
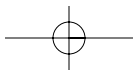
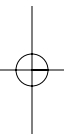
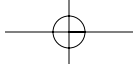


PART IV

Money, Income, and the Balance of Payments

- Chapter 15 ■ The Balance of Payments Accounts
PAGE 273
- Chapter 16 ■ The Foreign Exchange Market and Trade Elasticities
PAGE 291 
- Chapter 17 ■ National Income and the Trade Balance
PAGE 307
- Chapter 18 ■ Spending and the Exchange Rate in the Keynesian Model
PAGE 327
- Chapter 19 ■ The Money Supply, the Price Level, and the Balance of Payments
PAGE 353
- Chapter 20 ■ Developing Countries and Other Small Open Economies with Nontraded Goods
PAGE 391



CHAPTER 15

The Balance of Payments Accounts

Parts I through III of this book concentrated on the behavior of “real” variables in the international economy—on the quantities of goods produced, consumed, and traded. Prices were crucial in securing equilibrium, but only as the relative prices of goods (the terms of trade) or of factors of production. The focus now turns to the macroeconomic side of international economics.¹ This requires an examination of the behavior of monetary magnitudes—the quantity of money itself and various prices that are measured in currency units. These include overall price levels, wage rates, and the foreign exchange rate, which is the price at which currencies exchange for one another.

The subject of international monetary economics has grown rapidly in interest and importance over the last 40 years. Much has happened over this period in the world economy. In 1973 the major industrialized countries moved from a system under which exchange rates were fixed by governments—a system that had held sway since World War II—to a new system in which exchange rates are determined in the marketplace.

Meanwhile, both goods markets and financial markets have become highly integrated, forcing even previously insular American macroeconomists to recognize the importance of the foreign sector; oil price changes have induced economists to build back into their view of the macroeconomy some of the real factors that had been left behind; developing countries have become integrated into the global economy; European countries have achieved monetary integration with each other; and large new macroeconomic policy disturbances, unprecedented trade imbalances, and currency crises in some countries have tested the limits of the modern financial system. Exchange rate flexibility has continued to spread, including to major developing countries. At the same time, thinking on the subject has been stimulated by new developments in the macroeconomic theory of closed economies: Intellectual revolutions that introduced such concepts as rational expectations in financial markets, credible commitment in monetary policy, and intertemporal optimization in saving behavior.

This half of the book will introduce eight or ten factors, or variables, that received little or no attention in the first half of the book. The variables include the exchange rate, output and employment (emphasizing the cyclical components of each), the interest

¹The term *international finance* applies as well, particularly to the material covered in Parts V and VI.

rate, stocks of money and reserves, the aggregate price level, the relative price of non-traded goods, international flows of portfolio capital, and expectations. Understanding how the macroeconomic system works can be quite difficult if one tries to consider all ten variables simultaneously. These variables will be introduced one at a time, so that each can be assimilated—understood in terms of its interaction with the other variables—before the next is introduced. Thus we need not discard what we have used at each stage as we move on to the next stage and the next variable. Rather, we can consider what came before to be the right answer when the variable in question is held constant; we will then examine the corresponding change in the results when the new variable is allowed to change.

Before proceeding, however, we briefly explain the sequence of the different variables. Chapter 16 will introduce the exchange rate and show how it helps determine a country's balance of trade. The effect of the exchange rate on the trade balance will be examined first in the most controlled environment, in which price levels, income levels, and all other variables are held constant. Then Chapter 17 will allow for cyclical fluctuations in income. Unlike changes in output considered previously, these fluctuations will represent changes *relative* to potential output, changes associated with unemployment of labor and unutilized capacity. They are the consequence of wages and prices that are rigid, or at least “sticky”—that resist moving to equilibrate the labor and goods markets. This represents a sharp departure from the first half of the book, in which all prices were assumed to be flexible enough that they adjusted to ensure that supply always equaled demand. Some of the results, such as the existence of unemployment and excess capacity, are familiar from standard macroeconomics textbooks. However, much will be new and different in the open economy. For example, when prices are not free to adjust, the exchange rate can sometimes be used to restore equilibrium.

In the last part of Chapter 18 the money supply and the interest rate will make their appearance. At this point we will address how five variables—trade balance, exchange rate, level of income, money supply, and interest rate—all interrelate. Here, and throughout the last half of the book, a key question concerns the effects of monetary and fiscal policy on the open economy. In Chapter 19 two more factors are added. The first half of the chapter introduces the stock of international reserves (e.g., gold) that is held by the central bank. The second half of the chapter examines, for the first time, the overall price level. Chapter 20 distinguishes between traded and nontraded goods, providing a particularly useful model for developing countries and other countries that are small in world trade.

The core of Part V concerns the international flow of capital, the most powerful new factor in the modern world macroeconomy. To simplify: Parts I through III concentrated on the international flow of *goods*, with the net trade balance generally constrained to zero; Part IV introduces the international flow of *money*, allowing nonzero payments balances; and Part V introduces the international flow of *portfolio capital*—assets such as stocks and bonds. Because an asset is a claim to future consumption, international trade in assets is what allows countries to spend more than they earn in some periods, then make up for it by spending less than they earn in other periods. Finally, Part VI examines the determination of exchange rates in international asset markets, where expectations also arise as a key variable.

We will see that two particular aspects of the structure of the world economy as it evolved since the 1970s—the great ease of international capital movements and the system of market-determined exchange rates—have completely altered how policy changes and other macroeconomic disturbances operate. These aspects of the modern economy have important implications for the resolution of international payments imbalances and other policy problems that the world faces.

Before we begin exploring the operation of the international macroeconomy, it is necessary to go through the mechanics of balance-of-payments accounting in the present chapter. This tool would be necessary even if the subject were as tedious as matters of accounting sometimes appear. Balance-of-payments accounts, however, have attained a new fascination. Some measures of the balance of payments are closely watched by the press and policy makers.

Considerable insight into present international payments imbalances can be gained simply from the accounting identities, even before the discussion turns to the more interesting questions of economic causality. An accounting identity is an equation that must hold precisely, as a matter of definition or arithmetic, as opposed to behavioral equations, which represent theories of economic behavior that are not expected to hold precisely.

15.1 Breakdown of the Accounts

A nation's balance-of-payments accounts is the statistical record of all economic transactions taking place between its residents and the rest of the world. These are most conveniently broken up into three accounts, as shown in Table 15.1. First, the *current account (CA)* is the record of trade in goods and services and other current transactions, as opposed to trade in *assets*, which are obligations regarding the future. Trade in assets appears in the capital accounts. If the asset is traded among private citizens of the countries, then it appears on the *private capital account (KA)*. If the buyer or seller of the asset is a central bank—that is, the monetary authority of either the domestic or foreign government—then the transaction appears on the *official reserve transactions account (ORT)*.

Breakdown of the Current Account

Each of these three accounts is in turn divided into subaccounts. Within the current account the first subaccount is merchandise trade, consisting of exports and imports of goods, which includes all movable goods either sold, bought, or otherwise transferred between domestic and foreign owners.

The second subaccount within the current account is services (also known in the United Kingdom as “invisibles,” as opposed to “visibles,” which refer to merchandise). Some of the important international service transactions are as follows:

1. Transportation services include freight and insurance charges for the international movement of goods and also the expenditures on international travel of tourists and other passengers.

TABLE 15.1
Schematic Representation of the Balance of Payments

Accounts and Subaccounts	Cumulative Balances
CURRENT ACCOUNT (CA)	
Merchandise	Merchandise balance
Services	
• Transportation	
• Tourism	
• Business and professional services	Balance of goods and services
Investment income	Balance of goods, services, and income
Unilateral transfers	
• Government grants	
• Private remittances	Current account balance
PRIVATE CAPITAL ACCOUNT (KA)	
Direct investment	
Portfolio investments (securities and banking flows)	
• Long term	Basic balance
• Short term	Overall balance of payments
OFFICIAL RESERVE TRANSACTIONS (ORT)	
Changes in foreign central banks' holding of domestic assets	
Changes in the domestic central bank's holding of foreign assets	
• Gold	
• IMF credits and SDRs	
• Foreign exchange reserves	

Note: Each balance at the right is the sum of the previous balance and the additional items listed before the dotted line.

2. Tourist services include all expenditures by a country's citizens in foreign countries (on food, lodging, local transportation, etc.).
3. Business and professional services make up a diverse class of international transactions, which has come to public prominence under the name "overseas outsourcing." International trade in the services of engineer firms, management consultants, computer programmers, telephone receptionists, and so forth, is a rapidly growing component of trade. Royalties and license fees paid for the use of a work or invention, when the copyright or patent is held by a resident citizen of another country, are also counted as payments for a service.

A third subaccount within the current account is investment income. Interest payments or dividends appear here because they are considered payments for the services of capital that is "working" abroad. The profits earned by a factory owned by a foreign resident, for example, are payments for the services of the capital embodied in that factory. It is important to distinguish these yearly payments for the *services* of capital, which appear in the current account, from the original investment itself, which appears in the capital account.

Unilateral transfers are a fourth subaccount. This subaccount consists of government grants (foreign aid) and private remittances (from emigrant workers to their

families, from pensions to retired people living abroad, etc.). Transfers appear in the current account rather than in the capital account because they do not create any obligation for repayment in the future, as a loan does.



Breakdown of the Capital Account

Within the capital account,² the key distinction is between direct investment and portfolio capital. Portfolio investment in turn can be divided into long term and short term.

1. *Foreign direct investment* occurs when the residents of one country acquire control over a business enterprise in another country. The acquisition may involve buying enough stock in an existing enterprise to become a controlling shareholder (defined for this purpose as 10 percent ownership), taking over the enterprise outright, or building a new factory or enterprise from scratch (including, as well, the purchase of real estate). When an investor buys only a small fraction of the shares of a foreign company, however, it is an example of long-term portfolio investment.

2. *Long-term portfolio investment* involves international transactions in financial assets with an original term to maturity greater than one year. Such investment consists of purchases of securities (stocks, also called shares or equities, and bonds) and long-term bank loans. Often the distinction between long-term and short-term capital flows is arbitrary, as when an investor buys a 10-year government bond, intending to resell it in a short time, or buys a bond that has already been held for 9½ years and is about to mature.

3. *Short-term capital flows* involve assets with original terms to maturity of less than one year. Examples are Treasury bills, commercial paper, and certificates of deposit (short-term claims on the government, corporations, and banks, respectively). Also included as short-term capital flows are any international shifts in the ownership of liquid funds, such as an interest-earning deposit or even a check or cash that does not pay interest. For example, British pound notes, or deposits in a British bank, are assets giving a claim on future British goods and services, just as surely as British treasury bills. The distinction between short term and long term is still reported in Japan, Germany, and some other countries, but not in the U.S. accounts, mainly because it is difficult to disentangle the two types of portfolio investment in the data.

Finally, the ORT account consists of central bank transactions in international reserve assets: gold, foreign exchange reserves, credits issued by the International Monetary Fund (IMF), and Special Drawing Rights (SDRs).³ Central banks hold these reserve assets to back up the liabilities they issue (domestic currency and other assets that add up to the monetary base), much as commercial banks hold reserves to back up the liabilities that they issue (checking account deposits and other assets that add up to the total money supply).

²“Capital account” is generally used here to refer to the private capital account, as distinct from the transactions of central banks. (It does include, however, any international transactions undertaken by government agencies other than the central bank—for example, credits to U.S. armed forces stationed abroad.)

³Special Drawing Rights, sometimes described as “paper gold,” are an asset created by the IMF. Their value is defined in terms of four currencies: the dollar, yen, pound, and euro.

15.2 How Individual Transactions Are Recorded

The key rule for recording transactions is as follows: Whatever enters the country, such as an import, is recorded as a debit; whatever leaves the country, such as an export, is recorded as a credit. The examples that first come to mind concern trade in merchandise (goods). An import of an automobile appears as a debit in the merchandise account because something is entering the country; the export of jet engines appears as a credit because something is leaving the country. Of course, the country that exports the automobile earns a credit on *its* merchandise account; and the country that imports the jet engines receives a debit.

There are many other examples for exports and imports of various services, and for each of the other subaccounts as well. When an American importer arranges transportation with a Greek shipping company or American tourists cross the Atlantic on a foreign airline, the import of the service is recorded as a debit in the U.S. transportation service account. When foreign firms hire American ships to carry goods or when foreign tourists come to the United States, the export of the service is recorded as a credit. The spending of American tourists in Europe is recorded as a debit, again on the service account, and the spending of Japanese tourists in the United States as a credit. When an American firm contracts out to a call center in India, a service import of the United States again appears. When a foreign student comes to an American university to study or a foreign medical patient comes to an American hospital for surgery, it appears as a U.S. service export.

The convention is that gifts and other transfers are recorded under unilateral transfers. Even though a transfer from another country does not create any obligation for future monetary repayment, as does a loan, a device for remembering that it appears as a credit might be to think of the transfer as the export of a political or moral IOU. In 1991 the United States received large payments from Japan and other allies to finance Operation Desert Storm in Kuwait. These credits did not appear on the services account because they were not *literally* exports of military services but appeared instead as transfers. Emigrants' remittances are an important source of credits for Mexico, the Philippines, and countries around the Mediterranean; the corresponding debits are incurred in the United States, northern European countries, and Persian Gulf states that host the immigrant workers.

Credits and Debits on the Capital Account

The acquisition of a foreign asset counts as a debit on the capital account because the asset, or at least the claim to the asset, is entering the home country. As a device for remembering that an investment abroad counts as a debit, think of it as the "import" of an asset. (The equivalent term—"capital outflow"—may be less helpful here, in that it may not sound like an import, even though it is one.) When General Electric builds a factory in China, an outflow of direct investment, a debit equal to the value of the equity that GE acquires in the factory, is recorded in the U.S. balance of payments. In this sense the purchase of machine tools bolted down to a factory floor in Scotland is similar to the purchase of Scottish machine tools imported into the United States, but

in the former case the debit appears on the capital account and in the latter case it appears on the merchandise trade account. An American purchase of the bonds of a Canadian provincial government is recorded as a portfolio capital outflow, a debit on the long-term portfolio capital account. The American acquisition of a short-term asset in another country—whether it is a Treasury bill, corporate IOU, certificate of deposit, check, or currency—counts as a debit on the short-term portfolio capital account. This point should be emphasized because it will be important for understanding the accounting to follow. Remember that the reason this acquisition counts as a debit is that an American has increased individual holdings of a foreign asset, even if the asset is only foreign currency.

Ever since 1982, the U.S. capital account has shown many more credits than debits. Foreign citizens have been acquiring assets of every sort in the United States: currency, Treasury bills, bank loans, bonds, stocks, and direct investment. The term *credit* makes it sound like a good thing for the receiving country. In one sense this is true: It can be viewed as a vote of confidence when foreigners decide to invest in the United States. The downside, of course, is that U.S. citizens will have to service the debt (i.e., pay interest, and eventually repay the principal) in the future; or, in the cases of sales of stocks and inward direct investment, dividends and profits will have to be repatriated abroad in the future.

If American citizens resell to a foreign resident a bond originally issued by a foreign corporation, or any other foreign asset they acquired in the past, that too counts as a credit. There is no economic difference between an increase in your obligations to a foreigner or a decrease in a foreigner's obligations to you. Both contribute to a decrease in the net foreign investment position of the United States, which is simply one more way of saying "capital inflow" or "credit on the capital account." Similarly, if an American buys back a U.S. Treasury bill from a foreign resident who acquired it in the past, it counts as a debit in the U.S. capital account in the same way as when the asset the American purchases from the foreign resident is one that was originally issued by some foreign government or institution.⁴

The final place where credits and debits can appear is the Official Reserve Transactions account. When the domestic central bank buys foreign currency or gold, its purchase counts as a debit, just as it does when a private investor makes the purchase, but here it appears on the ORT account rather than the private capital account. As a device for remembering that it counts as a debit, the purchase can be thought of as an import of gold or foreign currency by the central bank. In this sense it is like the import of gold jewelry or shares in a foreign gold mine, except that in the jewelry case the debit appears in the merchandise trade account and in the gold mine case in the capital account. Only when the central bank makes the purchase does it appear on the ORT account.

⁴As a matter of fact, increases in U.S.-held assets issued abroad and decreases in foreign-held assets in the United States are reported separately in the detailed balance-of-payments accounts published every quarter by the Department of Commerce. Economic discussions of the balance of payments usually focus only on the net capital flows, however. (Incidentally, since 1999, U.S. capital flows appear on what is now technically called the "financial account.")

Another example arises if the country in question is one whose currency is used by other central banks as a reserve asset (as are the dollar, euro, and several other currencies⁵). When a foreign central bank buys some of the domestic currency, its purchase counts as a credit in the domestic balance-of-payments accounts, just as it does when a private foreigner buys some.

15.3 Double-Entry Bookkeeping

Note a critical point: As a matter of accounting, every complete economic transaction is recorded twice, once as a debit and once as a credit. The reason is that in every complete transaction there is something leaving the country in exchange for something entering the country. If there were not, then one party or the other would be giving up something for nothing.⁶ One case where this is easy to see is barter. If, for example, Argentina exports wheat to Russia in exchange for tractors, then both the credit for the wheat export and the debit for the tractors import appear on the merchandise trade account. Similarly, if Russia accepted the claim to some Argentine farmland in payment for the tractors, the Argentine balance-of-payments statistics would show a debit to the trade account and a corresponding credit under foreign direct investment.

Paying for Imports

Usually, however, transactions are paid for in an immediate sense through the banking system.⁷ Argentina pays for the tractors by writing a check on a bank. The credit that corresponds to the debit on the trade account appears on the short-term capital account. Recall that any time a foreign resident acquires an asset or a claim on the domestic country, even if it is a bank deposit rather than a more tangible investment, it counts as a credit on the domestic capital account. It is quite likely that the Russian tractor manufacturer will quickly cash in its check, which is a claim on an Argentine bank, to buy something more directly useful to it than Argentine pesos (perhaps that Argentine wheat), but this would count as an entirely separate transaction and would appear in the accounts as a new credit-debit pair.

⁵Only *convertible* foreign currencies are held as foreign exchange reserves. Central banks do not hold Tajikistani rubles as reserves because neither the government nor private banks will freely convert them into gold, dollars, or other international reserve assets.

⁶The unique case where one party does in fact give up something for nothing is the unilateral transfer. When the United States donates grain to an African country, for example, a debit is assigned to the trade account of the African country (or to its capital account if the donation consists of money) because something is entering the country. A credit is assigned to the United States because something is leaving the country. As already noted, the unilateral transfers account is where accountants, by convention, also assign a corresponding credit to the recipient country and a debit to the donor country.

⁷In a type of international transaction called *countertrade*, the exporter of goods to a country promises to import a corresponding value of goods from that country. However, most countertrade transactions are still paid for through the banking system. Relatively little of it is outright barter for goods, as this is awkward. Dalia Martin, "Tying in International Trade: Evidence on Countertrade," *The World Economy*, 13, no. 3 (1990): 445–462.

Other than paying for transactions by cash or check, the only other common method is trade credit: The tractor manufacturer extends to the Argentine importer the credit needed to buy the tractors (i.e., the importer does not have to pay until a later date) or else a bank extends the credit to the importer. In this case the credit item again appears in the short-term capital account: A foreign resident has acquired a short-term claim against an Argentine resident. In this sense paying for an import on short-term credit looks just like paying cash; both appear as credits in the same line of the balance of payments.

Paying for Asset Purchases

As a final set of examples, consider how the purchase of an asset is paid for. If a Japanese company buys an office building in Los Angeles and pays by check, the U.S. balance of payments registers a credit under direct investment (a foreign company has increased its holdings of U.S. real estate) and a debit under banking flows (an American company has increased its holdings of short-term claims on foreigners—it has the Japanese check). If an American firm buys a Mexican bond and pays by check, the U.S. balance of payments shows a debit to portfolio capital (the firm has increased its holdings of foreign securities) and a credit under banking flows (a foreign firm has increased its holdings of short-term claims on Americans). If an American buys a 90-day Certificate of Deposit in the United Kingdom and pays by check, both the credit and the debit appear under banking flows (two short-term assets have been exchanged). In some cases it is difficult to say which side of the transaction is paying for the other. There is nothing wrong with this; both parties have to get something out of it.

It may be clearer now why it makes accounting sense to enter a payment abroad as a credit to the capital account at the same time that a debit is entered for the other half of the transaction (e.g., on the trade account in the case of an import of merchandise). Take the case of an American company paying for an import in dollars, either cash or a check on its bank account. If the foreign company were to hold on to the dollars rather than cashing them in, in exchange for its own currency—that is, if there were no second transaction undoing the capital flow—this would have to mean that the foreign company had made a deliberate decision to increase its holdings of dollars. This *should* count as a capital-account credit; it constitutes foreign investment in U.S. assets, just as if the foreign company had increased its holdings of U.S. stocks or bonds. Again, normally the foreign company would be expected to cash in the dollars for something more useful, but doing so would count as a separate transaction. If the foreign company sells the dollars to the central bank, the second transaction consists of a debit to the U.S. short-term capital account (a foreign private company has now reduced its holdings of short-term U.S. assets) and a credit to the ORT account (the Federal Reserve has exported some foreign currency reserves).

What If the Importer Pays in *Foreign Currency*?

It has been assumed so far that the U.S. importer can make payment in dollars. The story is similar, however, if it pays in foreign currency. Assume first that the U.S. importer has on hand a stock of foreign currency just for such purposes. Initially the

current account debit is paid for by a short-term capital-account credit: A U.S. company has reduced its holdings of foreign assets, which represents a capital inflow just as if it had sold off a security. (Recall that when the U.S. company decreases its credit position vis-à-vis foreign companies, it is as if foreign companies had increased their credit position vis-à-vis U.S. companies.) However, if the importer obtained the foreign currency by drawing down some transactions balances that were kept on hand for the purpose, subsequently it will probably want to replenish its stock of foreign currency by buying some in the foreign exchange market. If the importer does not have a stock of foreign currency to begin with, then again it has to go into the foreign exchange market to obtain some. Either way, the importer needs foreign currency, and there will be a second transaction in which it is obtained. If the importer obtains the foreign currency from its central bank, the second transaction consists of a debit to the short-term capital account and a credit to the ORT account, exactly as in the first example.

Conversely, if the importer allows its stock of foreign currency to remain lower at the end of the period than it was at the beginning (or goes into debt in foreign currency), then it must have decided deliberately to decrease its (net) holdings of foreign assets. The net credit then remains on the capital account—as when foreign companies increase their claims on domestic companies—rather than being transferred to the ORT account.

15.4 The Balances

Every year, the country adds up the debits and credits arising from the international transactions that have taken place. For most purposes in macroeconomics, the only concern is *net* flows, or total credits minus total debits. Within any given line of the balance of payments, there will be many credits and debits that cancel each other out. For example, short-term banking flows are typically very high in gross terms as banks buy and sell short-term positions in foreign currency and send checks back and forth for collection. But the net flow is much smaller.

The country then adds together the net flows, or subtotals, from different lines in the accounts to determine various balances, such as the trade balance. If credits outweigh debits, then the balance in question is positive. A positive balance is commonly referred to as “favorable.” If debits outweigh credits, the balance is negative, or “unfavorable.”

Note the subtle implication of the semantics. The export side owns all the positive words—and has done so ever since the eighteenth-century mercantilists made a national virtue of selling abroad more than one bought to “store up treasure.” Although economists from Adam Smith on have proclaimed that economic welfare ultimately depends on the goods available for the nation’s use and not on the money earned from exporting, they have never conquered this linguistic remnant of mercantilism. When the term *unfavorable* is used in reference to a negative trade balance, remember that it may be perfectly appropriate for a country to run a trade deficit, depending on the circumstances. For example, developing countries sometimes run large trade deficits. This practice can be perfectly appropriate if they are growing rapidly and need, typically, to

import capital goods to invest in plants and equipment. Such countries are necessarily borrowing from abroad to finance their current-account deficits. If they are spending the funds well, they will in the future have the capital stock, particularly export capacity, necessary to generate export earnings with which to repay that debt.

The Adding-Up Constraint

Because every debit has an offsetting credit somewhere, $CA + KA + \text{ORT} \equiv 0$. (Three bars are used in the equality sign to indicate this is an accounting identity.) Because it is always zero, the three-account sum is not a very interesting statistic! Two interesting statistics are (1) the current-account balance and (2) the sum of the current and capital accounts, which is what is generally meant by the overall balance of payments (BP): $BP \equiv CA + KA$. These statistics reveal whether the country is spending beyond its means, and whether there is a net supply of, or demand for, its currency. A country that is running a current-account deficit—for example, the United States since 1982—is borrowing from abroad to do so, running down its net foreign asset position. Ever since 1917, the United States had been accumulating claims on the rest of the world, but in a few years the enormous deficits of the 1980s wiped out that accumulated investment position. The official statistics show that the country passed from net credit status to net debtor status in 1989.⁸

A country running a current-account surplus—Japan, for example—is accumulating claims on foreigners and building up a positive net foreign asset position. If the foreign assets are acquired by the private residents of the domestic country, then the capital-account deficit can offset the current-account surplus and the overall balance of payments can be zero. In this case, $KA = -CA$, so $\text{ORT} = 0$.

If a country is running a current-account surplus and its private residents are *not* acquiring foreign assets, however, then it must be the central bank that is acquiring foreign assets. In this case, $KA = 0$, so $\text{ORT} = -CA$. Such a country is running a surplus, not just on its current account, but also on its overall BP , which is sometimes called the *official settlements balance*. Note that it is the *negative* of the sum of the items on the ORT account: $\text{ORT} \equiv -BP$. The overall balance of payments is the net supply of foreign currency (or the net demand for domestic currency, which is the same thing), after the private sector has made all its desired current-account and capital-account transactions. If it is a positive number, the ORT is negative, which means that the central bank is adding to its foreign exchange reserves (or is supplying the domestic currency that private agents in the foreign exchange market want, which is the same thing). If BP is a

⁸This may be the appropriate place to introduce the distinction between *stocks* and *flows*. Flows have a “per unit of time” dimension, whereas stocks are absolute and dimensionless. Examples of stocks are the level of reserves held by a central bank and the level of assets held by private investors, whether money, bonds, equities, or physical capital. Examples of flows are the balance of payments, the current account, income, spending, and saving. A flow is the rate of change of a stock. The current account is the rate of change of the net international investment position, with the proviso that the latter also changes discretely when there is a change in the price of the assets (e.g., because of a change in the value of the currency). Such *valuation effects* have been important in recent years for the United States.

negative number, then *ORT* is positive, which means the central bank is selling foreign exchange reserves (or is buying the domestic currency that private agents in the market want to sell).

Where to Draw the Line?

There used to be a presumption of causality running from items reported higher in the accounts shown in Table 15.1 to items reported lower. Trade, for example, logically came first. Suppose a line is drawn under the entries for trade in goods and services. Then, if the balance is in deficit, it could be financed by transfers, by borrowing (*KA*), or by reserve loss (*ORT*). All items “above the line” would be considered *autonomous*—they cause the items below the line, which are financing or accommodating. There was much debate as to where to draw the line. Obvious places are the *CA* balance, with *KA* and *ORT* as accommodating, or at *BP*, with *ORT* alone as accommodating. However, there are other places to draw the line, as shown in the right-hand column in Table 15.1.

Monthly merchandise trade balance numbers historically received more attention than any other measure of the balance of payments. They become available more quickly than financial components of the U.S. balance of payments because they are reported directly to the Commerce Department by the Customs Service. They are subject to short-term fluctuations and sometimes have to be substantially revised at a later date, related in part to lags before imports arrive in port to be counted. This means that the merchandise trade balance for any one month is not a very good indicator of future trends.

There is no reason, conceptually, to focus on exports and imports of merchandise while ignoring services. Thus a better measure than the merchandise trade balance is the *balance on goods and services*. The Commerce Department began to report service exports and imports on a monthly basis in 1994, in recognition of their growing importance.

The balance on goods and services is a point of juncture between the international payments statistics and national-income accounts. Gross domestic product, the chief measure of a nation’s economic output in one year, consists of goods and services produced at home for consumption, investment, government use, and export. The national accountants measure these flows of goods, however, not as they are *produced* but as they are *purchased*. Some purchases (whether by households, firms, governments, or foreign residents) consist of imports—goods that are produced abroad. Therefore, after all purchases are added up, the statisticians must then subtract out imports to arrive at the desired measure of domestic production. The import total is often shown as a subtraction from exports. Thus

$$\text{GDP} \equiv C + I + G + (X - M)$$

The term in parentheses is the balance of goods and services. In the national-income accounts it is called “net exports of goods and services.”⁹



⁹The U.S. trade balance numbers differ from “net exports” in the national income and product accounts in a number of minor technical ways, such as the treatment of gold.

Another place to draw the line is to include interest payments and other investment income. This total is referred to as the *balance of goods, services, and income*.¹⁰

Next comes the current-account balance, the measure of the balance of payments that adds transfers in with goods, services, and investment income. We have already explained that the current account is important because it represents the net acquisition of foreign assets, whether by private citizens of the home country or by the central bank. Also discussed was the overall balance of payments (also called the official settlements balance), which adds to the current account all private capital-account transactions and is important because it represents the net acquisition of foreign reserve assets by the central bank. Some economists have argued that the line should be drawn between these two, that “exports” of claims to factories, along with other forms of foreign direct investment and sales of long-term assets, should count above the line—as do exports of goods. Thus the *basic balance* adds these long-term capital inflows to the current account. The accounting shows that this balance must be financed, or accommodated, either by short-term private capital flows or by official reserve transactions. The basic balance is no longer reported for the United States. Indeed, it cannot even be computed because the statistics collected no longer distinguish between long-term and short-term portfolio investment. The balance is still reported for Japan and some other countries.

Are There Really Accommodating Transactions?

Originally, the reason for drawing the line—whether at the merchandise trade balance; goods and services; goods, services, and income; current account; basic balance; or overall balance of payments—was so that transactions below the line could be thought of as financing or accommodating (being caused by) transactions above the line. This reasoning is now somewhat out of date.

A more modern view of causality in the balance-of-payments accounts evolved out of the transition to floating exchange rates. The definition of (pure) floating is $ORT = 0$: The central bank does not buy or sell foreign exchange, so there are no official reserve transactions to record. Obviously, in this case *BP* is not an interesting statistic because it is now always equal to zero.

Currently, most central banks at times *do* participate in foreign exchange markets to try to influence the exchange rate. This is *managed floating*, rather than pure floating.¹¹ Yet there is no clear sense in which central bank sales or purchases of international reserves necessarily accommodate (i.e., are caused by) private trade and capital flows, rather than the other way around. For example, in the late 1960s, under fixed

¹⁰The distinction among (1) the balance of goods and services; (2) the balance on goods, services, and income; and (3) the current-account balance is roughly similar to the distinction between (1) gross domestic product, which includes only income from domestic production; (2) gross national product, which also includes profits from abroad (net factor income); and (3) total national income, which also includes income from transfers. The U.S. government began to emphasize GDP over GNP in 1991.

¹¹The United States is one of the few countries that seldom intervenes in the foreign exchange market. Mexico, Brazil, and Chile are three middle-income countries that joined the ranks of the floaters in the 1990s.

exchange rates, it made some sense to say that large U.S. balance-of-payments deficits caused foreign central banks to buy up unwanted dollars. In the case of the deficits run by the United States in recent years, however, it was as correct to say that the voluntary decision by foreign central bankers to buy dollars allowed, or even “caused,” the U.S. deficits.

This point is even more applicable when assets are sold to foreign private residents rather than to foreign central banks. A surplus in the private capital account is what allows, or even causes, a country to run a deficit on the current account, as much so as the deficit in the current account giving rise to the surplus in the capital account. The most prominent example is the large U.S. current-account deficit. To say that the decision by private foreigners to increase their holdings of U.S. assets caused the U.S. current-account deficits is as correct as saying that the decision by Americans to import more goods and services caused the current-account deficits, which then had to be financed by borrowing from abroad. The important point is that no clear presumption exists as to the direction of causality. In reality, the various accounts are generally determined simultaneously.

In fact, even the figures for the overall balance of payments are no longer explicitly reported for the United States, as can be seen from the actual balance of payments statistics reproduced in Table 15.2. The net capital-account balance has to be computed. In 1983 it turned sharply from deficit into surplus as foreigners began to acquire U.S. assets in record amounts. We must add the capital-account number to the balance on current account (a large deficit since 1983) to find the overall balance of payments. At first, the private capital inflow was sufficient to finance the U.S. current-account deficit. In 1986–2000, however, the private capital inflow has usually fallen short of the current-account deficit. Foreign central banks make up the difference, as evidenced in Table 15.2 under “foreign official assets.” The United States runs a deficit, not just on its current account, but also on its overall balance of payments.

Making these calculations can be instructive even though we have abandoned the presumption that the U.S. balance-of-payments deficit was necessarily *causing* central banks to buy up unwanted dollars, rather than the other way around.

15.5 Statistical Errors in the Payments Accounts

When government statisticians assemble the record of a nation’s international transactions, they do not observe directly the two sides of every transaction. Errors creep in for two reasons: Some transactions are valued incorrectly, so the quantity recorded for one side of the transaction fails to equal that for its compensating transaction, or one side of a transaction is omitted entirely. Although the authorities measure each class of transaction as accurately as possible, because of these and other errors the sums of credit and debit items do not come out equal. Therefore, the accounts include an item called “statistical discrepancy,” or “errors and omissions,” equal to this difference. These measurement errors are no small problem. The errors in the U.S. statistics began to run wild in the 1980s, indicating an unmeasured net inflow of money, as can be seen in Table 15.2. This inflow was due in part to turmoil in some foreign countries that

TABLE 15.2
U.S. Balance of Payments Statistics in Summary Form (Billions of Dollars)

Year	Merchandise ^a			Balance on			Balance on			Balance on			Net foreign-owned		Foreign		Statistical Discrepancy (sum of the items with sign reversed)
	Exports	Imports	Net Goods Balance	Net Services	Goods and Services	Investment Income (Net)	Income	Transfers (Net) ^b	Current Account	Assets in U.S. Excluding Official ^c	Reserve Assets Abroad ^d	Reserve Assets in the U.S.	Official Reserve Assets (increase)	Statistical Discrepancy (sum of the items with sign reversed)			
1981	237.0	-265.1	-28.0	11.9	-16.2	32.9	16.7	-11.7	5.0	-27.7	-4.1	5.0	21.8				
1982	211.2	-247.6	-36.5	12.3	-24.2	35.2	11.0	-16.5	-5.5	-29.9	-5.0	3.6	36.6				
1983	201.8	-268.9	-67.1	9.3	-57.8	36.4	-21.4	-17.3	-38.7	17.7	-1.2	5.8	16.2				
1984	219.9	-332.4	-112.5	3.4	-109.1	35.1	-74.0	-20.3	-94.3	77.4	-3.1	3.1	16.7				
1985	215.9	-338.1	-122.2	0.3	-121.9	25.7	-96.2	-22.0	-118.2	106.3	-3.9	-1.1	16.5				
1986	223.3	-368.4	-145.1	6.5	-138.5	15.5	-123.0	-24.1	-147.2	82.3	0.3	35.6	28.6				
1987	250.2	-409.8	-159.6	7.9	-151.7	14.3	-137.4	-23.3	-160.7	114.8	9.1	45.4	-9.0				
1988	320.2	-447.2	-127.0	12.4	-114.6	18.7	-95.9	-25.3	-121.2	104.1	-3.9	39.8	-19.3				
1989	359.9	-477.7	-117.7	24.6	-93.1	19.8	-73.3	-26.2	-99.5	66.3	-25.3	8.5	49.6				
1990	387.4	-498.4	-111.0	30.2	-80.9	28.6	-52.3	-26.7	-79.0	28.6	-2.2	33.9	25.2				
1991	414.1	-491.0	-76.9	45.8	-31.1	24.1	-7.0	9.9	2.9	23.3	5.8	17.4	-44.8				
1992	439.6	-536.5	-96.9	57.7	-39.2	24.2	-15.0	-35.1	-50.1	51.9	3.9	40.5	-45.6				
1993	456.9	-589.4	-132.5	62.1	-70.3	25.3	-45.0	-39.8	-84.8	11.1	-1.4	71.8	4.6				
1994	502.9	-668.7	-165.8	67.3	-98.5	17.1	-81.3	-40.3	-121.6	82.1	5.3	39.6	-3.7				
1995	575.2	-749.4	-174.2	77.8	-96.4	20.9	-75.5	-38.2	-113.7	-13.8	-9.7	109.9	28.3				
1996	612.1	-803.1	-191.0	86.9	-104.1	22.3	-81.7	-43.1	-124.9	4.3	6.7	126.7	-12.2				
1997	678.4	-876.5	-198.1	89.8	-108.3	12.6	-95.7	-45.2	-140.9	203.3	-1.0	19.0	-79.4				
1998	670.4	-917.1	-246.7	81.7	-165.0	4.3	-160.7	-53.3	-214.1	96.4	-6.8	-19.9	145.0				
1999	684.0	-1030.0	-346.0	82.6	-263.4	13.9	-249.5	-50.6	-300.1	183.9	8.7	43.5	68.8				
2000	772.0	-1224.4	-452.4	74.1	-378.3	21.1	-357.2	-58.8	-416.0	443.9	-0.3	42.8	-69.4				
2001	718.7	-1145.9	-427.2	64.5	-362.7	25.2	-337.5	-51.9	-389.5	377.1	-4.9	28.1	-9.6				
2002	682.4	-1164.7	-482.3	61.1	-421.2	10.0	-411.2	-64.0	-475.2	388.1	-3.7	115.9	-23.7				
2003	713.4	-1260.7	-547.3	52.5	-494.8	46.3	-448.5	-71.2	-519.7	280.9	1.5	278.3	-37.8				
2004	807.5	-1472.9	-665.4	47.8	-617.6	30.4	-587.1	-80.9	-668.1	187.1	2.8	394.7	85.1				
2005*	657.9	-1224.2	-566.3	41.4	-524.8	-0.5	-525.3	-62.3	-587.6	416.4	9.3	146.3	20.6				

*2005 figure is between Quarter I and IV.

^aExcludes military.

^bIncludes transfers of goods and services under U.S. military grant programs.

^cThe number reported here shows net private capital account. It is computed as nonofficial financial inflows (the increase in private foreign assets in the United States, minus the increases in U.S. private assets abroad and U.S. government assets abroad, other than official) plus a new category of miscellaneous capital account transactions.

^dConsists of gold, Special Drawing Rights (SDRs), convertible currencies, and U.S. reserve position in the IMF.

^eSource: Department of Commerce (Bureau of Economic Analysis).

impelled funds to seek a safe haven in the United States. The acquisition of such claims by foreigners, called “capital flight,” often is clandestine and goes unrecorded. Subsequently this net flow reversed, suggesting that this flight capital was returning home. The absolute magnitude of the discrepancy is still large.

Another major discrepancy appears when the net current-account positions of all countries are added together. Because every export is some country’s import, these accounts would sum to zero if all countries got their measurements right. The discrepancy has run as large as \$100 billion in recent years. It appears as though the world were running a deficit with other planets.

15.6 Summary

The study of international monetary economics begins with the balance-of-payments accounts. The current account adds up all credits and debits arising from trade in goods and services and from transfers, the private capital account covers the purchase and sale of assets, and the official reserve transactions account consists of changes in international reserve holdings by central banks.

We will now turn from rules of accounting to models of economic behavior. Throughout most of the book, the subaccounts will usually be ignored and the focus will be on the *CA/KA/ORT* level of aggregation. For example, the discussion will often abstract from transfers to speak interchangeably of the trade balance (*TB*) and current account (*CA*).

CHAPTER PROBLEMS

1. In this question you must play balance-of-payments accountant.

The Rules

- On the current account, exports are credits; imports are debits.
- On the capital account, capital inflows are credits (exports of stocks, bonds, etc.); capital outflows are debits (imports of stocks, bonds, etc.).
- On the official reserve transactions account, reserve losses are credits (exports of gold, foreign currencies, etc.); reserve gains are debits (imports of gold, foreign currencies, etc.).
- Every autonomous debit (e.g., a merchandise import) must have an accommodating credit (e.g., an inflow of short-term capital to pay for the import), and vice versa.

For each of the following transactions indicate (a) on which account the debit occurs, and (b) on which account the credit occurs. Your choices are merchandise, services, income, transfers, direct investment, long-term capital, short-term capital, and official reserve transactions. Also, in each case indicate (c) the effect on the current-account balance (+, 0, or –), and (d) the effect on the overall balance of payments (+, 0, or –).

Answer only the implications of the transaction specified for the U.S. balance of payments. Do not assume that the recipients of payments from abroad necessarily exchange foreign currency with the central bank as would be the case if capital flows were assumed to be zero.

1. U.S. imports BMWs from Germany; pays by check in euros.
 2. U.S. exports grain to Japan; paid by check in dollars.
 3. U.S. imports coffee from Brazil; agrees to pay in dollars 3 months later.
 4. U.S. tourists spend Swiss francs in Geneva.
 5. Mexico buys locomotives from U.S. firm, which agrees to let the Mexicans pay in dollars 18 months later.
 6. French firms and banks, because they are accumulating more dollars than they want or than U.S. banks will accept, turn them in to the Federal Reserve, which agrees to give them euros.
 7. A U.S. investor buys a 2-year Canadian treasury note; pays by check.
 8. U.S. firm builds a factory in Mexico; pays for land, local labor, and so on, in pesos.
 9. U.S. government sends foreign aid to Pakistan, which Pakistanis hold in the form of dollars.
 10. China buys nuclear reactors from the U.S. government; pays in gold. (No central bank is involved.)
 11. Portuguese immigrant sends money back to family in Lisbon in the form of a 10-year U.S. savings bond.
 12. U.S. firm receives profits in the form of pesos from the factory it previously built in Mexico.
 13. Dutch holding company buys a controlling interest in an American firm; pays in dollars.
 14. U.S. ship is leased to carry beef from Australia to Britain. Payment for freight charges is in dollars.
 15. Federal Reserve sells gold to support the value of the dollar.
2. We hear of financial transfers to “launder” illegally acquired funds. For example, a South American smuggler might deposit income from illegal exports in a Miami bank, and arrange for the bank to re-lend it to the smuggler to invest in a legitimate activity.
- a. How would this transaction appear in the U.S. balance-of-payments accounts if it were recorded correctly? How would it appear in the accounts of the South American country?
 - b. What error will it create in the accounts if the exporter’s earnings and claim on the Miami bank are not recorded in the exporter’s home country but the transactions are recorded in the United States? (This could be the case if the commodity exported is legal, but the exporter leaves the dollar proceeds in the Miami bank to evade taxes.) What will this do to the worldwide current-account discrepancy?
 - c. What error will be created in the two countries’ accounts if the exporter’s claim on the bank is not recorded in either country, but the export is reported in both? (To minimize the chances of getting caught, the exporter simply fails to inform the Miami bank that he or she is not a U.S. citizen.) What would this error do to the worldwide current-account discrepancy?

