitude of such imbalances through **intervention** in exchange markets to affect the currency exchange rate, and/or for other purposes.

- IMF, Balance of Payments Manual, fifth edition, 1993, p. 97
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Let us jump ahead and look at Account E first before Account D. Account E – Reserves and Related Items records transactions conducted by a country’s monetary authorities, the central bank. This is often referred to as the official financial account. The word “official” is used specifically to refer to the monetary authority or the central bank. The transactions included in this account are mainly the central bank’s purchase and sales of foreign exchange in the foreign exchange market. These actions are called *foreign exchange market intervention*. The purpose of such intervention is to affect the currency exchange rate or to achieve other monetary policy goals.

A country’s international reserves, or external reserves (versus domestic assets the central bank holds), are controlled by the country’s central bank. The components of the international reserves are the following:

- Monetary gold
- Special drawing rights (SDRs)
- Reserve position in the IMF
- Foreign exchange assets (consisting of currency and deposits and securities), and
- Other claims

IMF, Balance of Payments Manual, fifth edition, 1993, p. 97

Monetary gold refers to the gold holding of the monetary authorities. Special Drawing Rights (SDRs) are issued and distributed by the IMF as an asset to settle inter-government transactions. Reserve position in the IMF is like a credit line that member countries can use to borrow money from the IMF. Foreign exchange assets are by far the largest categories of external reserves for most countries. Note that this has to be “foreign” currency. The U.S. dollar is not part of U.S. foreign exchange and the Japanese yen is not part of Japan’s international reserves.

So now let us add up all the accounts we have described – these are the known accounts:

	Current account balance	-\$480.86 billion
+	Capital and financial account balance	\$530.39 billion
+	Reserve assets balance	-\$3.69 billion
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	Total balance	\$45.84 billion

If there were no error or omissions in the balance of payments, the total balance above should be zero. That is, the balance on the current account AND the balance on capital and financial account should sum up to zero. Clearly this is not the case. We have missed or omitted transactions that amount to -\$45.84 billion. As shown in the statistics on the next screen, the balance on Account D, Net Errors and Omissions, is exactly -\$45.84 billion, as it has to be by accounting identity.

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## Net Errors and Omissions

<b>D</b>	<b>Net Errors and Omissions</b>	-45.84
	<b>Total, Groups A Through D</b>	<b>3.69</b>

In balance of payments statements, the standard practice is to show separately an item for **net errors and omissions**. Labeled by some compilers as a **balancing item** or **statistical discrepancy**, that item is intended as an offset to the overstatement or understatement of the recorded components. Thus, if the balance of those components is a **credit**, the item for net errors and omissions will be shown as a **debit** of equal value, and vice versa. --- IMF, Balance of Payments Statistics Yearbook, 1998, p. xxiv.

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Account D, net errors and omissions, of the balance of payments for the United States for 2002 was presented above. As shown in the balance of personal payments earlier, this account is intended to offset any imbalances in the BOP.

The following is a report by the *Far Eastern Economic Review*, which illustrates how errors and omissions in the BOP might occur:

*Billions of dollars were hoarded inside China and billions more were sent abroad, despite the efforts of the State Administration of Foreign Exchange (Safe) to staunch the hemorrhage. Between 1996 and the end of 2001 about \$80 billion was registered under the "errors and omissions" column in China's balance of payments, according to Safe. The column exists in the financial statements of many countries, including the United States, and is where bookkeepers put the loose ends. "It's a summary of all your misses," explains Robert McCauley, deputy chief representative of the BIS Representative Office for Asia and the Pacific based in Hong Kong. "The balance of payments ought to add up to zero, and when it doesn't, the net of all the unrecorded transactions is called 'errors and omissions'."*

**CURRENCY: THE TIDE CHANGES AT LAST FOR THE RENMINBI IN CHINA**, By David Murphy, Issue cover-dated May 29, 2003  
<http://www.feer.com/cgi-bin/prog/printeasy?id=2338.41350573165>

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## Identifying the Accounts

- **The IMF Analytic Presentation**

- A. Current Account**
- B. Capital Account**
- C. Financial Account**
- D. Net Errors and Omissions**
- E. Reserves and Related Items**

- **The Two-Account Structure**

- Current Account (A)
  - Financial Account (B+C+D+E)
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We have just surveyed the five accounts in the IMF balance of payment presentation. Since the IMF's publication *Balance of Payments Statistics* is the major source of information for balance of payments, it is important to understand this presentation. Of course, you will see variations in presentations by other sources, but the basic structure and the concepts are essentially the same.

We said earlier that the balance of payments is often divided into two major accounts: the current account and the financial account (or traditionally the capital account). How do we group the five accounts – A, B, C, D, and E – classified by the IMF into the two-account framework? The concordance is presented in the slide above. Account A, the current account, is the current account in the two-account structure. All the other accounts belong to the financial account in the two-account structure. We separate the current account from the rest in the balance of payments because the current account measures income flows for a country while the rest represents the corresponding financial flows. For example, if we have earned a net \$100 billion in the current account (through exports of goods and investment earnings, for example), the overall financial account balance will be –\$100 billion representing our net investment abroad. So the two account balances add up to zero. Intuitively, what do we do with the net foreign exchange earnings of \$100 billion? We can lend it out as a foreign currency loan or buy foreign company stocks. Either way it is foreign investment, an outflow. As another example, a real one, as we have seen, the United States had a current account deficit of \$480.86 billion in 2002. That is, we spent \$480.86 billion more on foreign goods, services, paying interest or dividend for foreign investment than what we had earned. How did we pay (or finance) this deficit? We borrowed so that there were capital inflows into the country. This borrowing was reflected in the overall financial account balance (B+C+D+E): \$480.86 billion. Can you verify that the sum of these four accounts is a negative \$480.86 billion?

The overall financial account (B+C+D+E) can be further divided into the official financial account (Account E) and the non-official financial account (C+B+D but mainly Account C). This distinction is important in that the official financial account is part of the central bank's assets and is a policy instrument while the non-official financial account measures capital flows in the private sector.

### **Foreign exchange market intervention, changes in official reserves, and money supply**

The central bank's assets include domestic assets (DA), such as government bonds, and foreign assets (FA), which are the official reserves. The central bank's liability is called high-powered money base (H), which determines the domestic money supply.

#### Central Bank's Balance Sheet

<u>Assets</u>	<u>Liabilities</u>
DA	H
FA	

By definition of a balance sheet, total assets = total liability (includes owner's equity in case of a company). Thus,

$$DA + FA = H$$

When the central bank intervenes in the foreign exchange market by selling foreign currency (hoping to pop up the domestic currency), the central bank loses foreign reserves. Its holding of foreign assets goes down, and so does the country's money supply.

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## Identifying the Accounts

- The Overall Balance or the Official Settlement Balance
    - A. Current Account
    - B. Capital Account
    - C. Financial Account
    - D. Net Errors and Omissions
  - The Official Reserves Balance
    - E. Reserves and Related Items
- 

The five accounts within the balance of payments are often divided alternatively as the *overall balance* and the official reserves balance as illustrated above. The overall balance is the sum of the first four accounts in the IMF presentation. Since this balance offsets the official reserves balance, it is also called the *official settlement balance* (OSB).

The overall balance or the official settlement balance measures all the private sector's international transactions. It represents the trade and investment flows that reflect the economy's performance with respect to the external balance and drive the exchange rate in the foreign exchange market.

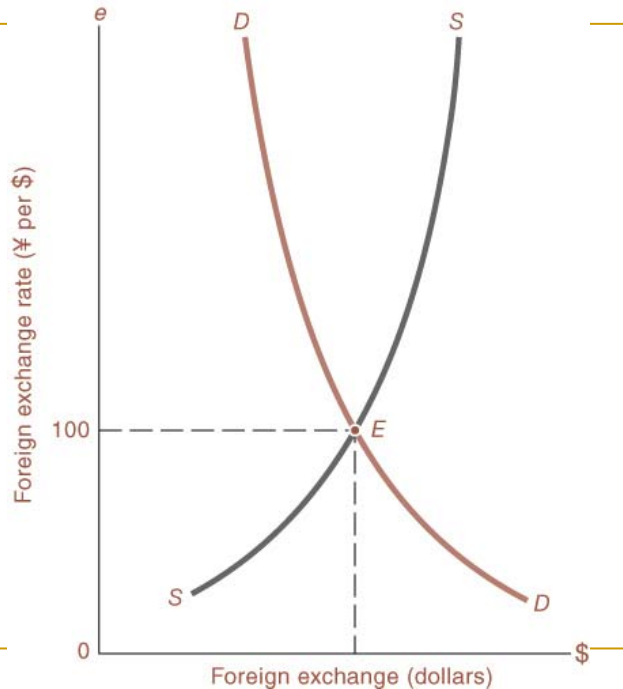
The overall balance or the official settlement balance is so important that people often refer to it as *the* balance of payments. That is why you see expressions such as “balance of payment deficit” or “balance of payment surplus” being used in the business media or even by academics and policy makers.

### What does an overall balance surplus mean?

It means the economy has generated more inflows from abroad than outflows; has earned more than spent externally. The *surplus* results in an *increase* in official reserve assets, which in turn leads to a money supply increase.



## Exchange -Rate Determin ation



The graph above depicts the forces of the balance of payments flows that drive the supply of and demand for foreign currencies and determine the exchange rate. The demand for foreign goods, services, and assets translates into the demand for foreign currencies. An overall balance deficit means that we demand more for foreign goods, services, and assets than foreign demand for our goods, services, and assets. Everything else equal, this greater demand for foreign currency will drive up the value of the foreign currency and depreciate the domestic currency.

In the graph above, the dollar is presented as the foreign currency. The demand curve represents the foreign demand for U.S. dollars while the supply curve represents the U.S. demand for foreign currency (demand for foreign currency is equivalent to supply of domestic currency). When U.S. demand for foreign goods, services, and assets increases, the supply curve will shift to the right, lowering the value of the dollar.

## The Current Account Balance & International Investment Position

- Current account **surplus** means:
  - Net lending to (investing in) other economies
  - Adding to external assets
  - Net international investment position becoming more positive or less negative
- Current account **deficit** means:
  - Net borrowing from (selling assets to) other economies
  - Adding to external liabilities
  - Net international investment position becoming more negative or less positive

The overall balance or the official settlement balance provides an important link between the balance of payments and the national economy – the central bank official reserves and money supply. Another important link, in some sense an even more important link, is the current account balance and the national economy.

As outlined above, a current account surplus means net lending to other economies while a current account deficit means net borrowing from other economies. If we lend or invest in other economies, we accumulate international assets. If we borrow from other economies (including foreign investment in our economy), we accumulate international liabilities. Such accumulations are called a country's *international investment position*, which is discussed on the next screen.

The following table presents the current account balance for selected economies in 2002.

**A comparison of components in the current account**  
Billions of US\$, 2002

	U.S.	U.K.	Mexico	Canada	Japan	China
Trade balance	-479.38	-53.05	-7.916	36.838	93.83	44.167
Balance on services	61.34	21.21	-4.920	-5.286	-42.23	-6.783
Balance on income	-3.97	31.25	-11.436	-17.514	65.77	-14.946
Balance on current transfer	-58.85	-13.83	10.269	0.871	-4.92	12.984
<b>Current account balance</b>	<b>-480.86</b>	<b>-14.41</b>	<b>-14.909</b>	<b>14.909</b>	<b>112.45</b>	<b>35.422</b>

## International Investment Position (IIP) for the U.S. (Billion U.S. dollars)

	1897	1914	1930	1946	1960	1982	2001
U.S. investments abroad	\$1.3	\$5.0	\$21.5	\$39.4	\$85.6	\$961.0	\$6,862.9
Private	0.7	3.5	17.2	13.5	49.3	740.7	6,647.3
Direct investments*	0.6	2.6	8.0	7.2	31.9	226.6	2,289.9
Other	0.1	0.9	9.2	6.3	17.4	514.1	4,357.4
U.S. government (nonofficial)	0.0	—	—	5.2	16.9	76.9	85.7
U.S. official reserve assets†	0.6	1.5	4.3	20.7	19.4	143.4	130.0
Foreign investments in the United States	3.4	7.2	8.4	15.9	40.9	725.1	9,172.1
Direct investments*	—	1.3	1.4	2.5	6.9	130.4	2,526.7
Other	3.4	5.9	7.0	13.4	34.0	594.7	6,645.4
<b>U.S. net international investment position</b>	<b>-2.1</b>	<b>-2.2</b>	<b>13.1</b>	<b>23.5</b>	<b>44.7</b>	<b>235.9</b>	<b>-2,309.1</b>

\*Direct investment refers to any international investment in a foreign enterprise owned in large part by the investor's home country. For 1982 and subsequent years, these investments are reported at estimated market values. For previous years, they are reported at historic cost.

†U.S. official reserve assets consist of gold and foreign exchange assets plus the reserve position at the IMF and Special Drawing Rights. For 1982 and subsequent years, reserve gold is reported at market values.

IIP is a separate table from the balance of payments in IMF's Balance of Payments Statistics. IIP data reflect a country's external financial assets and liabilities at a specific point in time. The international Investment Position is closely related to the balance of payments, but it is NOT part of balance of payments. The balance of payments summarizes the FLOWS of international transactions over a period of time while the International Investment Position records the STOCKS of external assets and liabilities at a particular point of time.

The table above shows the international investment position of the United States for past century or so. The United States was a debtor nation around the turn of the 20<sup>th</sup> century. After WWII, heavy investment abroad by the United States turned the U.S. into a large creditor nation until the 1980s. Then the persistent U.S. current account deficits have turned the U.S. into the largest debtor in the world today.

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## Current Account Balance and GDP

$$Y = C + I_d + G + X$$

$$E = C + I_d + G$$

$$X = Y - E \quad (1)$$

$$X = S - I_d = I_f \quad (2)$$

$$X = S^p - I_d - (G - T) \quad (3)$$

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Recall that GDP has four components: consumption (C), domestic investment ( $I_d$ ), government spending (G), and net exports (X). Net exports (X) are nothing more than the current account balance, since the goods and services we export on net are part of our national production. Now we will have a closer look at how the current account balance is linked to the national economy. Let's denote

Y	the national output, or national income
$I_d$	domestic investment expenditures
$I_f$	net foreign investment (expenditures)
C	consumption expenditures
G	government expenditures for goods and services
T	government tax revenue
$S^p$	savings by the private sector of the economy
$S^g$	government savings (tax revenue - government expenditures)
S	total savings (private savings + government savings)
X	net export of goods and services of all factors of production (= current account balance)

If we define our total national expenditure as  $E = C + I_d + G$ , then we have

$$X = Y - E \quad (1)$$

That is, the current account balance is the difference between what we produce (Y) and what we spend domestically.  $X > 0$  (current account surplus) means we are producing more than we spend and allow other countries to consume and spend part of what we

produce. This is what is happening to Japan. If  $X < 0$ , we consume and spend more than what we produce (isn't that nice?). This is the United States right now.

From our national income accounting (GDP), we can define total national saving as follows:

$$S = Y - C - G = I_d + I_f = I_d + X$$

Thus we have

$$X = S - I_d = I_f \quad (2)$$

That is, the current account balance is the difference between domestic saving and the domestic investment, which is equal to net foreign investment. From the structure of BOP, we know a current account surplus is totally offset by a financial account deficit. A financial account deficit is exactly the country's net foreign investment. The foreign investment is a result of a surplus saving over domestic investment. Japan saves more than its domestic investment. As a result, it runs a current account surplus and becomes a net foreign investor. The opposite is true for the United States in the last two decades.

Let us separate private saving from government saving and see how the current account balance is linked to the government budget deficit.

$$\begin{aligned} \text{Government savings:} & \quad S^g = T - G \\ \text{Government budget deficit:} & \quad G - T = -(T - G) \\ \text{Private savings:} & \quad S^p = Y - C - T = I_d + G + X - T = I_d + (G - T) + X \end{aligned}$$

Thus we have

$$X = S^p - I_d - (G - T) \quad (3)$$

That is, the current account balance is the difference between private sector's saving, domestic investment, and the government's budget deficit. If the private sector's saving is not high enough to cover domestic investment and the government budget deficit, a country has to run a current account deficit. This is the case of the United States where coexist a current account deficit and a government budget deficit – the twin deficits as they are sometimes called. Recall that there was a huge amount of capital inflow to the United States in the form of government debt (see numbers in the portfolio investment section in BOP). This exemplifies the above equation. Can you explain it in some details?

Note that the equations we have highlighted above are accounting identities that always hold.

### **Transition Statements**

How a country's balance of payments adjusts under different exchange rate regimes is an important part of the international monetary system. Having covered the concepts of balance of payments in this lesson, we are ready to discuss the interactions of balance of payments adjustments and exchange rate policies in our next lesson. The concept of the overall balance is particularly important in our discussion of the international monetary system.

## Summary

**In this lesson, we have covered the following major topics:**

**1. The balance of payments.** The balance of international payments is the set of accounts that measures all the economic transactions between a nation and the rest of the world. It includes exports and imports of goods, services, and financial instruments. Exports are credit items, while imports are debits. More generally, a country's credit items are transactions that make foreign currencies available to it; debit items are ones that reduce its holdings of foreign currencies.

**2. The major components of the balance of payments.** They include:

I. Current account (merchandise trade, services, investment income, transfers)

II. Financial account (private, government, and official-reserve changes)

The fundamental rule of balance-of-payments accounting is that the sum of all items must equal zero:  $I + II = 0$ .

**3. The current account.** The current account includes four major components: (1) trade in goods; (2) trade in services; (3) factor income including investment income and workers' compensation; and (4) transfers (government and private gifts and donations made and received).

**4. The financial account.** The financial account can be divided into private sector financial account and the official account. The private sector financial account includes foreign direct investment, portfolio investment, and other investment. The official financial account is the official reserves account.

**5. The overall balance.** The sum of the current account balance and the private sector's financial account balance is called the overall balance, or the official settlement balance. It summarizes non-official sector's trade and investment flows in the balance of payments. Such flows represent the supply of and demand for the country's currency in the foreign exchange market and affect the exchange rate.

**6. The official reserves or international reserves.** They include monetary gold, foreign exchange, special drawing rights (SDRs), and the IMF borrowing positions. These reserves are part of the central bank's assets. The central bank buys and sells reserves to intervene in the foreign exchange market. Such intervention causes changes in the country's money supply.

**7. The current account balance and the national income accounting.** The current account balance is the net export part of the GDP. The current account balance is the difference between national output and expenditure, represents net foreign investment, and links to private saving, investment, and the government budget deficit.

**8. The current account balance and the international investment position.** The current account balance represents a country's external lending to or borrowing. A current account surplus adds to a country's international asset position; a current account deficit adds to a country's international liability position. The international investment position presents the stock of a country's international assets and liabilities at any particular point of time.



**Problem Assignments** (For review purpose; Do not hand in)

The purpose of this assignment is to understand the concepts of balance of payments and relationship between different accounts within the balance of payments.

Please refer to the balance of payments statistics for the United States on the next page and answer the following questions (numbers are in billions of U.S. dollars).

- a. What was the trade balance for the United States for 2001?
- b. What was the overall balance for the United States for 2001?
- c. Did the United States have a net capital inflow or outflow for 2001? How much?
- d. Did the United States international investment position get better (international assets go up) or worse (international liabilities go up) in 2001 (one word: better or worse)?
- e. Which of the following is true for the United States in 2001?
  - a) The United States total production was more than its total expenditure ( $Y > E = I + C + G$ ).
  - b) The United States total production was less than its total expenditure ( $Y < E = I + C + G$ ).

	United States	<b>2000</b>	<b>2001</b>
<b>A</b>	<b>Current Account</b>	<b>-411.46</b>	<b>-393.74</b>
	Goods:exports f.o.b	774.63	721.84
	Goods:imports f.o.b	-1,224.43	-1,145.95
	<i>Balance on Goods</i>	-449.79	
	Services: credit	295.42	285.74
	Services: debit	-221.01	-219.44
	<i>Balance on Goods and Services</i>	-375.38	-357.82
	Income: credit	346.86	277.36
	Income: debit	-327.25	-266.67
	<i>Balance on Goods, Services, and Income</i>	-355.78	-347.13
	Current transfers: credit	10.78	8.56
	Current transfers: debit	-66.46	-55.18
<b>B</b>	<b>Capital Account</b>	<b>-0.8</b>	<b>-1.06</b>
	Capital account: credit	1.08	1.05
	Capital account: debit	-1.87	-2.11
	<i>Total, Group A Plus B</i>	-412.26	-394.8
<b>C</b>	<b>Financial Account</b>	<b>456.63</b>	<b>420.5</b>
	Direct investment abroad	-159.21	-119.96
	Direct investment in United States	321.27	151.58
	Portfolio investment assets	-121.91	-84.64
	Equity securities	-106.71	-109.1
	Debt securities	-15.19	24.47
	Portfolio investment liabilities	420	425.08
	Equity securities	193.6	121.42
	Debt securities	226.4	303.66
	Financial derivatives		
	Financial derivatives assets		
	Financial derivatives liabilities		
	Other investment assets	-288.39	-140.43
	Monetary authorities		
	General government	-0.94	-0.49
	Banks	-148.66	-134.95
	Other sectors	-138.79	-5
	Other investment liabilities	284.86	188.87
	Monetary authorities	-6.7	35.29
	General government	-0.39	-4.78
	Banks	122.72	88.4
	Other sectors	169.24	69.96
	<i>Total, Group A Through C</i>	44.37	25.7
<b>D</b>	<b>Net Errors and Omissions</b>	<b>-44.08</b>	<b>-20.77</b>
	<i>Total, Group A Through D</i>	0.29	4.93
<b>E</b>	<b>Reserves and Related Items</b>	<b>-0.29</b>	<b>-4.93</b>
	Reserve assets	-0.29	-4.93
	Use of Fund credit and loans		
	Exceptional financing		

Answers to the assignment questions:

- a. What was the trade balance for the United States for 2001?  
**-424.11 (=721.84-1,145.95) billions U.S. dollars (deficit)**
- b. What was the overall balance for the United States for 2001?  
**4.93 billions U.S. dollars (Total, Groups A through D)**
- c. Did the United States have a net capital inflow or outflow for 2001? How much?  
**Inflow (Current account deficit → capital inflow): 393.73 billion U.S. dollars (opposite of current account balance)**
- d. Did the United States international investment position get better (international assets go up) or worse (international liabilities go up) in 2001 (one word: better or worse)?  
  
**Worse (capital inflow, international liabilities go up).**
- e. Which of the following is true for the United States in 2001?
- a) The United States total production was more than its total expenditure ( $Y > E = I_d + C + G$ ).
- b) The United States total production was less than its total expenditure ( $Y < E = I_d + C + G$ ).

**b. Since the U.S. current account was in deficit, the United States must have spent more than what it had produced in 2001:**

$$\text{Current account balance} = Y - E = Y - I_d - C - G$$

### Discussion Questions:

1. Give a common-sense explanation of why exports of goods, outflows of gold, and inflows of capital are all credit items in the balance of payments.
2. In what sense, if any, is a “favorable balance of trade” in fact favorable? Was the American balance of trade last year favorable? What do you think it ought to have been? Why?
3. Is it necessarily important that the U.S.-Japan current account balance bilaterally? What would happen if we sold grain to the countries that sold energy to Japan?
4. Evaluate: “The United States can continue to run a current account deficit as long as the rest of the world will lend to the United States.” The United States has become the world’s largest debtor nation. Does that fact affect your evaluation? If so, how? If not, why not?
5. “A free exchange rate is determined by demand and supply in the foreign exchange market.” What determined demand and supply? Specifically, give an example of a transaction that is reflected, respectively, in (a) the quantity of foreign exchange demanded and (b) the quantity of foreign exchange supplied.
6. Demonstrate graphically how trade tends to equalize prices in two trading countries. What are some of the factors that would prevent prices from being completely equalized after trade?
7. It is often the case that the rate of interest in young debtor nations exceeds that prevailing in more mature economies. Explain how, in theory, you would expect this condition to be reflected in the balance-of-payments accounts of the two types of economies. In practice, what factors might alter your answer?
8. Define the four typical stages of a country’s balance of payments in terms of the following criteria: (a) balance of trade and (b) capital flows. Relate the American experience to these stages. Explain why the United States has become a mature debtor nation—the world’s largest.
9. Give a common-sense interpretation of the capital (financial) account. In analyzing a country’s balance of payments, is it ever sufficient to look at the current account balance alone? Why or why not?
10. Can you think of reasons why a government might be concerned about a large current account deficit or surplus? Why might a government be concerned about its official settlement balance (that is, its balance of payments)?

**Review Problem Set** (Some answers are available in the references or the lecture notes)

1. Outline the basic accounting procedure that is used to keep track of the international balance of payments. Define the four components of balance-of-payments accounting.
2. With respect to the U.S. balance of international payments for 2001 (or any year),
  - a. Was the balance on the current account a credit balance or a debit balance?
  - b. Was the balance in official settlements a credit or a debit? Why?
  - c. Was the balance on the capital (financial) account a credit or a debit balance? Why?
  - d. Was there a balance-of-payments surplus or deficit? Why?
3. Give examples of credit items and debit items in the balance of payments. Why must total credits equal total debits?
4. In the balance of payments statement what is included in the balance on current account?
5. What is meant by “the capital account” in the IMF balance of payment presentation and elsewhere?
6. Describe how the current account is linked to the national income account.
7. Describe how the official reserve changes are linked to the money supply.
8. What is official foreign exchange intervention? What is the purpose of such intervention?
9. Is it possible for a country to have a current account deficit and at the same time has a surplus in its balance of payments? Explain.
10. Discuss the relationship between a country’s balance of payments and its international investment position.