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# THE FEDERAL RESERVE'S ROLE IN THE PAYMENTS MECHANISM AND ITS COMMUNICATION PLANS

*Statement by*

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**Introduction** I am pleased to be able to discuss with your Subcommittee the role of the Federal Reserve in the provision of payments mechanism services, particularly those that are often referred to as electronic fund transfer services (EFTS).

In addition, I will explain why the Federal Reserve's operation of a highly secure and flexible network is needed to carry out the System's monetary policy and payments mechanism responsibilities, and why technological obsolescence has made it necessary to replace the current network. This replacement project, incidentally, isn't at all remarkable—the System has upgraded its communications facilities every 10 to 20 years since 1915.

The Federal Reserve, as the nation's central bank, has a number of diverse, but highly interrelated, responsibilities—for monetary policy, bank supervision and regulation, and payments system operations. Our basic responsibility for the efficiency and integrity of the nation's payments mechanism dates from the Federal Reserve Act of 1913, and was confirmed by the Congress only last year with the passage of the Monetary Control Act of 1980. This legislation makes it clear that the Federal Reserve should participate in the payments mechanism in ways that will promote competition, contribute toward greater efficiency, and ensure an adequate level

of payments services nationwide. This is accomplished by requiring the System to make available its payment services to all depository institutions and over the long run to charge for such services at their full cost. This is a major development in the evolution of the payments mechanism, and I will discuss its implications later on in my statement. First, however, a brief history of the Federal Reserve's role in the payments mechanism may be helpful.

**The U. S. Payments Mechanism: A Brief History** Prior to 1800, exchange of currency (and gold) was the primary method used to transfer funds. Paper checks became widely used in the mid-1800s, and they have played a dominant role in the U. S. payments mechanism ever since. With over 30 billion checks per year moving through the economy and the cost of labor and transportation increasing, electronic payment systems are being developed to supplement the check system. Electronic fund transfers, which are only in their infancy, have the potential to improve greatly the security, efficiency, and reliability of the money transfer system.

Prior to the creation of the Federal Reserve, checks were cleared, and funds transferred, through a network of interbank correspondent balances. In order for one bank's check to be cleared when de-

posited at another bank, the check moved through one or more correspondent banks. The number of correspondent banks involved in clearing a check depended on many factors including the distance between the two banks. This process led to pyramiding of correspondent balances and a slow collection system.

The establishment of the Federal Reserve in 1913 altered the U. S. payments system in at least two important respects. First, it reduced the need for banks to maintain a complex network of correspondent balances to clear checks and other payments. Instead, Federal Reserve member banks could transfer funds by wire using a single reserve account balance. Indeed, the Federal Reserve Act directed that reserve accounts be used to clear payments transactions among depository institutions. Today correspondent balances are still used to clear payments of primarily smaller depository institutions. Book-entry accounting using reserve accounts, however, has all but eliminated the need to ship currency between banks to settle payments flows between geographic regions of the United States.

The second change in the payments system was the establishment of a national wire transfer network to provide access to these centralized reserve accounts. In 1915 the wire network was a telegraphic communication system. It has evolved into a high speed, computerized network. Besides its role in the payments mechanism, the wire network is a vital element in the conduct of monetary policy and the operation of the government securities market.

Despite the changes in the mechanism used to carry out these responsibilities, however, the basic central banking role performed by the Federal Reserve has not changed since 1913.

**Federal Reserve Wire Transfer and Settlement Operations** The 12 Federal Reserve District Banks and their 25 branches maintain reserve accounts and clear directly and indirectly with all depository institutions in the nation. A depository institution wishing to transfer funds from its reserve balance to another depository institution uses the Federal Reserve's wire transfer system. Reserve balances are transferred by depository institutions to purchase or sell Federal funds, (that is, to make interbank loans), to move correspondent bank bal-

ances from one institution to another, and to send funds to another bank on behalf of its customers. The Treasury Department and Federal agencies maintain accounts at Federal Reserve offices and they use these accounts and the wire transfer system extensively to disburse and collect monies. In 1980, 43 million reserve balance transfers took place, involving an aggregate of \$78 trillion.

The settlement of funds transfers and reserve account maintenance functions of the wire transfer system contribute to an efficient payments mechanism. Settlement through the Federal Reserve, with the full force and power of a central bank behind it, substantially reduces the risk of settlement failure which could result in serious disruptions in financial markets.

**The Wire Transfer Network and Monetary Policy** Depository institutions must have access to their reserve accounts to adjust them in response to fluctuations in their reservable liabilities. One way this access is provided is by the wire transfer system. This system is also used by the Federal Reserve, the Treasury, and depository institutions to transfer U. S. government and agency securities. It is also through this network that Federal Reserve open market operations are facilitated. Open market operations are the primary method used to expand or contract the money supply. The wire transfer system improves the efficiency of open market operations by promoting a large, secure, and liquid market for government securities. This arrangement not only facilitates the marketing of government debt but also results in lower cost to the Treasury.

**Other Uses of the Federal Reserve's Communication System** The Federal Reserve's communication network is also used for two other principal purposes. First, it is used to transmit timely bank deposit data to the Federal Reserve Board for day-to-day monetary policy purposes. These data include daily deposit information on 14,000 depository institutions. Secondly, it is used to transfer small dollar value recurring payments such as direct deposit of payroll and bill payments among automated clearing houses. The ACH was established jointly by the banking industry and the Federal Reserve as a vehicle to clear and settle certain types of electronic

payments. In 1980 about 60 million commercial and 160 million Treasury payments were processed through the ACH. Incidentally, over 30 percent of the social security recipients in the United States have elected to have their benefits sent through the ACH mechanism.

The ACH, we believe, has the potential to offer significant benefits to the public in terms of decreased cost, increased convenience, and greater security for certain types of payments. This judgment is shared by the financial industry, the Federal government, which is the largest user of the ACH, and by the National Commission on Electronic Fund Transfers (NCEFT). The NCEFT further concluded that Federal Reserve involvement in the operation of ACHs was necessary because the private sector was not yet able to operate ACH facilities economically without this assistance.

**A Description of the Federal Reserve's Communication Network** The Federal Reserve uses data processing and communications to receive, process, and deliver payments. The computers used are general data processing machines of the type used by most large multipurpose organizations, both public and private. Our need to transmit data among the Federal Reserve offices, the Board, and the Treasury is accomplished through the use of three communications networks. The networks include the Inter-district Fedwire, the Interdistrict Bulk Data, and the Local District Networks.

On the Fedwire more than 175,000 messages containing wire transfers of funds and securities, along with administrative information, are being communicated each day among the Federal Reserve Banks through a central store-and-forward message switch in Culpeper, Virginia. This network, including its extensions from head offices to branches and offices, was installed between 1969 and 1974 and replaced an antiquated semi-automated network that was installed in 1953.

A bulk data network, which uses high-speed switched circuits to connect the 12 Federal Reserve Banks and the Board of Governors, was implemented in 1976. This network is used to transmit bank deposit data and ACH payments.

Each Federal Reserve Bank has also implemented its own local network between the head office and its

branches. These facilities are used to move accounting data and other local traffic within the District.

**The New Federal Reserve Communications System** As it has done on the average of every 10 to 20 years, the Federal Reserve System is now replacing its communications network. The current upgrading is needed because the present system and its technology are 10 years old, and more cost-effective and reliable technologies are available. Moreover, the present system relies in large part on an AT&T service that will terminate in 1983, and its central switch is maintained by a vendor that will cease its maintenance responsibilities in 1985. Within the Federal Reserve, the replacement project is known by the acronym FRCS-80 (Federal Reserve Communications System for the Eighties). Conceptual planning for FRCS-80 began in late 1975 on the assumption that a more efficient communications technology would be available in the 1980s and that the Federal Reserve System would be making its payment services available to all depository institutions. These assumptions have proven correct with the development of packet switching technologies and the passage of the Monetary Control Act of 1980.

The new system will be a general-purpose data communications network that will satisfy the Federal Reserve's internal communications requirement of providing services to the financial community, the Treasury, and other government agencies. FRCS-80 will be used for the transmission of the same data that is sent over the current network.

The functions of the existing separate communications networks will be consolidated into a single network providing better service at less cost. Historically, as the need for new data communications applications emerged, the most frequent solution was the implementation of independent data communications systems tailored to a single application. With FRCS-80, new communications requirements can be met without additional networks or major design changes.

FRCS-80 will:

- Improve the reliability and efficiency of the Federal Reserve's communications operations.
- Reduce the total cost of System communications through a more efficient use of circuits.

- Increase security of data moving within the Federal Reserve System.

The conceptual design of FRCS-80 is that of a distributed "packet-switched" network. No single central switching site, such as the current switch in Culpeper, Virginia, will be required to coordinate the operation of the network. Rather than revolve around a computerized hub, as does the current Fedwire, FRCS-80's computer power will be distributed among the Federal Reserve offices.

As part of the process of selecting a new communications network, the Federal Reserve compared two network approaches: A public access network and a private network. The private network approach was chosen because of security risks involved in using a public network and the lack of control over the flexibility of the public network. Flexibility is critical because the Federal Reserve must respond to rapid legislative or monetary policy changes.

After evaluating proposals from several vendors, the Federal Reserve awarded a \$10 million contract to Northern Telecommunications, Inc. to provide hardware, software, and install the network on a turn-key basis. Recently a factory acceptance test was completed and equipment is now being installed in the Federal Reserve offices. The network is expected to be fully operational in early 1983.

**Pricing of Federal Reserve Services** The Monetary Control Act of 1980 required the pricing of certain Federal Reserve services. These services include all payments mechanism services, such as check processing, wire and securities transfers, settlement, and ACH transactions. We are now charging for all financial services except cash transportation. Charges for cash transportation are scheduled to commence in early 1982. Over the long run, the revenues derived from the sale of financial services will cover all Federal Reserve costs in providing them, including an amount to reflect private sector costs not incurred by the Federal Reserve, such as taxes and financing costs. As a result, services will be offered competitively, allowing the private sector adequate opportunity to enter or expand their share of the market for payments mechanism services.

Even before pricing began, significant competition already existed in check processing. Large money

center correspondent banks and private service bureaus clear a substantial proportion of total checks written. Bankwire, CHIPS,<sup>1</sup> and SWIFT<sup>2</sup> are private-sector competitors for domestic and international large dollar funds transfers.

ACH operations, because of their economies of scale and potential for improving the efficiency of certain types of funds transfers, is being priced temporarily based on long-run costs to encourage its development. In the near future ACH services will be priced based on actual costs and as ACH volume grows we expect competitors to enter this market.

**The Role of the Federal Reserve in Point-of-Sale (POS)** It is our understanding that certain parties are concerned that FRCS-80 is being designed to accommodate point-of-sale switching capabilities. The National Commission on Electronic Fund Transfers in 1977 reported to Congress on the role of the Federal government in EFT. The Commission recommended "that the Federal government not be involved operationally, at present or in the foreseeable future, in POS switching and clearing facilities except for the provision of net settlement among depository institutions." The design of FRCS-80 does not contemplate any point-of-sale switching activities, and the Federal Reserve has no intention of getting involved in such activities.

**Privacy Considerations** Before I conclude my remarks this morning, I would like to explain briefly the Federal Reserve policy on retention and disclosure of electronic payment records containing data on individuals. I will focus on our ACH policy since data identifying an individual is rarely part of a wire transfer.

While the ACHs do not process enough information to serve as a privacy threat, the Federal Reserve

<sup>1</sup> The Clearing House Interbank Payments System (CHIPS) is a nongovernmental facility that clears international transactions for its 100 members. It is operated by the New York Clearing House Association, which has as its controlling members the 12 largest New York City commercial banks.

<sup>2</sup> The Society for Worldwide Interbank Financial Transactions (SWIFT) is a cooperative company located in Belgium that operates a communications network to exchange payment instructions among its over 800 members.

has taken affirmative steps to insure the privacy of data in our possession. Various ACH records contain individual and business names, bank account numbers, and social security and other individual identification numbers. Such transaction data are retained by Federal Reserve Banks only for the limited time needed to fulfill operational requirements. Records maintained on computer media are retained no longer than 30 business days following settlement of the transaction. Microfiche historical records containing individual transaction data are retained for 60 business days following settlement. Microfiche historical records not containing individual transaction data are retained for one year. At the end of their respective retention periods all records are destroyed.

The Federal Reserve data disclosure policy pertains to all payments services, including the ACH. The Federal Reserve Banks will not disclose indi-

vidual transaction data except to parties that are part of the transfer, such as the originating and receiving financial institutions or when a grand jury subpoena or an order of a court with proven jurisdiction is presented.

**Conclusion** The Subcommittee's invitation for the Board to testify at this hearing requested the Federal Reserve to comment on what it believed its appropriate role to be in the provision of telecommunications services. As I have explained today, the Federal Reserve offers payments services to the banking industry and uses telecommunications for its internal operations. The Federal Reserve clears, delivers, and settles inter-bank payments. In doing so, we use computer and telecommunications equipment and facilities, and we appreciate the Subcommittee's concern that the provision of these facilities occurs in a competitive environment.