

FEDERAL RESERVE BANK OF NEW YORK

NEW YORK, N.Y. 10045

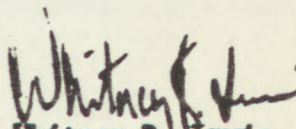
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To Cash Officers of All Depository
Institutions, and Others Concerned,
in the Second Federal Reserve District

The Federal Reserve Bank of New York's Cash Processing
Function has available the enclosed new publication, "Federal
Reserve Cash On The Move," which discusses various aspects of the
distributing, depositing, and processing of currency and coin, a
brief review of pricing, and a general history of cash in the
United States.

Single copies are available free from our Bank Services
Office (212-791-6071) or Public Information Department (212-791-6134).
Institutions in the Buffalo Branch territory may obtain copies from
the Bank Services Office of the Buffalo Branch (716-849-5085).


Whitney R. Irwin
Vice President

Federal Reserve Cash on The Move

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Part I

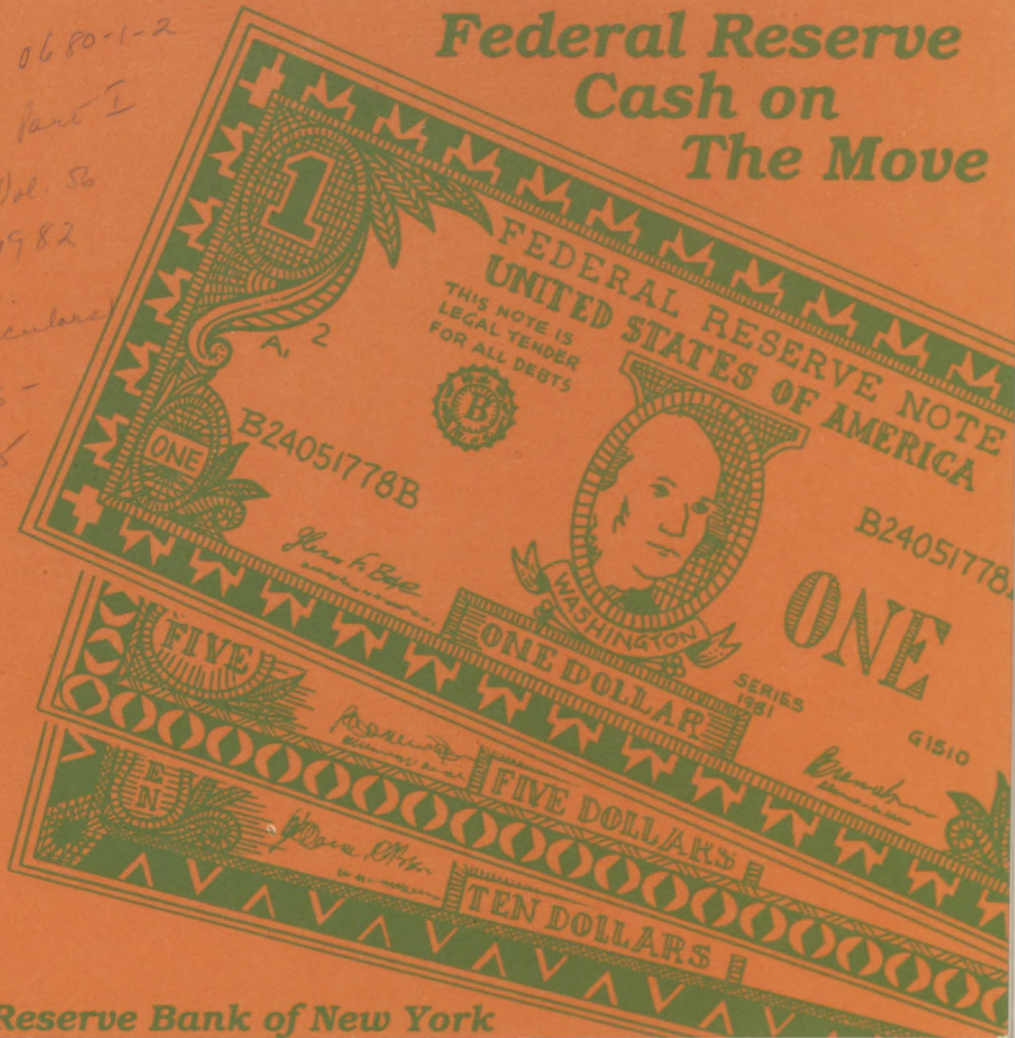
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Foreword

During the last few years the constituency of the Federal Reserve has expanded manifold. In 1978 the International Banking Act made branches and agencies of foreign banks subject to many Federal Reserve regulations, and in 1980 the Monetary Control Act brought about a new relationship between the United States central banking system and non-member commercial banks, mutual savings banks, savings and loan associations and credit unions. Part of the MCA required the Federal Reserve to make services directly available to these institutions.

This booklet was prepared primarily to provide our new potential customers, member commercial banks and the general public with a brief review of the history of U.S. paper currency and coin, Federal Reserve procedures, efforts by the central bank to improve one of its most important products—cash—and the relationship and role of the Federal Reserve and Treasury in ensuring the nation's businesses and general public have access to coin and paper currency.

Special appreciation is extended to the many Federal Reserve System employees who helped prepare this booklet, including Arthur W. Samansky and Valentina Sodano of the Federal Reserve Bank of New York who researched, designed and wrote "Federal Reserve Cash on the Move," and Jason Stern and his staff at the New York Fed, and Robert Wetz and his staff at the Philadelphia Reserve Bank, who jointly oversaw production and printing.

Whitney R. Irwin
Vice President, Cash Processing Function
Federal Reserve Bank of New York
March 1982

U. S. Cash Constantly Changing

In 1959 the Lincoln Memorial replaced the wheat design on the backs of pennies.

In 1964 the "Kennedy" half-dollar replaced the "Franklin" half-dollar.

In 1971 the silverless "Eisenhower" dollar, with the reverse side showing the Apollo spacecraft landing on the moon, was introduced. Another change was made in the coin in the bicentennial series, first struck in 1975, to include the Liberty Bell and the moon on the reverse side.

In the same year, the half-dollar was changed to show Independence Hall on the reverse, and the back of the quarter was changed to picture a colonial drummer. Two years later the original design of the eagle was returned to the quarter, and the presidential seal was returned to the half-dollar.

In 1976 the \$2 note was re-introduced.

In 1979 the small-size "Anthony" dollar was minted.

U. S. Cash Begins In 1652

These changes in paper currency and coin are all part of the evolution of the nation's currency, a process which began in 1652 when the Massachusetts Bay Colony became the first British colony to make its own. That colony also contributed to the foundation of modern-day currency, when, in 1690, it issued to soldiers returning from the unsuccessful siege of Quebec, "bills of credit" or "promissory notes."

Those paper notes were in fact, the first paper money in America, as well as the far-flung British Empire.

Eighty-five years later, the forerunner of a national currency was introduced, when the Continental Congress authorized an issue of paper money. But rapid depreciation brought about an idiom for worthlessness—"not worth a continental."

First U.S. Coins Struck In 1793

In 1792, the young U.S. government established a mint in Philadelphia and the following year struck the first official currency of the U.S.—copper cents and half-cents about the size of modern-day quarters and nickels. In 1794 silver half-dimes, half-dollars and dollars were added to circulation, followed a year later by gold \$10 "eagles" and "half-eagles." In 1796 the coinage of the nation was expanded to include quarters and dimes.

Another building block of today's currency was added when the Congress of 1861 approved the issuance of "Demand Treasury Notes," technically, the first official paper currency accepted throughout the nation. However, between 1812 and the Civil War, the U.S. government issued a small quantity of "Treasury Notes" to finance operations. But, these notes weren't intended to circulate as money, although a small amount did.

In the 65 years between the addition of quarters and dimes, and the introduction of Demand Treasury Notes, paper currency was issued by private federally chartered and state-chartered banks. But the state bank currency often wasn't acceptable at its face value outside the immediate area of the issuing bank.

It is perhaps an anomaly of U.S. currency that nearly 72 years elapsed before Congress, in May 1933, enacted legislation making all U.S. coins and paper currency legal tender for all debts "public and private."

National Currency Issued In 1861

As noted, the first U.S. paper currency dates to 1861—\$60 million with "green backs." But, between 1861 and 1865 the nation was torn by Civil War. Thus, in May 1861, the Confederacy issued \$20 million of non-interest bearing Confederate Treasury notes, payable in specie after two years. A second issue was approved by the Confederate Congress in 1861 to be redeemable six months after a peace treaty. By 1864, a total \$730 million was issued. Near the end of the war, 60 Confederate dollars were worth one U.S. gold dollar. In 1861 interest-bearing three-year Treasury Notes also were issued by the U.S. government, which although not intended to be "money," were circulated by the public.

The following year, \$150 million in U.S. Notes were issued, the first incorporating silk fibers and the first with engraved signatures of Treasury officials. Earlier notes carried handwritten signatures of Treasury employees.

U.S. Manufactured Notes in 1862

In the same year, the Treasury secretary was authorized to manufacture notes at the Treasury Department, through the Bureau of Engraving and Printing. In time, BEP has assumed responsibility to design and produce all U.S. currency. Some earlier issues were printed by private companies.

The year 1862 also brought suspension of coin payments, leading to hoarding by the public. To overcome the shortage, businesses issued tokens, tickets and other

substitutes. The year also saw the use of postage stamps which were authorized for use as money, after the fact. Printed "Postage Notes" were first released through the U.S. Army paymaster in August 1862. In all, about \$20 million was issued.

In 1863 fractional notes were authorized, as were "National Bank Notes," the latter the forerunner of modern-day Federal Reserve Notes.

Two other events affecting U.S. money took place in 1863: one- and two-year interest-bearing notes were issued and circulated; and Congress authorized the use of gold certificates as currency, although the first issue didn't occur until 1865.

By July 1870 still another "currency" had been issued: National Gold Bank Notes. Associations were established by federal law to issue gold certificates up to 80 percent of the par value of U.S. government bonds required to be deposited with the U.S. Treasury. Only a few banks issued the notes.

Two years later Congress authorized "Currency Certificates of Deposit" for use by national banks as a means of facilitating the banking business.

Silver Certificates Issued

The "Silver Certificate" then made its way onto the currency scene, with the first series 1878. The Certificates were in denominations of \$1 through \$1,000, varying over the years as large and small sizes.

By 1890 "Treasury" or "Coin Notes," in denominations of \$1 to \$1,000 (although the \$500 denomination was never issued), became redeemable in silver or gold coin.

The Gold Reserve Act of 1934 stopped redemption of currency for gold and in 1967 Congress authorized the Treasury to cease redemption in silver beginning in 1968.

The last two entrants were Federal Reserve Bank Notes, authorized in the Federal Reserve Act in 1913 and first issued as series 1915, to give the new central bank the same note circulation privilege as national banks, but without the capital stock restrictions; and "Federal Reserve Notes," first issued in November 1914.

In 1929 all paper money in use was redesigned and reduced in size. Prior to July 1929, most currency was 7.42 inches by 3.125 inches, compared to modern Federal Reserve Notes, which measure 6.14 inches by 2.61 inches, are about .0043 inches thick and weigh .03 troy ounces. By July 1929, six kinds of notes were being distributed: U.S. Notes in denominations of \$1, \$2 and \$5; silver certificates in denominations of \$1, \$5 and \$10; Federal Reserve Bank Notes in denominations of \$5, \$10, \$20, \$50 and \$100; National Bank Notes in denominations of \$5, \$10, \$20, \$50 and \$100; Federal Reserve Notes in denominations of \$5 to \$10,000; and Gold Certificates in denominations of \$10 to \$100,000, the latter used only by Federal Reserve Banks and the U.S. Treasury. Federal Reserve Notes currently make up virtually all currency in circulation in the nation.

Quality Of U.S. Currency Improving

The quality of paper currency in circulation in the United States is improving as a result of technological changes and initiatives instituted by the Federal Reserve.

And, because of increased use of computerized currency processing equipment, Reserve Banks may be able to further improve currency quality without increased cost.

System efforts to develop high-speed currency processing equipment were brought about by a decline in the fitness of currency in circulation and growing volume of currency.

By mid-1981, more than 65 high-speed currency counting and sorting machines were operational in the System, with about 110 expected to be in place by the second quarter of 1983.

As part of this program Reserve Banks have developed fitness standards based upon light reflected from notes moving through special scanners in the high-speed processing equipment. The dirtier the note, the less light is reflected.

The scale of zero, an extremely dirty note, to 30, representing a new note, is expected to be used to measure 100 percent of all notes processed in 1984, excluding those specially processed by depository institutions before deposit at Reserve Banks or branches. Many Reserve Banks and branches currently use the fitness scale.

Thus, since each note passing through the high-speed processor is electronically scrutinized, fewer marginal and unfit notes will be recirculated than under processing methods used previously.

In addition, fewer fit notes are prematurely removed from circulation and destroyed as occurs under semi-automated procedures. Thus, Reserve Banks will be able to control the growth in the size of their new note orders, and the Bureau of Engraving and Printing may be able to slow the growth of the number of notes produced. This reduction may result in significant savings.

The Currency Destruction Process

Until the introduction of high-speed cash processing equipment, which automatically shreds paper currency into 1/8th inch strips, Reserve Banks used different methods to destroy currency. About 12 Reserve Banks and branches used furnaces, often with temperatures of 1,800 degrees fahrenheit, to burn the paper, reducing it to a whitish ash similar to powder. Some sliced it lengthwise, others chopped it into a confetti-like product, or mashed it into a gooey pulp. Although some of these methods are still used to varying degrees, automatic shredding eventually will be the primary method of destruction.

Evolution Of Processing Equipment

The job of maintaining an adequate supply of fit currency has been an important objective of the Federal Reserve System, which has worked continually with private

industry to develop equipment geared specifically to achieve central bank quality specifications.

Almost from the beginning of the System, Reserve Banks used machines to help process currency. The early method essentially was a manual operation, in which an operator visually inspected each note for genuineness and fitness, while a machine kept count. Because the procedure required note-by-note handling, a typical operator could process only 30,000 to 35,000 notes a day. By mid-1981, only 15 percent of currency was sorted on the low-speed equipment.

In the mid-1970s, Reserve Banks began supplementing the existing equipment with counting machines which provided for more rapid verification, but not for more rapid determination of individual note fitness. Using that equipment, fitness is determined on a package-by-package basis, called "strap-sorting." Generally, there are 100 notes to a package. But, because some packages contain both fit and unfit notes, if the package in general is considered unfit, the entire package is destroyed. By mid-1981, about 52 percent of the currency deposited at Reserve Banks was processed on the medium-speed equipment.

Using the strap-sorting method, a typical operator could process 80,000 to 100,000 notes a day, but the fitness determination was considered a critical problem.

Thus, in the 1970s, the Reserve Banks devoted considerable attention and resources to developing high-speed equipment which would provide increased speed in counting, and sharply improve fitness determination.

The result is the current "first-generation" computerized equipment, which examines each note separately for genuineness and fitness, yet is able to process 50,000 notes an hour. By mid-1981, about 33 percent of the currency counted by Reserve Banks was processed on high-speed equipment. More sophisticated equipment is being developed and is expected to be available by the mid-1980s.

Growing Volume Of Currency

Sorting, examining and counting the paper currency of the nation also has become more difficult every year, primarily because of the growing volume.

Annually, the Reserve Banks and branches count, at least in dollar terms, volume equal to virtually the entire circulating paper currency of the nation.

For example, at yearend 1980, total Federal Reserve Notes and United States Notes, the latter issued by the Treasury, and paper currency no longer issued but circulating, amounted to about \$125 billion. Meanwhile, in 1980, the Reserve System received and counted more than \$104 billion. However, since serial numbers aren't logged, a portion of the notes examined and counted may have moved through the Federal Reserve more than once a year, while others never were received by the Reserve Banks. Some notes, for example, are sorted, examined and counted by large banks and recirculated to their branches and correspondents, or remain outside the banking system.

There's Money In Oil Wells, Literally

There is money in oil wells—literally.

That is only one of the uses of unfit paper currency destroyed by Reserve Banks.

In 1980 more than 3 billion pieces of paper currency, with a face value of about \$20 billion and weighing about 3,000 tons, were destroyed by the 12 Reserve Banks and their 25 branches. Since the mid-1960s about \$123 billion in paper currency has been destroyed.

A portion of that destroyed currency is sold by some Reserve Banks to private industry under strict Treasury rules.

Sometimes the destroyed currency is sold to contractors for use in oil well “mud.” The mud is used to fill the space previously occupied by rock and dirt in the well.

In other cases, the currency is sold to companies which burn it for use in generators. Still others have used it in roofing materials and cardboard.

Two uses to which the end product can't be put are printing paper of any kind and containers holding foods or liquids consumed by people.

The first exclusion is to guard against counterfeiting. The paper used by the BEP is produced according to a classified formula by Crane Paper Co., Dalton, Mass.

The latter prohibition is to avoid potential injury to humans, since the ink contains toxic materials. The ink is manufactured by BEP.

The current volume of paper currency counted by Reserve Banks is up sharply from the \$66 billion processed in 1975, the nearly \$46 billion processed in 1970, and the \$36 billion handled in 1965.

The growth of currency in circulation is a result of an expanding economy, as well as bouts of inflation, among other factors.

The dollar volume of paper currency and coin more than doubled to \$7.8 billion at June 30, 1940 from \$3.1 billion at June 30, 1910. During World War II, currency and coin rose more than three times, totaling nearly \$27 billion at June 30, 1945. Twenty-five years later, total currency in circulation had doubled again to more than \$54 billion at June 30, 1970. By the end of 1980, it had more than doubled again to more than \$137 billion.

However, along with the growth of the dollar volume has come an increase in the use of higher denomination notes. At yearend 1980, about \$49 billion \$100 Federal Reserve Notes were in circulation, compared with \$21.2 billion in mid-1975, \$11.2 billion in mid-1970 and \$7.6 billion in mid-1965.

Counterfeiting Increases

There also has been an increase in circulation of counterfeit bills.

The bulk of bogus notes is stopped by the U.S. Secret Service before circulation. The Secret Service, an arm of the Treasury Department, is charged with protecting the currency of the nation.

The Secret Service found and seized before circulation \$16.3 million of counterfeits in 1970, while an estimated \$2.2 million were passed to the public by counterfeiters; \$45 million of bogus notes were seized in 1975, while about \$3.6 million were passed; and \$55.3 million of phony notes were caught in fiscal 1980, while \$5.5 million were passed.

Known counterfeits also are sent to the Secret Service by depository institutions and merchants. Still others are unknowingly included in cash deposits made by depository institutions at the Federal Reserve Banks and branches. The bogus notes are sent to the Secret Service by the Federal Reserve, indicating the date of deposit at the central bank and the branch or office of the institution which made the deposit.

The identification of the institution is obtained from paper straps used to wrap currency shipped to the Federal Reserve. The account of the depository institution is charged when a bogus note is detected.

The Reserve Banks use a variety of procedures to detect counterfeit notes, from the human eye to highly sensitive scanners in the high-speed processing equipment.

How To Tell A Genuine Note From A Counterfeit

PORTRAIT

Genuine

Stands out sharply from background. Eyes appear lifelike. Background is a fine screen of regular, unbroken lines.

Counterfeit

May merge with background. Eyes, may be dull or smudgy. Background may be dark, with some irregular and broken lines. Face may seem unnaturally white.

SEAL

Genuine

Saw-tooth points around rim are even and sharp.

Counterfeit

Saw-tooth points may be uneven, blunt, or broken.

SCROLL WORK

Genuine

Fine crisscrossing lines are sharp and unbroken.

Counterfeit

Lines may be blurred and are often broken.

SERIAL NUMBERS

Genuine

Figures are firmly and evenly printed, and well spaced. On Federal Reserve Notes, prefix letter always agrees with District letter in seal.

Counterfeit

May be out of line, poorly spaced, printed too light or too dark. Prefix letter may not agree with District letter in seal.

It Takes Money To Make Money

The adage "it takes money to make money" probably has never been more true.

According to the Bureau of Engraving and Printing of the United States Treasury, the cost of making paper currency, regardless of denomination, doubled from fiscal year 1970 to fiscal year 1980, reflecting increased labor and material costs.

In fiscal 1980 BEP spent \$18.70 to manufacture 1,000 Federal Reserve Notes, compared to \$8.02 per 1,000 notes in fiscal 1970.

Most of the effort in fiscal 1980 went to \$1-notes, with 1,939,840,000 pieces produced. Second place went to \$20-notes, of which 634,880,000 were made; while third place was given to \$10-notes, of which 495,360,800 were manufactured. Five-dollar notes were fourth (427,520,000); \$100-notes fifth (100,480,000); and \$50-notes sixth (56,960,000). In fiscal 1980 no \$2-dollar notes were made. In the previous year 28,800,000 were produced. These denominations are the only notes currently produced.

Over the years several other denominations have been discontinued, while still others, such as the \$2-note, have been re-introduced from time to time as currency of the Treasury or the Federal Reserve.

In December 1945, printing of Federal Reserve Notes in denominations of \$500, \$1,000, \$5,000 and \$10,000 was discontinued, and since 1969 these notes have been

retired and destroyed as they are received by Reserve Banks. At yearend 1980 about \$356 million of these notes were still in the hands of the public. Only one larger note, the \$100,000 gold certificate, was made in the U.S. But, it was never in circulation, limited to use between Reserve Banks and the Treasury. Only a small number were made.

Certain fractional denominations ranging from three cents to 50 cents also were discontinued years ago.

Issuing Paper Currency

“New” money, as well as fit currency, moves into circulation through currency orders sent to Federal Reserve Banks by depository institutions.

The Constitution of the U.S. specifies Congress has the responsibility to coin and regulate the value of money. When the Federal Reserve Act was signed in 1913, the central bank was, in effect, given a role in that process and assigned responsibility to provide for an elastic currency, pay currency in response to public demand, and absorb unnecessary cash. The Federal Reserve also has been assigned responsibility for monetary policy—actions to influence the cost and availability of money and credit.

The Appropriations Act of 1920 further mandated Reserve Banks make an equitable and impartial distribution of available supplies of coin and paper currency to banks.

Implicit in these roles is the central bank's responsibility to distribute new and fit supplies of currency and replace unfit currency.

Depository institutions feel the public's demand for cash first. Thus, to meet the needs of the public, they turn to their regional Reserve Bank for currency when their own vaults don't have enough, when they don't have the denominations being requested, or when other sources, such as correspondent institutions, can't meet needs.

Depository institutions have accounts at the local Reserve Bank similar to accounts the public has at a depository institution. Currency ordered by a depository institution from the Reserve Bank is transported by armored car or registered mail. The depository institution's account is charged for the amount ordered.

Certain other charges also are to be applied in line with the requirement of the Monetary Control Act of 1980 for Reserve Banks to charge institutions for certain services at explicit prices.

Much of the cash at a Reserve Bank is deposited by depository institutions if they find they have more than enough currency to satisfy the needs of their customers. When they send excess currency to the Reserve Bank, the depository institution's account is credited.

A variety of special measures are taken when currency sent to institutions hasn't previously been in circulation, since the new notes are claims upon the assets of the issuing Reserve Bank and liabilities of the U.S. government.

Among various procedures, each Reserve Bank by law must transfer to its Federal Reserve Agent—a representative of the Board of Governors of the System at each Reserve Bank—collateral equal to at least 100 percent of the value of the currency being issued.

The bulk of that collateral is in the form of U.S. government securities owned by the Federal Reserve System. The remainder is comprised of gold certificates, special drawing rights or other "eligible" paper, such as bills of exchange or promissory notes. As a result of the MCA, foreign-denominated government securities acquired by the Federal Reserve through foreign exchange operations, also became eligible as collateral. In addition to the internal Federal Reserve collateral procedure, U.S. currency is "backed" by the full faith and credit in the U.S. government.

Each spring, on the basis of recommendations of the Federal Reserve Banks, printing orders are placed with the Comptroller of the Currency, a part of the U.S. Treasury.

The Comptroller passes requests to the BEP which produces the appropriate denominations with the seal of the ordering Reserve Bank. The uncirculated Reserve Notes are shipped under guard to the ordering Reserve Bank, where they are held by the cash area.

Distributing Coin

Coin also is relatively expensive to produce. For example, in fiscal 1980, pennies cost the Treasury's Bureau of the Mint \$7.85 per 1,000 to produce; nickels \$19.16; dimes \$9.55; quarters \$21.71; half-dollars \$40.41; and Anthony dollars \$30.95.

In fiscal 1980, 11.7 billion pennies were minted, 929 million nickels were struck, 1.4 billion dimes were made, 1.1 billion quarters were turned out, and 86 million half-dollars were made. In addition 199 million non-silver dollar coins were produced.

By the end of 1980, more than \$1.4 billion of non-silver dollar coins and nearly \$11 billion of all other coins were in the hands of the public.

As with paper currency, Reserve Banks count a sizable portion of coin every year. In 1980 about 17.7 billion coins valued at \$2.7 billion were verified, compared to 15.4 billion coins or \$2 billion in 1975, 13.4 billion pieces or \$1.5 billion in 1970, and about 6 billion pieces or nearly \$500 million in 1965.

Only a small amount of coin is removed from circulation, primarily "slugs". In some Reserve Districts, the metal is sold to reprocessors. The institution mistakenly depositing the slugs, is credited with the proceeds, or charged if the proceeds aren't equal to the value owed. In other Reserve Districts, slugs are confiscated and the depositing depository institution is charged. Foreign coin also is removed and sold to coin dealers in some Reserve Districts. The depositing institution is given credit or charged.

As with paper currency, various coins have been discontinued, such as the half-cent, two-cent, three-cent, 20-cent, and "half-dime".

The procedures to put coin into circulation are similar to that of paper currency.

The supply of coin is governed primarily by demand, as well as facilities available to mint coin. Currently, coins are made in West Point, Philadelphia, Denver and San Francisco, under the control of the Director of the Mint.

Like paper currency, coin is shipped to the Reserve Banks and through them to depository institutions and on to the public. But unlike paper currency, Reserve Banks buy coin at face value from the Treasury. The difference between the face value of coin

and the cost of production is called seigniorage, which is deposited by the Bureau of the Mint in the general fund of the Treasury.

In essence, Reserve Banks maintain inventories of coin at levels which permit them to fill orders from depository institutions to meet business demands. Inventory levels are based upon historical demand patterns, with additional provision for normal growth in demand.

Federal Reserve Banks arrange, in advance, for shipments of new coin from the U.S. Mint for the coming year, in amounts and on a time schedule to maintain inventories at required levels. Under this arrangement, the Mint can schedule its production of coin efficiently and, at the same time, Reserve Banks can provide coin as required to meet business demands. Large users of coin may be able to arrange direct shipments from the U.S. Mint by contacting their local Reserve Banks.

Federal Reserve Banks are required to adhere to the advance shipping schedules. Except in emergencies, there isn't any provision for obtaining additional coin.

In addition to obtaining coin from Reserve Banks, depository institutions often secure large amounts of coin from certain customers, such as transit authorities, vending companies and telephone companies, or from correspondent institutions.

When ordering patterns or customer relationships change substantially and suddenly, the Reserve Bank distribution system can become more complex and tightness or shortages of certain coins may occur.

Ordering Currency Is A Matter Of Form

In 1980, Federal Reserve Banks and branches filled orders from depository institutions for about \$124.55 billion of paper currency and \$3.5 billion of coin.

Generally, orders are filled by providing fit and new currency to make the most efficient use of existing supplies of currency in the denominations requested.

However, when requests for specific denominations exceed amounts available or limits prescribed by the local Reserve Bank or branch, different denominations than those ordered may be substituted by the central bank to meet requested dollar amounts.

Moreover, because of the high cost of handling and transporting currency, depository institutions in the same geographic area are encouraged by some Reserve Banks to exchange fit currency among themselves wherever possible. If necessary, the cash officer of the Reserve Bank or branch will assist the depository institutions in making exchange arrangements.

To expedite the shipment of currency from the central bank, depository institutions should review the appropriate operating circular or letter, and use the procedures or forms supplied by the head office or the local Reserve branch serving the institution's territory. Questions regarding the operating circular or the forms should be directed to the cash area of the Reserve Bank or branch, or discussed with the bank services representative of the Reserve Bank or branch.

In addition, depository institutions should ensure the forms are properly and completely filled out and sent to the Reserve Bank or branch so that the forms arrive several days before the requested delivery date.

The timing of shipment requests—including rules for ordering by telephone and through computer terminals—are specified in the operating circular of the local Reserve Bank or branch.

Alternative Ordering Methods

As an alternate method of ordering currency, offices of depository institutions which experience little fluctuation in currency needs, can be supplied with predetermined amounts of currency and denominations at designated times by submitting a “standard currency order authorization” form, which can be canceled from time-to-time, as specified in the operating circular of those Reserve Banks and branches offering the service.

These changes may be necessary for a variety of reasons, including seasonal factors. The public demand for currency varies by the day of the week, the week of the month and the season of the year. For example, during the winter holiday season, people prefer to hold more paper currency as they shop for gifts. Periods around the other holidays from Labor Day to Independence Day produce a similar high demand for pocket cash, although far less than near the winter holiday.

Urgent requests for currency may be made by telephone. To ensure bogus requests aren't made, and to confirm orders are accurately filled, telephone requests at many Reserve Banks and branches are recorded. As a further precaution, personnel

ordering currency must use the appropriate test word from the list of special codes provided by the local Reserve Bank or branch.

As part of the security procedures, too, depository institutions should examine each bag of currency received to ensure the bag doesn't have holes or tears, or signs of tampering. Notation of these conditions should be made on the receipt. If the bag appears to be torn, or shows signs of tampering, the contents should be verified immediately. All currency shipments received by depository institutions should be verified within three business days. Generally, institutions should inform the local Reserve Bank or branch by telephone of any differences in excess of \$50. If differences are less than \$50, the central bank should be advised by letter. At some Reserve Banks and branches, rules require currency shipments displaying signs of tampering, or containing torn bags, be returned. A variety of other procedures, specified in the operating circular or letter, should be followed carefully.

All Cash Shouldn't Be Deposited

Depository institutions shouldn't deposit with the local Federal Reserve Bank or branch fit currency, unless it is in denominations which aren't generally used at that bank, or it constitutes significant excess. The costs of handling and transporting currency are high.

However, when a depository institution, provided with armored carrier service by the local Reserve Bank or branch, chooses to deposit excess or unfit currency, it should seek to coordinate the shipments with the regular armored carrier schedule.

Currency shipped to the local Federal Reserve Bank or branch by any other means shouldn't indicate the contents of the box or bag.

In addition, the appropriate forms and tags, indicating the name and address of the sending bank, should be included in the shipment. Further, shipments shouldn't contain more than the maximum amount of currency specified in the operating circular or letter of the local Reserve Bank or branch.

Special attention should be given to the preparation of the currency being deposited, regardless of the shipment method.

Specifically, fit and unfit paper currency generally should be wrapped and marked as "fit" or "unfit" and should be piece-counted and arranged face and top up in packages as specified by rules of the local Reserve Bank or branch. Under no circumstances should denominations be mixed in the same package, nor should fit and unfit currency be packaged or bundled together.

Likewise, bundles of paper currency, generally 10 packages, should never contain mixed denominations, and should consist of the number of packages specified in the operating circular or letter of the local Reserve Bank or branch.

Paper currency which can't be arranged in packages or bundles of the specified number of notes shouldn't be sent to the central bank, but held until the correct amount can be accumulated.

Further, each package of paper currency should be bound with a single paper strap, which should comply with the American Bankers Association's color standards. Information concerning color-codes can be obtained from cash officers at the local Reserve Bank or branch. Each strap also should contain the name or initials of the person who prepared the package, the name of the depositing bank, the name and address of the office at which the package was prepared, and the date the strap was prepared.

In addition, each bundle should be secured with a heavy duty rubber band, or machine tied. Under no circumstances should bundles or packages be secured with pins, clips, small rubber bands, or straps of another bank. A variety of other procedures are specified in the operating circular or letter of the local Reserve Bank facility.

Special Handling

Further, certain currency requires special handling.

Currency no longer issued, such as gold certificates, "Federal Reserve Bank" Notes (currently issued notes are "Federal Reserve" Notes), National Bank Notes and

large-size notes should be segregated from other currency and should be placed in packages as specified by the local Reserve Bank or branch.

Notes which are torn, patched or perforated, should be mended, if possible, with transparent tape on the back—never on the face—to preserve the design or size of the bill. Pins, clips or other metallic materials shouldn't be used since they may cause injury to currency handlers or damage machinery.

Questionable Currency

Fragments of notes, which are clearly less than half the original size, or currency in such poor condition that its value is questionable, should be sent directly to the U. S. Treasury, Bureau of Government Financial Operations, Room 132, Annex Number One, "DCS-BEPA," Washington, D.C. 20226. Rules regarding reimbursement for the fragments are specified by the Treasury.

Notes known to be counterfeit should be marked counterfeit and sent directly to the nearest office of the U. S. Secret Service in accordance with rules specified by the local Reserve Bank or branch. Suspected counterfeit notes should be segregated from all other currency shipments to the central bank.

Finally, except as provided in the operating circular or letter of the local Reserve Bank facility, foreign paper currency shouldn't be shipped to the local Reserve Bank or branch.

Coin Deposits And Shipments

Coin deposited at the Federal Reserve should be verified through weighing or

piece counting before shipment. All coin should be bagged in bulk, without wrappers, and segregated by denomination. Specifically, when deposits are made by means other than insured fourth-class mail, bags of pennies should contain \$50; nickels \$200; dimes, quarters, half-dollars and large dollars \$1,000; and Anthony dollars \$2,000. When coins are shipped by insured fourth-class mail, bags of large dollar coins, half-dollars, quarters, and dimes should contain \$500; pennies \$50; nickels \$200; and Anthony dollars \$2,000.

Each bag should be secured with a crimped seal, heavy duty stitching, or other similar secure method. If a crimped seal is used, the seal should indicate the name of the institution.

Coins which are considered to be worn, but which clearly show denomination and are considered genuine, should be returned to the Federal Reserve Bank or branch in a separate bag marked "worn coin." The coins should be separated by denomination. Coins which are bent, partial or fused should be sent to the U.S. Assay Office, 32 Old Slip Street, New York, N.Y. 10005. Treasury rules regarding the means of sending the coin to the Assay Office are available from the local Reserve Bank or branch cash officer.

With certain exceptions, foreign coins shouldn't be sent to Reserve Banks or branches. The exceptions are shown in the operating circular or letter of the local Reserve Bank.

Cash Transportation Is Priced

In mid-January 1982, Federal Reserve Banks and branches, as required by the Monetary Control Act, began charging depository institutions for transportation of cash. The pricing proposal was published in November 1981, and will be in effect in 1982. Details of the pricing schedule and service rules are shown in the operating circulars or letters of each Reserve Bank. Regardless of prices set in 1982, the central bank intends to annually review charges.

However, in general, charges are not levied if an institution delivers cash directly to the local Reserve Bank or branch, or picks up cash directly from the Reserve Bank facility. Charges are not applied for verifying paper currency and coin; and canceling and destroying currency.

These operations are considered government services. Indeed, before Reserve Banks were established, nine subtreasuries across the nation met paper currency and coin needs of institutions in the U.S. From 1914 to 1923, the Federal Reserve System and the subtreasuries shared the responsibility.

Equality Of Charges

In establishing price guidelines for shipments by carrier, the Federal Reserve focused on ensuring equality of charges to avoid penalizing an institution because of its remote location from the district Reserve Bank or its branches.

Cash transportation service fees also reflect System costs, based upon existing armored carrier contracts—which include labor and fuel costs—and established usage patterns. In addition, the fee schedule and the level of service to be provided will be administered to respond to changing market conditions and demands for service.

The fee schedules apply a mark-up of 16 percent, as a private sector adjustment factor, only to the System's administrative costs in providing coin and currency transportation services. But an upward adjustment is not made to other costs, such as armored carrier contracts.

Coin Wrapping Charges

Reserve Banks and branches also will continue to charge fees for coin wrapping service. Currently, only two Reserve Banks offer the service—Boston and Cleveland. Details of the wrapping service are explained in the operating circular or letter of the two Reserve Banks. Commercial coin wrapping services are normally available in most Reserve Bank cities. Depository institutions are responsible for making necessary arrangements.

Petty Cash

- * The "Mint Act" of April 1792 specified the money of the U.S. be expressed in dollars, and parts be expressed as "dismes" or tenths, cents or hundredths, and milles or thousandths.
- * The word "dollar" is derived from a large silver coin, the "Joachimsthaler," which was minted about 1518 in the Bohemian valley (thal) of St. Joachim. The word was modified in various nations, including England, where it was called "dollar." The word "dollar" also appears at least twice in Shakespeare's plays: "Macbeth," and "The Tempest."
- * The origin of the dollar sign —\$— probably stems from the practice of writing the letter "s" in pesos or piastres over the letter "p."
- * The Constitution of the U.S, Article I, section 8 specifies the Congress shall have the power "to coin money (and) regulate the value thereof...." The Federal Reserve Act granted authority to the Federal Reserve to issue currency, which "shall be obligations of the U.S....." Public Law 89-91, the Coinage Act of July 1965, declared "all coins and currencies of the U.S. (including Federal Reserve Notes...) shall be legal tender for all debts, public and private, public charges, taxes, duties, and dues." The Act supplemented a similar provision in effect since 1933.
- * The original Federal Reserve Act, passed in 1913, required the Federal Reserve Banks to hold a gold reserve of at least 40 percent against Federal Reserve Notes in circulation and 35 percent against deposits. One of the reasons for the requirement

was to ensure the interconvertibility of gold coin, notes and deposits. The original gold reserve requirement remained in effect until June 12, 1945, when Congress reduced the requirement to a minimum of 25 percent against both Federal Reserve Note and deposit liabilities. The 25 percent requirement against deposit liabilities was eliminated March 3, 1965. The 25 percent requirement against Federal Reserve Notes remained in effect until March 19, 1968. The 1968 amendment to the Act suspending the gold reserve requirement on Notes also suspended certain tax penalties upon the Reserve Banks.

- * Spanish eight-reales pieces (pieces of eight) were used in the U.S. following development of trade with the West Indies. The coins remained in circulation, with official sanction, until 1857. To make change, the coins were often cut into pieces; one half was called "four bits," and a quarter "two bits."
- * The motto "E Pluribus Unum" (Out of Many, One) first appeared on the 1795 half-eagle. It also has been on the Great Seal of the U.S. on \$1 notes since series 1935. The Great Seal incorporates a variety of symbols, many with the number 13 (13 stars, 13 stripes, 13 leaves and 13 berries in the olive branch, and 13 arrows). The 13 arrows represent the fight of the colonies for liberty. The Latin motto also contains 13 letters.
- * The Great Seal also contains the Roman numerals MDCCLXXVI (1776) and two Latin phrases: "Annuit Coeptis" (He Has Favored Our Undertakings); and Novus Ordo Seclorum" (A New Order Of The Ages.)
- * "In God We Trust" first appeared on a two-cent bronze coin minted toward the end of the Civil War. The inscription has been on the one-cent piece since 1909, the dime

since 1916 and the nickel since 1938. The motto also appeared on the nickel from 1866 to 1883. The \$1 silver certificate put into circulation in late 1957 was the first paper currency in the U.S. to bear the inscription. Currently it is incorporated in all denominations.

- * The Treasury seal appears on all paper currency. Until 1968 it was encircled by the Latin phrase "Thesaur. Amer. Septent. Sigil.," the abbreviation of "Thesauri Americae Septentrionalis Sigillum," or The Seal of the Treasury of North America. A new seal, approved in January 1968, inscribed "The Department of the Treasury" and the year 1789, the founding of the department.
- * The color of the Treasury seal varies by the kind of currency: blue for silver certificates, red for U.S. Notes, yellow for gold certificates, green for Federal Reserve Notes, and brown for Federal Reserve Bank Notes and National Bank Notes.
- * All Federal Reserve Notes show a seal indicating the Reserve Bank of which it is a liability. The letter in the center matches the Reserve District number (Boston, first district, "A," San Francisco, twelfth district, "L"). Until about the end of the 1970s a Reserve Bank only issued the currency bearing its seal. In recent years, notes are sometimes transferred between Reserve Banks and issued in the other district. Bookkeeping entries are made between the Reserve Banks to account for the transfers.
- * Paper currency also contains the signature of the Treasurer of the U.S. and the Secretary of the Treasury. Federal Reserve Notes are obligations of the U.S. and are the first liens on all assets of the issuing Federal Reserve Bank. Further, custom and

law has required Federal Reserve Notes, as well as earlier currency, to be in "form and tenor as directed by the Secretary" of the Treasury. As early as 1861, the law, referring to Treasury Demand Notes, specified they must be "countersigned by such other officer or officers of the Treasury as the Secretary...may designate...."

- * Until early 1862, notes were signed by Treasury employees with their own names following the phrase "for the Register" and "for the Treasurer." Engraved signatures of Treasury officials were used thereafter.
- * Other Federal Reserve System materials focusing on U.S. money include: "Coins and Currency" (Federal Reserve Bank of New York); "Counterfeit" (Federal Reserve Bank of Atlanta); "Fedpoints 1: How Money Gets Into Circulation" (Federal Reserve Bank of New York); "Counterfeit Points" (Federal Reserve Bank of Boston); "Fedpoints 11: Currency Destruction" (Federal Reserve Bank of New York); "Fundamental Facts About United States Money" (Federal Reserve Bank of Atlanta); "The Story of Money" (Federal Reserve Bank of New York); and "U.S. Currency" (Board of Governors). Single copies of the publications are available free from the publishing institution.