Managing change in payment systems

William J. McDonough

It is a pleasure to be here today to open this conference on managing change in payment systems. We have three important topics to cover today:

– payment system reforms as financial markets undergo structural change;
– the challenges resulting from the need to modernise payment systems in ways that reduce risks and increase efficiency; and
– improving payment systems, whether domestic or cross-border, to serve our more open and global financial markets.

I am certain that by the end of this conference we will all have gained insights into the functioning of payment systems around the world as well as a strong sense of the work that still needs to be done to accomplish our goals.

We all come to this conference with our own unique perspectives on payment systems, and this variety of viewpoints will add to the success of our efforts over the next two days. In this spirit, please allow me to take this opportunity in these opening remarks to share some of my experiences with you and to briefly review the Federal Reserve's role in the payment system.

Experiences

I began working with large-value payment systems as a commercial banker, became much more intensely involved as a central banker in one of the world's major financial centres, New York City, and moved on to even greater involvement when I became Chairman of the Bank for International Settlements' Committee on Payment and Settlement Systems (CPSS).

In this later role, I am reminded time and again that, as commerce and finance become more global in nature, it is important to understand the functioning not only of your own payment systems but also of the systems in other countries around the world. I have found that, while some design features and the degree of central bank involvement vary somewhat from country to country, the basic principles to reduce risk and increase efficiency remain much the same in most places. Many of the research reports produced by the CPSS in recent years came to this conclusion. These reports covered:

– basic standards for netting arrangements;
– securities clearance;
– ways to reduce foreign exchange settlement risk;
– clearance of exchange-traded derivatives;
– security for emerging electronic money products; and
– design of real-time gross settlement systems.

These reports have been valuable, not only to those central banks directly involved in the studies, but also to other central banks around the world actively engaged in modernising their payment systems. Next, I would like to provide you with a description of the payment system in the United States, especially those aspects where the Federal Reserve plays an important role.

Federal Reserve involvement in the payment system

In this part of my remarks, I would like to begin by providing you with a brief description of the Federal Reserve's current involvement in the payment system. With this description in mind, I would then like to give you a sense of the history that led up to the Federal Reserve's current role in the payment system as well as a brief overview of a recent effort we have undertaken to help define our role in the future. The end result, I hope, will be a picture of managing change in the payment system in the United States.

The Federal Reserve's current role in the US payment system is multidimensional. To begin with, the Reserve Banks have supervisory responsibilities for many of the commercial banks that make up the core of our payment system. In addition to promoting the soundness of the banking system through an active role in the bank supervision process, the Federal Reserve has established a set of institutional arrangements

with the banking sector that help to define the Federal Reserve's role in the payments system. The most important of these institutional arrangements, in my view, are:

– the centralised accounts commercial banks hold at the Federal Reserve;
– the flexible terms on which these accounts are maintained;
– the provision of liquidity by the Federal Reserve, both on a day-to-day basis and in unusual situations, that helps maintain payment flows through these accounts; and
– the fact that these accounts at the central bank can be used effectively to settle on a timely basis and with finality other payment arrangements operated by the private sector.

In the United States, Reserve Banks offer additional payment services to the banking system, the United States Treasury and federal agencies, including:

– a book-entry and delivery-versus-payment system for government securities;
– net settlement services for a variety of clearing house arrangements;
– clearing of paper cheques;
– automated clearing house payments processing for electronic retail payments; and
– currency issuance and distribution.

In addition, most foreign central banks hold accounts at the Federal Reserve Bank of New York, and we process a large volume of payments and securities transfers on their behalf.

The Federal Reserve's involvement in the payment system is not a recent development. Beginning with its very inception, one of the primary reasons for the creation of the Federal Reserve was an earlier breakdown in the payment system. In 1907, a financial panic occurred that resulted in a suspension of payments because clearing houses often refused to handle cheques drawn on other banks. Solvent institutions failed as a result. In 1913, Congress passed the Federal Reserve Act, which instructed the Federal Reserve to supply currency as demanded by the public, that is, an "elastic currency", and to establish a cheque collection network that covered the entire country.

The Federal Reserve also established an interbank payment system which became known as "Fedwire" by 1918. Fedwire has been improved continuously over the years, evolving from a rather simple, Morse code operation to today's use of high-speed, computerised electronic communications and processing systems.

In the second half of the 1960s, the Federal Reserve and US Treasury developed an additional function for Fedwire, a delivery-versus-payment, book-entry system for government securities, operating in real time. Technological restrictions hampered its growth for a period of time by limiting the number of issues that could be maintained but that problem has been resolved. Since 1978, all Treasury bills have been in book-entry form, and all Treasury bonds since 1986. Overall, this system has added greatly to the efficiency and liquidity of this market, including an active market in repurchase agreements. The private sector has added to the overall effectiveness of this market by developing a netting system for trades in government securities.

Today, Fedwire, involving the transfer of both funds and securities, continues to be improved. Hours of operation will be extended later this year for funds transfers to reduce risk in the payment system. Message formatting will be enhanced to conform with the structure of other payment system operators, thereby permitting greater use of "straight-through processing". To improve efficiency, we have been consolidating processing sites and have begun to reduce fees for processing payments. We also have taken steps to reduce risk to the central bank by charging a modest fee for daylight overdrafts, and a significant reduction in the intraday credit provided by the Federal Reserve – of the order of 40% – has taken place as a result, as banks and their customers now pay much more attention to the intraday timing of their payments. Risk to the Federal Reserve and the payment system, in general, has been further reduced through a requirement that banks with the largest overdrafts – those banks serving the government securities dealers – collateralise their positions with book-entry securities. While we are making progress in controlling the risk associated with daylight overdrafts, these overdrafts still serve as an example of an unintended legacy of a payment arrangement designed many years ago at a time when the potential for growth in payment volumes and the risk implications of intraday exposures were not fully appreciated.

On the retail side, the Federal Reserve created the automated clearing house (ACH) system in the early 1970s for processing retail payments electronically. In the beginning it was believed that this system would eventually replace paper cheques, which are a relatively expensive payment instrument to process. Thus far, however, this replacement of paper by electronics has not occurred on a large scale, but we are redoubling our efforts to promote ACH payments, especially for the direct deposit of payroll cheques. In addition, some private sector technology companies are creating front-end applications for electronic bill presentment and ACH payments with personal computers that look very promising. At the same time, we are automating the paper cheque clearing process through greater use of electronics and perhaps truncation as well. The end result of all these efforts, we hope, will be reduced reliance on paper for retail payments.

Access to and the pricing of Federal Reserve payment services were addressed by the Monetary Control Act of 1980. Prior to this Act, the Federal Reserve did not charge member banks for the payment services it provided, in part to compensate for the reserve balances held at the Federal Reserve that did not earn interest. The Monetary Control Act stated that all depository institutions, including non-member banks and thrift institutions, should have equal access to Federal Reserve payment services at prices that permitted full cost recovery. In return, all depository institutions were required to maintain reserves on the same basis.

The role of the Federal Reserve in the payment system, in terms of services provided and institutions served, as well as the degree of cost recovery, has evolved over a rather long time. More change is likely in the future as well. Our banking system, because of technological advances, consolidation and interstate branching, is undergoing significant change. This process could appreciably change the payment system and the appropriate role of the Federal Reserve.

For example, it is possible that in the not-too-distant future the Federal Reserve will not be the only banking organisation in the United States to have a national scope, as a result of recent federal legislation that ended restrictions on interstate branching. In addition, the major credit card associations and ATM networks now have national, electronic payment networks, once a distinction that applied only to the Federal Reserve. In the more distant future, the private sector could well develop a successful electronic substitute for paper currency; and electronic bill presentment, payments and remittance information could flow freely over the Internet or over some other open communications network. A few years ago, I might have discounted the potential of some of these new systems, but not any longer. A large amount of creative energy is being devoted to automating retail payments.

In the light of this potential for rapid innovation in the retail sector, Chairman Greenspan asked Vice-Chair Alice Rivlin to lead a committee of senior Federal Reserve officials, including myself, to assess whether the Federal Reserve's role in the payment system was still appropriate. Our strategy was to construct several hypothetical scenarios for future Federal Reserve involvement in the payment system, ranging from withdrawal and liquidation of our retail payments business to staying in the business and undertaking aggressive action to promote electronics. We then sought input from various organisations involved in the payment industry, including large and small banks, and leading technology companies. As you can well imagine, we received a broad range of feedback, most of it supportive of continued Federal Reserve involvement in the retail payment business. In addition, many participants at these meetings believed that the Federal Reserve could provide valuable leadership to the retail payments industry by working with commercial providers and others to:

– address legal issues that might have inhibited the growth of electronic payments;
– establish standards and protocols; and
– sponsor education and public outreach programmes on the use of electronic payments.

The effort undertaken by the Rivlin Committee is fairly typical of the Federal Reserve's approach to managing change in the payment system. It was open and consultative, with a wide range of input from the private sector on how we might work together to improve the payment system. In this same spirit, the Federal Reserve typically distributes for public comment any proposed changes in its payment services and has often revised its plans in the light of the comments received.

Payment systems and change

In working on the Rivlin Committee and the various CPSS projects, I have been frequently reminded that central banks around the world are involved in payment systems to different degrees and in different ways. During this conference, I expect to find out more about central bank activities in payment systems in developing countries – especially the rather unique problems that might be encountered. I suspect that at the end of this conference we will conclude that the work never seems to be done. Payment systems evolve and the needs and preferences of our citizens change, making central bank involvement in the payment system an ongoing effort.

Some basic principles, however, seem rather constant over time. We all know that a sound banking system – one that does not go through periodic crises that disrupt payment flows – is essential to building public confidence that the payment system will operate with integrity and reliability. The range of payment services the central bank provides to the banking system can also affect the development and smooth functioning of the payment system. Finally, cooperation between the central bank and the private sector in improving the integrity and efficiency of the payment system over time has become another well-established principle in the United States and other countries.

In this regard, central banks in several countries have been working actively with private sector service providers of, and participants in, various payment arrangements to review the adequacy of:

– financial risk controls and liquidity sources;
– operational risk controls (including electronic security);
– participant standards;
– the legal foundations of various payment arrangements; and
– disclosure of rules and responsibilities.

It is important for all involved to work hard at anticipating potential problems, correcting the causes of those problems, and avoiding the potentially dangerous task of dealing with all the ramifications of a serious, unexpected payment system problem. Or, to put it in terms of an old saying: "an ounce of prevention is worth a pound of cure", or, at an international conference such as this one, perhaps I should say: "a gram of prevention is worth a kilogram of cure".

In these cooperative efforts with the private sector to improve the payment system, the central bank often brings to the table a broad overview of the payment system that may not always be apparent to those people deeply involved in the day-to-day details. Central banks can often provide the necessary leadership by:

– serving as catalysts for constructive change and contingency planning; and
– encouraging cooperation, even among competitors, to achieve goals that benefit the payments industry as a whole.

In this spirit, the Federal Reserve Bank of New York recently hosted two conferences on electronic security, one sponsored by a private sector group and the other by our Bank Supervision Group, to identify "best practices" for electronic security in the banking industry. In addition, we are working very hard, both within the Federal Reserve System and with industry groups, to make sure that the "turn-of-the-century problem" does not create disruptions in the payment system.

Over the years, the Federal Reserve has worked with the private sector to bring about many other improvements in the payment system, including the movement of most securities from paper-based systems to book-entry depositories, the transition from next-day to same-day settlement, reductions in daylight overdrafts on Fedwire, and other risk reduction controls for the interbank systems and the major depositories. Many of you are probably already aware that in the United States Fedwire is not the only large-value interbank payment system; we also have another system with the acronym CHIPS, which is a multilateral netting system operated by the New York Clearing House. Over the past few years, CHIPS – with the Federal Reserve's encouragement – has improved its risk controls considerably, and it has provided simulations that show it could now settle successfully even if the largest two institutions in net debit positions failed to perform on their obligations. In addition, the management of CHIPS continues to study ways to reduce risk in this payment arrangement that processes well over US$ 1 trillion of transactions each business day.

Even with all these cooperative efforts aimed at reducing payment system risk, I am often reminded that one of the most important ways a central bank can promote an efficient payment system is by attaining and

maintaining price stability through an effective monetary policy. High rates of inflation reflected in high levels of nominal interest rates often result in an unnecessarily large amount of resources being devoted to cash management and hedging against inflation. Attaining and maintaining price stability, in my view, can only help to achieve the goal of an efficient payment system, at the same time contributing to the general economic well-being of our citizens. Therefore, as the central bankers here today consider the appropriate role of central banks in the payment system, as well as the design features for payment systems that reduce risk and increase efficiency, I believe we should not lose sight of our most basic responsibility, price stability. It too has important payment system implications.

Conclusions

In conclusion, the purpose of this conference is to identify and discuss the key policy issues that arise when modernising and improving payment systems. A sound banking system and a monetary policy focused on price stability would seem to be important conditions for creating and maintaining an effective payment system. Further improvements can be brought about over time through:

– central bank and private sector cooperative efforts, with the central bank often taking on a leadership role; and
– central bankers sharing their experiences, both successes and disappointments, with one another – a process we will be intensely engaged in over the next few days.