The Program for the Automation of the Government Securities Market

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Editor's Note: *The following is based on a memorandum which was completed on March 21, 1972 and which was subsequently submitted by the Board of Governors of the Federal Reserve System to the Subcommittee on Securities of the Committee on Banking, Housing and Urban Affairs of the United States Senate in connection with hearings relating to the clearance and settlement of securities transactions. The author has responsibility for the Government Bond and Safekeeping operations of the Federal Reserve Bank of New York. He is also chairman of a Federal Reserve System Subcommittee on Fiscal Agency Operations, which acts as liaison between the Federal Reserve Banks and the Treasury Department with respect to Reserve Bank operations conducted as agent for the United States Government.*

This paper outlines the development and current status of the Federal Reserve-Treasury program for the automation of the Government securities market, including the book-entry procedure for Government securities.

OBJECTIVES AND SCOPE

The ultimate objective of the program is a fully automated Government securities market, in which the pieces of paper representing Government obligations—including both Treasury and Federal agency obligations—have been eliminated and replaced by computerized book-entries, and in which transactions in such book-entry securities are effected by means of wire messages—including computer-to-computer communications—through high-speed lines directly linking computer terminals on the premises of each major market participant throughout the country.

In general, the program was designed to improve the efficiency of operations in Government securities. It is intended to reduce the time, money, personnel, and space required to handle the increasing volume and velocity of transactions in Government securities and, at the same time, to ensure adequate controls and reduce to a minimum the risk of loss or theft of such securities.

The benefits of the program will be available to all owners of Government securities—whether they be primary dealers or private individuals—through the member banks, which will be qualified to open book-entry accounts at their Federal Reserve Banks and to deposit any or all of their customers' securities in such accounts. Thus, all owners of Government securities may, if they so desire, arrange to have their securities converted into book-entry form by depositing them with a member bank, which in turn will deposit the securities in its book-entry account with its Reserve Bank. In this respect, the program provides a substitute for the physical custody of Government securities.

In addition, and just as important, for those banks and bank customers which are active participants in the Government securities market—such as the primary bank dealers and the primary nonbank dealers, through their clearing banks—facilities will be available for effecting central market transactions in such securities through Federal Reserve wire systems. In this respect, the program provides a means for moving the book-entry securities throughout all segments of the Government securities market, with the speed and in the volume necessary to ensure the effective functioning of the market.

Historically, the automation program has comprised two separate, but parallel, lines of development. The first was the development of facilities for transferring and clearing securities transactions among the major participants in the market, beginning with the New York money center banks and the establishment of the Government Securities Clearing Arrangement. The second was the development of the book-entry procedure itself, which began with the conversion into book-entry form of Treasury securities owned by country member banks and held in safekeeping at their Reserve Banks. More recently, there has been a third related development of significance for the Federal Reserve System—the creation of the Reserve Bank "checklist procedure", developed as a transitional measure to deal with the immediate problem of Government securities thefts, pending the longer-term solution offered by the automation program.

WIRE FACILITIES AND CLEARING ARRANGEMENTS

The basic concept of transferring Government securities by means of wire messages has existed for many years in the "CPD" wire facilities maintained by the Treasury and the Federal Reserve Banks, which permit wire transfers between most Federal Reserve offices. Under this system, the commercial bank sender of a security delivers it to the local Federal Reserve office, which then retires the security and sends an appropriate wire message to another Federal Reserve office, which in turn issues a new security, which is then picked up by the ultimate recipient of the transfer message.

The clearing arrangement carries this basic concept further in three important respects: (1) instead of requiring the delivery and pickup of a physical security for each transfer, the transfers are debited or credited to a bank's "securities clearing account"—with appropriate cash entries to its reserve account—and only one delivery of securities is necessary at the end of the day, and only in the net amount due to or due from the bank; (2) the major commercial banks having a large volume of such transactions are linked by wire directly with their Reserve Bank, permitting them to transmit transfer messages from terminals on their premises; and (3) as the final step in a money market center, the major commercial banks are linked with each other, through a Reserve Bank computer switch, permitting them—and their customers, including the nonbank primary dealers—to effect transactions among themselves, thereby providing each of them access to the other major participants in the Government securities market through their own terminals.

The first experiments with clearing procedures were initiated in New York City in 1965, and resulted in the establishment of the Government Securities Clearing Arrangement, which now includes twelve participating member banks. Over the years—and particularly since the installation of the Federal Reserve System's Culpeper switch and the Sigma 5 computer switch at the New York Reserve Bank—the arrangement has been expanded to the point where it now handles virtually all types of transactions in the Government securities market, in any volume that may be required. As an example, during 1971, a year of transition to the use of the new computer equipment, there were about 470,000 transactions effected through the Clearing Arrangement, totaling $710 billion. Last month alone, there were more than 50,000 transactions, totaling $99 billion.

Studies are now in progress for developing clearing procedures at other Reserve Banks. The San Francisco Reserve Bank has been operating a net settlement procedure for CPD transfers with one of its member banks, and the Chicago Reserve Bank has been exploring the possibility of a similar procedure with its larger member banks. Other Reserve Banks have been considering the possible use of such procedures at some future date, as increasing volume may warrant it. The importance of such procedures lies not only in their immediate benefits, but even more important, in the potential for integrating a clearing arrangement with the basic book-entry procedure.

BOOK-ENTRY PROCEDURE

In essence, the book-entry procedure is a new legal system, created by Federal regulations having the force of Federal law (e.g., Subpart O of Treasury Circular No. 300), under which the piece of paper representing a Government obligation may be eliminated, and the obligation recorded on the books of a Federal Reserve Bank. The first phase in the development of the procedure began in 1968, when it was established as a substitute for the physical custody of Treasury securities in the safekeeping accounts maintained by the Reserve Banks for country member banks. Although the procedure was made available to all member banks at that time, until last year most of the largest money center banks did not utilize the procedure, primarily because of burdensome tax-reporting requirements.

Since 1968, there has been a gradual extension of the procedure to additional types of securities accounts. The process has been gradual because the conversion of each class of security account has presented new and different legal problems, tax questions, and operational complications. These are reflections of the fact that for centuries the law, commercial practices, and traditions governing transactions in securities have been based on the possession of a piece of paper having intrinsic value. Under the book-entry procedure, that piece of paper no longer exists.

By the end of 1970, most of the different types of safekeeping accounts maintained at the Reserve Banks had been converted to book-entry form. The next phase of the program contemplated an extension to Government securities held outside the Reserve Banks, including in particular the securities of the primary dealers in Government securities—both bank dealers, which involved certain tax questions, and nonbank dealers, which involved in addition the question of their legal status as customers of clearing banks. Beyond that phase, the program aimed at covering all securities held by member banks for any third party.

The overall plan for the conversion of these types of securities accounts envisaged a program of several years' duration. However, the timetable was greatly accelerated by the "insurance crisis" in the Government securities market early last year, which resulted from the abrupt emergence of the problem of securities thefts.

SECURITIES THEFTS AND CHECKLIST PROCEDURE

The problem of securities thefts is in large part rooted in the difficulties of the financial community in coping with the vast amounts of paper required by traditional methods of operation. During the past year, the matter has been the subject of close study by Congressional committees, the Securities and Exchange Commission, and the financial community itself. The studies continue, and will no doubt result in basic changes in existing procedures in the banking system and in the securities markets, some of which will come about as a result of Federal legislation. The Federal Reserve has an interest in many aspects of this problem and its proposed solutions, but for present purposes it should suffice to note only those relating directly to the Government securities market.

The problem of securities thefts first came to public attention in connection with Government securities. Within a matter of weeks at the end of 1969, $17 million in Government securities were reported stolen from three New York City banks. By the end of that year, a national total of approximately $30 million in losses had been reported to the Treasury, and the losses continued at the same high level in 1970.

In view of the magnitude of the problem, it was clear that the Federal Reserve System had a direct interest in the matter. Apart from the responsibilities of the Reserve Banks as fiscal agents of the United States, the System had an immediate concern in the problem as it affected the banking system, and also as it affected the performance of the Government securities market. It was also clear that, while the book-entry program offered a long-term solution as a means of preventing thefts, there was an immediate need to assist in recovering securities already stolen.

It was against this background that the "checklist procedure" was developed. Under the procedure, which was adopted on a uniform basis by all Federal Reserve Banks through the Conference of First Vice Presidents of the Federal Reserve Banks, a current list of stolen securities is maintained at each Federal Reserve office, based on reports received from banks and other financial institutions throughout the country, and more recently, from the Treasury. Up-to-date information is promptly circulated to all Federal Reserve offices, by wire, through the New York Reserve Bank, which acts as the coordinating bank under the procedure. With the list, each Federal Reserve office checks the securities received at that office, and also serves as a clearing house for information on stolen securities within its own territory.

Experience with the checklist procedure since 1970 indicates that it has been fairly successful in achieving its primary objective—to assist in discovering stolen securities. It does not, of course, prevent securities thefts, a longer-term objective that the book-entry program seeks to achieve.

INSURANCE CRISIS AND ACCELERATED BOOK-ENTRY PROGRAM

The problem of thefts led directly to the "insurance crisis" of early 1971, which endangered the continued functioning of the Government securities market. At that time, the Continental Insurance Company had announced plans to terminate its coverage of bearer Government securities held by money center banks, dealers, and brokers. Since Continental was the predominant carrier in the field, there was a risk that if such plans were implemented, the major participants in the market would terminate operations, and the market would cease to function.

The ultimate avoidance of such a result required several months of intensive negotiations involving the Federal Reserve, the Treasury, the insurance companies, and the leaders of the banking and securities industries. It also involved the adoption of a contingency plan to attempt to handle essential market operations through the New York Reserve Bank; it required the enactment of Federal legislation to permit the Treasury to settle claims on stolen securities; and—most important in the long run—it resulted in the formulation of a greatly accelerated program for the further extension of the book-entry procedure.

The new program was designed to accelerate existing long-term plans for automation as rapidly as possible. The program required action by the Treasury, in amending the governing Treasury regulation; by the Internal Revenue Service, in amending its tax rulings on dealer securities and tax-reporting requirements; and by the Federal Reserve Banks, through the Committee on Fiscal Agency Operations of the Conference of First Vice Presidents of the Federal Reserve Banks, in revising Reserve Bank operating rules and procedures. To be successful in averting the complete termination of insurance coverage, the program also required action by the New York City banks affected by the crisis, who were expected to begin promptly the process of converting their securities accounts to the book-entry procedure.

By April 1971, all of the necessary legal actions had been completed. In brief, the program contemplated that the book-entry procedure would be extended to cover (a) securities owned by primary dealers—both bank dealers, and nonbank dealers acting through their clearing banks; (b) securities held by member banks in customer accounts, including the establishment of special book-entry accounts to accommodate collateral loans, repurchase agreements, pledges, and similar arrangements; and (c) eventually, securities held by member banks in trust accounts, which required the resolution of certain legal questions under state laws. The plan also contemplated the further development and utilization of the Government Securities Clearing Arrangement and the System's wire network. In addition, plans were made for the extension of the overall program to the securities of Federal agencies.

When the program was formulated, it was understood that it would be put into effect in stages; the first stage was limited to the New York City banks participating in the Clearing Arrangement, who were most vulnerable to the problem of insurance coverage. In view of the pressures under which the program was formulated, such an approach was also deemed desirable as a means of experimenting with the new procedures and developing a basic pattern of book-entry accounts that could accommodate the operations of all member banks.

During the first six months of the program, nine banks opened new book-entry accounts, including several special accounts in which a limited number of customer securities were gradually deposited. Several banks—particularly the clearing banks, acting as agents for the nonbank dealers—encountered delays because of the need to develop adequate computer systems to handle the volumes involved.

During the period, the capabilities of the Clearing Arrangement were further enlarged as the computer switch systems came into operation, and all of the new book-entry accounts were integrated into the Clearing Arrangement. During the same period, New York State enacted legislation, endorsed by the Federal Reserve Bank of New York, to permit the application of the book-entry procedure to Government securities held by banks as trustees.

At the end of the six-month period, there was a comprehensive review of operations in the light of experience to date, which indicated the desirability and feasibility of certain changes in the basic legal concepts underlying the book-entry procedure—particularly with respect to transfers and pledges of customer securities—that would obviate certain operating complexities and result in a much simpler system. Since then, the System Subcommittee of Counsel on Fiscal Agency Operations, working with counsel to the commercial banks and Treasury counsel, have been developing the necessary legal framework to implement the changes. It is expected that the new rules will be published in the *Federal Register* as amendments to the governing Treasury regulation within the next week or two.*

CURRENT STATUS

At this point in time, ten of the participating banks have opened a variety of new book-entry accounts, including separate accounts to hold investment portfolios, dealer inventories, customer securities, and special collateral accounts. The total amount in these accounts is now about $4 billion, and is continuing to increase. The securities already deposited in these accounts include some or all of the dealer inventories of most of the dealer banks (including dealer banks in the Chicago and San Francisco Districts, through their New York clearing banks), and most of the nonbank dealers. The process of conversion has been gradual and is continuing.

All of these book-entry accounts have been integrated into the Clearing Arrangement. This means, in effect, that all transactions in these accounts—including purchases, sales, repurchase agreements, free deliveries, denominational exchanges, original issues, redemptions at maturity, and any associated debits or credits to Reserve accounts—are effected through the terminals located on the premises of the member bank depositors, without the need for the existence of any physical security.

The overall volume handled through the Clearing Ar-

*Editor's note: The amendments were published on April 29, 1972.

rangement continues to increase. In the week of February 18, during a Treasury refunding operation, 17,285 transactions went through the arrangement, totaling about $32 billion.

In terms of the book-entry program as a whole, there are approximately $171 billion in Treasury securities in book-entry form at all Reserve Banks. About $145 billion of that amount is held at the New York Reserve Bank. Of the total amount in book-entry form, approximately $155 billion is in marketable public issues, out of a total of about $262 billion in total marketable public debt outstanding. Thus, approximately 60 percent of the outstanding marketable public debt is in book-entry form. In addition there are about $84 billion in "special issues" in book-entry form. Including these issues, approximately 70 percent of the outstanding gross public debt, excluding savings bonds, is in book-entry form. In terms of the goals of the program, there remains roughly $95 billion in bearer Treasury securities eligible for conversion into book-entry form. The great bulk of these securities is held by parties which are—or could be—customers of member banks, including trust accounts.

FUTURE PLANS

At this point, the most immediate goal of the program is to complete the process of conversion of all primary dealers' securities. Then, as soon as the new amendments to the Treasury regulation are published, the way will be open to continue with the further extension of the program to all customer securities, not only at the participating New York banks, but also at the other member banks throughout the country. The basic pattern of accounts and procedures has been worked out in the light of the New York banks' experience, and the new amendments should facilitate the expansion of the program for all member banks. There are some particular questions that have yet to be resolved—such as agreement on contingency plans in the event of computer failures and other emergencies, and approval of a form of lending agreement among the major market participants—but these questions will no doubt be resolved soon. As soon as they are settled, and as soon as new uniform operating circulars are formulated for all Reserve Banks through the Conference of First Vice Presidents, each Reserve Bank should be in a position to make the program available to member banks in its District. All Reserve Bank fiscal agency officers have been preparing for that step; there have been meetings of such officers during the past year to review the operations of the program, and another meeting will be held soon, before the next phase is begun.

While the book-entry program will be available to all member banks for their customer securities, the rate at which those securities will be converted will depend upon the capabilities of the member banks themselves. No doubt the process of conversion will continue to be a gradual one. In addition, the laws of many states present legal problems that must be resolved, presumably by legislation, before member banks subject to such laws may convert securities held in trust accounts, which, of course, comprise a large proportion of commercial bank custody accounts.

Once the revised Treasury regulation is published, similar book-entry regulations can be promulgated by the other Federal agencies, and the next phase of the program will focus on the inclusion of agency securities. In January of this year, the Postal Service became the first Federal agency to promulgate a book-entry regulation and to issue securities in book-entry form, but that was a rather special situation. The inclusion of all of the issues of all Federal agencies will be a gradual process, but it presents no special legal or operational problems that would be difficult to resolve.

It is impossible to indicate a timetable for the completion of the automation program. Apart from the obvious uncertainties involved, it would be difficult to measure with any precision the point at which the basic objectives of the program will have been achieved. While it may be desirable to attempt to convert all outstanding Treasury and agency securities to book-entry form, the purposes of the automation program will have been fulfilled long before that stage is reached. The program will have achieved its ends whenever all—or virtually all—transactions in Treasury and agency securities in the Government securities market can be effected by means of wire messages among the major participants in the market, without the need for physical securities. In the light of the experience to date, that time does not seem too far distant.