
# The Balance of Payments, Exchange Rates, and Trade Deficits

## Learning Objectives

LO21.1 Explain how currencies of different nations are exchanged when international transactions take place.

LO21.2 Analyze the balance sheet the United States uses to account for the international payments it makes and receives.

LO21.3 Discuss how exchange rates are determined in currency markets that have flexible exchange rates.

LO21.4 Describe the difference between flexible exchange rates and fixed exchange rates.

## LO21.5 Explain the current system of managed floating exchange rates.

## LO21.6 Identify the causes and consequences of recent U.S. trade deficits.

If you take a U.S. dollar to the bank and ask to exchange it for U.S. currency, you will get a puzzled look. If you persist, you may get a dollar's worth of change: One U.S. dollar can buy exactly one U.S. dollar. But on April 21, 2013, for example, 1 U.S. dollar could buy 1,837 Colombian pesos, 0.97 Australian dollar, 0.66 British pound, 1.03 Canadian dollars, 0.77 European euro, 99.55 Japanese yen, or 12.29 Mexican pesos. What explains this seemingly haphazard array of exchange rates?

In Chapter 20 we examined comparative advantage as the underlying economic basis of world trade and discussed the effects of barriers to free trade. Now we introduce the highly important monetary and financial aspects of international trade.

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# International Financial Transactions

This chapter focuses on international financial transactions, the vast majority of which fall into two broad categories: international trade and international asset transactions. International trade involves either purchasing or selling currently produced goods or services across an international border. Examples include an Egyptian firm exporting cotton to the United States and an American company hiring an Indian call center to answer its phones. International asset transactions involve the transfer of the property rights to either real or financial assets between the citizens of one country and the citizens of another country. It includes activities like buying foreign stocks or selling your house to a foreigner.

These two categories of international financial transactions reflect the fact that whether they are from different countries or the same country, individuals and firms can only exchange two things with each other: currently produced goods and services or preexisting assets. With regard to assets, however, money is by far the most commonly exchanged asset. Only rarely would you ever find a barter situation in which people directly exchanged other assets—such as trading a car for 500 shares of Microsoft stock or a cow for 30 chickens and a tank of diesel fuel.

As a result, there are two basic types of transactions:

- People trading either goods or services for money.
- People trading assets for money.

In either case, money flows from the buyers of the goods, services, or assets to the sellers of the goods, services, or assets.

When the people engaged in any such transactions are both from places that use the same currency, what type of money to use is not an issue. Americans from California and Wisconsin will use their common currency, the dollar. People from France and Germany will use their common currency, the euro. However, when the people involved in an exchange are from places that use different currencies, intermediate asset transactions have to take place: the buyers must convert their own currencies into the currencies that the sellers use and accept.

As an example, consider the case of an English software design company that wants to buy a supercomputer made by an American company. The American company sells these high-powered machines for $300,000. To pay for the machine, the English company has to convert some of the money it has (British pounds sterling) into the money that the American company will accept (U.S. dollars). This process is not difficult. As we will soon explain in detail, there are many easy-to-use foreign exchange markets in which those who wish to sell pounds and buy dollars can interact with others who wish to sell dollars and buy pounds. The demand and supply created by these two groups determine the equilibrium exchange rate, which, in turn, determines how many pounds our English company will have to convert to pay for the supercomputer. For instance, if the exchange rate is $2 = £1, then the English company will have to convert £150,000 to obtain the $300,000 necessary to purchase the computer.

**TABLE 21.1 The U.S. Balance of Payments, 2012 (in Billions)**

| | | |
|---|---|---|
| **CURRENT ACCOUNT** | | |
| (1) U.S. goods exports | $+1,564 | |
| (2) U.S. goods imports | −2,299 | |
| (3) *Balance on goods* | | $−735 |
| (4) U.S. exports of services | +630 | |
| (5) U.S. imports of services | −435 | |
| (6) *Balance on services* | | +195 |
| (7) *Balance on goods and services* | | −540 |
| (8) Net investment income | +199* | |
| (9) Net transfers | −134 | |
| (10) **Balance on current account** | | **−475** |
| **CAPITAL AND FINANCIAL ACCOUNT** | | |
| Capital account | | |
| (11) *Balance on capital account* | | +6 |
| Financial account | | |
| (12) Foreign purchases of assets in the United States | +418† | |
| (13) U.S. purchases of assets abroad | +51† | |
| (14) *Balance on financial account* | | +469 |
| (15) **Balance on capital and financial account** | | **+475** |
| | | $ 0 |

*Includes other, less significant, categories of income.
†Includes one-half of a $66 billion statistical discrepancy that is listed in the capital account.

*Source:* U.S. Department of Commerce, Bureau of Economic Analysis, **www.bea.gov**. Preliminary 2012 data. The export and import data are on a "balance-of-payment basis," and usually vary from the data on exports and imports reported in the National Income and Product Accounts.

The U.S. Commerce Department's Bureau of Economic Analysis compiles a balance-of-payments statement each year. This statement summarizes all of the millions of payments that individuals and firms in the United States receive from foreigners as well as all of the millions of payments that individuals and firms in the United States make to foreigners. It shows "flows" of inpayments of money *to* the United States and outpayments of money *from* the United States. For convenience, all of these money payments are given in terms of dollars. This is true despite the fact that some of them actually may have been made using foreign currencies—as when, for instance, an American company converts dollars into euros to buy something from an Italian company. When including this outpayment of money from the United States, the accountants who compile the balance-of-payments statement use the number of dollars the American company converted—rather than the number of euros that were actually used to make the purchase.

Table 21.1 is a simplified balance-of-payments statement for the United States in 2012. Because most international financial transactions fall into only two categories—international trade and international asset exchanges—the balance-of-payments statement is organized into two broad categories. *The current account* located at the top of the table primarily treats international trade. *The capital and financial account* at the bottom of the table primarily treats international asset exchanges.

## Current Account

The top portion of Table 21.1 that mainly summarizes U.S. trade in currently produced goods and services is called the **current account.** Items 1 and 2 show U.S. exports and imports of goods (merchandise) in 2012. U.S. exports have a *plus* (+) sign because they are a *credit:* they generate flows of money toward the United States. U.S. imports have a *minus* (−) sign because they are a *debit:* they cause flows of money out of the United States.

**Balance on Goods** Items 1 and 2 in Table 21.1 reveal that in 2012 U.S. goods exports of $1,564 billion were less than U.S. goods imports of $2,299 billion. A country's *balance of trade on goods* is the difference between its exports and its imports of goods. If exports exceed imports, the result is a surplus on the balance of goods. If imports exceed exports, there is a trade deficit on the balance of goods. We note in item 3 that in 2012 the United States incurred a trade deficit on goods of $735 billion.

**Balance on Services** The United States exports not only goods, such as airplanes and computer software, but also services, such as insurance, consulting, travel, and investment advice, to residents of foreign nations. Item 4 in Table 21.1 shows that these service "exports" totaled $630 billion in 2012. Since they generate flows of money toward the United States, they are a credit (thus the + sign). Item 5 indicates that the United States "imports" similar services from foreigners. Those service imports were $435 billion in 2012, and since they generate flows of money out of the United States, they are a debit (thus the − sign). Summed together, items 4 and 5 indicate that the balance on services (item 6) in 2012 was $195 billion. The **balance on goods and services** shown as item 7 is the difference between U.S. exports of goods and services (items 1 and 4) and U.S. imports of goods and services (items 2 and 5). In 2012, U.S. imports of goods and services exceeded U.S. exports of goods and services by $540 billion. So a **trade deficit** of that amount occurred. In contrast, a **trade surplus** occurs when exports of goods and services exceed imports of goods and services. (Global Perspective 21.1 shows U.S. trade deficits and surpluses with selected nations.)

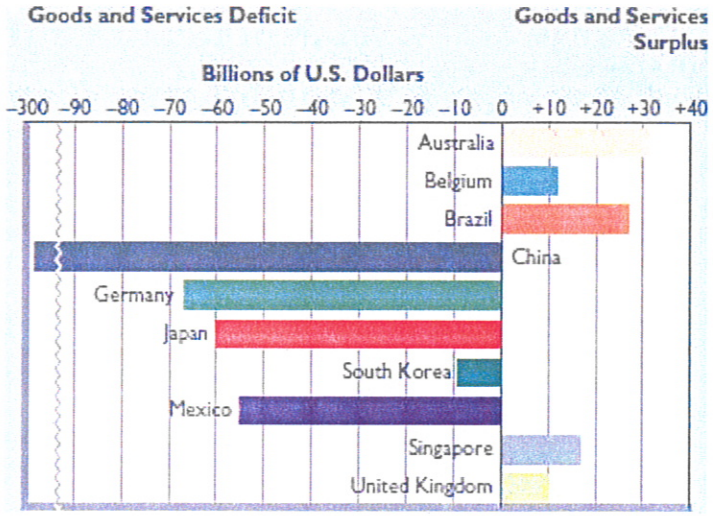
**Balance on Current Account** Items 8 and 9 are not items relating directly to international trade in goods and services. But they are listed as part of the current account (which is mostly about international trade in goods and services) because they are international financial flows that in some sense compensate for things that can be conceptualized as being *like* international trade in either goods or services. For instance, item 8, *net investment income,* represents the difference between (1) the interest and dividend payments foreigners paid U.S. citizens and companies for the services provided by U.S. capital invested abroad ("exported" capital) and (2) the interest and dividends the U.S. citizens and companies paid for the services provided by foreign capital invested here ("imported" capital). Observe that in 2012 U.S. net investment income was a positive $199 billion.

Item 9 shows net transfers, both public and private, between the United States and the rest of the world. Included here is foreign aid, pensions paid to U.S. citizens living abroad, and remittances by immigrants to relatives abroad. These $134 billion of transfers are net U.S. outpayments (and therefore listed as a negative number in Table 21.1). They are listed as part of the current account because they can be thought of as the financial flows that accompany the exporting of goodwill and the importing of "thank you notes."

GLOBAL PERSPECTIVE 21.1

**U.S. Trade Balances in Goods and Services, Selected Nations, 2012**

The United States has large trade deficits in goods and services with several nations, in particular, China, Germany, and Japan.




*Source:* Bureau of Economic Analysis, **www.bea.gov**.

By adding all transactions in the current account, we obtain the **balance on current account** shown in item 10. In 2012 the United States had a current account deficit of $475 billion. This means that the U.S. current account transactions created outpayments from the United States greater than inpayments to the United States.

## Capital and Financial Account

The bottom portion of the current account statement summarizes U.S. international asset transactions. It is called the **capital and financial account** and consists of two separate accounts: the *capital account* and the *financial account*.

**Capital Account** The capital account mainly measures debt forgiveness—which is an asset transaction because the person forgiving a debt essentially hands the IOU back to the borrower. It is a "net" account (one that can be either + or −). The +$6 billion listed in line 11 tells us that

# LAST WORD

## Speculation in Currency Markets

### Are Speculators a Negative or a Positive Influence in Currency Markets and International Trade?

Most people buy foreign currency to facilitate the purchase of goods, services, or assets from another country. A U.S. importer buys Japanese yen to purchase Japanese autos. A Hong Kong financial investor purchases Australian dollars to invest in the Australian stock market. But there is another group of participants in the currency market—speculators—that buys and sells foreign currencies in the hope of reselling or rebuying them later at a profit.

**Contributing to Exchange-Rate Fluctuations** Speculators were much in the news in late 1997 and 1998 when they were widely accused of driving down the values of the South Korean won, Thai baht, Malaysian ringgit, and Indonesian rupiah. The value of these currencies fell by as much as 50 percent within one month, and speculators undoubtedly contributed to the swiftness of those declines. The expectation of currency depreciation (or appreciation) can be self-fulfilling. If speculators, for example, expect the Indonesian rupiah to be devalued or to depreciate, they quickly sell rupiah and buy currencies that they think will increase in relative value. The sharp increase in the supply of rupiah indeed reduces its value; this reduction then may trigger further selling of rupiah in expectation of further declines in its value.

But changed economic realities, not speculation, are normally the underlying causes of changes in currency values. That was largely the case with the southeast Asian countries in which actual and threatened bankruptcies in the financial and manufacturing sectors undermined confidence in the strength of the currencies. Anticipating the eventual declines in currency values, speculators simply hastened those declines. That is, the declines in value probably would have occurred with or without speculators.


Moreover, on a daily basis, speculation clearly has positive effects in foreign exchange markets.

**Smoothing Out Short-Term Fluctuations in Currency Prices** When temporarily weak demand or strong supply reduces a currency's value, speculators quickly buy the currency, adding to its demand and strengthening its

value. When temporarily strong demand or weak supply increases a currency's value, speculators sell the currency. That selling increases the supply of the currency and reduces its value. In this way speculators smooth out supply and demand, and thus exchange rates, over short time periods. This day-to-day exchange-rate stabilization aids international trade.

**Absorbing Risk** Speculators also absorb risk that others do not want to bear. Because of potential adverse changes in exchange rates, international transactions are riskier than domestic transactions. Suppose AnyTime, a hypothetical retailer, signs a contract with a Swiss manufacturer to buy 10,000 Swatch watches to be delivered in three months. The stipulated price is 75 Swiss francs per watch, which in dollars is $50 per watch at the present exchange rate of, say, $1 = 1.5 francs. AnyTime's total bill for the 10,000 watches will be $500,000 (= 750,000 francs).

But if the Swiss franc were to appreciate, say, to $1 = 1 franc, the dollar price per watch would rise from $50 to $75 and AnyTime would owe $750,000 for the watches (= 750,000 francs). AnyTime may reduce the risk of such an unfavorable exchange-rate fluctuation by hedging in the futures market. Hedging is an action by a buyer or a seller to protect against a change in future prices. The futures market is a market in which currencies are bought and sold at prices fixed now, for delivery at a specified date in the future.

AnyTime can purchase the needed 750,000 francs at the current $1 = 1.5 francs exchange rate, but with delivery in three months when the Swiss watches are delivered. And here is where speculators come in. For a price determined in the futures market, they agree to deliver the 750,000 francs to AnyTime in three months at the $1 = 1.5 francs exchange rate, regardless of the exchange rate then. The speculators need not own francs when the agreement is made. If the Swiss franc depreciates to, say, $1 = 2 francs in this period, the speculators profit. They can buy the 750,000 francs stipulated in the contract for $375,000, pocketing the difference between that amount and the $500,000 AnyTime has agreed to pay for the 750,000 francs. If the Swiss franc appreciates, the speculators, but not AnyTime, suffer a loss.

The amount AnyTime must pay for this "exchange-rate insurance" will depend on how the market views the likelihood of the franc depreciating, appreciating, or staying constant over the three-month period. As in all competitive markets, supply and demand determine the price of the futures contract.

The futures market thus eliminates much of the exchange-rate risk associated with buying foreign goods for future delivery. Without it, AnyTime might have decided against importing Swiss watches. But the futures market and currency speculators greatly increase the likelihood that the transaction will occur. Operating through the futures market, speculation promotes international trade.

In short, although speculators in currency markets occasionally contribute to swings in exchange rates, on a day-to-day basis they play a positive role in currency markets.

## Implications of U.S. Trade Deficits

The prerecession U.S. trade deficits were the largest ever run by a major industrial nation. Whether the large trade deficits should be of significant concern to the United States and the rest of the world is debatable. Most economists see both benefits and costs to trade deficits.

**Increased Current Consumption** At the time a trade deficit or a current account deficit is occurring, American consumers benefit. A trade deficit means that the United States is receiving more goods and services as imports from abroad than it is sending out as exports. Taken alone, a trade deficit allows the United States to consume outside its production possibilities curve. It augments the domestic standard of living. But here is a catch: The gain in present consumption may come at the expense of reduced future consumption. When and if the current account deficit declines, Americans may have to consume less than before and perhaps even less than they produce.

**Increased U.S. Indebtedness** A trade deficit is considered unfavorable because it must be financed by

borrowing from the rest of the world, selling off assets, or dipping into official reserves. Recall that current account deficits are financed by surpluses in the capital and financial accounts. Such surpluses require net inpayments of dollars to buy U.S. assets, including debt issued by Americans. Therefore, when U.S. exports are insufficient to finance U.S. imports, the United States increases both its debt to people abroad and the value of foreign claims against assets in the United States. Financing of the U.S. trade deficit has resulted in a larger foreign accumulation of claims against U.S. financial and real assets than the U.S. claim against foreign assets. In 2008, foreigners owned about $3.5 trillion more of U.S. assets (corporations, land, stocks, bonds, loan notes) than U.S. citizens and institutions owned in foreign assets.



If the United States wants to regain ownership of these domestic assets, at some future time it will have to export more than it imports. At that time, domestic consumption will be lower because the United States will need to send more of its output abroad than it receives as imports. Therefore, the current consumption gains delivered by U.S. current account deficits may mean permanent debt, permanent foreign ownership, or large sacrifices of future consumption.

We say "may mean" above because the foreign lending to U.S. firms and foreign investment in the United States increases the U.S. capital stock. U.S. production capacity therefore might increase more rapidly than other-wise because of a large surplus on the capital and financial account. Faster increases in production capacity and real GDP enhance the economy's ability to

service foreign debt and buy back real capital, if that is desired.

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Trade deficits therefore are a mixed blessing. The long-term impacts of the record-high U.S. trade deficits are largely unknown. That "unknown" worries some economists, who are concerned that foreigners will lose financial confidence in the United States. If that happens, they would restrict their lending to American households and businesses and also reduce their purchases of U.S. assets. Both actions would decrease the demand for U.S. dollars in the foreign exchange market and cause the U.S. dollar to depreciate. A sudden, large depreciation of the U.S. dollar might disrupt world trade and negatively affect economic growth worldwide. Other economists, however, downplay this scenario. Because any decline in the U.S. capital and financial account surplus is automatically met with a decline in the current account deficit, U.S. net exports would rise and the overall impact on the American economy would be slight.

### QUICK REVIEW 21.7

- The United States has had large trade deficits in recent decades.
- Causes include (a) more rapid income growth in the United States than in Japan and some European nations, resulting in expanding U.S. imports relative to exports; (b) the emergence of a large trade deficit with China; (c) continuing large trade deficits with oil-exporting nations; and (d) a large surplus in the capital and financial account, which enabled Americans to reduce their saving and buy more imports.
- The severe recession of 2007–2009 in the United States substantially lowered the U.S. trade deficit by reducing American spending on imports.
- U.S. trade deficits have produced current increases in the living standards of U.S. consumers but the accompanying surpluses on the capital and financial account have increased U.S. debt to the rest of the world and increased foreign ownership of assets in the United States.

# SUMMARY

**LO21.1 Explain how currencies of different nations are exchanged when international transactions take place.**

International financial transactions involve trade either in currently produced goods and services or in preexisting assets. Exports of goods, services, and assets create inflows of money, while imports cause outflows of money. If buyers and sellers use different currencies, then foreign exchange transactions take place so that the exporter can be paid in his or her own currency.

**LO21.2 Analyze the balance sheet the United States uses to account for the international payments it makes and receives.**

The balance of payments records all international trade and financial transactions taking place between a given nation and the rest of the world. The balance on goods and services (the trade balance) compares exports and imports of both goods and services. The current account balance includes not only goods and services transactions but also net investment income and net transfers.

The capital and financial account includes (*a*) the net amount of the nation's debt forgiveness and (*b*) the nation's sale of real and financial assets to people living abroad less its purchases of real and financial assets from foreigners.

The current account and the capital and financial account always sum to zero. A deficit in the current account is always offset by a surplus in the capital and financial account. Conversely, a surplus in the current account is always offset by a deficit in the capital and financial account.

Official reserves are owned by national governments and their central banks and consist of stocks of foreign currencies, certain reserves held with the International Monetary Fund, and stocks of gold.

A balance-of-payments deficit is said to occur when a nation draws down its stock of official reserves to purchase dollars from abroad to balance the capital and financial account with the current account. A balance-of-payments surplus occurs when a nation adds to its stock of official reserves by selling dollars to foreigners to obtain foreign currencies to balance the two accounts. The desirability of a balance-of-payments deficit or surplus depends on its size and its persistence.

### LO21.3 Discuss how exchange rates are determined in currency markets that have flexible exchange rates.

Flexible or floating exchange rates between international currencies are determined by the demand for and supply of those currencies. Under flexible rates, a currency will depreciate or appreciate as a result of changes in tastes, relative income changes, relative changes in inflation rates, relative changes in real interest rates, and speculation.

### LO21.4 Describe the difference between flexible exchange rates and fixed exchange rates.

The maintenance of fixed exchange rates requires adequate official reserves to accommodate periodic payments deficits. If reserves are inadequate, nations must invoke protectionist trade

policies, engage in exchange controls, or endure undesirable domestic macroeconomic adjustments.



**LO21.5 Explain the current system of managed floating exchange rates.**

Since 1971 the world's major nations have used a system of managed floating exchange rates. Market forces generally set rates, although governments intervene with varying frequency to alter their exchange rates.

**LO21.6 Identify the causes and consequences of recent U.S. trade deficits.**

Between 1997 and 2007, the United States had large and rising trade deficits, which are projected to last well into the future. Causes of the trade deficits include (*a*) more rapid income growth in the United States than in Japan and some European nations, resulting in expanding U.S. imports relative to exports, (*b*) the emergence of a large trade deficit with China, (*c*) continuing large trade deficits with oil-exporting nations, and (*d*) a large surplus in the capital and financial account, which enabled Americans to reduce their saving and buy more imports. The severe recession of 2007–2009 in the United States substantially lowered the U.S. trade deficit by reducing American spending on imports.

U.S. trade deficits have produced current increases in the living standards of U.S. consumers. The accompanying surpluses on the capital and financial account have increased U.S. debt to the rest of the world and increased foreign ownership of assets in the United States. This greater foreign investment in the United States, however, has undoubtedly increased U.S. production possibilities.

# TERMS AND CONCEPTS

balance of payments
current account
balance on goods and services
trade deficit
trade surplus
balance on current account
capital and financial account
balance on capital and financial account
official reserves
balance-of-payments deficits and surpluses
flexible- or floating-exchange-rate system
fixed-exchange-rate system
purchasing-power-parity theory
currency interventions
exchange controls
managed floating exchange rates

The following and additional problems can be found in connect ECONOMICS

## DISCUSSION QUESTIONS

1. Do all international financial transactions necessarily involve exchanging one nation's distinct currency for another? Explain. Could a nation that neither imports goods and services nor exports goods and services still engage in international financial transactions? **LO21.1**
2. Explain: "U.S. exports earn supplies of foreign currencies that Americans can use to finance imports." Indicate whether each of the following creates a demand for or a supply of European euros in foreign exchange markets: **LO21.1**
    a. A U.S. airline firm purchases several Airbus planes assembled in France.
    b. A German automobile firm decides to build an assembly plant in South Carolina.
    c. A U.S. college student decides to spend a year studying at the Sorbonne in Paris.
    d. An Italian manufacturer ships machinery from one Italian port to another on a Liberian freighter.
    e. The U.S. economy grows faster than the French economy.
    f. A U.S. government bond held by a Spanish citizen matures, and the loan amount is paid back to that person.
    g. It is widely expected that the euro will depreciate in the near future.
3. What do the plus signs and negative signs signify in the U.S. balance-of-payments statement? Which of the following items appear in the current account and which appear in the capital and financial account? U.S. purchases of assets abroad; U.S. services imports; foreign purchases of assets in the United States; U.S. goods exports, U.S. net investment income. Why must the current account and the capital and financial account sum to zero? **LO21.2**
4. What are official reserves? How do net sales of official reserves to foreigners and net purchases of official reserves from foreigners relate to U.S. balance-of-payments deficits and surpluses? Explain why these deficits and surpluses are not actual deficits and surpluses in the *overall* balance-of-payments statement. **LO21.2**
5. Generally speaking, how is the dollar price of euros determined? Cite a factor that might increase the dollar price of euros. Cite a different factor that might decrease the dollar price of euros. Explain: "A rise in the dollar price of euros necessarily means a fall in the euro price of dollars." Illustrate and elaborate: "The dollar-euro exchange rate provides a direct link between the prices of goods and services produced in the eurozone and in the United States." Explain the