

## **Remarks by Vice Chairman Roger W. Ferguson, Jr.**

**At a workshop on Promoting the Use of Electronic Payments, Federal Reserve Bank of Chicago, Chicago, Illinois  
October 11, 2000**

### Perspectives on Innovation in the Retail Payments System

Electronic commerce and finance are growing rapidly. Media announcements of new payments mechanisms designed to aid electronic commerce have become routine. Some recent predictions look for mobile phones and sophisticated wireless devices eventually to become important tools for conducting electronic commerce and payments.

As in the 1960s, business and government officials are being asked to predict the future of electronic payments in the United States. This is understandable. Strategic planning and investments will be shaped by views about the future. Yet the future, by definition always unknowable, is hardest to predict when we are in the midst of a wave of innovation and change. At such times public policy also faces special challenges and opportunities.

This morning I would like to offer some thoughts about that earlier period of innovation and change in the banking and payments system that began in the 1960s. I would also like to review briefly our more recent experience, as well as to draw out some lessons for the private sector and public policy. Finally, I would like to provide you with an overview of the recent work of the Federal Reserve's Payments System Development Committee.

### **Past Predictions**

We often remember the predictions of a checkless society from the mid-1960s as a lesson in the pitfalls of forecasting the future of electronic payments. Today, as a nation, we write something on the order of 65 billion to 70 billion checks each year, and many "electronic" bill presentment and payment services continue to receive paper invoices and send paper checks. Looking back, banks and policymakers in the 1960s were grappling with significant problems created by the growth of economic activity relative to our ability to process paper payments and other financial instruments. At one point, the New York Stock Exchange was regularly closed on Wednesdays in order to catch up on paperwork. At the time, there were also fears that contemporary check-processing systems would not be able to handle further large increases in volume as the economy continued to grow. Deep thought and tremendous effort went into solving what came to be called the "paperwork crisis."

I recently reread some of the material from the mid-1960s, particularly the work of one of my distinguished predecessors at the Fed, George Mitchell. At the time, computers were increasingly being used to automate business processes. Computer and communications costs were predicted to fall, and automation was being discussed with the same sense of high expectation that we hear today. At least three things stand out from the discussions of payments and banking in this earlier era.

First, a number of the predictions from the mid-1960s about the payments system were in

the end remarkably accurate. The fact that cash and checks have not disappeared should not blind us to the fact that real change has taken place. Many of the retail payments innovations in the 1960s, such as credit cards, debit cards, and the automated clearinghouse, are now taken for granted. In the wholesale financial markets, checks and drafts are rarely used and securities are transferred in book-entry form.

Second, some of the analysis of the long-run effects of automation on banking and finance was both insightful and, with hindsight, too conservative. Even in the mid-1960s, it was becoming clear that the combination of computerized banking systems and telecommunications could fundamentally change both business practices and banking regulations. Successive generations of technology, now including the Internet, have helped to accelerate the process of change and to create a dynamic financial system.

But third, the early analysis of electronic payments also underestimated the transition costs of the rapid automation and probably overestimated the rate at which computing and communications costs would decline. Changing and integrating infrastructure within businesses and banking organizations and convincing enough players to adopt a technology so that investments will yield a reasonable return have posed many challenges. Even a recent survey by the Association of Financial Professionals showed that the integration of corporate accounting and payments systems still presents a challenge to the greater use of electronic bill presentment and payment. In this complex environment, it is hardly surprising that the overall demand for electronic payments to replace a well-functioning paper-based system has tended to grow more slowly than anticipated.

### **Recent Trends**

Thus I suspect that we should be simultaneously optimistic and cautious in our expectations of future retail payment systems, including electronic systems. It is certainly most likely that checks and cash will be with us for a long time. Even though the number of checks written is not measured precisely for the economy as a whole, the number appears to have grown slowly but surely over the past decade--by about 2 percent per year. Yet over the past ten years, there has also been a good deal of growth in the use of electronic payments both as a share of noncash payments and on a per capita basis. For example, we initiate more than 30 billion electronic payments over credit and debit card systems and the ACH. And these retail electronic payments have grown by about 10 percent per year over the past decade. As a result of these factors, the proportion of checks written compared with the total number of noncash payments has actually declined from about 80 percent in 1990 to around 70 percent in 1999. The share of electronic payments increased by a corresponding amount. This is a significant change for an economy as large and diverse as that of the United States. On a per capita basis, credit cards are still the most intensively used form of electronic payments for retail transactions, although the use of debit cards has recently been growing at double-digit rates. Furthermore, more than half of workers now receive a direct deposit of their paychecks through the ACH.

As I noted at the outset, the pace of innovation in the retail payments system has once again picked up. There seems to be a continual stream of announcements about new products and projects, as well as new players and shifting alliances. Some of the products are ingenious new ways to make payments over the Internet. Others aim to automate older payments mechanisms, such as projects to convert checks to electronic payments at the point of sale. The competition among all the different actors has intensified, as they jockey for competitive position in the marketplace.

Therefore, I put these facts together to conclude that today's trends might give a hint of the contours of tomorrow's world. Checks, cash, credit cards, and the ACH, the established retail payment tools, will all have a place. However, some of the newer electronic payments mechanisms, including Internet-based person-to-person and "C2B" payments mechanisms, will grow from infancy to greater maturity as well. Each of these payments mechanisms will find a niche, and some will break from the pack into general use.

### **Challenges for the Private Sector**

The major lesson for the private sector is a challenging one, particularly given its limited resources and its imperative to create shareholder value. I believe that the firms that will succeed in the world of retail payments will have to be prepared to invest simultaneously in modernizing the current retail payment systems--giving them a more electronic and automated backbone--while also experimenting with some of the newer payment tools. It appears that many institutions that thought that the check was going to die off now recognize that they must make strides in improving the security and increasing the automation of this product. However, these same institutions must also make selective investments in the newer and more visionary retail payment mechanisms.

I am not in a position to determine for each private-sector firm how to balance these two goals. Managers and directors of these businesses are closer to these decisions and bear greater direct responsibility for the success of the institutions they guide. However, all firms interested in participating in the payment system will have to recognize explicitly the challenge of maintaining the existing system while building the new one.

### **Lessons for Public Policy**

What are some of the lessons for public policy that we have learned from our experience with electronic payments since the 1960s? Our general goals of fostering a safe, efficient, and accessible payments system have not changed. However, one broad lesson is that in a dynamic economy, markets need to play a key role in guiding the development of infrastructure, including mechanisms like payments systems. This means that innovation and competition will be central to the future development of the payments system--as they are in other areas of the economy. Of course, questions of interoperability between different systems will probably need to be addressed by payments providers. Policymakers for their part should aim to remove barriers to innovation that do not conflict with important public policies and should resist calls to limit competition.

A second and related point is that successes and failures are bound to occur as the ultimate users of payments systems choose among competing options for making payments. The lesson for public policy is that it should not be built on a single product, system, or vision of the future, no matter how compelling at the time. Instead, policy should be flexible in a way that allows experimentation and change to take place, particularly in the rapidly changing world of electronic payments.

A third lesson is that public policy should exercise restraint and resist calls for premature regulation. Users face important tradeoffs as they make choices about the use of new payment technologies among key attributes such as cost, convenience, safety, and complexity. These tradeoffs may even shift depending on the specific parties to a payment or its purpose. Regulations typically make implicit assumptions about these important tradeoffs, which may preempt adjustments by users and providers of the new technologies. Even well-intentioned regulations can end up addressing the wrong problem or short-circuiting creative innovations. On the other hand, public policy will have to confront genuine and

significant problems, when these become clear and are not self-correcting.

A final lesson should temper the thinking of both policymakers and payments system innovators. This lesson involves payments system risks: operational, security, fraud, credit, liquidity, and legal risks. Many payment innovations are being built on top of older established systems and infrastructure, while others attempt to circumvent more established payment practices. This is part of the process of innovation. At the same time, innovations need to address risk consistently and responsibly. Relevant information about risk should be provided to the users of payment arrangements. As we know, the failure of private-sector innovators to address risk early may ultimately force public policy to prescribe solutions.

### **Payments System Development Committee**

I would now like to give you an overview of the recent work of the Federal Reserve's Payments System Development Committee, which I co-chair with Cathy Minehan, President of the Boston Fed. The Board created this committee last year to help follow up on the work of my predecessor, Alice Rivlin, and to help stimulate the Federal Reserve System's engagement with the private sector on a range of issues involving payments system innovation. Four important activities of the committee are the following: (1) to identify strategies for enhancing the long-term efficiency of the retail payments system, (2) to identify barriers to innovation and work to address those barriers where possible, (3) to monitor market developments, and (4) to conduct workshops and forums that encourage focused discussions with the private sector. The current areas of concentration by the committee include electronic check truncation and presentment, efforts to reduce legal and regulatory barriers to innovation, standards, and future clearing and settlement systems to support electronic commerce.

In this age of the Internet, the committee's work on electronic check collection deserves comment. Checks continue to be the most widely used retail payment instrument after currency. At the same time, it has been very difficult for the banking industry to move from a paper-based to an electronic check collection system. There has been experimentation with check truncation and electronic presentment in the United States since the 1960s, with limited success. Recently, the banking industry has shown renewed interest in this topic. The Banking Industry Technology Secretariat (BITS) for example, has endorsed the goal of having their members present at least 50 percent of their checks electronically by 2001. The Federal Reserve Banks now present about 20 percent of their checks electronically to more than 3,800 banking organizations. Both the Federal Reserve and the private sector are piloting new arrangements for truncation, presentment, and digital imaging. The issue of how to streamline the electronic return of dishonored checks is also being discussed.

Against this background, the Payments System Development Committee held a workshop at the Federal Reserve Bank of Boston this past June and invited more than 100 public and private-sector experts to help identify barriers to the greater use of truncation and electronic check presentment, along with steps the Fed and the private sector could take to help address these barriers. The Board released a summary of the Federal Reserve staff analysis of these suggestions early in September, and we will be following up on the suggestions in several areas.

One of the promising ideas discussed at the workshop involves a potential reduction in legal barriers to check truncation. The general idea is not only to facilitate the truncation, digital imaging, and electronic presentment of checks when this makes economic sense but also to protect the rights of consumers or others to receive a paper check if they want. One means

to accomplish this goal, for example, would be to provide a legal foundation that would treat the digital image of a check, or an accurate, machine-readable paper copy of that digital image, as the legal equivalent of the original check. Banking organizations would then have greater flexibility to truncate checks, while allowing banks, other businesses, and individuals to receive legally equivalent paper copies of original checks to satisfy business or personal needs. Again, a key feature of this idea is that rights would have to be protected. The Federal Reserve staff has been following up on this idea in discussions with banking, legal, business, consumer, and government representatives, and will continue to engage the private sector in dialogue.

The committee also expects to pursue initiatives in the area of technical standards, particularly for exchanging electronic checks and paper substitute checks, as well as to discuss new operational concepts for check imaging and ways to test these concepts. We will also look for ways to work with the private sector to inform depository institutions and the public about electronic check collection.

Some organizations have suggested that it is more often business considerations than technical issues that hold back participation in electronic check initiatives. In other words, some banks do not see a strong "business case" for electronic check collection, and this has clearly been a stumbling block for many organizations over the years. Several groups have already done work to identify costs and benefits. To follow up on suggestions that there may be a need for further work, the committee will seek additional views from the banking industry about the best approach to deal with these issues. Ultimately, however, each financial institution must decide what is best for that organization, and the Federal Reserve can serve as a facilitator for discussions, if needed.

Speaking of the information one might need to create a business case and plan business investment, I feel compelled to note here that we do not really know how many checks are written in the United States each year--information that might be helpful to those interested in automating or replacing check payments. The Federal Reserve is in the process now of planning to collect data from which to help estimate the annual volume of check payments and their value. We are counting on the assistance of the banking industry in this endeavor.

## **Conclusion**

Overall I have a sense that new energy is flowing into efforts to improve the retail payments system. The fact that check, cash, and credit cards are likely to be with us for some time should not blind us to the changes that are occurring. I believe that new technology, changes in the banking laws, and old-fashioned competition are producing change. Some believe that we may see revolutionary change. Several newer retail payment mechanisms will be added to the existing ones, but the history of automating the retail payments system cautions that evolution is more likely than revolution.

The Federal Reserve is actively engaged with the private sector in discussing changes in the payments system. We need to be alert to help remove barriers to innovation, including regulatory barriers, when this is in the public interest. At the same time, new payment arrangements need to address traditional payments system risks in a responsible manner and not wait until problems tarnish innovative thinking.

Finally, I continue to look for a market-oriented approach to payments system innovation that will provide long-lasting benefits to the consumers and businesses that use the U.S. payments system. True innovations frequently disturb comfortable habits. Thus we need to approach payments system innovations with an open mind and a willingness to learn. This is

particularly true in the world of electronic commerce, where payments are being adapted to new technologies, products, and methods of doing business. These innovations are important in themselves. But they are also important because successful innovations to support electronic commerce may, over the long term, have a broad influence on the payments systems we use throughout our economy.

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**Last update: October 11, 2000, 12:45 PM**