7 The Federal Reserve in the U.S. Payments System

The Federal Reserve plays an important role in the U.S. payments system. The twelve Federal Reserve Banks provide banking services to depository institutions and to the federal government. For depository institutions, they maintain accounts and provide various payment services, including collecting checks, electronically transferring funds, and distributing and receiving currency and coin. For the federal government, the Reserve Banks act as fiscal agents, paying Treasury checks; processing electronic payments; and issuing, transferring, and redeeming U.S. government securities.

By creating the Federal Reserve System, Congress intended to eliminate the severe financial crises that had periodically swept the nation, especially the sort of financial panic that occurred in 1907. During that episode, payments were disrupted throughout the country because many banks and clearinghouses refused to clear checks drawn on certain other banks, a practice that contributed to the failure of otherwise solvent banks. To address these problems, Congress gave the Federal Reserve System the authority to establish a nationwide check-clearing system. The System, then, was to provide not only an elastic currency—that is, a currency that would expand or shrink in amount as economic conditions warranted—but also an efficient and equitable check-collection system.

Bank panic of 1907

Congress was also concerned about some banks' paying less than the full amount of checks deposited by their customers because some paying banks charged fees to presenting banks to pay checks. To avoid paying presentment fees, many collecting banks routed checks through banks that were not charged presentment fees by paying banks. This practice, called circuitous routing, resulted in extensive delays and inefficiencies in the check-collection system. In 1917, Congress amended the Federal Reserve Act to prohibit banks from charging the Reserve Banks presentment fees and to authorize nonmember banks as well as member banks to collect checks through the Federal Reserve System.

In passing the Monetary Control Act of 1980, Congress reaffirmed its intention that the Federal Reserve should promote an efficient nationwide payments system. The act subjects all depository institutions, not just member commercial banks, to reserve requirements and grants them equal access to Reserve Bank payment services. It also encourages competition between the Reserve Banks and private-sector providers of payment services by requiring the Reserve Banks to charge fees for certain payments services listed in the act and to recover the costs of providing these services over the long run.

The Federal Reserve performs an important role as an intermediary in clearing and settling interbank payments.

More recent congressional action has focused increasingly on improving the efficiency of the payments system by encouraging increased use of technology. In 1987, Congress enacted the Expedited Funds Availability Act (EFAA), which gave the Board, for the first time, the authority to regulate the payments system in general, not just those payments made through the Reserve Banks. The Board used its authority under the EFAA to revamp the check-return system, improve the presentment rights of private-sector banks, and establish rules governing the time that banks can hold funds from checks deposited into customer accounts before making the funds available for withdrawal. In 2003, Congress enacted the Check Clearing for the 21st Century Act, which further enhanced the efficiency of the payments system by reducing legal and practical impediments to check truncation and the electronic collection of checks, services that speed up check collection and reduce associated costs.

Financial Services

The U.S. payments system is the largest in the world. Each day, millions of transactions, valued in the trillions of dollars, are conducted between sellers and purchasers of goods, services, or financial assets. Most of the payments underlying those transactions flow between depository institutions, a large number of which maintain accounts with the Reserve Banks. The Federal Reserve therefore performs an important role as an intermediary in clearing and settling interbank payments. The Reserve

Banks settle payment transactions efficiently by debiting the accounts of the depository institutions making payments and by crediting the accounts of depository institutions receiving payments. Moreover, as the U.S. central bank, the Federal Reserve is immune from liquidity problems—not having sufficient funds to complete payment transactions—and credit problems that could disrupt its clearing and settlement activities.

The Federal Reserve plays a vital role in both the nation's retail and wholesale payments systems, providing a variety of financial services to depository institutions. Retail payments are generally for relatively small-dollar amounts and often involve a depository institution's retail clients—individuals and smaller businesses. The Reserve Banks' retail services include distributing currency and coin, collecting checks, and electronically transferring funds through the automated clearinghouse system. By contrast, wholesale payments are generally for large-dollar amounts and often involve a depository institution's large corporate customers or counterparties, including other financial institutions. The Reserve Banks' wholesale services include electronically transferring funds through the Fedwire Funds Service and transferring securities issued by the U.S. government, its agencies, and certain other entities through the Fedwire Securities Service. Because of the large amounts of funds that move through the Reserve Banks every day, the System has policies and procedures to limit the risk to the Reserve Banks from a depository institution's failure to make or settle its payments.

An important function of the Federal Reserve is ensuring that enough cash is in circulation to meet the public's demand.

Retail Services

Currency and Coin

An important function of the Federal Reserve is ensuring that enough cash—that is, currency and coin—is in circulation to meet the public's demand. When Congress established the Federal Reserve, it recognized that the public's demand for cash is variable. This demand increases or decreases seasonally and as the level of economic activity changes. For example, in the weeks leading up to a holiday season, depository institutions increase their orders of currency and coin from Reserve Banks to meet their customers' demand. Following the holiday season, depository institutions ship excess currency and coin back to the Reserve Banks, where it is credited to their accounts.

Each of the twelve Reserve Banks is authorized by the Federal Reserve Act to issue currency, and the Department of Treasury is authorized to issue coin. The Secretary of the Treasury approves currency designs, and the Treasury's Bureau of Engraving and Printing prints the notes. The Federal Reserve Board places an annual printing order with the bureau

and pays the bureau for the cost of printing. The Federal Reserve Board coordinates shipments of currency to the Reserve Banks around the country. The Reserve Banks, in turn, issue the notes to the public through depository institutions. Federal Reserve notes are obligations of the Reserve Banks. The Reserve Banks secure the currency they issue with legally authorized collateral, most of which is in the form of U.S. Treasury securities held by the Reserve Banks. Coin, unlike currency, is issued by the Treasury, not the Reserve Banks. The Reserve Banks order coin from the Treasury's Bureau of the Mint and pay the Mint the full face value of coin, rather than the cost to produce it. The Reserve Banks then distribute coin to the public through depository institutions.

Demand Treasury note, 1861

Silver certificate, 1880

Although the issuance of paper money in this country dates back to 1690, the U.S. government did not issue paper currency with the intent that it circulate as money until 1861, when Congress approved the issuance of demand Treasury notes. All currency issued by the U.S. government since then remains legal tender, including silver certificates, which have a blue seal for the Department of the Treasury; United States notes, which have a red seal; and national bank notes, which have a brown seal. Today, nearly all currency in circulation is in the form of Federal Reserve notes, which

were first issued in 1914 and have a green Treasury seal. Currency is redesigned periodically to incorporate new anti-counterfeiting features. When currency is redesigned, all previous Federal Reserve notes remain valid.

National bank note, Winters National Bank of Dayton, Ohio, 1901

When currency flows back to the Reserve Banks, each deposit is counted, verified, and authenticated. Notes that are too worn for recirculation (unfit notes) and those that are suspected of being counterfeit are culled out. Suspect notes are forwarded to the United States Secret Service, and unfit notes are destroyed at the Reserve Banks on behalf of the Treasury. Notes that can be recirculated to the public are held in Reserve Bank vaults, along with new notes, until they are needed to meet demand. Coin that is received by Reserve Banks is verified by weight rather than piece-counted, as currency is.

Today, currency and coin are used primarily for small-dollar transactions and thus account for only a small proportion of the total dollar value of all monetary transactions. During 2003, Reserve Banks delivered to depository institutions about 36.6 billion notes having a value of $633.4 billion and received from depository institutions about 35.7 billion notes having a value of $596.9 billion. Of the total received by Reserve Banks, 7.4 billion notes, with a face value of $101.3 billion, were deemed to be unfit to continue to circulate and were destroyed. The difference between the amount of currency paid to depository institutions and the amount of currency received from circulation equals the change in demand for currency resulting from economic activity. In 2003, the increase in demand was $36.5 billion.

Over the past five decades, the value of currency and coin in circulation has risen dramatically—from $31.2 billion in 1955 to $724.2 billion in 2003 (table 7.1).[1] The total number of notes in circulation (24.8 billion at

1. Current data on currency and coin can be found on the Board's web site (www.federalreserve.gov), under "Payment Systems."

the end of 2003) and the demand for larger denominations ($20, $50, and $100 notes) has also increased (table 7.2). In 1960, these larger denominations accounted for 64 percent of the total value of currency in circulation; by the end of 2003, they accounted for 95 percent. Because the U.S. dollar is highly regarded throughout the world as a stable and readily negotiable currency, much of the increased demand for larger-denomination notes has arisen outside of the United States. Although the exact value of U.S. currency held outside the country is unknown, Federal Reserve economists estimate that from one-half to two-thirds of all U.S. currency circulates abroad.

Table 7.1

Value of currency and coin in circulation, selected years, 1955–2003

Millions of dollars

Year	Currency*	Coin	Total
1955	29,242	1,916	31,158
1960	30,442	2,426	32,868
1965	38,029	4,027	42,056
1970	45,915	5,986	51,901
1975	68,059	8,285	76,344
1980	109,515	11,641	121,156
1985	182,003	15,456	197,459
1990	268,206	18,765	286,971
1995	401,517	22,727	424,244
2000	563,970	29,724	593,694
2001	612,273	31,028	643,301
2002	654,785	32,733	687,518
2003	690,267	33,927	724,194

* Currency in circulation includes Federal Reserve notes, silver certificates, United States notes, and national bank notes.

Table 7.2

Estimated value of currency in circulation by denomination, selected years, 1960–2003

Billions of dollars

	Denomination								
Year	1	2	5	10	20	50	100	Other*	Total
1960	1.5	.1	2.2	6.7	10.5	2.8	6.0	.6	30.4
1970	2.1	.1	2.9	8.4	16.6	4.4	10.9	.5	45.9
1980	3.1	.7	4.1	11.0	36.4	12.2	41.6	.4	109.5
1990	5.1	.8	6.3	12.6	69.0	33.9	140.2	.3	268.2
2000	7.7	1.2	8.9	14.5	98.6	55.1	377.7	.3	564.0
2003	8.2	1.4	9.7	15.2	107.8	59.9	487.8	.3	690.3

* Other denominations include the $500, $1,000, $5,000, and $10,000 notes. No denominations larger than $100 have been printed since 1946 or issued since 1969. The majority of these notes are held by private collectors, currency dealers, and financial institutions for display.

Check Processing

While cash is convenient for small-dollar transactions, for larger-value transactions individuals, businesses, and governments generally use checks or electronic funds transfers. Measured by the number used, checks continue to be the preferred noncash payment method; however, their use has begun to decline in favor of electronic methods. In 2001, the Federal Reserve conducted an extensive survey on the use of checks and other noncash payment instruments in the United States and compared the results with a 1979 study of noncash payments and similar data collected in 1995. The survey results indicated that check usage peaked sometime during the mid-1990s and has declined since then. For example, the survey found that checks represented 59.5 percent of retail noncash payments in 2000, compared with 77.1 percent just five years earlier and 85.7 percent in 1979. The total value of checks paid declined from an estimated $50.7 trillion in 1979 to $39.3 trillion in 2000 (both in 2000 dollars).[2]

In 2004, the Federal Reserve conducted another study to determine the changes in noncash payments from 2000 to 2003. That study found that the number of noncash payments had grown since 2000 and that checks were the only payment instrument being used less frequently than in 2000

2. See Gerdes, Geoffrey R., and Jack K. Walton II, "The Use of Checks and Other Noncash Payment Instruments in the United States," *Federal Reserve Bulletin,* vol. 88 (August 2002), pp. 360–74.

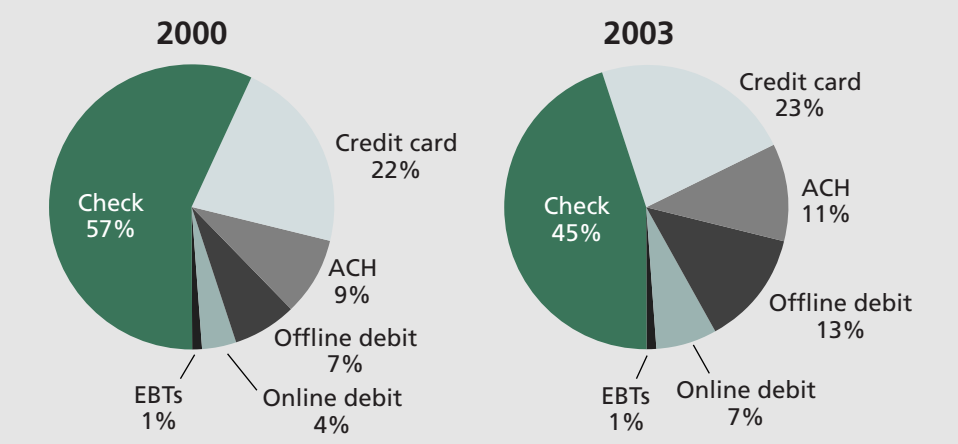
(table 7.3). Chart 7.1 illustrates the changes in the distribution of noncash payments from 2000 to 2003.

Table 7.3
Number of noncash payments, 2000 and 2003

	2000 estimate (billions)	2003 estimate (billions)	CAGR*
Noncash payments	72.5	81.2	38%
Check	41.9	36.7	–4.3%
Credit card	15.6	19.0	6.7%
ACH	6.2	9.1	13.4%
Offline debit	5.3	10.3	24.9%
Online debit	3.0	5.3	21.0%
Electronic benefits transfers (EBTs)	0.5	0.8	15.4%

* Compound annual growth rate.

Chart 7.1
Distribution of number of noncash payments, 2000 and 2003



Of the estimated 36.7 billion checks paid in 2003, approximately 8.7 billion were "on-us checks," that is, checks deposited in the same institution on which they were drawn. In 2003, the Reserve Banks processed more than 58 percent of interbank checks, checks not drawn on the institution at which they were deposited. Depository institutions cleared the remaining checks through private arrangements among themselves. These private arrangements include sending checks directly to the depository institution on which they are drawn, depositing the checks for collection with a correspondent bank, or delivering the checks to a clearinghouse for exchange. Processing interbank checks requires a mechanism for

exchanging the checks as well as for the related movement of funds, or settlement, among the depository institutions involved.

For checks collected through the Reserve Banks, the account of the collecting institution is credited for the value of the deposited checks in accordance with the availability schedules maintained by the Reserve Banks. These schedules reflect the time normally needed for the Reserve Banks to receive payments from the institutions on which the checks are drawn. Credit is usually given on the day of deposit or the next business day. In 2003, the Reserve Banks collected 16 billion checks with a value of $15.8 trillion (table 7.4).

Table 7.4

Number and value of checks collected by the Reserve Banks, selected years, 1920–2003

Number in millions; value in millions of dollars

Year	Number	Value
1920	424	149,784
1930	905	324,883
1940	1,184	280,436
1950	1,955	856,953
1960	3,419	1,154,121
1970	7,158	3,331,733
1980	15,716	8,038,026
1990	18,598	12,519,171
2000	16,994	13,849,084
2003	16,271	15,768,877

NOTE: In 2003, the Reserve Banks, acting as fiscal agents for the United States, also paid 267 million Treasury checks and 198 million postal money orders.

Since it was established, the Federal Reserve has worked with the private sector to improve the efficiency and cost-effectiveness of the check-collection system. Toward that end, the Federal Reserve and the banking industry developed bank routing numbers in the 1940s. These numbers are still printed on checks to identify the institution on which a check is drawn and to which the check must be presented for payment. In the 1950s, the magnetic ink character recognition (MICR) system for encoding pertinent data on checks was developed so that the data could be read electronically. The MICR system contributed significantly to the automation of check processing.

In the 1970s, the Federal Reserve introduced a regional check-processing program to further improve the efficiency of check clearing, which resulted in an increase in the number of check-processing facilities throughout the country. In response to the recent decline in overall check usage, the

Reserve Banks began an initiative to better align Reserve Bank check-processing operations with the changing demand for those services. As part of the initiative, the Reserve Banks standardized check processing, consolidated some operations, and reduced the overall number of their check-processing sites.

Other improvements in check collection have focused on when a customer has access to funds deposited in a bank. Until the late 1980s, depository institutions were not required to make funds from check deposits available for withdrawal within specific time frames. In 1988, the Federal Reserve Board adopted Regulation CC, Availability of Funds and Collection of Checks, which implemented the Expedited Funds Availability Act. Regulation CC established maximum permissible hold periods for checks and other deposits, after which banks must make funds available for withdrawal. It also established rules to speed the return of unpaid checks. In late 1992, the Federal Reserve Board amended Regulation CC to permit all depository institutions to demand settlement in same-day funds from paying banks without paying presentment fees, provided presenting banks meet certain conditions.

Substitute check

In addition to processing paper checks more efficiently, the Federal Reserve has also encouraged check truncation, which improves efficiency by eliminating the need to transfer paper checks physically between institutions. To that end, the Federal Reserve worked with Congress on the Check Clearing for the 21st Century Act, commonly known as Check 21, which be-

came effective October 28, 2004. Check 21 facilitates check truncation by creating a new negotiable instrument called a substitute check, which is the legal equivalent of an original check. A substitute check is a paper reproduction of an original check that contains an image of the front and back of the original check and is suitable for automated processing, just as the original check is. Check 21 allows depository institutions to truncate original checks, process check information electronically, and deliver substitute checks to depository institutions if they require paper checks. In 2004, the Board amended Regulation CC to implement Check 21.

The Automated Clearinghouse

The automated clearinghouse (ACH) is an electronic payment system, developed jointly by the private sector and the Federal Reserve in the early 1970s as a more-efficient alternative to checks. Since then, the ACH has evolved into a nationwide mechanism that processes credit and debit transfers electronically. ACH credit transfers are used to make direct deposit payroll payments and corporate payments to vendors. ACH debit transfers are used by consumers to authorize the payment of insurance premiums, mortgages, loans, and other bills from their account. The ACH is also used by businesses to concentrate funds at a primary bank and to make payments to other businesses. In 2003, the Reserve Banks processed 6.5 billion ACH payments with a value of $16.8 trillion (table 7.5).

Table 7.5

Number and value of ACH transactions processed by the Reserve Banks, selected years, 1975–2003

Number in millions; value in millions of dollars

Year	Number	Value
1975	6	92,868
1980	227	286,600
1990	1,435	4,660,476
2000	4,651	14,024,445
2003	6,502	16,761,883

The use of the ACH has evolved over time. The ACH is now used to make certain payments initiated by telephone or over the Internet. In addition, merchants that receive checks at the point of sale and banks that receive bill-payment checks in the mail are increasingly converting those checks into ACH payments.

In 2001, the Reserve Banks began a cross-border ACH service. Legal and operational differences between countries have presented challenges to the rapid growth of the cross-border service; however, the Reserve Banks

are continuing to work with financial institutions and ACH operators in other nations to address these challenges.

Depository institutions transmit ACH payments to the Reserve Banks in batches, rather than individually. ACH funds transfers are generally processed within one to two days, according to designated schedules, and are delivered to receiving institutions several times a day, as they are processed. The Reserve Banks offer ACH operator services to all depository institutions. A private-sector processor also provides ACH operator services in competition with the Reserve Banks. The Reserve Banks and the private-sector operator deliver ACH payments to participants in each other's system in order to maintain a national ACH payment system.

Both the government and the commercial sectors use ACH payments. Compared with checks, ACH transfers are less costly to process and provide greater certainty of payment to the receiver. Initially, the federal government was the dominant user of the ACH and promoted its use for Social Security and payroll payments. Since the early 1980s, commercial ACH volume has grown rapidly, and in 2003 it accounted for 86 percent of total ACH volume (table 7.6).

Table 7.6

ACH volume by type, selected years 1975–2003

Number in millions

Year	Number of commercial payments	Number of government payments	Commercial payments as a percentage of total (percent)
1975	5.8	.2	97
1980	64.5	162.5	28
1990	915.3	519.5	64
2000	3,812.0	839.0	82
2003	5,588.0	914.0	86

Wholesale Services

Fedwire Funds Service

The Fedwire Funds Service provides a real-time gross settlement system in which more than 9,500 participants are able to initiate electronic funds transfers that are immediate, final, and irrevocable. Depository institutions that maintain an account with a Reserve Bank are eligible to use the service to send payments directly to, or receive payments from, other participants. Depository institutions can also use a correspondent relationship with a Fedwire participant to make or receive transfers indirectly through

the system. Participants generally use Fedwire to handle large-value, time-critical payments, such as payments to settle interbank purchases and sales of federal funds; to purchase, sell, or finance securities transactions; to disburse or repay large loans; and to settle real estate transactions. The Department of the Treasury, other federal agencies, and government-sponsored enterprises also use the Fedwire Funds Service to disburse and collect funds. In 2003, the Reserve Banks processed 123 million Fedwire payments having a total value of $436.7 trillion (table 7.7).

Table 7.7

Number and value of Fedwire funds transactions processed by the Federal Reserve, selected years, 1920–2003

Number in millions; value in millions of dollars

Year	Number	Value
1920	.5	30,857
1930	1.9	198,881
1940	.8	92,106
1950	1.0	509,168
1960	3.0	2,428,083
1970	7.0	12,332,001
1980	43.0	78,594,862
1990	62.6	199,067,200
2000	108.3	379,756,389
2003	123.0	436,706,269

Fedwire funds transfers are processed individually, rather than in batches as ACH transfers are. The Federal Reserve uses secure, sophisticated data-communications and data-processing systems to ensure that each transfer is authorized by the sender and that it is not altered while it is under the control of a Reserve Bank. Although a few depository institutions use the telephone to initiate Fedwire payments, more than 99 percent of all Fedwire funds transfers are initiated electronically. The Federal Reserve processes Fedwire funds transfers in seconds, electronically debiting the account of the sending institution and crediting the account of the receiving institution. The Federal Reserve guarantees the payment, assuming any risk that the institution sending the payment has insufficient funds in its Federal Reserve account to complete the transfer.

Fedwire Securities Service

The Fedwire Securities Service provides safekeeping, transfer, and settlement services for securities issued by the Treasury, federal agencies, gov-

ernment-sponsored enterprises, and certain international organizations. The Reserve Banks perform these services as fiscal agents for these entities. Securities are safekept in the form of electronic records of securities held in custody accounts. Securities are transferred according to instructions provided by parties with access to the system. Access to the Fedwire Securities Service is limited to depository institutions that maintain accounts with a Reserve Bank, and a few other organizations, such as federal agencies, government-sponsored enterprises, and state government treasurer's offices (which are designated by the U.S. Treasury to hold securities accounts). Other parties, specifically brokers and dealers, typically hold and transfer securities through depository institutions that are Fedwire participants and that provide specialized government securities clearing services. In 2003, the Fedwire Securities Service processed 20.4 million securities transfers with a value of $267.6 trillion (table 7.8).

Table 7.8

Number and value of book-entry securities transfers processed by the Federal Reserve, selected years, 1970–2003

Number in millions; value in millions of dollars

Year	Number	Value
1970	.3	258,200
1980	4.1	13,354,100
1990	10.9	99,861,205
2000	13.6	188,133,178
2003	20.4	267,644,194

Fedwire securities are processed individually, in much the same way that Fedwire funds transfers are processed, and participants initiate securities transfers in the same manner, using either a computer connection or the telephone. When the Federal Reserve receives a request to transfer a security, for example as a result of the sale of securities, it determines that the security is held in safekeeping for the institution requesting the transfer and withdraws the security from the institution's safekeeping account. It then electronically credits the proceeds of the sale to the account of the depository institution, deposits the book-entry security into the safekeeping account of the receiving institution, and electronically debits that institution's account for the purchase price. Most securities transfers involve the delivery of securities and the simultaneous exchange of payment, which is referred to as delivery versus payment. The transfer of securities ownership and related funds is final at the time of transfer, and the Federal Reserve guarantees payment to institutions that initiate such securities transfers.

National Settlement Service

The National Settlement Service allows participants in private-sector clearing arrangements to do multilateral funds settlements on a net basis using balances in their Federal Reserve accounts. The service provides an automated mechanism for submitting settlement information to the Reserve Banks. It improves operational efficiency and controls for this process and reduces settlement risk to participants by granting settlement finality for movements of funds on settlement day. The service also enables the Federal Reserve to manage and limit the financial risk posed by these arrangements because it incorporates risk controls that are as stringent as those used in the Fedwire Funds Service. Approximately seventy arrangements use the National Settlement Service—primarily check clearinghouse associations, but also other types of arrangements.

Fiscal Agency Services

As fiscal agents of the United States, the Reserve Banks function as the U.S. government's bank.

As fiscal agents of the United States, the Reserve Banks function as the U.S. government's bank and perform a variety of services for the Treasury, other government agencies, government-sponsored enterprises, and some international organizations. Often the fiscal agent services performed by the Reserve Banks are the same, or similar to, services that the Reserve Banks provide to the banking system. Services performed for the Treasury include maintaining the Treasury's bank account; processing payments; and issuing, safekeeping, and transferring securities. Fiscal services performed for other entities are generally securities-related. The Treasury and other entities reimburse the Reserve Banks for the expenses incurred in providing these services.

One of the unique fiscal agency functions that the Reserve Banks provide to the Treasury is a program through which the Reserve Banks invest Treasury monies until needed to fund the government's operations. The Treasury receives funds from two principal sources: tax receipts and borrowings. The funds that flow into and out of the government's account vary in amount throughout the year; for example, the account balance tends to be relatively high during the April tax season. The Treasury directs the Reserve Banks to invest funds in excess of a previously agreed-upon minimum amount in special collateralized accounts at depository institutions nationwide. The Federal Reserve monitors these balances for compliance with collateral requirements and returns the funds to the Treasury when they are needed.

This investment facility, in which excess funds are invested in accounts at depository institutions, also facilitates the implementation of monetary policy. When funds flow from depository institutions into the Treasury's

account at the Federal Reserve, the supply of Federal Reserve balances to depository institutions decreases. The reverse occurs when funds flow from the Treasury's Federal Reserve account to the Treasury's accounts at depository institutions. A stable balance in the Treasury's account at the Federal Reserve mitigates the effect of Treasury's receipts and disbursements on the supply of Federal Reserve balances to depository institutions.

The Reserve Banks make disbursements from the government's account through Fedwire funds transfers or ACH payments, or to a limited extent, by check. Fedwire disbursements are typically associated with, but not limited to, the redemption of Treasury securities. Certain recurring transactions, such as Social Security benefit payments and government employee salary payments, are processed mainly by the ACH and electronically deposited directly to the recipients' accounts at their depository institutions. Other government payments may be made using Treasury checks drawn on the government's account at the Reserve Banks. The Treasury continues to work to move the remaining government payments away from Treasury checks toward electronic payments, primarily the ACH, in an effort to improve efficiency and reduce the costs associated with government payments.

The Federal Reserve plays an important role when the Treasury needs to raise money to finance the government or to refinance maturing Treasury securities. The Reserve Banks handle weekly, monthly, and quarterly auctions of Treasury securities, accepting bids, communicating them to the Treasury, issuing the securities in book-entry form to the winning bidders, and collecting payment for the securities. Over the past several years, the auction process has become increasingly automated, which further ensures a smooth borrowing process. For example, automation has reduced to only minutes the time between the close of bidding and the announcement of the results of a Treasury securities auction.

Treasury securities are maintained in book-entry form in either the Reserve Banks' Fedwire Securities Service or the Treasury's TreasuryDirect system, which is also operated by the Reserve Banks. Even though TreasuryDirect holds less than 2 percent of all outstanding Treasury securities, it provides a convenient way for individuals to hold their securities directly, rather than with a third party such as a depository institution. Individuals purchase Treasury securities either directly from the Treasury when they are issued or on the secondary market, and they instruct their broker that the securities be delivered to their TreasuryDirect account. Once the securities are deposited there, the ACH directly deposits any interest or principal payments owed to the account holder to the account holder's account at a depository institution. A Reserve Bank, if requested, will sell securities held in TreasuryDirect for a fee on the secondary market, even though this is a service intended for individuals who hold Treasury securities to maturity.

The Federal Reserve also provides support for the Treasury's savings bonds program. Although savings bonds represent less than 5 percent of the federal debt, they are a means for individuals to invest in government securities with a small initial investment, currently $25. The Reserve Banks issue, service, and redeem tens of millions of U.S. savings bonds each year on behalf of the Treasury. As authorized by the Treasury, the Reserve Banks also qualify depository institutions and corporations to serve as issuing agents and paying agents for savings bonds.[3]

International Services

As the central bank of the United States, the Federal Reserve performs services for foreign central banks and for international organizations such as the International Monetary Fund and the International Bank for Reconstruction and Development. The Reserve Banks provide several types of services to these organizations, including maintaining non-interest-bearing deposit accounts (in U.S. dollars), securities safekeeping accounts, and accounts for safekeeping gold. Some foreign official institutions direct a portion of their daily receipts and payments in U.S. dollars through their funds accounts at the Federal Reserve. If an account contains excess funds, the foreign official institution may request that these funds be invested overnight in repurchase agreements with the Reserve Banks. If investments are needed for longer periods, the foreign official institution may provide instructions to buy securities to be held in safekeeping. Conversely, the foreign institution may provide instructions to sell securities held in safekeeping, with the proceeds deposited in its account. The Reserve Banks charge foreign official institutions for these services.

Gold vault, Federal Reserve Bank of New York

Federal Reserve Intraday Credit Policy

Each day, the Reserve Banks process a large number of payment transactions resulting from the Banks' role in providing payment services to depository institutions. Because depository institutions in the aggregate generally hold a relatively small amount of funds overnight in their Reserve Bank accounts, the Reserve Banks extend intraday credit, commonly referred to as daylight credit or daylight-overdraft credit, to facilitate the settlement of payment transactions and to ensure the smooth functioning of the U.S. payments system. To address the risk of providing this credit, the Federal Reserve has developed a policy that balances the goals of ensuring smooth functioning of the payments system and managing the Federal Reserve's direct credit risk from institutions' use of Federal Reserve intraday credit.

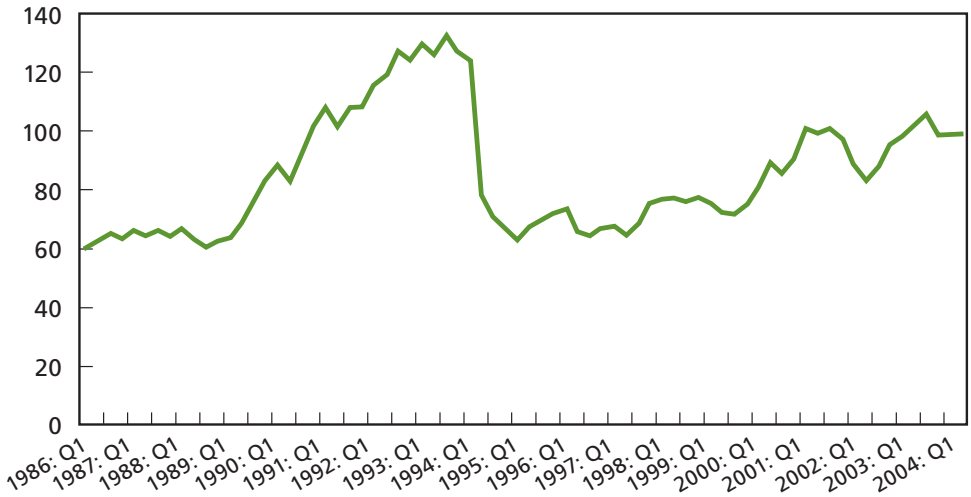
3. Savings bonds are now available in book-entry form from the Treasury, through www.TreasuryDirect.gov.

Institutions incur daylight overdrafts in their Reserve Bank accounts because of the mismatch in timing between the settlement of payments owed and the settlement of payments due. The Federal Reserve uses a schedule of rules, referred to as daylight-overdraft posting rules, to determine whether a daylight overdraft has occurred in an institution's account. The daylight-overdraft posting rules define the time of day that debits and credits for transactions processed by the Reserve Banks will be posted to an institution's account. The Federal Reserve relies on an automated system to measure an institution's intraday account activity, to monitor its compliance with the Federal Reserve's policy, and to calculate the institution's daylight-overdraft charges. The Reserve Banks' daylight-overdraft exposure can be significant. For example, in 2003 daylight overdrafts across depository institutions peaked at levels over $100 billion per day (chart 7.2).

Chart 7.2

Average peak daylight overdrafts of depository institutions, 1986:Q1–2004:Q2

Billions of dollars



NOTE: The Federal Reserve measures each depository institution's account balance at the end of each minute during the business day. An institution's peak daylight overdraft for a given day is its largest negative end-of-minute balance. The System peak daylight overdraft for a given day is determined by adding the negative account balances of all depository institutions at the end of each minute and then selecting the largest negative end-of-minute balance. The quarterly average peak is the sum of daily System peaks for a quarter divided by the number of days in that quarter.

The Federal Reserve's policy establishes various measures to control the risks associated with daylight overdrafts. Beginning in 1985, the policy set a maximum limit, or net debit cap, on depository institutions' daylight-overdraft positions. In order to adopt a net debit cap greater than zero, an institution must be in sound financial condition. Certain institutions may

be eligible to obtain additional daylight-overdraft capacity above their net debit caps by pledging collateral, subject to Reserve Bank approval. Institutions must have regular access to the Federal Reserve's discount window so that they can borrow overnight from their Reserve Bank to cover any daylight overdrafts that are not eliminated before the end of the day. Those that lack regular access to the discount window are prohibited from incurring daylight overdrafts in their Reserve Bank accounts and are subject to additional risk controls. Beginning in 1994, the Reserve Banks also began charging fees to depository institutions for their use of daylight overdrafts as an economic incentive to reduce the overdrafts, thereby reducing direct Federal Reserve credit risk and contributing to economic efficiency.

Federal Reserve policy allows Reserve Banks to apply additional risk controls to an account holder's payment activity, if necessary to limit risk. These risk controls include unilaterally reducing an account holder's net debit cap, placing real-time controls on the account holder's payment activity so that requested payments are rejected, or requiring the account holder to pledge collateral to cover its daylight overdrafts.