CHAPTER 19

International Finance and the Foreign Exchange Market

CHAPTER FOCUS

- What determines the exchange rate value of the dollar relative to other currencies? Why do exchange rates change?
- What are the alternative types of exchange rate systems? Which types work well and which will lead to financial problems?
- What information is included in the balance-of-payments accounts of a nation? Will the balance-of-payments accounts of a country always be in balance?
- Will a healthy economy run a balance-of-trade surplus? Does a balance-of-trade deficit indicate that a nation is in financial trouble?

Currencies, like tomatoes and football tickets, have a price at which they are bought and sold. An exchange rate is the price of one currency in terms of another.

—Gary Smith[1]

[1]Gary Smith, *Macro Economics* (New York: W. H. Freeman, 1985), 514.

Trade across national boundaries is complicated by the fact that nations generally use different currencies to buy and sell goods in their respective domestic markets. The British use pounds; the Japanese, yen; the Mexicans, pesos; sixteen European countries, the euro; and so on. Therefore, when a good or service is purchased from a seller in another country, it is generally necessary for someone to convert one currency to another.

As we previously discussed, the forces of supply and demand will determine the exchange rate value of currencies in the absence of government intervention. This chapter will focus more directly on the foreign exchange market. We will consider how exchange rates both exert an impact on and are influenced by the flow of trade and the flow of capital across national boundaries. We will also analyze alternative exchange rate regimes and consider some of the recent changes in the structure of currency markets around the world. ■

Foreign Exchange Market

Foreign exchange market

The market in which the currencies of different countries are bought and sold.

When trading parties live in different countries, an exchange will often involve a currency transaction. Currency transactions take place in the **foreign exchange market**, the market where currencies of different countries are bought and sold. Suppose that you own a sporting goods shop in the United States and are preparing to place an order for athletic shoes. You can purchase them from either a domestic or foreign manufacturer. If you decide to purchase the shoes from a British firm, either you will have to change dollars into pounds at a bank and send them to the British producer or the British manufacturer will have to go to a bank and change your dollar check into pounds. In either case, purchasing the British shoes will involve an exchange of dollars for pounds.

Exchange rate

The domestic price of one unit of foreign currency. For example, if it takes $1.80 to purchase one English pound, the dollar–pound exchange rate is 1.80.

Suppose the British producer has offered to supply the shoes for 30 pounds per pair. How can you determine whether this price is high or low? To compare the price of the British-supplied shoes with the price of those produced domestically, you must know the **exchange rate** between the dollar and the pound. ***The exchange rate is one of the most important prices because it enables consumers in one country to translate the prices of foreign goods into units of their own currency. Specifically, the dollar price of a foreign good is determined by multiplying the foreign product price by the exchange rate (the dollar price per unit of the foreign currency).*** For example, if it takes $1.80 to obtain 1 pound, then the British shoes priced at 30 pounds would cost $54 (thirty times the $1.80 price of the pound).

Suppose the exchange rate is $1.80 = 1 pound and that you decide to buy 200 pairs of athletic shoes from the British manufacturer at 30 pounds ($54) per pair. You will need 6,000 pounds in order to pay the British manufacturer. If you contact an American bank that handles foreign exchange transactions and write the bank a check for $10,800 (the $1.80 exchange rate multiplied by 6,000), it will supply the 6,000 pounds. The bank will typically charge a small fee for handling the transaction.

Where does the American bank get the pounds? The bank obtains the pounds from British importers who want dollars to buy things from Americans. Note that the U.S. demand for foreign currencies (such as the pound) is generated by the demand of Americans for things purchased from foreigners. In contrast, the supply of foreign currencies in exchange for dollars reflects the demand of foreigners for things bought from Americans.

EXHIBIT 1 presents data on the exchange rate—the cents required to purchase a European euro, Japanese yen, British pound, and Canadian dollar—from 1990 to 2009.

EXHIBIT 1
Foreign Exchange Rates, 1990–2009

	U.S. Cents per Unit of Foreign Currency				
Year	Euro	Japanese Yen	British Pound	Canadian Dollar	Index of Exchange Rate Value of the Dollar[a]
1990	—	0.691	178.49	85.7	71.4
1992	—	0.789	176.42	82.7	76.9
1994	—	0.979	153.21	73.2	90.9
1996	—	0.919	156.16	73.3	97.5
1998	—	0.764	165.71	67.4	115.9
2000	92.3	0.927	151.59	67.3	119.4
2001	89.6	0.823	144.01	64.6	125.9
2002	94.5	0.798	150.24	63.7	126.7
2003	113.2	0.863	163.48	71.4	119.1
2004	124.4	0.925	183.26	76.8	113.6
2005	124.4	0.908	181.98	89.2	110.7
2006	125.6	0.859	184.29	88.2	108.5
2007	137.1	0.849	200.17	93.1	103.4
2008	147.0	0.967	185.22	93.7	99.8
2009	141.9	0.964	165.24	86.2	105.3

[a]Note: 2009 figures are as of July 1, 2009.
Source: http://www.economagic.com

Under the flexible rate system present in most industrial countries, the exchange rate between currencies changes from day to day and even from hour to hour. The exchange rate figures for years prior to 2009 are the average for the year. The 2009 figures are for exchange rates as of July 1, 2009.

An **appreciation** in the value of a nation's currency means that fewer units of the currency are now required to purchase one unit of a foreign currency. For example, as Exhibit 1 shows, it took 165.24 cents to purchase a British pound in 2009, down from 185.22 cents in 2008. Thus, the dollar appreciated against the pound during this period. As the result of this appreciation, goods purchased from British suppliers became less expensive to Americans.[2] At the same time, the prices of American goods to British consumers moved in the opposite direction. An appreciation of the U.S. dollar relative to the British pound is the same thing as a depreciation in the British pound relative to the dollar.

Appreciation
An increase in the value of the domestic currency relative to foreign currencies. An appreciation makes foreign goods cheaper for domestic residents.

When a **depreciation** occurs, it will take more units of the domestic currency to purchase a unit of foreign currency. During the 2002–2008 period, the dollar depreciated against all of the major currencies (see Exhibit 1). In 2008, it took 185.22 cents to purchase a British pound, up from 144.01 in 2001. Similarly, it took 147.0 cents to purchase a euro in 2008, up from only 89.6 in 2001. The number of cents required to purchase a Canadian dollar and Japanese yen also increased during this time frame. As the number of cents required to purchase a unit of foreign currency increases, the dollar depreciates, and foreign goods become more expensive for Americans.

Depreciation
A reduction in the value of the domestic currency relative to foreign currencies. A depreciation makes foreign goods more expensive for domestic residents.

Exhibit 1 also provides an index of the foreign exchange value of the dollar against twenty-six major currencies. This broad index provides evidence on what is happening to the dollar's general exchange rate value.[3] An increase in the index implies an appreciation

[2]Because an appreciation means a lower price of foreign currencies, some may think it looks like a depreciation. Just remember that a lower price of the foreign currency means that one's domestic currency will buy more units of the foreign currency and thus more goods and services from foreigners.

[3]In the construction of this index, the exchange rate of each currency relative to the dollar is weighted according to the proportion of U.S. trade with the country. For example, the index weights the U.S. dollar–Japanese yen exchange rate more heavily than the U.S. dollar–Swiss franc exchange rate because the volume of U.S. trade with Japan exceeds the volume of trade with Switzerland.

in the dollar, whereas a decline is indicative of a depreciation. Between 1996 and 2002, the dollar appreciated by approximately 30 percent against these twenty-six currencies. Between 2002 and 2008, however, the index indicates that the dollar depreciated by approximately 21 percent (down to 99.8 from 126.7) relative to this broad bundle of currencies. The dollar appreciated again during the first half of 2009. Frequently, people will use the terms "strong" and "weak" when referring to the exchange rate value of a currency. A currency is said to be strong when it has been appreciating in value, whereas a weak currency is one that has been depreciating on the foreign exchange market.

Flexible exchange rates

Exchange rates that are determined by the market forces of supply and demand. They are sometimes called floating exchange rates.

A pure **flexible exchange rate** system is one in which market forces alone determine the foreign exchange value of the currency. The exchange rate system in effect since 1973 might best be described as a managed flexible rate regime. It is flexible because all the major industrial countries allow the exchange rate value of their currencies to float. But the system is also "managed" because the major industrial nations have from time to time attempted to alter supply and demand in the foreign exchange market by buying and selling various currencies. Compared with the total size of this market, however, these transactions have generally been small. Thus, the exchange rate value of major currencies like the U.S. dollar, British pound, Japanese yen, and the European euro is determined primarily by market forces. Several countries link their currency to major currencies like the U.S. dollar or European euro. As we proceed, we will investigate alternative methods of linking currencies and analyze the operation of different regimes.

Determinants of the Exchange Rate

To simplify our explanation of how the exchange rate is determined, let's assume that the United States and Great Britain are the only two countries in the world. When Americans buy and sell with each other, they use dollars. Therefore, American sellers will want to be paid in dollars. Similarly, when the British buy and sell with each other, they use pounds. As a result, British sellers will want to be paid in pounds.

In our two-country world, the demand for pounds in the exchange rate market originates from the purchases by Americans of British goods, services, and assets (both real and financial). For example, when U.S. residents purchase men's suits from a British manufacturer; travel in the United Kingdom; or purchase the stocks, bonds, or physical assets of British business firms, they demand pounds from (and supply dollars to) the foreign exchange market to pay for these items.

Correspondingly, the supply of foreign exchange (pounds in our two-country case) originates from sales by Americans to foreigners. When Americans sell goods, services, or assets to the British, for example, the British buyers will supply pounds (and demand dollars) in the exchange rate market in order to acquire the dollars to pay for the items purchased from Americans.[4]

EXHIBIT 2 illustrates the supply and demand curves of Americans for foreign exchange—British pounds in our two-country case. The demand for pounds is downward sloping because a lower dollar price of the pound—meaning a dollar will buy more pounds—makes British goods cheaper for American importers. The goods produced by one country are generally good substitutes for the goods of another country. This means that when foreign (British) goods become cheaper, Americans will increase their expenditures on imports (and therefore the quantity of pounds demanded will increase). Thus, as the dollar price of the pound declines, Americans will both buy more of the lower-priced (in dollars) British goods and demand more pounds, which are required for the purchases.

Similarly, the supply curve for pounds is dependent upon the sales by Americans to the British (i.e., the purchase of American goods by the British). An increase in the dollar

[4]We analyze the foreign exchange market in terms of the demand for and supply of foreign currencies. Alternatively, this analysis could be done in terms of the supply of and demand for dollars. Because one currency is traded for another, the same actions that generate a demand for foreign exchange simultaneously generate a supply of dollars. Correspondingly, the same exchanges that create a supply of foreign currencies simultaneously generate a demand for dollars in the foreign exchange market.

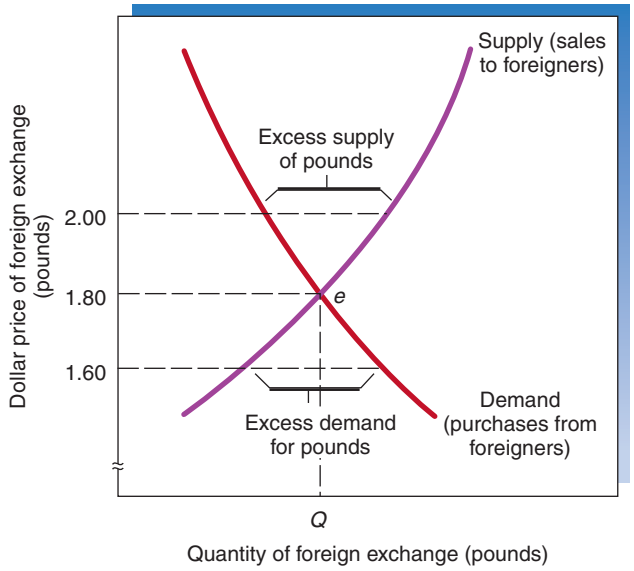


EXHIBIT 2
Equilibrium in the Foreign Exchange Market

The dollar price of the pound is measured on the vertical axis. The horizontal axis indicates the flow of pounds to the foreign exchange market. The equilibrium exchange rate is $1.80 = 1 pound. At the equilibrium price, the quantity of pounds demanded just equals the quantity supplied. On the one hand, a higher dollar price per pound ($2.00 = 1 pound) will lead to an excess supply of pounds, causing the dollar price of the pound to fall. On the other hand, a lower dollar price per pound ($1.60 = 1 pound) will result in an excess demand for pounds, causing the pound to appreciate.

price of the pound means that a pound will purchase more dollars and more goods priced in dollars. Thus, the price (in pounds) of American goods, services, and assets to British purchasers declines as the dollar price of the pound increases. As this happens, the British will purchase more from Americans and therefore supply more pounds to the foreign exchange market. Thus, the supply curve for pounds will slope upward to the right.

As Exhibit 2 shows, equilibrium is present at the dollar price of the pound that brings the quantity demanded and quantity supplied of pounds into balance, $1.80 in this case. ***The market-clearing price of $1.80 per pound not only equalizes demand and supply in the foreign exchange market but also equalizes (1) the value of U.S. purchases of items supplied by the British with (2) the value of items sold by U.S. residents to the British.*** Demand and supply in the currency market are simply the mirror images of these two factors.

What would happen if the price of the pound were above equilibrium—$2.00 = 1 pound, for example? At the higher dollar price of the pound, British goods would be more expensive for Americans. Americans would cut back on their purchases of shoes, glassware, textile products, financial assets, and other items supplied by the British, and the quantity of pounds demanded by Americans would therefore decline. Simultaneously, the higher dollar price of the pound would make U.S. exports cheaper for the British. For example, an $18,000 American automobile would cost British consumers 10,000 pounds when 1 pound trades for $1.80, but it would cost only 9,000 pounds when 1 pound exchanges for $2.00. If the dollar price of the pound were $2.00, the British would supply more pounds to the foreign exchange market than Americans would demand. As you can see in Exhibit 2, this excess supply of pounds would cause the dollar price of the pound to decline until equilibrium is restored at the $1.80 = 1 pound price.

At a below-equilibrium price, such as $1.60 = 1 pound, an opposite set of forces would be present. The lower dollar price of the pound would make British goods cheaper for Americans and American goods more expensive for the British. At the $1.60 price for a pound, the purchases of Americans from the British would exceed their sales to them, leading to an excess demand for pounds. In turn, the excess demand would cause the dollar price of the pound to rise until equilibrium was restored at $1.80 = 1 pound.

The implications of the analysis are general. In our multicountry and multicurrency world, the demand for foreign currencies in exchange for dollars reflects the purchases by

Americans of goods, services, and assets from foreigners. The supply of foreign currencies in exchange for dollars reflects the sales by Americans of goods, services, and assets to foreigners. The equilibrium exchange rate will bring the quantity of foreign exchange demanded by Americans into balance with the quantity supplied by foreigners. It will also bring the purchases by Americans from foreigners into balance with the sales by Americans to foreigners.

Why Do Exchange Rates Change?

When exchange rates are free to fluctuate, the market value of a nation's currency will appreciate and depreciate in response to changing market conditions. Any change that alters the quantity of goods, services, or assets bought from foreigners relative to the quantity sold to them will alter the exchange rate. Let's consider the major factors that will alter the foreign exchange value of a nation's currency.

Changes in Income

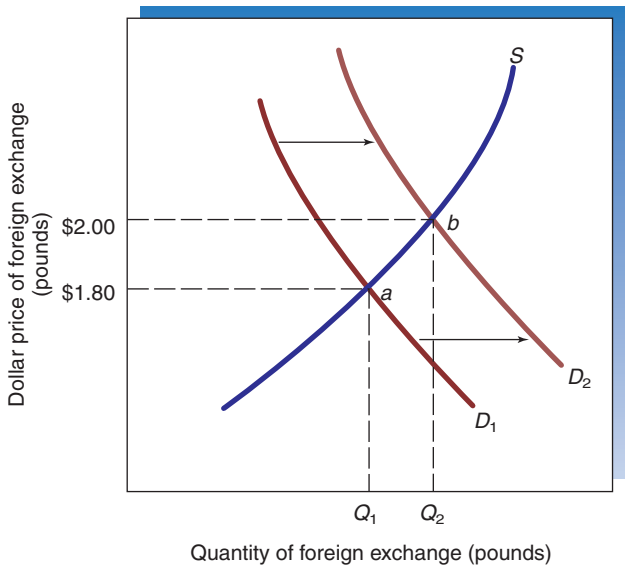
An increase in domestic income will encourage the nation's residents to spend a portion of their additional income on imports. When the income of a nation grows rapidly, the nation's imports tend to rise rapidly as well. As **EXHIBIT 3** illustrates, an increase in imports also increases the demand for foreign exchange (the pound in our two-country case). As the demand for pounds increases, the dollar price of the pound rises (from $1.80 to $2.00). This depreciation of the dollar reduces the incentive of Americans to import British goods and services, while increasing the incentive of the British to purchase U.S. exports. These two forces will restore equilibrium in the foreign exchange market at a new, higher dollar price of the pound.

Just the opposite takes place when the income of a trading partner (Great Britain in our example) increases. Rapid growth of income abroad will lead to an increase in U.S. exports, causing the supply of foreign exchange (and demand for dollars) to increase. This will cause the dollar to appreciate—the dollar price of the pound will fall, in other words.

What will happen if both countries are growing? Other things constant, it is the relative growth rate that matters. A country that grows more rapidly than its trading partners will increase its imports relative to its exports, which will cause the exchange rate value of its currency to fall. Conversely, sluggish growth of a country's income relative to its trading partners will lead to a

EXHIBIT 3
The Growth of U.S. Income and Imports

Other things constant, if incomes grow in the United States, U.S. imports will grow. The increase in the imports will increase the demand for pounds, causing the dollar price of the pound to rise (from $1.80 to $2.00).



decline in imports relative to exports, which will cause the exchange rate value of its currency to rise. Granted, it seems paradoxical that sluggish growth relative to one's trading partners will cause a country's currency to appreciate, but that's in fact what happens.

Differences in Rates of Inflation

Other things constant, domestic inflation will cause the value of a nation's currency to depreciate, whereas deflation will cause its currency to appreciate. Suppose prices in the United States rise by 50 percent while our trading partners are experiencing stable prices. The domestic inflation will cause U.S. consumers to increase their demand for imported goods (and foreign currency). In turn, the inflated domestic prices will cause foreigners to reduce their purchases of U.S. goods, thereby reducing the supply of foreign currency to the exchange market. As **EXHIBIT 4** illustrates, the exchange rate will adjust to this set of circumstances. In our two-country example, the dollar will depreciate relative to the pound.

Exchange rate adjustments permit nations with even high rates of inflation to engage in trade with countries experiencing relatively stable prices.[5] A depreciation in a nation's currency in the foreign exchange market compensates for the nation's inflation rate. For example, if inflation increases the price level in the United States by 50 percent and the value of the dollar in exchange for the pound depreciates (such that the value of the foreign currency increases 50 percent), then the prices of American goods measured in pounds are unchanged to British consumers. Thus, when the exchange rate value of the dollar changes from \$1.80 = 1 pound to \$2.70 = 1 pound, the depreciation in the dollar restores the original prices of U.S. goods to British consumers even though the price level in the United States has increased by 50 percent.

On the one hand, when domestic prices are increasing more rapidly than those of one's trading partners, the value of the domestic currency will tend to depreciate in the foreign exchange market. On the other hand, if a nation's inflation rate is lower than that of its trading partners, then its currency will tend to appreciate.

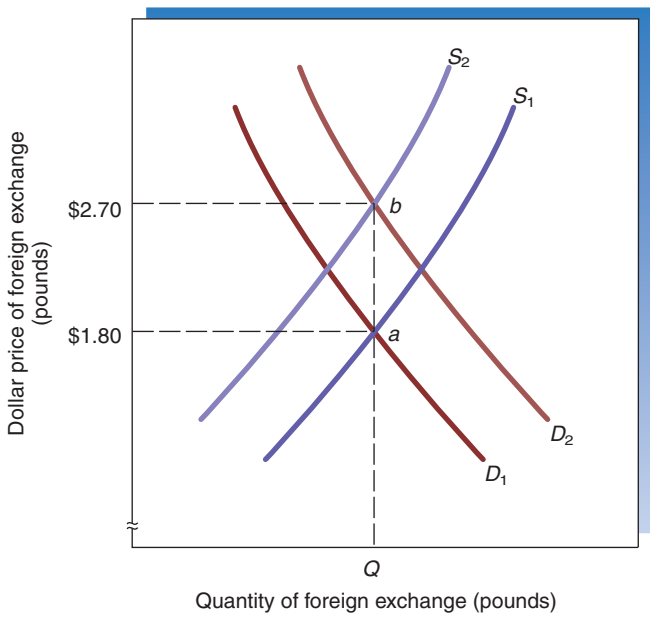


EXHIBIT 4
Inflation with Flexible Exchange Rates

If prices were stable in Britain while the price level increased 50 percent in the United States, the U.S. demand for British products (and pounds) would increase, whereas U.S. exports to Britain would decline, causing the supply of pounds to fall. These forces would cause the dollar to depreciate relative to the pound.

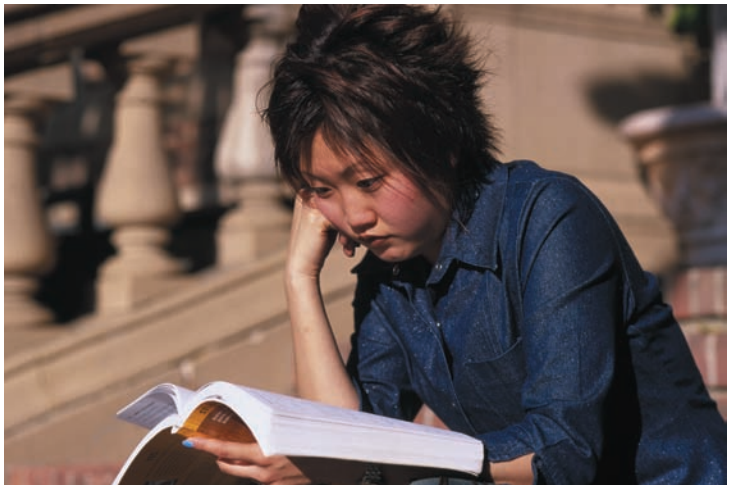
[5]However, high rates of inflation are likely to cause greater variability in the foreign exchange value of a currency across time periods. In turn, this increased variability of the exchange rate will generate uncertainty and reduce the volume of international trade—particularly transactions involving a time dimension. Thus, exchange rate instability is generally harmful to the health of an economy.

© Michelle Bridwell/Photoedit

American consumer purchases an auto from a Japanese manufacturer.

© John Neubauer/Photoedit

American vacationer buys a ticket on British Airways.



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Foreign student pays tuition to Harvard.

© 2002 Don Couch Photography

Foreign investor purchases a bond from a U.S. corporation.

How will each of these transactions influence the demand for and supply of foreign currencies in exchange for the dollar?

Changes in Interest Rates

Financial investments will be quite sensitive to changes in real interest rates—that is, interest rates adjusted for the expected rate of inflation. International loanable funds will tend to move toward areas where the expected real rate of return (after compensation for differences in risk) is highest. ***Thus, increases in real interest rates relative to a nation's trading partners will tend to cause that nation's currency to appreciate.*** For example, if real interest rates rise in the United States relative to Britain, British citizens will demand dollars (and supply their currency, pounds) in the foreign exchange market to purchase the high-yield American assets. The increase in demand for the dollar and supply of pounds will then cause the dollar to appreciate relative to the British pound.

In contrast, when real interest rates in other countries increase relative to rates in the United States, short-term financial investors will move to take advantage of the higher yields abroad. As investment funds move from the United States to other countries, there will be an increase in the demand for foreign currencies and an increase in the supply of dollars in the foreign exchange market. A depreciation in the dollar relative to the currencies of the countries with the higher real interest rates will be the result.

Changes in the Business and Investment Climate

The inflow and outflow of capital will also be influenced by the quality of the business and investment environment. The monetary, legal, regulatory, and tax climates are particularly important here. Countries that follow a monetary policy consistent with price stability, protect property rights, keep taxes low, and treat people impartially will tend to attract capital. In turn, the inflow of capital will strengthen the demand for the domestic currency and thereby cause it to appreciate. In contrast, when investors are concerned about the stability of the monetary climate, fairness of the legal system, high taxes, and excessive regulation, many will choose to do business elsewhere. As they do so, an outflow of capital and depreciation in the foreign exchange value of the domestic currency will result. Thus, other things constant, the foreign exchange value of a nation's currency will tend to appreciate when its policy environment is improving, while it will tend to depreciate if investors believe that the policy climate is deteriorating.

The accompanying Thumbnail Sketch summarizes the major forces that cause a nation's currency to appreciate or depreciate when exchange rates are determined by market forces.

THUMBNAIL SKETCH

What Factors Cause a Nation's Currency to Appreciate or Depreciate?

These Factors Will Cause a Nation's Currency to Appreciate:

1. Slow growth of income (relative to one's trading partners) that causes imports to lag behind exports
2. A rate of inflation that is lower than that of one's trading partners
3. Domestic real interest rates that are higher than real interest rates abroad
4. A shift toward sound policies that attract an inflow of capital

These Factors Will Cause a Nation's Currency to Depreciate:

1. Rapid growth of income (relative to one's trading partners) that stimulates imports relative to exports
2. A rate of inflation that is higher than that of one's trading partners
3. Domestic real interest rates that are lower than real interest rates abroad
4. Movement toward unsound policies that cause an outflow of capital

International Finance and Alternative Exchange Rate Regimes

There are three major types of exchange rate regimes: (1) flexible rates; (2) fixed rate, unified currency; and (3) pegged exchange rates. So far, we have focused on the operation of a flexible rate regime. We now consider the other two.

Fixed Rate, Unified Currency System

Obviously, the fifty states of the United States have a unified currency, the dollar. In addition, the U.S. dollar has been the official currency of Panama for almost a century. Ecuador adopted the U.S. dollar as its official currency in 2000, and El Salvador did so in 2001. The currency of Hong Kong is also closely linked to the U.S. dollar. Hong Kong has a **currency board** that has the power to create currency only in exchange for a specific quantity of U.S. dollars (7.7 HK dollars = 1 U.S. dollar).[6] Countries that adopt the currency board approach do not conduct monetary policy. Instead, they merely accept the monetary policy of the nation to which their currency is tied—the U.S. policy in the case of Hong Kong. Thus, the United States, Panama, Ecuador, El Salvador, and Hong Kong have a unified currency regime.

Currency board

An entity that (1) issues a currency with a fixed designated value relative to a widely accepted currency (for example, the U.S. dollar), (2) promises to continue to redeem the issued currency at the fixed rate, and (3) maintains bonds and other liquid assets denominated in the other currency that provide 100 percent backing for all currency issued.

Sixteen countries of the European Union—Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, and Spain—have also established a unified currency regime. The official currency in each of these countries is the euro. Several other European countries, including Estonia, Bulgaria, Latvia, Lithuania, Bosnia, and Herzegovina use a currency board to link their domestic currency to the euro. Thus, the euro is a unified currency in all of these countries. In turn, the foreign exchange value of the euro relative to other currencies, such as the dollar, the British pound, and the Japanese yen, is determined by market forces (flexible exchange rates).

The distinguishing characteristic of a fixed rate, unified currency regime is the presence of only one central bank with the power to expand and contract the supply of money. For the dollar, that central bank is the Federal Reserve System; for the euro, it is the European Central Bank. Those linking their currency at a fixed rate to the dollar or the euro do not conduct monetary policy; they merely accept the monetary policy of the central bank for their currency. For example, the former central banks of the countries now using the euro no longer have the power to create money. In essence, they are now branches of the European Central Bank, much like the regional and district Federal Reserve banks are branches of the Fed. Similarly, currency boards do not create additional currency. They merely agree to exchange their domestic currency for the currency to which it is linked at a fixed rate.

A pure gold standard system, in which each country agrees to exchange units of its domestic currency for gold at a designated price and fully backs its domestic money supply with gold, is also a fixed rate, unified system. In this case, the world supply of gold (rather than a central bank) determines the total supply of money. If a country's purchases from foreigners exceeded its sales to them, its supply of gold would fall, which would reduce the domestic supply of money. This would put downward pressure on the domestic price level and bring the payments to and receipts from foreigners back into balance. Things would change in the opposite direction if a country was selling more to foreigners than it was purchasing from them. In this case, the excess of sales relative to purchases would lead to an inflow of gold, expansion in the domestic money supply, and higher domestic prices. International financial arrangements approximated those of a

[6]A currency board like that of Hong Kong does two things. First, it issues domestic currency at a fixed rate in exchange for a designated foreign currency. Second, the foreign currency is then invested in bonds denominated in that currency. This means that the money issued by the currency board is backed 100 percent by the foreign currency. Therefore, the holders of the money issued by the currency board know that it will always have sufficient funds to exchange the domestic currency for the foreign one at the fixed rate. In essence, the country with a currency board accepts the monetary policy of the nation to which its currency is tied.

gold standard during the period between the U.S. Civil War and the establishment of the Federal Reserve System in 1913.

Between 1944 and 1971, most of the world operated under a system of **fixed exchange rates**, where each nation fixed the price of its currency relative to others. In essence, this was a quasi-unified system. It was unified in the sense that the value of one currency was fixed relative to others over lengthy time periods. But it was not a fully unified system because each country continued to exercise control over its monetary policy. Nations maintained reserves with the **International Monetary Fund**, which could be drawn on when payments to foreigners exceeded receipts from them. This provided each with some leeway in the conduct of monetary policy. However, countries running persistent payment deficits would eventually deplete their reserves. This constrained the country's monetary independence and provided its policy makers with an incentive to keep its monetary policy approximately in line with that of its trading partners. Under this fixed exchange rate regime, nations often imposed tariffs, quotas, and other trade barriers in an effort to keep their payments and receipts in balance at the fixed rate. Various restrictions on the convertibility of currencies were also common. These problems eventually led to the demise of the system.

Fixed exchange rate

An exchange rate that is set at a determined amount by government policy.

International Monetary Fund (IMF)

An international banking organization, currently with more than 180 member nations, designed to oversee the operation of the international monetary system. Although it does not control the world supply of money, it does hold currency reserves for member nations and makes currency loans to national central banks.

Pegged Exchange Rate Regime

A **pegged exchange rate system** is one in which a country commits itself to the maintenance of a specific exchange rate (or exchange-rate range) relative to another currency (like the U.S. dollar) or a bundle of currencies. In contrast with the currency board approach, however, countries adopting the pegged exchange rate continue to conduct monetary policy. Thus, an excess of purchases from foreigners relative to sales to them does not automatically force the country to reduce its domestic money supply.

Pegged exchange rate system

A commitment to use monetary and fiscal policy to maintain the exchange rate value of the domestic currency at a fixed rate or within a narrow band relative to another currency (or bundle of currencies).

However, maintaining the pegged rate will restrict the independence of monetary policy. A country can either (1) follow an independent monetary policy and allow its exchange rate to fluctuate or (2) tie its monetary policy to maintain the fixed exchange rate. It cannot, however, maintain the convertibility of its currency at the fixed exchange rate while following a monetary policy more expansionary than the country to which its currency is tied. Attempts to do so will lead to a financial crisis—a situation in which falling foreign currency reserves eventually force the country to forgo the pegged exchange rate.

This is precisely what happened in Mexico during 1989–1994. Mexico promised to exchange the peso for the dollar at a pegged rate, but it also expanded its domestic money supply much more rapidly than the United States. In the early 1990s, this led to a higher rate of inflation in Mexico than in the United States. Responding to the different inflation rates, more and more people shifted away from the Mexican peso and toward the dollar. By December 1994, Mexico's foreign exchange reserves were virtually depleted. As a result, it could no longer maintain the fixed exchange rate with the dollar. Mexico devalued its currency, triggering a crisis that affected several other countries following similar policies.

In 1997–1998, much the same thing happened in Brazil, Thailand, and Indonesia. Like Mexico, these countries sought to maintain fixed exchange rates (or rates within a narrow band), while following monetary and fiscal policies that were inconsistent with the fixed rate. As their reserves declined, they were forced to abandon their exchange rate pegs. This was extremely disruptive to these economies. Imports suddenly became much more expensive and therefore less affordable. Businesses (including banks) that had borrowed money in dollars (or some other foreign currency) were unable to repay their loans as the result of the sharp decline in the exchange rate value of the domestic currency. In turn, these disruptions led to severe economic declines.

Both economic theory and real-world experience indicate that either a purely flexible exchange rate regime or a fixed rate, unified regime with a single central bank will work reasonably well. In contrast, a pegged exchange rate regime is something like a time bomb. Pushed by political considerations, monetary policy makers in most countries are unable to follow a course consistent with the maintenance of pegged rates. Failure to do so, however, eventually leads to abandonment of the peg and a financial crisis.

Balance of Payments

Just as countries calculate their gross domestic product (GDP) so that they have a general idea of their domestic level of production, most countries also calculate their balance of international payments in order to keep track of transactions across national boundaries. The **balance of payments** summarizes the transactions of the country's citizens, businesses, and governments with foreigners. Balance-of-payments accounts are kept according to the principles of basic bookkeeping. Any transaction that creates a demand for foreign currency (and a supply of the domestic currency) in the foreign exchange market is recorded as a debit, or minus, item. Imports are an example of a debit item. Transactions that create a supply of foreign currency (and demand for the domestic currency) on the foreign exchange market are recorded as a credit, or plus, item. Exports are an example of a credit item. ***Because the foreign exchange market will bring quantity demanded and quantity supplied into balance, it will also bring the total debits and total credits into balance.***

Balance of payments

A summary of all economic transactions between a country and all other countries for a specific time period, usually a year. The balance-of-payments account reflects all payments and liabilities to foreigners (debits) and all payments and obligations received from foreigners (credits).

EXHIBIT 5 summarizes the balance-of-payments accounts of the United States for 2008. As the exhibit shows, the transactions can be grouped into one of three basic categories: the current account, capital account, or the official reserve account. Let's take a look at each of these major categories.

Current-Account Transactions

Current-account transactions involve only current exchanges of goods and services and current income flows (and gifts). They do not involve changes in the ownership of either real or financial assets. **Current-account** transactions are dominated by the trade in goods and services. The export and import of merchandise goods are the largest components in the current account. When U.S. producers export their products, foreigners will supply their currency in exchange for dollars in order to pay for the U.S.-produced goods. Because U.S. exports generate a supply of foreign exchange and demand for dollars in the foreign exchange market, they are a credit (plus) item. In contrast, when Americans import goods, they will demand foreign currencies and supply dollars in the foreign exchange market. Thus, imports are a debit (minus) item.

Current account

The record of all transactions with foreign nations that involve the exchange of merchandise goods and services, current income derived from investments, and unilateral gifts.

In 2008, the United States exported $1,277.0 billion of merchandise goods compared with imports of $2,117.2 billion. The difference between the value of a country's merchandise exports and the value of its merchandise imports is known as the **balance of merchandise trade** (or *balance of trade*). If the value of a country's merchandise exports falls short of the value of its merchandise imports, it is said to have a balance-of-trade deficit. In contrast, the situation in which a nation exports more than it imports is referred to as a trade surplus. In 2008, the United States ran a merchandise-trade deficit of $840.2 billion (line 3 of Exhibit 5).

Balance of merchandise trade

The difference between the value of merchandise exports and the value of merchandise imports for a nation. It is also called simply the *balance of trade* or *net exports*. The balance of merchandise trade is only one component of a nation's total balance of payments and its current account.

The export and import of services are also sizable. Service trade involves the exchange of items like insurance, transportation, banking services, and items supplied to foreign tourists. Like the export of merchandise goods, service exports generate a supply of foreign exchange and demand for dollars. For example, a Mexican business that is insured by an American company will supply pesos and demand dollars to pay its premiums for the service. Thus, service exports are recorded as credits in the balance-of-payments accounts of exporting nations. Conversely, the import of services from foreigners generates a demand for foreign currency and a supply of dollars in the exchange market. Therefore, service imports are a debit item.

As Exhibit 5 illustrates, in 2008, U.S. service exports were $549.6 billion, compared with service imports of $405.3 billion. Thus, the United States ran a $144.3 billion surplus on its service trade transactions (line 6 of Exhibit 5). When we add the balance of service exports and imports to the balance of merchandise trade, we obtain the **balance on goods and services**. In 2008, the United States ran a $695.9 billion deficit (the sum of the $840.2

Balance on goods and services

The exports of goods (merchandise) and services of a nation minus its imports of goods and services.

EXHIBIT 5
U.S. Balance of Payments, 2008 (in Billions of Dollars)

		Debits	Credits	Balance
CURRENT ACCOUNT				
1	U.S. merchandise exports		1277.0	
2	U.S. merchandise imports	–2117.2		
3	Balance of merchandise trade (1 + 2)			–840.2
4	U.S. service exports		549.6	
5	U.S. service imports	–405.3		
6	Balance on service trade (4+5)			144.3
7	Balance on goods and services (3+6)			
8	Income receipts of Americans from abroad		764.6	–695.9
9	Income receipts of Foreigners in the United States	–646.4		
10	Net income receipts			118.2
11	Net unilateral transfers			–128.4
12	Balance on current account (7 + 10 + 11)			–706.1
CAPITAL ACCOUNT				
13	Foreign investment in the United States (capital inflow)		389.6	
14	U.S. investment abroad (capital outflow)	–271.3		
15	Net Other Currency Transactions[a]		105.6	
16	Balance on capital account (13 + 14 + 15)			223.9
OFFICIAL RESERVE TRANSACTIONS				
17	U.S. official reserve assets	–4.8		
18	Foreign official assets in the U.S.		487.0	
19	Balance, Official Reserve Account (17 + 18)			482.2
20	Total (12 + 16 + 19)			0.0

[a]Statistical discrepancy is included in this figure.
Source: http://www.bea.gov.

billion merchandise-trade deficit and the $144.3 billion service surplus) in the goods and services account.

Two other relatively small items are also included in current-account transactions: (1) net income from investments and (2) unilateral transfers. Americans have made substantial investments in stocks, bonds, and real assets in other countries. As these investments abroad generate income, dollars will flow from foreigners to Americans. This flow of income to Americans will supply foreign currency (and create a demand for dollars) in the foreign exchange market. Thus, the net income to Americans is entered as a credit in the U.S. current account. Correspondingly, foreigners earn income from their investments in the United States. This net income to foreigners is recorded as a debit in the U.S. current account because the supply of dollars to the foreign exchange market creates a demand for foreign exchange.

As Exhibit 5 shows, in 2008, Americans earned $764.6 billion from investments abroad, whereas foreigners earned $646.4 billion from their investments in the United States. On balance, Americans earned $118.2 billion more on their investments abroad than foreigners earned on their investments in the United States. This $118.2 billion net inflow of investment income reduced the size of the deficit on current-account transactions.

Gifts to foreigners, like U.S. aid to a foreign government or private gifts from U.S. residents to their relatives abroad, generate a demand for foreign currencies and supply of dollars in the foreign exchange market. Thus, they are a debit item. Correspondingly, gifts to Americans from foreigners are a credit item. Because the U.S. government and private U.S. citizens gave $128.4 billion more to foreigners than we received from them, this net unilateral transfer was entered as a debit item on the current account in 2008.

Balance on Current Account

Balance on current account

The import–export balance of goods and services, plus net investment income earned abroad, plus net private and government transfers. If the value of the nation's export-type items exceeds (is less than) the value of the nation's import-type items plus net unilateral transfers to foreigners, a current-account surplus (deficit) is present.

The difference between (1) the value of a country's current exports (both goods and services) and earnings from its investments abroad and (2) the value of its current imports (again, both goods and services) and the earnings of foreigners on their domestic assets (plus net unilateral transfers to foreigners) is known as the **balance on current account**. The current-account balance provides a summary of all current-account transactions. As with the balance of trade, when the value of the current-account debit items (import-type transactions) exceeds the value of the credit items (export-type transactions), we say that the country is running a current-account deficit. Alternatively, if the credit items are greater than the debit items, the country is running a current-account surplus. In 2008, the United States ran a current-account deficit of $706.1 billion.

Because trade in goods and services dominates current-account transactions, the trade- and current-account balances are closely related. Countries with large trade deficits (surpluses) almost always run substantial current-account deficits (surpluses).

Capital-Account Transactions

Capital account

The record of transactions with foreigners that involve either (1) the exchange of ownership rights to real or financial assets or (2) the extension of loans.

In contrast with current-account transactions, **capital-account** transactions focus on changes in the ownership of real and financial assets. These transactions are composed of (1) direct investments by Americans in real assets abroad (or by foreigners in the United States) and (2) loans to and from foreigners. When foreigners make investments in the United States—for example, by purchasing stocks, bonds, or real assets from Americans—their actions will supply foreign currency and generate a demand for dollars in the foreign exchange market. Thus, these capital inflow transactions are a credit.

Conversely, capital outflow transactions are recorded as debits. For example, if a U.S. investor purchases a shoe factory in Mexico, the Mexican seller will want to be paid in pesos. The U.S. investor will supply dollars (and demand pesos) on the foreign exchange

APPLICATIONS IN ECONOMICS

"If other countries are treating us fairly, our exports to them should be approximately equal to our imports from them."

Politicians like to bash countries like Japan and China that export much more to us than they import from us. Some have even called for trade restraints to limit imports from these countries until our exports to and imports from them are brought into balance. This view is based on a misconception about bilateral trade balances. Flexible exchange rates will bring total purchases from foreigners into balance with total sales to them. However, there is no reason to expect that imports and exports with any specific country will be in balance.

Consider the trade "deficits" and "surpluses" of a doctor who likes to golf. The doctor can be expected to run a trade deficit with sporting goods stores, golf caddies, and course operators. Why? These suppliers sell items that the golfer–doctor purchases in sizable quantities. The doctor, on the other hand, probably sells few items the sporting goods store purchases. Similarly, the doctor can be expected to run trade surpluses with medical insurers, elderly patients, and those with chronic illnesses. These trading partners are major purchasers of the services provided by the doctor, although the doctor might purchase very little from them.

The same principles are at work across nations. A nation will tend to run trade deficits with countries that are low-cost suppliers of items it imports and trade surpluses with countries that buy a lot of the things it exports. Japan is a major importer of resources like oil and a major exporter of high-tech manufacturing goods. Americans import a lot of the latter, but they export very little of the former. Similarly, China is a low-cost producer of labor-intensive items like toys and textile products, items that are costly for a high-wage country like the United States to produce domestically. On the other hand, the United States is a low-cost producer of high-tech products and grains like wheat and corn that are purchased only in small quantities by poor countries like China. The bottom line is this: Japan and China are low-cost producers of many items that we import, and the United States is not a major exporter of items imported intensively by Japan and China. Thus, our bilateral trade deficits with them are perfectly understandable.

In recent years, the United States has run trade surpluses with the Netherlands, Australia, Belgium, Luxembourg, Brazil, and the United Kingdom. Do these bilateral trade surpluses indicate that the United States treats these countries unfairly? Of course not. The surpluses merely reflect that these countries import substantial amounts of items supplied economically by U.S. producers and export only small amounts of items imported intensively by Americans. It may be good politics to bash those with whom we run bilateral trade deficits, but the argument is nonetheless based on a fallacious view of trade balances between countries.

market. Because U.S. citizens will demand foreign currency (and supply dollars) when they invest in stocks, bonds, and real assets abroad, these transactions enter into the balance-of-payments accounts as a debit. In 2008, foreign investments in the United States (capital inflow) summed to $389.6 billion, while U.S. investments abroad (capital outflow) totaled $271.3 billion. In 2008, there was also a net capital inflow of $105.6 billion from other currency transactions including financial derivatives and changes in U.S. currency abroad. Because the capital inflow exceeded the outflow, the United States ran a $223.9 billion capital-account surplus in 2008.

Official Reserve Account

As we noted earlier, the current exchange rate regime is not a pure flexible rate system. Countries with pegged exchange rates will often engage in official reserve transactions in an effort to maintain their pegged rate. These transactions are debited and credited in a country's **official reserve account**. Even countries with flexible exchange rates may engage in official reserve transactions in order to influence their exchange rate. When a nation's currency is appreciating rapidly, a country may try to slow the appreciation by purchasing foreign financial assets. Conversely, when a currency is depreciating, the country may attempt to halt the depreciation by using some of its foreign currency reserves to purchase the domestic currency in the foreign exchange market. Because

Official reserve account
The record of transactions among central banks.

of the credibility and widespread use of the U.S. dollar, these official reserve transactions often involve assets denominated in dollars, particularly bonds issued by the U.S. Treasury.

The official reserve transactions are usually small relative to the size of the foreign exchange market, but they were sizable in 2008. As the financial crisis unfolded during the year, foreign central banks purchased $487.0 billion of dollar assets, mostly Treasury bonds. The U.S. purchases of foreign reserves were small, only $4.8 billion. Thus, the United States ran a surplus of $482.2 billion on official reserve transactions in 2008.

What impact do these purchases of U.S. Treasury bonds by foreign central banks have on the U.S. economy? Their impact is much like that of other capital inflows. These foreign purchases, like other capital inflows, will increase the demand for the dollar in the foreign exchange market, causing the foreign exchange value of the dollar to be higher than would otherwise be the case. They will also lead to lower domestic interest rates. Domestic interest rates will fall because the capital inflow will raise the supply of loanable funds. There is a positive side to these official reserve purchases of the dollar. If foreign central banks did not have confidence in both the economy and the monetary policy of the United States, they would not want to purchase and hold U.S. financial assets.

The Balance of Payments Must Balance

The sum of the debit and credit items of the balance-of-payments accounts must balance. Thus, the following identity must hold:

Current-Account Balance + Capital-Account Balance + Official Reserve-Account Balance = 0

However, the specific components of the accounts need not balance. For example, the debit and credit items of the current account need not be equal. Specific components may run either a surplus or a deficit. Nevertheless, because the balance of payments as a whole must balance, a deficit in one area implies an offsetting surplus in other areas. Similarly, even though market forces will bring about an overall balance, there is no reason to expect that the trade flows between any two countries will be in balance. See the accompanying Myths of Economics box feature on this topic.

If a nation is experiencing a current-account deficit, it must experience an offsetting surplus on the sum of its capital-account and official reserve-account balances. This has been the case for the United States in recent years.

In 2008, the United States ran a $706.1 billion current-account deficit and a $223.9 billion capital-account surplus. The difference between these two figures—a $482.2 billion deficit—was exactly offset by a $482.2 billion surplus in the official reserve account. Thus, the deficits and surpluses of the current-, capital-, and official reserve accounts summed to zero as is shown in Exhibit 5 (line 20).

Under a pure flexible rate system, official reserve transactions would be zero. Under these conditions, a capital-account surplus (inflow of capital) would mean that the current account must have a deficit. Similarly, a capital-account deficit (outflow of capital) would mean that the current account must have a surplus.

With flexible exchange rates, changes in the net inflow of capital will influence the current-account balance. If a nation is experiencing an increase in net foreign investment, perhaps as the result of attractive investment opportunities, this increase in the capital-account surplus (inflow of capital) will enlarge the current-account deficit. In contrast, capital flight (outflow of capital) will move the current account toward a surplus.

Are Trade Deficits Bad and Trade Surpluses Good?

The word "deficit" suggests things like excessive spending relative to income, bank overdrafts, indebtedness, and a future day of reckoning. Thus, there is an understandable tendency to believe that trade deficits must be bad and surpluses good. However, factors that often lead to trade deficits provide reason for caution. A trade deficit is present when a nation's imports exceed its exports. Many times, this occurs because a nation is growing more rapidly than its trading partners. Rapid domestic growth stimulates imports, while slow growth abroad weakens demand for a nation's exports. This combination often causes a trade deficit. Trade deficits can also result because an economy offers more attractive investment opportunities than are available elsewhere. The attractive investment environment will lead to an inflow of capital, which will cause the nation's currency to appreciate. In turn, the currency appreciation will stimulate imports relative to exports and thereby shift the trade balance toward a deficit. In essence, trade (and current-account) deficits are the flip side of capital inflows. Thus, rapid economic growth and an attractive investment environment—both of which are generally associated with a strong economy—are major causes of trade (and current-account) deficits.

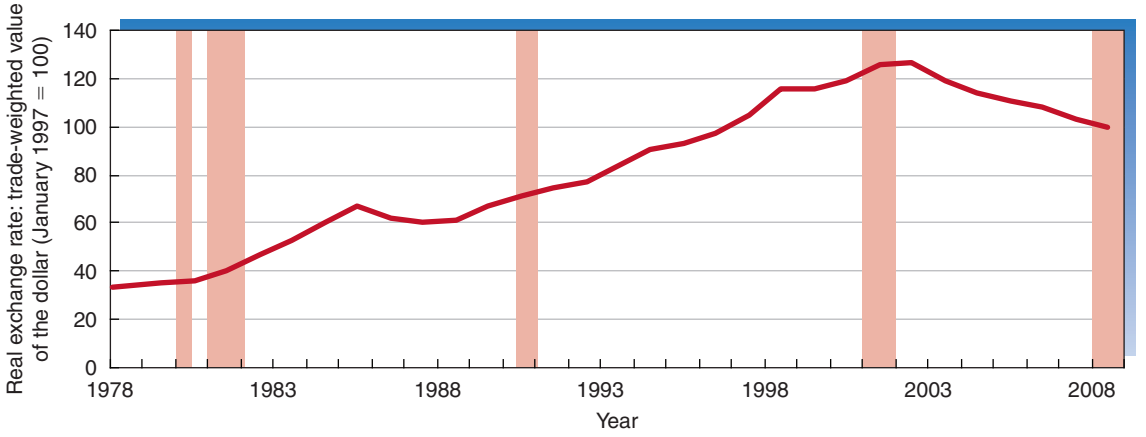
EXHIBIT 6 presents data on the foreign exchange value of the dollar, current-account balance, and inflow of capital for the United States over the last three decades. (*Note:* While the data in the middle frame are for the current-account balance, the trade balance figures would be virtually identical because trade in goods and services is the dominant component of the current account.) The link between the inflow of capital and the current-account deficit is clearly visible. As the middle and lower panels illustrate, the two are almost mirror images. When net foreign investment increases, the current-account (trade) balance shifts toward a deficit. Correspondingly, when net foreign investment shrinks, so, too, does the current-account deficit. This is the expected outcome under a flexible rate system. With flexible rates, the overall payments to and receipts from foreigners must balance. Thus, a deficit in one area is not an isolated event. If a nation runs a current-account (trade) deficit, it must also run a capital-account (plus official reserve account) surplus of equal magnitude.

Prior to 1981, net foreign investment in the United States was relatively small, and so too was the current-account deficit. However, as the U.S. economy grew briskly following the 1982 recession, net foreign investment (bottom panel) in the United States increased sharply. Simultaneously, the U.S. dollar appreciated and the current-account deficit widened. As the U.S. economy slowed during the late 1980s and the recession of the early 1990s, net capital inflow fell to a trickle, and the current account actually registered a small surplus in 1991. But as the U.S. economy recovered from the 1990 recession and grew rapidly during the 1990s, once again net foreign investment increased substantially, the U.S. dollar appreciated, and the current account moved toward a large deficit.

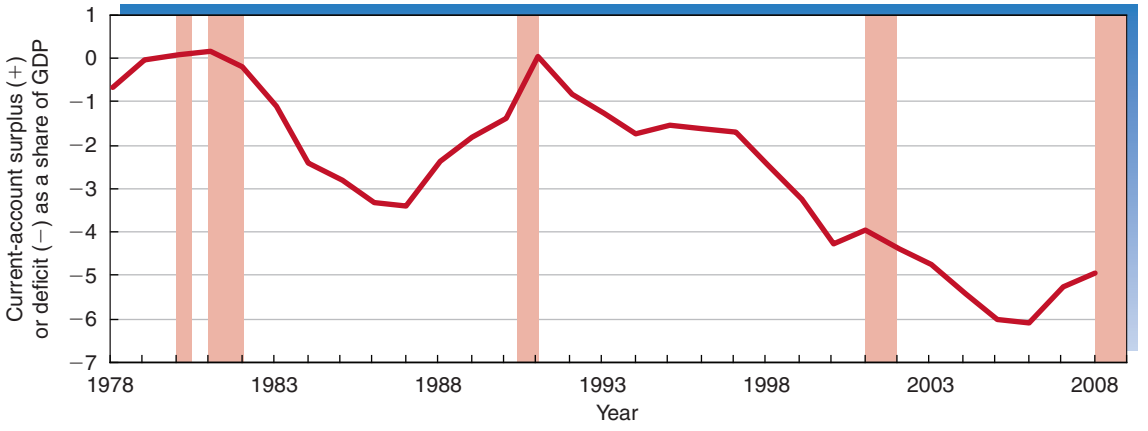
As during the expansions of the 1980s and 1990s, there was also an inflow of capital and a substantial increase in the U.S. current-account deficit during the expansion that began in 2002. However, there was also an important difference. While the dollar appreciated during the two earlier recoveries, it depreciated during the most recent expansion. Furthermore, as Exhibit 5 shows, approximately half of the inflow of capital reflects dollar purchases by foreign central banks. In many cases, these purchases were motivated

EXHIBIT 6
The Exchange Rate, Current-Account Balance, and Net Foreign Investment

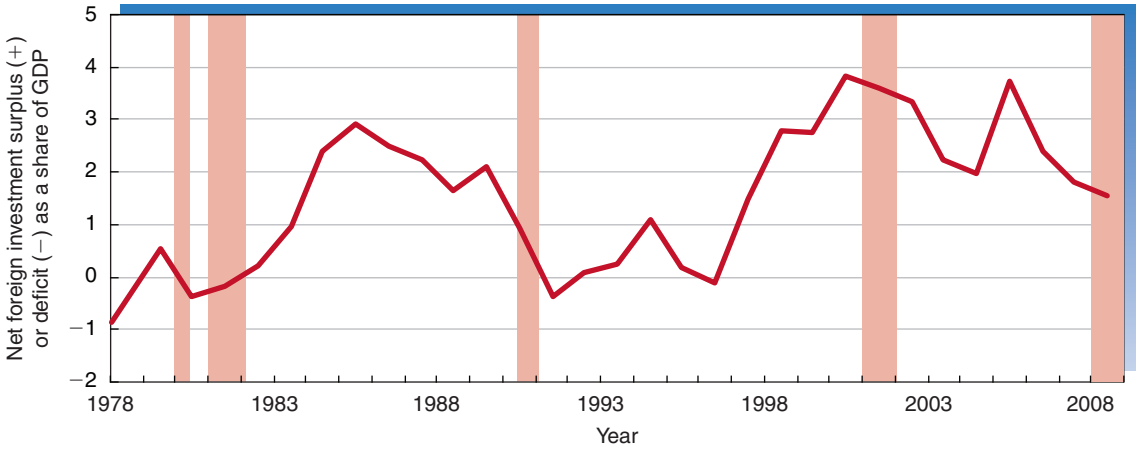
Here, we show the relationship between the exchange rate, the current-account deficit, and net foreign investment (capital inflow). The shaded areas represent recessions.



(a) Exchange-rate value of the dollar (compared with 26 currencies)



(b) Current-account balance as a share of GDP



(c) Net foreign investment as a share of GDP

Note: Data are given in billions of dollars.

Source: http://www.economagic.com.

by foreigners' desire to slow the depreciation of the dollar (and the appreciation of their domestic currency). As we noted in Exhibit 1, during 2002–2008, the dollar depreciated by 21 percent against an index of twenty-six currencies, and the depreciations relative to the euro, pound, and yen were even greater. Had it not been for the sizable purchases of U.S. Treasury bonds by foreign central banks in recent years, the depreciation of the dollar would surely have been larger.

Can a country continue to run current-account (and trade) deficits? Perhaps surprisingly, the answer is "yes." Trade deficits are primarily a reflection of the inflow of capital. The inflow can and will continue as long as investors find the U.S. economy an attractive place in which to invest. Foreigners will be happy to supply investment capital to the U.S. economy as long as they can earn competitive returns. And there is no reason why this cannot continue indefinitely. The historical evidence is consistent with this view. The United States experienced trade deficits and capital inflows year after year from 1820 to 1870. During that period, investment opportunities in the New World were more attractive than those in Europe, so Europeans were quite willing to continue financing undertakings in the New World.

When considering the significance of the U.S. trade deficit, one should keep two points in mind. First, no legal entity is responsible for the trade deficit. It reflects an aggregation of the voluntary choices of businesses and individuals.[7] Thus, it is not like a business loss or even the budget deficit of a government. Second, to a large degree, the inflow of capital reflects the confidence of investors in both the U.S. economy and the monetary policy of the United States. If either should become less attractive in the future, the situation would change. For example, if the United States becomes a high-tax country or if large budget deficits were financed with monetary expansion and inflation, the inflow of capital would decline and so would the current-account deficit.

The Future

The shape of financial and exchange rate regimes is likely to change substantially in the years ahead. Several of the emerging market economies of southern and Eastern Europe have linked their currency to the euro through currency boards. Others are likely to follow. It appears that the euro will emerge as the dominant currency throughout Europe. The euro has gained substantial credibility in recent years and has already emerged as a major competitor with the dollar for use as a reserve currency.

It would not be surprising to see a similar consolidation toward a single currency in Central and South America. Brazil, Mexico, and several other countries in the Americas may well seek currency stability through some form of linkage with the dollar. A substantial share of international trade is also conducted in Japanese yen. In the future, the dollar, euro, and yen, perhaps along with two or three other currencies, may well emerge as the dominant currencies used throughout the world for domestic and international trade. These developments make this an exciting time to follow international finance.

[7]As the late Herbert Stein, a former chair of the President's Council of Economic Advisers, once put it: "The trade deficit does not belong to any individual or institution. It is a pure-statistical aggregate, like the number of eggs laid in the U.S. or the number of bald-headed men living here." See Herbert Stein, "Leave the Trade Deficit Alone," *The Wall Street Journal* (March 11, 1987).

KEY POINTS

- Because countries generally use different currencies, international trade usually involves the conversion of one currency to another. The currencies of different countries are bought and sold in the foreign exchange market. The exchange rate is the price of one national currency in terms of another.
- The dollar demand for foreign exchange arises from the purchase (import) of goods, services, and assets by Americans from foreigners. The supply of foreign currency in exchange for dollars arises from the sale (export) of goods, services, and assets by Americans to foreigners. The equilibrium exchange rate will bring these two forces into balance.
- With flexible exchange rates, the following will cause a nation's currency to appreciate: (1) rapid growth of income abroad (and/or slow domestic growth), (2) low inflation (relative to one's trading partners), (3) rising domestic real interest rates (and/or falling rates abroad), and (4) improvement in the business and investment environment. The reverse of these conditions will cause a nation's currency to depreciate.
- There are three major types of exchange rate regimes: (1) flexible rates; (2) fixed rate, unified currency; and (3) pegged exchange rates. Both flexible rate and fixed rate, unified currency systems work quite well. Pegged rate systems, however, often lead to problems because they require that the nation follow a monetary policy consistent with maintaining the pegged rate. Political pressure often makes this difficult to do.
- The balance-of-payments accounts provide a summary of transactions with foreigners. There are three major balance-of-payments components: (1) the current account, (2) capital account, and (3) the official reserve account. The balances of these three components must sum to zero, but the individual components of the accounts need not be in balance.
- Under a pure flexible rate system, there will be no official reserve-account transactions. Under these circumstances, the current and capital accounts must balance. Therefore, an inflow of capital will shift the current account toward a deficit, while an outflow of capital will move the current account toward a surplus.
- Trade deficits are not necessarily bad. Countries that grow rapidly and follow policies that investors find attractive will tend to experience an inflow of capital and a trade deficit.
- There is no reason to expect that bilateral trade between countries will balance.

CRITICAL ANALYSIS QUESTIONS

*1. If the dollar depreciates relative to the Japanese yen, how will this affect the dollar price of a Japanese camera produced by Nikon, for example? How will this change influence the quantity of Nikon cameras purchased by Americans?

2. How will the purchases of items from foreigners compare with the sales of items to foreigners when the foreign exchange market is in equilibrium? Explain.

3. Will a flexible exchange rate bring the imports of goods and services into balance with the exports of goods and services? Why or why not?

*4. The accompanying chart indicates an actual newspaper quotation of the exchange rate of various currencies. On February 2, did the dollar appreciate or depreciate against the British pound? How did it fare against the Canadian dollar?