CHAPTER 9

During the first decade and a half after World War II, the United States monetary authorities did not actively intervene or directly operate in the foreign exchange market for the purpose of influencing the dollar exchange rate or exchange market conditions. Under the Bretton Woods par value exchange rate system, the obligation of the United States was to assure the gold convertibility of the dollar at $35 per ounce to the central banks and monetary authorities of IMF members. The actions of other governments, intervening in dollars as appropriate to keep their own currencies within the one percent of dollar par value that IMF rules required, maintained the day-to-day market level of the dollar within those narrow margins. Under that arrangement, the United States played only a passive role in the determination of exchange rates in the market: In a system of "n" currencies, not every one of the "n" countries can independently set its own exchange rate against the others. Such a system would be over-determined. At least one currency must be passive, and the dollar served as that "nth" currency.

In the early 1960s, the United States became more active in exchange market operations. By then, the United States had begun to experience its own serious and prolonged balance of payments problems. Increasingly, the United States became concerned about protecting its gold stock and maintaining the credibility of the dollar's link to gold and the official gold price of $35 per ounce on which the world par value system of exchange rates was based.

The Bretton Woods fixed exchange rate system became unsustainable over time—it broke down in 1971 and finally collapsed in 1973. In 1978, after much of the world had moved *de facto* to a floating exchange rate system, the IMF Articles were amended to change the basic obligation of IMF members. No longer were members obliged to maintain par values; instead, they were "to collaborate with the Fund and other members to assure orderly exchange arrangements and to promote a stable system of exchange rates." Each member was authorized to adopt the exchange arrangement of its choice—fixed or floating, tied to another currency or to a basket of currencies—subject,

in all cases, to general obligations of the IMF: to avoid exchange rate manipulation; to promote orderly economic, financial, and monetary conditions; and to foster orderly economic growth with reasonable price stability. U.S. law was amended to authorize the United States to accept the obligations introduced in the 1978 IMF amendment.

Today, the basic exchange rate obligation of IMF members continues as set forth in the 1978 amendment. Under provisions of that amendment, each member is required to notify the Fund of the exchange arrangements it will apply in fulfillment of its IMF obligations.

Currently, the exchange rate regime of the United States is recorded by the IMF under the classification of "Independent Floating," with the notation that the exchange rate of the dollar is determined freely in the foreign exchange market. Of course, the United States does on occasion intervene in the foreign exchange market, as described below. However, in recent periods such occasions have been rare; the United States has intervened only when there was a clear and convincing case that intervention was called for.

1. U.S. Foreign Exchange Operations Under Bretton Woods

During the Bretton Woods years, although there were a number of changes in various nations' par values, exchange rate fluctuations were relatively modest most of the time. However, exchange market pressures showed in other ways. Much attention was paid to the size of U.S. gold reserves in relation to the size of U.S. official dollar liabilities—the dollar balances held by official institutions in other countries. Various measures were taken to protect the U.S. gold stock and the credibility of dollar convertibility for foreign official holders. Many actions were taken by the U.S. authorities to hold down the growth of what foreign central banks might regard as their "excess" dollar balances, with a view to reducing the pressure for conversion of official dollar holdings into gold. Specific U.S. actions taken during the Bretton Woods par value period included:

- borrowing foreign currencies from foreign monetary authorities through reciprocal credit lines (swap lines) for the purpose of selectively buying dollars from certain foreign central banks that might otherwise have sought to convert those dollars into gold;

- selling foreign-currency-denominated bonds (called Roosa bonds after the then Under-Secretary of the Treasury) to mop up excess dollars that might otherwise be converted by foreign central banks into gold;

- acquiring foreign currencies by drawing down the U.S. reserve position at the IMF, again using those currencies to buy excess dollars from other central banks and also to pay off swap debts;

- cooperating with monetary authorities of other major countries to buy and sell gold in the free market to maintain the *free market* dollar price of gold close to the *official* price of $35 per ounce; and

- intervening, on occasion, *directly* in the foreign exchange market during the 1960s and early 1970s in order to reduce the pressures to convert dollars into gold, and to maintain or restore orderly conditions in volatile currency markets.

BOX 9-1

Authorization and Management of Intervention Operations

By law and custom, the Secretary of the Treasury is primarily and directly responsible to the President and the Congress for formulating and defending U.S. domestic and international economic policy, assessing the position of the United States in the world economy, and conducting international negotiations on these matters. At the same time, foreign exchange markets are closely linked to money markets and to questions of monetary policy that are within the purview of the Federal Reserve. There is a distinct role and responsibility for the Federal Reserve, working with the Treasury and in cooperation with foreign central banks that operate in their own markets. For many years, the Treasury and the Federal Reserve have recognized the need to cooperate in the formulation and implementation of exchange rate policy.

The Treasury and the Federal Reserve each have independent legal authority to intervene in the foreign exchange market. Since 1978, the financing of U.S. exchange market operations has generally been shared between the two. Intervention by the Treasury is authorized by the Gold Reserve Act of 1934 and the Bretton Woods Agreements Act of 1944. Intervention by the Federal Reserve System is authorized by the Federal Reserve Act. It is clear that the Treasury cannot commit Federal Reserve funds to intervention operations. It also is clear that any foreign exchange operations of the Federal Reserve will be conducted, in the words of the Federal Open Market Committee (FOMC), "in close and continuous cooperation with the United States Treasury." In practice, any differences between the Treasury and the Federal Reserve on these matters have generally been worked out satisfactorily. Cooperation is facilitated by the fact that all U.S. foreign exchange market operations are conducted by the Foreign Exchange Desk of the Federal Reserve Bank of New York, acting as agent for both the Treasury and the Federal Reserve System.

The Treasury's foreign exchange operations are financed through the Exchange Stabilization Fund (ESF) of the Treasury. The ESF was created in the early 1930s, utilizing profits resulting from the increase in the official dollar price of gold enacted at that time. The ESF is available to the Secretary of the Treasury, with the approval of the President, for trading in gold and foreign exchange.

The Federal Reserve's foreign exchange operations are financed through a System account in which all 12 Federal Reserve Banks participate. The System account operates under the guidance of the FOMC, the System's principal policy-making body. Transactions are executed by the Federal Reserve Bank of New York, under the direction of the Manager of the System Open Market Account, who is responsible for operations of both the Domestic Desk and the Foreign Exchange Desk.

Three formal documents of the FOMC provide direction and oversight for the System's foreign exchange operations and set forth guidance for the Federal Reserve Bank of New York in conducting these operations. The three documents, which are subject to annual FOMC approval and amended as appropriate, are (1) the *Authorization* for Foreign Currency Operations, (2) the Foreign Currency *Directive*, and (3) the *Procedural Instructions*. They provide the framework within which the Foreign Exchange Desk of the Federal Reserve Bank of New York conducts foreign exchange operations for the

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System. The aim is to assure FOMC guidance and oversight of System operations in foreign exchange while providing the Foreign Exchange Desk with the flexibility to act promptly and respond to changing market circumstances.

- The *Authorization* sets forth the basic structure for carrying out System foreign exchange operations, and sets limits on the size of open (or uncovered) positions in foreign currencies that can be taken in these operations.
- The *Directive* states that System operations in foreign currencies shall generally be directed at "countering disorderly market conditions," and provides general guidance on the transactions to be undertaken for that purpose. The Directive specifically provides that System foreign currency operations shall be conducted "in close and continuous consultation and cooperation with the United States Treasury" and "in a manner consistent with the obligations of the United States in the International Monetary Fund."
- The *Procedural Instructions* set forth the arrangements whereby the Foreign Exchange Desk consults and obtains clearance from the FOMC, its Foreign Currency Subcommittee, or the Federal Reserve Chairman for any operations of a certain type or magnitude between FOMC meetings. In addition to establishing the framework for Federal Reserve System foreign currency operations through these formal documents, the FOMC receives at each of its scheduled meetings a report by the Manager of the System Open Market Account of any U.S. intervention operations that have taken place since the previous meeting, and the circumstances of the operations. Formal FOMC approval is required of all operations financed through the System account.

The FOMC also is responsible for any authorization of *warehousing* foreign currencies for the Treasury and Exchange Stabilization Fund. Warehousing is a mechanism whereby the Federal Reserve can—at its sole discretion—enter into temporary swap transactions with the Exchange Stabilization Fund of the Treasury, providing dollars in exchange for an equivalent amount of foreign currency, with an agreement to reverse the payments at a specified exchange rate at a specified future date. Thus, the warehousing facility can temporarily supplement the U.S. dollar resources of the Treasury and the ESF for financing their purchases of foreign currencies and related international operations against deposits of foreign currencies. All exchange rate risk is borne by the Treasury. Warehousing transactions have been undertaken on many occasions over a long period of years.

2. U.S. Foreign Exchange Operations since the Authorization in 1978 of Floating Exchange Rates

Since the authorization of floating in the 1978 amendment of the IMF articles, U.S. intervention operations generally have been carried out under the broad rubric of "countering disorderly market conditions." However, that general objective has been interpreted in quite different ways at different

times over that period, and the approach to exchange market intervention has varied with the interpretation. During some periods, "countering disorderly market conditions" has been interpreted very narrowly, and intervention has been limited to rare and extreme situations; during other periods, it has been interpreted broadly and operations have been extensive.

During the first dozen years after exchange rate floating was sanctioned by 1978 IMF amendment, the United States changed its approach and its goals several times. There were a number of key turning points, and the U.S. experience from 1978 to 1990 breaks down into *five* distinct periods.

The first period covered the years after the amendment of the IMF articles in 1978 until early 1981. During 1978, the dollar was under heavy downward market pressure and the exchange rate declined sharply, at a time of rising international oil prices, high U.S. inflation, and a deteriorating balance of payments. In November 1978, a major new dollar support program was introduced, based on the conclusion that "the dollar's decline had gone beyond what could be justified by underlying conditions," and the U.S. authorities announced that a major effort would be undertaken to reverse the dollar's decline. The program provided for raising a large war chest of up to $30 billion equivalent in foreign currencies—by Treasury borrowing of foreign currencies in overseas capital markets, U.S. drawings from its reserve position in the IMF, sales of a portion of Treasury's gold and SDR holdings, as well as by other means. With this war chest—and supported by tighter Federal Reserve monetary policy—the United States began to intervene much more forcefully in the exchange market, often in coordinated operations with other central banks. The decline in the dollar was halted, and after the fundamental change in Federal Reserve operating techniques and the tightening of monetary policy in October 1979, the dollar strengthened, enabling the authorities to intervene on the other side of the market during 1980 and early 1981 to recoup much of the foreign currency that had been used for earlier dollar support.

The second period covered the years from early 1981 to 1985. After the election of President Reagan, the U.S. Administration interpreted the goal of countering disorderly markets very narrowly. The authorities maintained a hands-off approach, and intervention in the exchange market was minimal. During this period, the dollar exchange rate rose strongly, in an environment of a robust U.S. economy, large budget deficits, and a tight monetary policy with interest rates that were very high by international standards.

The third period covered the time from early 1985 until February 1987. The dollar eased somewhat in the spring and summer of 1985, and an important turning point occurred at the meeting of the United States and its major industrial allies in the Group of Five—France, Germany, Japan, and the United Kingdom—at the Plaza Hotel in New York in September 1985. The dollar was still at very high levels that caused concern in the United States and abroad. In the United States there was considerable apprehension about declining U.S. competitiveness and a loss of industrial output to overseas production, and a fear of rising protectionism. Also, there was a widespread belief that the exchange rates of the major currencies against the dollar did not reflect economic fundamentals. Against this background, the finance ministers and central bank governors of

the G-5 reached an agreement that an appreciation of foreign currencies relative to the dollar was desirable. In the weeks following the Plaza meeting, there were substantial intervention sales of dollars for other G-5 currencies by the United States and by other monetary authorities. U.S. intervention sales of dollars were confined to rising markets—on occasions after the dollar eased, the United States moved in to resist market pressures that would otherwise have tended to raise it back to pre-existing higher levels. The dollar declined significantly during 1985 and continued to decline during 1986, even though there was no further U.S. market intervention after the first few weeks following the Plaza agreement.

The fourth period was from February 1987 to the end of that year. By early 1987, eighteen months after the Plaza agreement, the dollar had declined to its lowest levels since 1980. With a growing trade deficit and a weakening U.S. economy, the prospect of further declines in the dollar had become a cause of concern, particularly in Europe and Japan. Six major industrial nations (the Group of Five plus Italy) met at the Louvre in Paris in February and issued a statement that their currencies were "within ranges broadly consistent with underlying economic fundamentals." They agreed "to foster stability of exchange rates around current levels." The United States, frequently in coordinated operations with other central banks, intervened on a number of occasions to buy dollars and resist the dollar's decline. But despite the intervention, the dollar continued to decline irregularly over the remainder of 1987. Many market analysts argued that the dollar's decline reflected rifts among the major G-7 nations over monetary and fiscal policies. There was concern about the risks of the situation, particularly at the time of the U.S. stock market crash in October. These uncertainties continued until the beginning of 1988, at which time, following visible, concerted, and very aggressive intervention operations by the United States and others, the dollar stabilized and reversed its direction.

In the fifth period, covering 1988 to 1990, the dollar again trended upward, and the United States intervened, at times very heavily, in the interest of exchange rate stability, to resist upward pressure on the dollar. Once again, these operations were undertaken after statements from the Group of Seven (The Group of Five plus Italy and Canada) emphasized the importance of maintaining exchange rate stability. The G-7 issued a statement expressing concern that the continued rise of the dollar was "inconsistent with longer-run fundamentals" and that a further rise of the dollar above then-current levels, or an excessive decline, could adversely affect prospects for the world economy. The level of U.S. intervention operations during 1989 was particularly high by earlier standards, resulting in the accumulation of substantial U.S. reserve balances of foreign currencies, namely Deutsche marks and yen. This was the first time that the United States had held "owned," or non-borrowed, foreign currency reserves in large amounts.

Since 1990, the general approach has been to allow considerable scope for market forces, with intervention from time to time to resist moves that seem excessive in either direction. The U.S. authorities have on occasion sold dollars when the currency was deemed to be getting "too strong" relative to economic fundamentals and bought when it was regarded as becoming "too weak"—but the occasions have been infrequent. Operations have been modest in amounts, and often undertaken in coordinated operations with other G-7 authorities—in particular, when these other countries were concerned about the mirror image position of their own currencies, and the effect of movements in the dollar exchange rate on their own currencies. There is a recognition of the benefits and the limitations of intervention

(discussed in Chapter 11), and of the situations and policy framework in which it is likely to be most helpful.

During the 1990s, there has been intervention by the U.S. authorities on both sides of the market—that is, buying dollars from time to time to resist downward pressure on the dollar exchange rate and selling dollars on a few occasions of strong upward pressure.

In 1991 and 1992, the U.S. intervened on *both* sides, buying a total of $2,659 million in dollars and selling a total of $750 million.

From 1993 through mid-1995, market pressures against the dollar were mainly downward, and the U.S. authorities intervened to buy dollars on 18 trading days, with purchases totaling $14 billion, just over half of which were purchased against yen, with the remainder purchased against marks. (For many years, the mark and the yen have been the only two currencies in which the United States has conducted its intervention operations.)

From mid-1995 until mid-1998, there were no dollar intervention operations undertaken by the U.S. authorities.

In mid-1998, the U.S. authorities re-entered the market, in cooperation with the Japanese authorities, to sell dollars for yen in an environment of weakness in the yen exchange rate.

All U.S. intervention operations in the foreign exchange market are publicly reported on a quarterly basis, a few weeks after the close of the period. These reports, entitled "Treasury and Federal Reserve Foreign Exchange Operations," are presented by the Manager of the System Open Market Account and are published by the Federal Reserve Bank of New York and in the *Federal Reserve Bulletin*. Each report documents any U.S. intervention activities of the previous quarter, describing the market environment in which they were conducted. This series provides a record of U.S. actions in the foreign exchange market for the period since 1961.

3. Executing Official Foreign Exchange Operations

In some countries the central bank serves as the government's principal banker, or only banker, for international payments. In such cases, the central bank may buy and sell foreign exchange, not only for foreign exchange intervention purposes, but also for such purposes as paying government bills, servicing foreign currency debts, and executing transactions for the national post office, railroads, and power company.

The Federal Reserve Bank of New York conducts all U.S. intervention operations in the foreign exchange market on behalf of the U.S. monetary authorities. It also conducts certain non-intervention business transactions on behalf of various U.S. Government agencies. Given the vast array of international activities in which U.S. Government departments and agencies are involved, it is left to individual agencies to acquire the foreign currencies needed for their operations in the most economical way they can find. Today, only a fraction of the U.S. Government's total foreign exchange transactions are funneled through the Federal Reserve Bank of New York; the bulk of such transactions go directly through commercial or other channels.

Even so, the Foreign Exchange Desk of the Federal Reserve Bank of New York is routinely engaged in foreign exchange transactions on behalf of "customers." Thus, when operating in the foreign exchange market, the Desk is not necessarily "intervening" to influence the dollar exchange rate or conditions in the dollar market. It simply may be executing "customer" business. The customer may be another official body, and the Federal Reserve may be either helping a foreign central bank get the best available price for some commercial or financial transaction or helping that central bank (with that bank's own resources) intervene in its own currency, perhaps when its own market is closed.

There are many central bank correspondents holding dollar balances at the New York Fed, with bills to pay in non-dollar currencies, who find it convenient and economical to obtain their needed currencies through the Fed. Similarly, the New York Fed transacts customer-based foreign exchange business for a number of international institutions that hold dollar balances at the Fed.

But it is the intervention activity—circumstances, amounts, techniques, policy environment surrounding intervention operations, and possible effectiveness of such operations in influencing the exchange rate or market conditions—that is of particular interest and attracts the most attention.

Techniques of Intervention

Techniques of intervention can differ, depending on the objective and market conditions at the time. The intervention may be coordinated with other central banks or undertaken by a single central bank operating alone. The situation may call for an aggressive action, intended to change existing attitudes about the authorities' views and intentions, or it may call for reassuring action to calm markets. The aim may be to reverse, resist, or support a market trend. Operations may be announced or unannounced. Central banks may operate openly and directly, or through brokers and agents. They may deal with many banks or few, in sudden bursts, or slowly and steadily. They may want the operations to be visible or they may want to operate discreetly. Different objectives may require different approaches.

In the foreign exchange operations undertaken on behalf of the United States authorities, the Federal Reserve Bank of New York has, over the years, used various intervention techniques, depending on the policy objective, market conditions, and an assessment of what appears likely to be effective. In recent years, most U.S. intervention has been conducted openly, directly with a number of commercial banks and other participants in the interbank market, with the expectation that the intervention would be seen very quickly and known by the entire foreign exchange market, both in the United States and abroad. The aim has been to show a presence in the market and indicate a view about exchange rate trends. On recent occasions, there have been accompanying statements by the Secretary of the Treasury or another senior Treasury official announcing or confirming the operations.

At the New York Fed, the Foreign Exchange Desk monitors the foreign exchange market on a continuing basis, watching the market and keeping up-to-date with significant develop-ments that may be affecting the dollar and other major currencies. The Desk staff tracks market conditions around the clock during periods of stress. Federal Reserve staff, like others in the market, sit in a trading room surrounded by screens, telephones, and

computers, watching the rates, reading the continuous outpouring of data, analyses, and news developments, listening over the brokers' boxes to the flow of transactions, and talking on the telephone with other market players to try to get a full understanding of different market views on what is happening and likely to happen and why. Quite importantly, the Desk personnel also stay in close touch with their counterparts in the central banks of the other major countries—both in direct one-to-one calls and through regularly scheduled conference calls—to keep informed on developments in those other markets, to hear how the other central banks assess developments and their own aims, and to discuss with them emerging trends and possible actions. The staff on the Foreign Exchange Desk of the New York Fed confers regularly, several times a day, with staff both at the Treasury and at the Federal Reserve Board of Governors in Washington, reporting the latest developments and assessments about market trends and conditions.

4. Reaching Decisions on Intervention

There is no fixed or formal procedure in the United States for reaching decisions on intervention. On occasions there may be a major agreement among the main industrial countries to follow a particular approach—for example, the decisions at the Plaza in 1985 and at the Louvre in 1987 required a coordinated approach toward the exchange market that had major implications for intervention. There may be other occasions, when the U.S. authorities conclude that some action or change in approach is needed, and they may want to discuss intervention informally with other major countries to see whether coordinated action is possible. In still other situations, when either the Treasury or the Federal Reserve believes a change in approach is called for, there will be discussions among senior U.S. officials of that viewpoint. Indeed, there are any number of possible way in which questions of exchange rate policy can by considered.

When the Desk does undertake intervention purchases or sales, the financing is usually split evenly between the Treasury's Exchange Stabilization Fund and the Fed's System Open Market Account. However, there are occasions when, for technical or other reasons, the financing for a particular operation is booked entirely by the Treasury or the Federal Reserve.

The dollar amount of any U.S. foreign exchange market intervention is routinely sterilized—that is, the effect on the monetary base, plus or minus, is promptly offset. Indeed, it is generally the practice in most major industrial countries to sterilize intervention operations, at least over a period of time. Thus, any expansion (or contraction) in the monetary base resulting from selling (or buying) dollars in the foreign exchange market would be automatically offset by the Federal Reserve's domestic monetary actions. While the sterilized foreign exchange market intervention does not itself affect the U.S. money stock, that does not imply that conditions in the foreign exchange market do not influence monetary policy decisions—at times they clearly do. But that influence shows up as a deliberate monetary policy decision, rather than as a side effect of the foreign exchange market intervention.

5. Financing Foreign Exchange Intervention

All foreign exchange operations by the monetary authorities must, of course, be financed. In the case of a foreign central bank operating in dollars to influence the exchange rate for its currency, that simply may mean transfers into or out of its dollar accounts (held at the Federal Reserve Bank of New York or at commercial banks) as it buys and sells dollars in the market. For the United States, it currently means adding to or reducing the foreign currency balances held by the Treasury and the Federal Reserve. However, U.S. techniques for acquiring resources for exchange market operations have gone through several phases.

During the late 1940s and the 1950s, under the Bretton Woods system, the United States kept its reserves almost entirely in the form of *gold*, and did not hold significant foreign currency balances. Since the U.S. role in the foreign exchange markets was entirely passive, market intervention and financing market intervention were not an issue.

In the early 1960s, when the United States began to operate more actively in the foreign exchange market and was reluctant to draw down its gold stock, the U.S. authorities began the practice of establishing *reciprocal currency arrangements*—or *swap* lines—with central banks and other monetary authorities abroad, as a means of gaining rapid access to foreign currencies for market intervention and other purposes.

These reciprocal swap lines were developed as a technique for prearranging short-term credits among central banks and treasuries, enabling them to borrow each other's currencies—if both sides agreed—at a moment's notice, in event of need. Over time, a network of these facilities was built up, mainly between the Federal Reserve and the major foreign central banks and the Bank for International Settlements (BIS), although the Treasury also has swap lines. These facilities have enabled the United States to acquire foreign currencies when they were needed for foreign exchange operations, and from time to time some of the swap partners drew on the facilities to obtain dollars they needed for their own market operations.

An advantage of the central bank reciprocal swap lines was that drawings could be activated quickly and easily, in case of mutual consent. A drawing could be initiated by a phone call followed by an exchange of cables in which particular terms and conditions were specified within the standard framework of the swap agreement. Technically, a central bank swap drawing consists of a spot transaction and a forward exchange transaction in the opposite direction. Thus, the Federal Reserve might sell spot dollars for, say marks, to the German central bank, and simultaneously contract to buy back the same amount of dollars three months later. By mutual agreement, the drawing might be rolled over for additional three-month periods.

Central bank swap lines were used actively by the United States in periods of exchange market pressure during the 1960s and 1970s, when the United States did not hold substantial foreign currency balances. They had important advantages, but also some limitations. To be activated, swap drawings required the consent of both parties. They did not provide foreign currencies to the borrower unless the partner central bank agreed. As with any credit, availability can be made subject to policy or other conditions imposed by the creditor that the borrower might not like. Also, swap drawings were technically short term, requiring agreement every three months for a rollover.

In November 1978, when the U.S. authorities wanted to correct what was regarded as an excessive decline in the dollar's value in the exchange market, they decided to increase by a substantial amount their "*owned reserves*," or foreign currency balances fully available to them and under their own control, and not be restricted to "borrowed reserves," or balances available from, and limited by, swap arrangements. The U.S. authorities wanted to show their determination to support and strengthen the dollar by taking new, innovative, and unprecedented actions, and by building up a large supply of foreign currencies that could be used by the United States at its sole discretion for aggressive intervention.

Accordingly, to increase its "owned reserves," the United States Treasury announced that it would draw $3 billion worth of marks and yen from the U.S. reserve position in the IMF; that it would sell $2 billion equivalent of IMF Special Drawing Rights (SDR) for marks, yen, and Swiss francs; and, as a major innovation, that it would, for the first time, *borrow foreign currencies in overseas markets*. The U.S. Treasury was prepared to issue foreign currency-denominated securities up to the equivalent of $10 billion.

Between November 1978 and January 1981, foreign currency-denominated securities (called Carter bonds) were issued amounting to the equivalent of approximately $6.5 billion, all in German marks and Swiss francs. All of these securities were redeemed by mid-1983. The dollar strengthened during the period when the securities were outstanding, and the Treasury made a profit on the amounts of borrowed currencies that were used for intervention when the dollar was low and bought back when the dollar was higher. In the early 1980s, the United States was able to move to a modest net positive foreign currency position, with foreign currency balances somewhat in excess of its foreign currency liabilities.

The next important change in this situation occurred in the late 1980s, when the U.S. authorities *built up their foreign currency balances* to far higher levels than ever before. During periods of strong upward pressure on the dollar exchange rate, the United States intervened in substantial amounts to resist what was regarded as excessive upward pressure on the dollar, and acquired substantial balances of marks and yen. As of the middle of 1988, the United States held foreign currency balances of only *$10 billion*. But by the end of 1990, the United States reported foreign currency balances of more than *$50 billion*. Since then, there has been some net use of these balances for intervention purposes, and some reduction through exchanges of U.S. foreign currency balances for dollars with the issuers of those currencies, when both parties felt they were holding excess amounts relative to their needs. In June 1998, the U.S. authorities held $30 billion in marks and yen; these balances are marked-to-market on a monthly basis. U.S. holdings of international reserves (excluding gold), measured relative to imports or size of the economy, still remain well below the levels of many other major industrial nations.

The reciprocal currency arrangements, or swap lines, remain in place, and are available if needed. At present, the Federal Reserve has such arrangements with 14 foreign central banks and the Bank for International Settlements, totaling $32.4 billion (Figure 9-1). For many years, however, the United States has not drawn on any of the swap lines for financing U.S. intervention or for any other purpose. There have been drawings on both Federal Reserve and Treasury ESF swap facilities initiated by the other party to the swap—in particular, swap lines have

FIGURE 9-1

FEDERAL RESERVE RECIPROCAL CURRENCY ARRANGEMENTS (MILLIONS OF DOLLARS)

Institution	Amount of Facility	Outstanding as of December 31, 1997
Austrian National Bank	250	0
National Bank of Belgium	1,000	0
Bank of Canada	2,000	0
National Bank of Denmark	250	0
Bank of England	3,000	0
Bank of France	2,000	0
Deutsche Bundesbank	6,000	0
Bank of Italy	3,000	0
Bank of Japan	5,000	0
Bank of Mexico	3,000	0
Netherlands Bank	500	0
Bank of Norway	250	0
Bank of Sweden	300	0
Swiss National Bank	4,000	0
Bank for International Settlements	600	0
Dollars against Swiss Francs		
Dollars against other Authorized European currencies	1,250	0

provided temporary financing in dealing with the Mexican financial crisis and certain earlier Latin American debt problems.

The foreign currency balances owned by the Treasury's Exchange Stabilization Fund and by the Federal Reserve System are regularly invested in a variety of instruments that have a high degree of liquidity, good credit quality, and market-related rates of return. A significant portion of the balances consists of German and Japanese government securities, held either directly or under repurchase agreement. As of June 1998, outright holdings of foreign government securities by U.S. monetary authorities totaled $7.1 billion, and government securities held under repurchase agreements by U.S. monetary authorities totaled $10.9 billion. The Federal Reserve Bank of New York makes these various investments for both the Treasury and the Federal Reserve, and the Desk stays in close contact with German and Japanese money market and capital market sources in arranging these transactions.