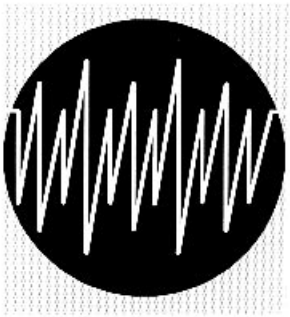
The Mechanisms of Wire Transfer 2

In order to understand both the dynamics of international money laundering and some of the technological fixes that have been proposed for its control, it is necessary to understand the mechanisms that have developed for large-volume transfers of funds.

MOVING MONEY: BOOK TRANSFERS AND ELECTRONIC TRANSFERS

The simplest funds transfers involve two accounts in the same bank. Here, money is moved from one account to another through "book transfers," or accounting changes by which funds are simultaneously debited from one account and credited to another. Each account may be either a customer account or the bank's own account.

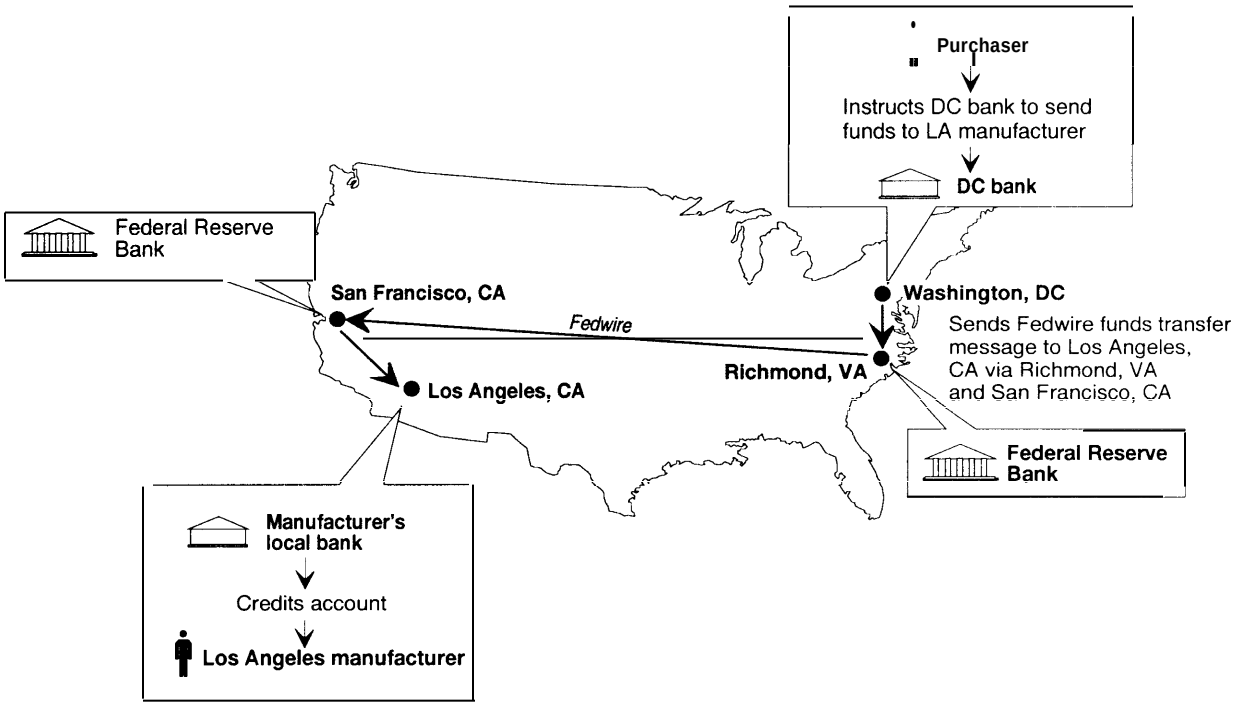
If the accounts at either end of a transaction are in different banks, a book transfer may still be accomplished directly if the two banks have a correspondent relationship. One bank maintains a "correspondent account" at the other bank for the purpose of settling transactions for itself or for its customers.[1] For example, Bank 1 will debit Customer A's account and credit its own account, and then send a verbal or electronic instruction (a payment order) to its correspondent bank, Bank 2. The payment order tells Bank 2 to debit the correspondent account of Bank 1 and pay the money to, or into the account of, Bank 2's customer B, the designated recipient.



If the two participants in a transaction use banks that do not have a correspondent relationship, the transfer will go through

[1] Correspondent relationships are usually, but not always, two-way relationships.

FIGURE 2-1: A Fedwire Transfer From Washington, DC to Los Angeles



SOURCE: Adapted from U S. Department of Treasury, Financial Crimes Enforcement Network, *Key Electronic Funds Transfer Systems Fedwire, CHIPS, SWIFT* Report OSA *92 CBO012* (Vienna, VA September 1992)

CHIPS or Fedwire from Bank 1 to the Federal Reserve Bank (FRB) in its District, which will move the funds from the account of Bank 1 into the account of Bank 2. If the two banks are not in the same Federal Reserve District, there is a further step in which the funds move by Fedwire from the Federal Reserve Bank in the sender's District to that in the receiver's district, and then to the bank representing the beneficiary. There are at least three legs to this transfer—sender to FRB to FRB to receiver (see figure 2-1).

USES AND USERS OF WIRE TRANSFERS

Customers wishing to send money swiftly to another city or country may so instruct their banks in person or by telephone, fax, or telex. However, private (individual) wire transfer users are relatively few in number and account for only a small portion of wire transfers by number or by dollar volume. Most wire transfer users are large corporations sending large-dollar transfers. These corporate customers often have online access to the bank's wire transfer services, using software provided by the bank[2] (see box 2-1).

Legitimate businesses use wire transfers when sending very large sums or when the timeliness and certainty (irrevocability) of payments are of paramount importance-especially in foreign exchange transactions and securities trading. For routine payment for goods and services, they are

[2]In banks with large cash **management** departments, over 70 percent of wire transfers may be initiated through an automated link between the customer's microcomputer or mainframe and that in the bank's wire room. Philip C. Alwesh, "Addressing Risk in the Large-Dollar Payments System," *The Bankers Magazine,* July-August 1990, p. 16.

BOX 2-1: The Legal Structure for Wire Transfers

Until 1991, there was no federal body of commercial law specifically governing wire transfers. The Federal Reserve Board's Regulation J established rules among Fedwire participants, and Fedwire and CHIPS were, and are, governed by state commercial law. The wire transfer systems differed in some regards about liabilities for failed transfers or requirements that wire transfer records be maintained by banks. Further safeguards were provided by contracts between banks.

Article 4A of the U.S. Uniform Commercial Code now provides the legal structure for wire transfers. It is a model law proposed for adoption by the states; it sets rules for, among other things, resolving disputes over responsibility for unauthorized or erroneous transfers and the effect of payment by wire transfer on other contractual obligations. [1] It was approved by the National Conference of Commissioners on Uniform State Laws in August, 1989, and subsequently by the American Law Institute in 1991.2 By the end of 1993, it had been adopted by 32 states, but it has still not been passed in all states. The Federal Reserve Board amended Regulation J to incorporate Article 4A and thus govern all Fedwire transfers, even in those states that have not adopted the model code.

While Article 4A was being developed in the United States, the United Nations Commission on International Trade Law (UNCITRAL) also drafted a model law to govern wire transfers. The two model laws were developed independently and with little reference to each other, but the drafting committees shared some members. The model laws are generally compatible, although the UNCITRAL law is much less specific.[3]

[1] Sarah Jane Hughes, "Policing Money Laundering Through Funds Transfers: A Critique of Regulation Under the Bank Secrecy Act," *Indiana Law Journal* 67, no. 2, Winter 1992.

[2] Carl Felsenfeld, "The Compatibility of the UNCITRAL Model Law on International Credit Transfer with Article 4A of the Uniform Commercial Code," *Commercial Law Annual* 1993. See also, Felsenfeld, "Strange Bedfellows for Electronic Funds Transfers: Proposed Article 4A of the Uniform Commercial Code and the UNCITRAL Model Law," *Alabama Law Review* 42, no, 2, Winter 1991.

[3] Felsenfeld, op. cit., footnote 2, 1993, Felsenfeld participated in drafting both model laws.

SOURCE: Office of Technology Assessment, 1995.

more likely to use checks or automated clearing house (ACH) payments.[3] Illegitimate businesses—including shell companies or front companies set up for money laundering—also seek the speed and irrevocability of funds transfers, in order to get their money beyond the grasp of law enforcement asset seizure. A critical task in any anti-money-laundering surveillance system would be to distinguish the spurious corporate wire senders from the legitimate businesses that overwhelmingly outnumber them.

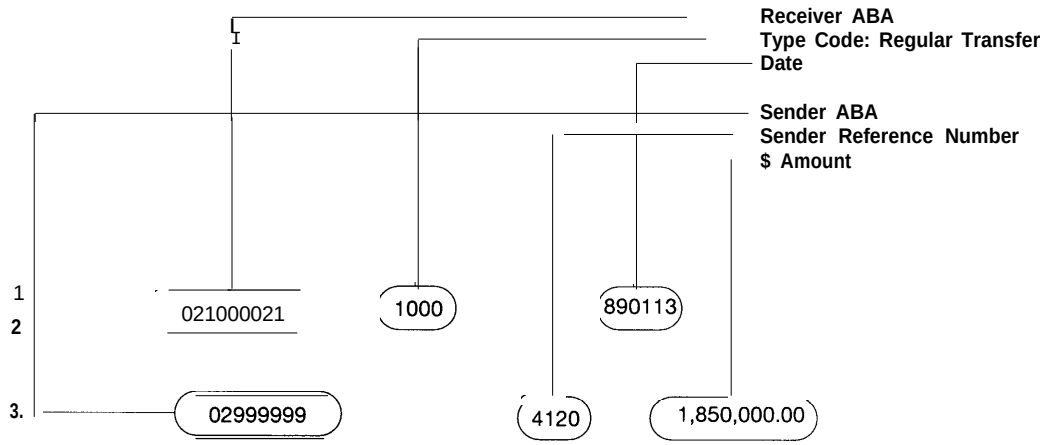
Banks in the United States engage in very active bank-to-bank transfer, including Federal Reserve funds movements, securities transfers, repurchase agreements, etc. The number of banks and the volume of bank-to-bank transfers are both much higher than in other countries.

U.S. banks chiefly use two wire transfer systems to carry out the exchanges with other banks. These are Fedwire, operated by the Federal Reserve Banks, and CHIPS (Clearing House for Interbank Payments System), operated by the New

[3] Scott E. Knudson, Jack K. Walton II, and Florence M. Young, "Business-to-Business Payments and the Role of Financial Electronic Data Interchange," *Federal Reserve Bulletin,* April 1994, pp. 269-278.

FIGURE 2-2: Sample Fedwire Transfers Sent and Received

Sample Fedwire Transfer Received by a Bank

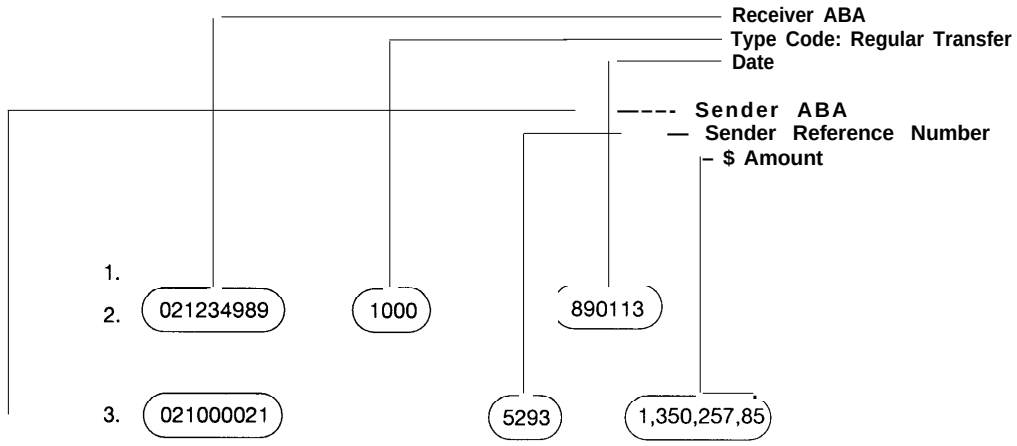


Sender *4.* **Hometown BUF/ ORG-Samuel S. Simpson, Sr.**

Receiver **5. Chase NYC/CTR/ BBK -University Bank BNE -Sanuel S. Simpson, Jr/K-9001 11**

6. / PHN /232-333-5555 w-spending money

Sample Fedwire Transfer Sent by a Bank



SENDER *4.* **Chase NYC/ ORG-For-tune 500 Corporation**

RECEIVER 5. Anybank NYC/CTR/ BNF -Metropolitan Office Supplies/ AC-9899-12/PHN

6.W-INV155XA ~-Payment of Merchandise

SOURCE: Financial Crimes Enforcement Network, "Key Electronic Funds Transfer System, Fedwire, CHIPS, SWIFT," September 1992, pp. 16-17

York Clearing House, an association of money center banks.[4] Approximately 11,700 banks have access to Fedwire; 115 large banks have direct access to CHIPS, some of which also act as intermediaries for middle-size and smaller banks.[5] Approximately 150 U.S. banks and 300 U.S. based subsidiaries of foreign banks are users of SWIFT (Society for Worldwide Interbank Financial Telecommunication), an international messaging system that carries instructions for wire transfers between pairs of correspondent banks.

MONEY CENTER BANKS: GATEWAYS TO WIRE TRANSFER

About 15 or 20 banks in the United States are categorized as "money center" or world-class banks, and operate globally. Most international wire transfers moving to and from the United States pass through one of New York City's large money center banks in order to access CHIPS—these include Citibank, Chase Manhattan Bank N. A., Chemical Bank, Bank of New York, Marine Midland, Bankers Trust, Morgan Guaranty Trust, and the U.S. Trust Company. On an average business day, about 80,000 transactions (totaling nearly $500 billion) pass through the wire room at Citibank. Approximately 65,000 transactions (totaling about $400 billion) are processed through Chase Manhattan's money transfer operation. Most of the senders are other banks or nonbank financial institutions; very few are individuals.[6]

At Citibank, the funds transfer messages can arrive by telephone or telex, but for the most part they arrive over Citibank's private network of leased lines, connecting microprocessors in the offices of about a thousand customers. Citibank's "relationship managers" determine which customers have access to this network. About 70 percent of the arriving messages are directly shunted by Citibank's computers to another participating bank, directly or via CHIPS or Fedwire. The other 30 percent, however, must be "repaired"; that is, an operator must look at the message, correct the format, insert a routing address (a number for the next bank in the sequence), or make other changes before the computers can complete the transaction.[7]

Typical wire transfer messages are shown in figure 2-2 and figure 2-3. The information contained on a wire transfer message is generally limited to some or all of these items:

- the amount of the transfer,
- the date of the transfer,
- the name of the sender or "originator,"
- the routing number of the originating bank,
- the identity of the designated "beneficiary" or receiver of the funds, and
- the routing number of the recipient bank

Because one transfer may pass through several banks before reaching the beneficiary's bank, the separate payment orders necessary to the particu-

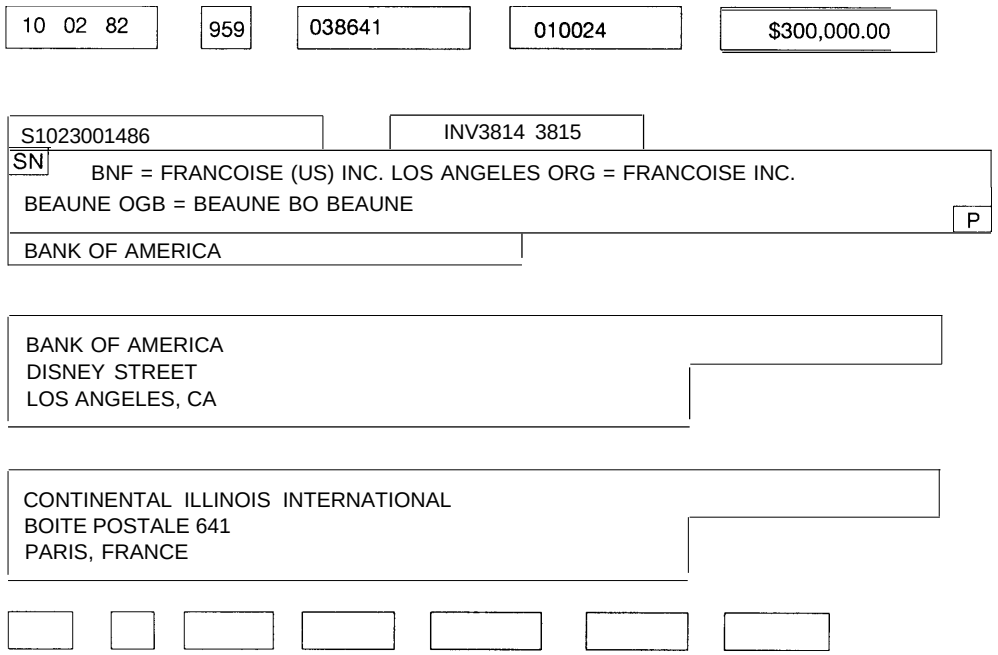
[4] In addition to FedWire, CHIPS, and SWIFT, there are four automated clearing house (ACH) networks that electronically facilitate the transfer of funds among domestic banks by sending instructions between correspondent banks to make book transfers. However, an automated clearing house is a batch processing message system, and is not considered a wire transfer system. (Federal Reserve System Regulation CC, 12 C.F.R. 229.2.) The ACHs are generally used for relatively small payments. Orders for payments through ACHs are usually bulk orders made several days in advance, for example an entire pay roll or a very large schedule of mortgage debits. Some corporate money management or "cash concentration" services use recipient-ordered debit transfers. Such arrangements could be utilized by money launderers masked by a front corporation, and there have been a few such cases. But because ACH payments are usually small, recurring, and submitted in bulk by well-established users, they are not an inviting mechanism for money launderers.

[5] There are, in the United States, more than 11, 700 commercial banks, but 15 percent of these banks hold three-quarters of all bank assets. The other 84 percent of US banks are "community banks," locally owned and operated, which have assets of a mean size of $42 million as compared with an average of $1.3 billion for the larger banks. (Information provided by the Independent Bankers Association of America.)

6 An individual wishing to wire funds wouId ordinarily be accommodated at a Citibank branch bank, so that this transfer would appear, in the Citibank wire room, as a bank-to-bank transfer.

[7] This adds a few extra cents to the cost to the client company but maybe cheaper than maintaining a larger or more expert staff within the company.

FIGURE 2-3: Hypothetical CHIPS Messages



SOURCE: Financial Crimes Enforcement Network, "Key Electronic Funds Transfer System, Fedwire, CHIPS, SWIFT, " September 1992, p 22

lar bank-to-bank transfer will contain different information. Often, as the payment order is reformatted for the next phase of the transfer, the bank will omit identification for earlier participants, such as the sender or intermediate banks. In the United States, the originator's account number has generally been dropped from subsequent payment orders to keep this information confidential. Some foreign banks, if requested, will omit the name of the originator and merely state "payable for our good customer."

Under new regulations made final in January 1995 and due to take effect in January 1996, identification of the originator and beneficiary is required and must travel with the message throughout the transfer.[8] Experts fear that foreign banks, which will not be bound by these regulations, will not include the identity of the originator because of bank secrecy laws in their country. They may be even more likely to use a generic, fictitious, or unidentifiable name for the originator, fearing broadened law enforcement access to the newly improved records.

Two other fields are sometimes filled in: bank-to-bank information and reference for beneficiary. These may carry potentially useful information for law enforcement, but they are generally in narrative, unstandardized format and therefore are not readily searchable.

RETRIEVABILITY OF WIRE TRANSFER RECORDS

Most large banks have computer programs that can retrieve a specific wire transfer record, primarily as a service to their customers. New technology is making this easier and cheaper. For example, Chase Manhattan is now storing wire transfer records for two years on computer-searchable optical disks. Until recently, at Chase and at many

[8]60 Fed. Reg. 220 (Jan. 3, 1995), to be codified at 31 C.F.R. 103.

TABLE 2-1: NonCash Payments In the United States (

Payment type	Volume of transactions (million)	% total volume of transactions	Value (trillions of $)	% total dollar value
Checks	61,500.0	96.3	$40.4	7.2
Fedwire	73.6	0.1	216.2	38.6
CHIPS	45.6	0.1	295.4	52.7
ACH	2,216.0	3.5	8.8	1.6
Total	63,835.2	100	560.8	100

NOTE For a variety of reasons, comparable data on SWIFT messages are not available. In 1994, there were 13,874,472 MT100s sent out of the United States At least that number were sent into the United States. A roughly comparable number of MT200s were sent in and out of the United States in 1994 The dollar volume represented by those messages is not available. Douglas Jeffrey, SWIFT, personal communication, May 22, 1995.
SOURCE" Off Ice of Technology Assessment, 1995

other banks, records were stored only on microfiche; these are difficult to retrieve except by the account number. Many middle-sized banks cannot electronically retrieve wire data more than a month old, and some small banks would have to search manually. However, their international money transfers normally go through one of the large money center banks.

Many large banks have now enhanced their recordkeeping systems in order to assure themselves and regulators that they are in full compliance with Bank Secrecy Act (BSA) regulations. Some have systems that monitor the wire transfer activity of certain accounts and generate periodic reports highlighting the consolidation of incoming wires followed by an outgoing wire transfer. These reports alert the bank's compliance department to review the activity against the bank's knowledge of the customer.

Most of these systems are designed to monitor customer accounts and do not take note of funds transfer services for nondepositors, or for which the bank only serves as an intermediary. At least one large bank, however, has a monitoring system designed to identify funds transfers sent by or to non-customers, or containing the instruction to "pay upon proper i.d.," when two or more transfers like this are sent or received within six months.[9]

ELECTRONIC FUNDS TRANSFER SYSTEMS: DIGITAL PIPELINE FOR MONEY

Domestic and international funds transfers generally move through wire transfer systems. While Fedwire and CHIPS transfers together account for only about 0.1 percent of all payments in the United States, they carry more than 91 percent of all payments by dollar value (see table 2-l).

Wire transfers, like book transfers, become effective at the point when two accounts are respectively debited and credited. Transfers made over Fedwire are irrevocable and immediately effective, because the Federal Reserve Bank (FRB) guarantees the payment to the receiving bank as soon as the transfer message is sent. CHIPS payment messages are also irrevocable, but they are not finally settled until the end of the business day. At that time, payments and receipts for each CHIPS member bank are reconciled or netted. Should a participant be unable to settle at the end of day, its transactions for that day would all be "unwound" or undone, but in practice this unwinding is not allowed to happen. Banks whose payments have exceeded their receipts immediately send (by Fedwire) funds to cover their overdraft, from their account at the New York FRB to a CHIPS settlement account. CHIPS then sends

[9] Howard Cohen, "Dealing With Dirty $$$," *Bank Systems and Technology,* March 1990, p. 42.

TABLE 2-2: Fedwire Funds Transfer Volume

	Transfers originated		Annual growth rate	
Year	Volume (millions)	Value ($ trillion)	Volume (%)	Dollars (%)
1980	26.2	**47.9**	--	
1981	32.9	**57.3**	25.6%	29.1 %
1982	35.4	**74.0**	7.6	18,6
1983	38.0	**87.8**	7.3	18,6
1984	41,6	**98.0**	9.5	11.6
1985	45.1	**109.1**	8,4	11.3
1986	49.8	**125.0**	10,4	14,6
1687	53.3	**142.3**	7.0	13,8
1988	56.3	**160.7**	5.6	12.9
1989	59.9	**182.6**	6.4	13,6
1990	62.6	**199.1**	4.5	9.0
1991	65.0	**192.3**	3.8	-3.4
1992	69.8	**199.2**	7,4	3.6
1993	71,2	**207.6**	2.0	4,2
1994	73.6	**211,2**	3.4	1.7

SOURCE: Federal Reserve Board of Governors

funds from its settlement account to those banks that ended the day with their receipts exceeding their payments. Records of all transactions are then sent to the participant banks on microfiche.

Another means of setting in motion international payments is SWIF. SWIFT is sometimes not considered an electronic funds transfer system as are Fedwire and CHIPS, but a specialized international cooperative communications service. About 150 U.S. banks and 300 U.S. subsidiaries of foreign banks participate in SWIFT, sending and receiving instructions about transfers to and from their correspondent banks around the world. Unlike CHIPS and Fedwire, SWIFT does not provide a mechanism for clearing and settling transactions. However, SWIFT messages are accepted as authoritative, and SWIFT meets the definition of a funds transfer system of the U.S. Commercial Code.[10] It will be treated here as a wire transfer system.

Fedwire, CHIPS, and SWIFT keep records of wire transfers, although there are differences in the way their records are stored and maintained.

Fedwire

Fedwire, operated by the Federal Reserve System, began operations in 1918, originally using Morse code to send messages over leased telegraph lines. It now connects the 12 FRBs and 11,700 depository institutions within the United States. An average of over 293,000 transactions are carried over Fedwire daily, transferring a daily average of over $841.4 billion. The average amount of funds moved by one Fedwire transfer is nearly $3 million, and the cost of one transfer is about 50 cents (see tables 2-2 and 2-3).

More than half of the dollar volume in Fedwire transfers originates with the Federal Reserve Bank of New York on behalf of banks in its dis-

[10] U.C.C. Sec. NA- 105.

TABLE 2-3: 1994 Fedwire Funds Transfer Volume Statistics

	Volume of transactions	Dollar value ($M)
Boston	4,539,997	$110,155,393
New York	25,911,720	124,045,888
Philadelphia	3,622,300	6,815,659
Cleveland	3,477,541	9,660,640
Richmond	3,525,621	6,508,227
Atlanta	4,814,030	6,502,163
Chicago	8,142,844	17,201,781
St. Louis	1,871,597	2,519,741
Minneapolis	1,783,930	2,769,423
Kansas City	3,330,098	5,261,331
Dallas	3,772,125	5,103,037
San Francisco	8,819,132	14,658,257
Total	73,610,935	211,201,540

SOURCE Federal Reserve Board of Governors

trict, because New York is the nation's financial center. Little is known about the relative importance of various Fedwire transfers, or who sends them.[11]

Fedwire transfers involve U.S. domestic transactions. However, the U.S. office of a foreign bank may be connected to Fedwire; money transferred to it may then be internally credited to the home country bank and hence to a customer account in that country. There are other ways of using Fedwire to effect a transaction that begins or ends outside of this country.

Over 99 percent of all transfers processed by Fedwire are entered by depository institutions "on line." The Federal Reserve monitors only the transfers of institutions in poor financial conditions to assure that they do not transfer more than they have in their accounts or their allowed daylight overdraft; and for most of these institutions, even this is done on an "ex post" basis only, not in real time. Most of the transfers are therefore not seen by anyone.

Fedwire processing was decentralized, occurring at each of the 12 regional FRBs until 1994, when processing for several FRBs was merged, resulting in a total of three processing sites. By the end of 1995, wire transfer records processing for eleven of the banks will be consolidated at a single site. It will then become possible to search at one time for records created (in 1995 or later) in any of the 11 banks. Eventually, processing for the Federal Reserve Bank of New York, which has by far the largest volume of traffic, will be merged with the rest.

Each of the FRBs has the capability of computerized scanning and retrieval of wire transfer records while they are online, for the first 180 days after they are created. Thereafter, they are maintained on microfiche (referred to as "the journal"), and manual searching is necessary) .12 The FRB

[11] One study showed that on one specific day, 38 percent were sent for purchase or redemption of securities, and another 20 percent were federal funds. The origins of the securities-related transfers were highly concentrated, in brokerage houses and a few large investors. ("A Study of Large-Dollar Payment Flows Through CHIPS and Fedwire," Federal Reserve Bank of New York, December 1987). Fedwire system managers disclaim any further knowledge.

[12] For a description of search procedures, see a Dept. of Justice Memorandum from Assistant Attorney General Jo Ann Harris, criminal Division, to all U.S. Attorneys, Jan. 13, 1994, on the topic of law enforcement access to Fedwire records.

computers can search for an exact match for up to 25 specific alphanumeric characters, so the sought record must be precisely identified.[13] Daily indices summarize the transactions of each bank (see table 2-4).

The Electronic Communications Privacy Act (ECPA) is considered to forbid access to electronic Fedwire (and CHIPS) records without a search warrant or, for records stored for more than 180 days, a subpoena.[14] Even with a search warrant or subpoena, it is generally necessary to provide to the Federal Reserve Bank all of the information needed to identify the record in the daily index.[15]

The Federal Reserve is now modifying the Fedwire funds transfer software format to provide a more comprehensive set of data elements, in order to "improve efficiency by reducing the need for manual intervention when processing and posting transfers," and to meet the requirements of new Treasury Department regulations concerning funds transfer records. The expansion will eliminate the need to truncate payment-related information from transfers received via CHIPS and SWIFT and then forwarded through Fedwire. The formatting should be fully implemented by the end of 1997.

CHIPS

International dollar transfers usually move through CHIPS, operated by the New York Clearing House Association, whose members are 11 New York City money center banks.[16] There are 115 CHIPS participants representing 29 countries.[17] CHIPS is the mechanism used by very large banks to transfer and settle international and domestic business transactions conducted by these banks on behalf of themselves, their customers, and other nonmember banks[18] (see box 2-2). These transactions include, for example, commercial payments; loans; interest disbursements; Eurodollar placements; and foreign exchange sales and purchases, and swaps.

CHIPS now carries more than 95 percent of all international transfers that are denominated in dollars. It handles a daily average of 181,673 transactions amounting to about $1.18 trillion. On January 17, 1995, a record dollar volume was set amounting to $1.957 trillion; the record number of

[13] Up to 20 searches may be conducted simultaneously. The computer can thus be instructed to look for, for example, ten names or versions of one name, five addresses, and five bank account numbers. Searches take about 15 minutes for each day of records inspected. Searches are conducted after the close of a business day and can identify records created that day or during the prior 180 days; however, it may take up to a week to process the search request and schedule the search.

[14] Stored Wire and Electronic Communications and Transactional Records Access, Title II of ECPA, 18 U.S.C. 2701-2710.

[15] Federal Reserve System Press Release, Dec. 22, 1994.

[16] The New York Clearing House began in 1853, to improve the settlement process among member banks by centralizing the exchange of checks and other financial instruments. CHIPS was established in 1970 to eliminate the use of official checks for international transfer of dollars.

[17] From March 31, 1995, when one participant withdrew, until June 1, when another bank officially joined, there were 114 participants. CHIPS participants include domestic commercial banks, private banks, subsidiaries of domestic banks set up under the 1919 Edge Act to handle international business, and foreign banks, all of whom must have headquarters or branch offices in New York City in order to have access to CHIPS. About 70 percent of CHIPS participants are foreign banks.

[18] Of the 114 or 115 CHIPS participants, 18 are "settling members" and of these, eight have been approved to settle for the account of other participants in addition to themselves. At the end of the day CHIPS sends a balance report to each participant showing its net end-of-day position. Each settling member has 45 minutes to decline to settle for any participant for whom they are responsible (none has ever declined). The Clearing House then orders the Federal Reserve Bank of New York to open the settlement account; settling participants in a debit position then send funds by Fedwire to the settlement account; when these have been received, the Clearing House sends funds by Fedwire to the accounts of settling participants in a credit position; finally, the Clearing House notifies all participants that settlement is complete.

C C E DATE 89 RANSAC ON RECAP REPOR RUN D E 89 ME 9 P GE

RO: BUS NESS UNDS RANS ER ACCOUN PE D

DR/CR Acct	Other Acct	Reference No.	Type	I M A D	TRCD	Fee Setting	Fee	a a Amt.	DR/CT
0210-0002-1	0 11- 234-5	0004	1000 0113 G1233509	000004 01131451	00			.40	Debit
0210-0002-1	0 11-2333-4	2000	1000 0113 F3123445	000006 0 131322	10011	R1000000000	.50	1,250,234.30	Debit
0210-0002-1	0222-3333-5	2452	1000 01 3 A 345987	000045 01131123	1001	R1000000000	.50	,250,445.42	Debit
0210-0002-1	0222-4444-5	4543	1000 0 3 C1234987	000034 0 31344	10011	R1000000000	.50	1,268,403.33	Debit
0210-0002-1	0111-1234-5	0059	1000 0113 17895670	000023 01131051	10011	R1000000000	.50	1,271,525.11	Debit
0210-0002-	0 1-2333-4	0987	000 0 13 K1235644	000067 0113 531	100 1	R1000000000	.50	1,268,000.00	Debit
0210-0002-1	0222-3333-5	2349	1000 0113 A1365663	000234 01131451	100 1	R1000000000	.50	1,300,000.00	Debit
0210-0002-1	0222-4444-5	0987	1000 0113 B0C27	002344 01131322	10011	R1000000000	.50	1,300,000.00	Debit
0210-0002-1	0111-1234-5	5676	1000 0113 B4526783	005674 01131123	1001	R1000000000	.50	300,000.00	Debit
0210-0002-1	0111-2333-4	0834	1000 0113 B2344897	000345 0 131344	10011	R1000000000	.50	,300,000.00	Debit
0210-0002-1	0222-3333-5	2452	1000 0 3 B4523783	000052 0 131051	10011	R1000000000	.50	1,301,395.31	Debit
0210-0002-1	0222-4444-5	4543	000 0113 BXV23	000344 0113 531	0011	R1000000000	.50	1,303, 80.55	Debit
0210-0002-1	0101-1234-5	0059	000 0 13 B4526788	000223 01131451	100 1	R1000000000	.50	1,335,000.00	Debit
0210-0002-1	0101-2333-4	0987	1000 0113 B2334557	000245 01131322	100 1	R1000000000	.50	1,336,200.00	Debit
0210-0002-1	0202-4444-5	2349	1000 0113 B4523783	000456 01131123	10011	R1000000000	.50	1,341,803.05	Debit
0210-0002-1	0101-1234-5	0987	1000 0113 C1233387	000234 01131344	10011	R1000000000	.50	1,350.000.00	Debit
0210-0002-1	0101-2333-4	5676	000 13 17895634	001877 0 131051	10011	R1000000000	.50	1,350,0 3.00	Debit
0210-0002-1	0212-3498-9	4012	1000 0 3 B1234567	002032 01131237	100 1	R1000000000	.50	1,350,257.85	Debit
0210-0002-1	0984-5468-0	2452	1000 0113 A1365663	003145 01131451	10011	R1000000000	.50	1,390,066.78	Debit
		4543	1000 0113 B2347897	002254 0113 322	100 1				

KEY TO CODES:
DR/CR ACCT = bank account that is sending wire transfer.
OTHER ACCT = bank account that is receiving wire transfer.
REFERENCE NO = the sending or receiving bank's reference number fo the particular wire transfer.
TYPE = The type of transaction occuring through Fedwire.
IMAD = Input Message Accountability Data, various data regarding the particular Fedwire terminal through which the wire transfer proceeded ned not interpret.
TRCD = The code for the particular type of transaction.
FEE = The amount charged for the transaction.
Transaction AMT = The amount of money transferred through Fedwire.

SOURCE: Financial Crimes Enforcement Network (FinCEN), *Key Electronic Systems: dwire CHIPS, SWIFT* FinCEN Reference Series, Annex B-C, p.15.

BOX 2-2: Examples of CHIPS Transactions

1. Foreign and domestic trade services

- British china manufacturer receives order for table settings from French retailer, to be paid for in U.S. dollars,
- British manufacturer notifies its Paris warehouse to fill order.
- Retailer acknowledges receipt and instructs Paris bank to pay British manufacturer in U.S. dollars.
- Paris bank advises its New York office to pay.
- Payment is sent via CHIPS from New York office of Paris bank, to New York office of British bank used by British manufacturer.
- New York office of British bank notifies its London office of receipt of payment,
- London bank credits china manufacturer's account.

2. **Foreign currency transactions**

- A U.S. manufacturer of airplanes fills a $45 million order for a jetliner from a carrier based in Rome; the carrier asks its bank to arrange payment,
- The Rome bank charges the airline's account for the lire equivalent, and arranges through the Rome branch of a U.S. bank to buy $45 million in U.S. dollars,
- The U.S. bank branch in Rome notifies its headquarters in New York to complete the foreign currency transaction, In New York, the U.S. bank delivers $45 million via CHIPS to the New York office of the Rome bank,
- The Rome bank in New York then pays $45 million to the U.S. airplane manufacturer,

3. **International loan syndications**

- A New Zealand telecommunications corporation needs a short-term loan of $50 million to purchase a computerized directory assistance system from a U.S. telecommunications company.
- It signs a loan agreement with its U.S. bank, which has agreed to put together a worldwide syndicate of 15 banks to make the loan.
- All 15 participating banks fund their share of the loans via CHIPS payments,
- The (U. S.) lead bank, through its New York headquarters, pays the money through CHIPS to the New York office of the borrower's New Zealand bank.
- The New Zealand bank (in New York) notifies its Auckland headquarters to credit the account of the New Zealand telecommunications company with $50 million, which then pays the U.S. company for the system it has bought.
- Over the life of the loan, the New Zealand corporation pays interest and principal via CHIPS to the lead bank in New York.
- The lead bank in turn disburses the appropriate shares of the repayments to the syndicate participants via CHIPS.

4. **Exchange of currencies**

- A Swiss entrepreneur locates office space to open a New York branch and needs $40,000 to make down payment; a Zurich bank is instructed to make payment.
- The Zurich bank orders its New York office to debit the bank's account and make payment of $40,000 to the New York realtor.
- The New York office of the Zurich bank makes payment through CHIPS to the realtor's bank, in New York,
- The realtor's bank credits the realtor's account and notifies the realtor that payment has been made by the Swiss entrepreneur.

SOURCE: The New York Clearing House Association, "Clearing House Interbank Payments System," 1995

transactions, 367, 142, was reached on February 21, 1995.[19] About 80 percent of CHIPS transfers are initiated by SWIFT messages instructing CHIPS participants to make a transfer on behalf of another bank that is not a CHIPS participant.

A CHIPS participant sends a payment message over leased lines to the CHIPS central computer, where it is checked and authenticated. The CHIPS computer then automatically records the debiting and crediting and sends a "receive" message to the receiving participant.[20] A net position is calculated for each participant at the end of the business day, and a final settlement is made.

CHIPS messages are required to carry only identification of the sending participant and the receiving participant (both CHIPS members), and the date and amount of the transaction. The sending and receiving participants may not be the originator's or the recipient's banks, but intermediaries—the large banks that transmit on behalf of nonparticipants. The CHIPS standard format includes data fields for identifying the originator's bank and the beneficiary's bank and other intermediary banks, but many CHIPS payment messages do not use these fields or put in only coded numbers identifying a general receiving or clearing bank account.

Tracing a transfer through CHIPS and linking it to a specific customer account is difficult but possible. All CHIPS transactions are kept on magnetic media for six months. Transactions since August 17, 1992, are being kept on optical disk; earlier records were maintained on microfiche for seven years. Finding a record was still possible if the date and the system sequence number assigned by the CHIPS computer were known, but it has generally been easier to work through the CHIPS participants.

SWIFT

SWIFT, as already noted, is technically not a funds transfer system but a specialized communication system, owned by its member banks. Headquartered in Belgium, it was set up in 1973 and by March 1995 had 2,645 member banks in 124 countries, including 450 in the United States. It has over 4,700 users,[21] including securities brokers and dealers, stock exchanges, clearing systems, and other kinds of financial institutions.

Nearly 75 percent of SWIFT messages are payment instructions between banks, but SWIFT also carries messages regarding foreign exchange and money markets, securities, and trade financing.[22] It handled 518 million messages in 1994 (2.4 million daily average, and 2.5 million on the peak day); roughly 220,000 payment instruction messages a day are sent to or from the United States.

SWIFT messages are encrypted automatically by SWIFT's regional computer as they are received from a bank's input terminal. (Most banks also encrypt the message during that first leg.) The messages flow through the SWIFT system without any person seeing their unencrypted contents. An authentication algorithm guarantees the identify of the sender and receiver and reveals any alteration made illegally during transmission.

With SWIFT messages, the identity of the person or institution "on whose behalf" a bank is sending an instruction may or may not be specified.[23] To identify or trace a message requires the specific number identifying the input sequence or

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[19] Data provided by CHIPS, March 7, 1995.

[20] It costs a participant between 13 cents and 40 cents to send a payment instruction through CHIPS, depending on whether the intended beneficiary's name and address must be entered into CHIPS database or is already on record with a full set of identifiers.

[21] Only the banks are shareowners in the cooperative, and hence voting members.

[22] *SWIFT Annual Report*, 1993.

[23] A SWIFT message includes, in code, a transaction reference number assigned by the sender, the date, amount of the transaction, the currency denominated, the sender's name and address, and the beneficiary's name and address. It may also include identification of the sender's bank and correspondent banks, the bank at which the beneficiary is to be paid, and the reason for the payment—these fields are optional.

output sequence (i.e., the exact order of the transmission within the day's total volume of transmissions). SWIFT officials have resisted attempts by law enforcement officials to gain access to the records because of the potentially large number of such requests. SWIFT points out that the sending or receiving bank will have better access to records about such messages.[24] This, and the problem of encryption, means that a bank-based monitoring or screening system, such as the systems outlined in chapter 7 of this report, would have to operate at each of the 450 banks using SWIFT rather than at a central SWIFT facility.

NEW WIRE TRANSFER REGULATIONS

Law enforcement agencies would like to have easier access to wire transfer records and to have the information content of the records increased; they also would like to see monitoring systems that tag certain suspect accounts so that transfers to or from those accounts could automatically be called to their attention.[25]

In 1988, the Treasury Department's Office of Financial Enforcement began asking banks to report voluntarily any suspicious funds transfers or patterns of funds transfers. Given the volume of funds transfers and the highly automated process of transmittal, this was ineffective. In September 1993, the Department of the Treasury and the Federal Reserve Board jointly published proposed regulations to improve the usefulness of wire transfer records in control of money laundering, as had been mandated by the Annunzio-Wylie Act of 1992.[26]

Treasury had always required that wire transfers be kept as part of deposit account records, but had not mandated the form in which records were kept or how they could be retrieved. The proposed regulations did not mandate regular reporting to the government, but required that records contain standardized information and be maintained for five years in readily retrievable (but unspecified) form. For most banks, this would mean computer retrieval, but small banks with little traffic could still use other means of retrieval.

The new regulations were to have become effective on December 31, 1993, after a period for public comment. About 300 highly critical comments were received, and the regulations were held back for thorough revision.[27] They were issued in final form on January 3, 1995.[28] Treasury Under Secretary Ron Noble said, "These regulations mark a basic shift of our attention from cash

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[24] Douglas Jeffrey, Regional Director, SWIFT Pan Americas, telephone discussion, Aug. 8, 1994.

[25] Based on interviews in the Money Laundering Section, Criminal Division, Department of Justice; Office of Financial Operations, Drug Enforcement Administration; the U.S. Customs Service, and several municipal and state law enforcement officials.

[26] *Federal Register* 46014, 46021, 46024.

[27] Most of the objections were based on the potential costs to banks of compliance and the potential loss of international competitiveness and encouragement of offshore netting. For large New York banks, the estimated cost of compliance with the proposed regulations was $14 million to $20 million per year; for a medium size bank $7 million, and for small community banks, $106,000. These costs were extrapolated from a small survey by the Bankers' Association for Foreign Trade. The Independent Bankers Association of America (IBAA) estimated that for community banks the required new record-keeping would require an additional 2.5 to 3 man-hours per day and would raise the annual cost of BSA compliance for small banks (already $5,455, according to IBAA) to $6,412. These figures were cited in a letter from IBAA president James R. Lauffer to Peter Djinis of the Dept. of the Treasury and William Wiles, Secretary of the FRB, on Oct. 4, 1993. They were taken from a study commissioned by the IBAA: Grant Thornton, "Regulatory Burden: the Cost to Community Banks, January 1993." Because these estimates of the costs of compliance were commissioned by an interested association and have not been validated by regulators they must be taken with a grain of salt. However, the Department of the Treasury and the Federal Reserve System, which had proposed the regulations, eventually agreed that they were too demanding. (Interview with Roger Weiner, Deputy Director, Office of Financial Enforcement, Dept. of the Treasury, March 16, 1994.)

[28] Federal Reserve System and Department of the Treasury, Amendment to the Bank Secrecy Act Regulations Relating to Recordkeeping for Funds Transfers and Transmittals of Funds by Financial Institutions, Final Rule, *Federal Register* 60 (1):220, Jan. 3, 1995.

at the teller's window to concentrating on crime hidden in the details of legitimate commerce."

The first of the new regulations requires only a minimum of new information.[29] The second requires each bank involved in a wire transfer to include all identifying information in the payment order as sent to the next bank, so that the information "travels" with the payment order from beginning to end.

Some banks will need new systems capabilities for searching their database. Large money center banks may decide to refuse wire transfer service to non-account-holders, rather than to create new mechanisms for searching their records for them.[30] It appears, however, that officers of most large banks regard the new regulations as "livable" and the government's response to their earlier complaints as commendable.[31] Community banks, generally much smaller, still regard the regulations as excessively burdensome, according to their industry association, The Independent Bankers Association of America.

The rules apply not only to banks but to all domestic financial institutions. They do not however apply to foreign affiliates of U.S. banks, a very large loophole. The Treasury Department "expects" that those U.S. banks will put anti-laundering measures into effect in their foreign branches and offices as well as is practical.[32]

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[29] As the regulations were first proposed, banks would have been obliged to record complete information about the originator of the transfer and the ultimate beneficiary. An intermediary bank would have to obtain this information from the sender, even if this required manual intervention. Banks protested that it would be impossible to get such information for transfers from countries with strong bank secrecy laws.

[30] Interview with Robert M. MacAlister, Vice President and Senior Associate Counsel, Chase Manhattan, Feb. 21, 1994; similar comments were heard in interviews with Citibank officials.

[31] Interview with John Byrne, General Counsel, American Bankers Association, Feb. 16, 1994. (It was, however, also Mr. Byrne's opinion that the new regulations "will have no effect on money laundering—foreign banks can always wire dirty money into the United States.") The Office of the Comptroller of the Currency agrees that the compliance "will not be unduly burdensome in light of law enforcement goals," and representatives of several large banks confirmed this in discussions with OTA.

[32] This information comes from "Answers to Congressional Questions to the Department of the Treasury," *in Federal Government's Response to Money Laundering*," *Hearings* before the Committee on Banking, Finance and Urban Affairs, U.S. House of Representatives, 103d Ccongress, 1st Session, May 25-26, 1993, pp. 340 ff.