

# Summary of Input from Payments System Forums

## September 1997

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**Overview**

The Federal Reserve has important responsibilities relating to the integrity, efficiency, and accessibility of our nation's payments system and plays a dual role as regulator and service provider. In view of the major changes taking place in the financial services industry -- consolidation and interstate branching, the rapid evolution of technology applicable to payments processing, and the changing needs and preferences of consumers and businesses -- it is important for the Federal Reserve to assess its role in the payments system of the twenty-first century. In October 1996, Chairman Alan Greenspan appointed the Committee on the Federal Reserve in the Payments Mechanism (the Committee) to conduct a fundamental review of the retail payments services the Federal Reserve provides to depository institutions. These services include check collection and automated clearing house (ACH) operations.

### **Background**

A key aspect of the Committee's efforts to explore the role of the Federal Reserve in the retail payments system included drawing on the insights and expertise of payments system participants. To stimulate discussion, the Committee developed five alternative hypothetical scenarios for the Federal Reserve in the interbank retail payments system. These scenarios ranged from the Federal Reserve withdrawing as a provider of retail payments services (by either liquidation, privatization, or a gradual decline in market share) to the Federal Reserve adopting a significantly more active operational and leadership role in the retail payments system. In brief, the scenarios were:

*Liquidation:* The Federal Reserve would announce its intention to withdraw from the provision of check collection and ACH services as of a specified date. During the wind-down period, the Federal Reserve would take steps to provide for a smooth transition to commercial providers of these services. In determining the length of the wind-down period, the Federal Reserve would balance concerns about providing customers adequate time to find alternative suppliers with the difficulties in managing operations slated for liquidation (e.g., retention of trained personnel).

*Privatization:* The Federal Reserve would privatize its check collection and ACH operations by placing them under a newly chartered, special-purpose Clearing Bank.<sup>@</sup> The Clearing Bank would subsequently become a commercial entity, with no privileged ties to the Federal Reserve. In the interim, the Federal Reserve would take actions to ensure a level playing field between the Clearing Bank and other commercial providers.

*Continuity and Access:* The Federal Reserve would continue to provide check collection and ACH services, but only with the limited goal of assuring universal access for depository institutions. For the most part, the Federal Reserve would allow initiatives by commercial providers to determine the future course of the retail payments system, with competition among these providers of payment services the primary catalyst for innovation.

*Promoting Efficiency:* The Federal Reserve would use its operational presence in the check collection and ACH markets to enhance the efficiency of the interbank retail payments system and would take steps to foster innovation by commercial providers.

*Leading Toward Electronic Payments:* The Federal Reserve would expedite the movement to an electronic-based retail payments system, replicating the universal acceptance and access that characterizes the current paper-based system. The Federal Reserve would accomplish this objective through an active operational presence and by creating incentives for commercial providers to enhance electronic payment methods.

The Committee invited payments system participants from around the country to review the scenarios and, during a series of discussion forums, examined the implications of these scenarios for the payments system. The Committee also discussed these issues with officials from the Department of the Treasury.

The goal in holding these forums was to receive input from as wide a spectrum of retail payments system participants as possible. Thus, the forums were held at different locations throughout the country and were attended by a broad group of retail payments system participants and experts. In particular, the Committee held 10 half-day national forums at four Reserve Banks (St. Louis, New York, San Francisco, and Atlanta) and at the Board of Governors during May and June, 1997. These national forums were attended by Committee members and a small group of senior Federal Reserve officials.

Payments system participants at these national forums included representatives from banks, thrifts, and credit unions of all asset sizes; third-party payment service providers; clearinghouses and regional ACH associations; trade groups representing various categories of depository institutions, consumers, and retailers; and academics and consultants, among others. In total, representatives from nearly 100 organizations participated in the national forums. To ensure a balanced and interactive dialogue, these forums were moderated by an independent facilitator.

In addition, each Federal Reserve Bank held a series of regional forums with depository institutions and other retail payments system participants from that District. These forums, which were attended and moderated by senior staff from each Reserve Bank, entailed both group meetings with a range of payments system participants and one-on-one meetings with various institutions. As in the national forums, the group meetings included a range of depository institutions, payment service providers, and others. A total of 52 regional forums were held around the country during the months of May and June, attended by representatives from over 350 institutions and organizations. The Committee also invited written comments from regional and national forum attendees as well as other interested parties, and received input in this form from a variety of payments system participants. A list of forum participants, as well as those submitting comments in writing, is included as Appendix I.

All participants were advised that the scenarios were developed to provoke an in-depth discussion of the market effects of the Federal Reserve's presence as a provider of interbank retail payments services. The scenarios were not intended as proposals for future actions by the Federal Reserve. In this regard, much of the discussion focused around three broad issues: the impact on the price and availability of services under each scenario, the impact on the evolution of the retail payments system and the use of available and emerging technology, and the impact on public confidence in the effectiveness and reliability of the retail payments system.

The discussions prompted by these scenarios were highly interactive and wide-ranging, particularly as regards the potential impact of the Federal Reserve on the evolution of the retail payments system and the growth of electronic transactions. The feedback and information received during these forums comprised some of the key inputs to the Committee's deliberations, and the insights gained during these dialogues were crucial in helping the Committee gain a better understanding of the impact on the payments system of the Federal Reserve's presence as a provider of interbank retail payments.

### **Major Findings**

The feedback that the Committee received during the payments system forums suggests that, because the Federal Reserve plays a key role as a provider of check collection and automated clearing house (ACH) services, its withdrawal as a service provider could cause significant short-term disruption with questionable benefits over the long run. Further, the feedback suggests that, because of the scope of its operations and its regulatory role, the Federal Reserve could provide leadership and direction by working with other retail payments system participants to foster the transition to a more electronic retail payments system. Major findings from the payments system forums are listed below.

- C While a few large banks and clearinghouses thought the Federal Reserve should exit the check collection and ACH businesses, the overwhelming majority of forum participants opposed Federal Reserve withdrawal, primarily because of concern about payments system disruptions.
  
- C Many participants, including small depository institutions and those in remote locations, expressed concern about continued access to check collection and ACH services in the event of Federal Reserve withdrawal. A number of these participants expressed concern about the long-term implications of a lack of access to check services, such as the potential loss of local deposits if non-par checking evolves to clear checks on small institutions or those located in remote areas. Participants also cited concerns that such a withdrawal would significantly complicate other operational and resource challenges, such as compliance with century date change, the conversion of all federal government payments to electronic form by 1999, and consolidation issues arising from mergers and acquisitions.

- C A number of participants also expressed concern about the potential for significant operating disruptions as the Federal Reserve would no longer be positioned to act as a service provider of last resort during banking crises.
- C In contrast, some large banks and clearing associations supported Federal Reserve withdrawal from interbank retail payments services. Some of these participants thought that withdrawal would provide the incentive and opportunity for commercial providers to introduce new electronic payment methods and innovative electronic processing techniques. Several participants also noted that one of the barriers to increased acceptance of electronic payments may be the efficiency of the check processing system.
- C There was general agreement that prices for check collection services would increase, especially for small depository institutions and those in remote locations, if the Federal Reserve withdrew as a service provider. However, there were divergent views about the forces behind this increase. Some participants indicated that higher prices would reflect the true cost of providing services to these institutions, while other participants suggested that the price increases would reflect increased market power by commercial providers.
- C There was general consensus that check volumes are likely to remain high for a number of years, even though the rate of growth may level off or even decline. Given the projected high volumes of checks, most participants indicated that the Federal Reserve and other industry participants should focus on attaining additional efficiencies in the check processing system, perhaps through electronic check presentment (ECP) and truncation. While some participants advocated mandatory ECP or truncation, others viewed consumer acceptance as key to achieving widespread ECP and suggested facilitating acceptance through improved service, legal changes, and pricing.
- C Many participants believed that there would be sufficient capacity in both the check and automated clearing house (ACH) markets in the long run to absorb additional volume if the Federal Reserve were to withdraw from providing interbank retail payments services. However, some regional differences in capacity exist, suggesting there could be insufficient capacity in some areas of the country. In the check market, these regional capacity concerns are magnified by the fact that participants suggested that some correspondent banks no longer appear to view check processing operations as a strategic business. This suggests that there could be a reduction in the number of commercial providers of check processing services in the future.

- C There was general consensus that the Federal Reserve should play a stronger leadership role in improving the efficiency of the check collection system, and in leading the industry toward the retail payments system of the future. The most common themes to emerge were that the Federal Reserve should make greater efforts to collaborate with the industry to develop standards for electronic payments and electronic payments processing, to sponsor education for consumers and businesses about the benefits of electronic payments, and to foster a legal and regulatory environment that would support more efficient payment methods. Opinion was mixed as to whether an operational presence was necessary to assure sufficient knowledge and expertise to effectively carry out these efforts.
- C Many participants urged the Federal Reserve to collaborate with diverse participants in the retail payments system to share ideas and identify impediments to the transition to a more efficient retail payments system. These participants stressed that they preferred collaboration among many diverse payments system participants -- rather than a top-down mandate from the Federal Reserve -- as the appropriate leadership approach for the Federal Reserve. There was considerable debate among participants about how the Federal Reserve should balance this leadership role with its existing dual responsibilities for regulating and providing retail payments services.
- C Many participants suggested that the Federal Reserve could help the industry determine standards for electronic payments and electronic payments processing, including standards for privacy and security of transaction information arising from payments, standards addressing liability and risk in emerging electronic payments, and specifications concerning authorization of transactions. Many participants stated that the development of such standards would significantly reduce the uncertainty surrounding the future of electronic transactions.
- C Many participants also noted that shortcomings in the current ACH system are limiting the scope and market for ACH products, and that the Federal Reserve could play a role in addressing these deficiencies. Specific factors cited by participants that may be affecting the acceptance of ACH as an alternative to paper checks are the lack of flexibility in originating ACH transactions, the difficulty in sending remittance information along with ACH payments, the lack of a nationally coordinated and properly funded education and marketing effort aimed at consumers and businesses, and the lack of policies and procedures to enforce the complex body of rules governing ACH transactions.
- C There was broad consensus that the Federal Reserve should address the legal issues hindering the transition to a more efficient retail payments system. Several participants suggested that the Federal Reserve could provide leadership by

bringing together various retail payments system participants to identify the key legal issues and to develop approaches for addressing them.

- C Broader education on the merits of ACH and other forms of electronic payments could stimulate demand for these alternatives to check and cash. Recognizing that consumers and businesses ultimately determine the extent of electronic payment use, many participants urged the Federal Reserve to help educate the public about electronic payments, though without endorsing one payment alternative over another.
- C A number of participants suggested that the Federal Reserve should take steps to improve the payments system by continuing to improve the efficiency of its services and by making timely changes to products.

To encourage open and frank discussion during the meetings, a detailed written record of comments was not made, and participants were assured that points of view would not be attributed to individuals or organizations. This report captures the major themes and points of view that emerged during the meetings and in written correspondence received by the Committee regarding the effect of each scenario on the market for check collection and ACH services, payments system evolution, and public confidence in the payments system.

## **Scenario I: Liquidation**

### **Scenario Description**

In this scenario, the Federal Reserve would announce its intention to withdraw from the provision of check collection and ACH services on a specified date. During the transition period, the Federal Reserve would take steps to facilitate a smooth transition to commercial providers of these services. In determining the length of the wind-down period, the Federal Reserve would balance concerns about providing customers adequate time to find alternative suppliers with the difficulties in managing operations slated for liquidation (e.g., retention of trained personnel).

### **Market Impact**

While a few participants at both the national and regional meetings supported the Federal Reserve's withdrawal from interbank retail payments services through liquidation, many participants believed that this scenario would cause short-run disruptions in both the check collection and ACH markets with little long-term benefit.

Many participants indicated that there would be sufficient capacity in both the check and ACH markets in the long run to absorb additional volume if the Federal Reserve liquidated its interbank retail payments services. However, a number of participants indicated that there would be insufficient capacity in some regions. In addition, participants questioned whether commercial check and ACH suppliers would place a high priority on serving the full range of depository institutions currently served by the Federal Reserve.

In the check collection market:

- C Many participants expected commercial providers to be reluctant to expand their services significantly to accommodate the additional volume that withdrawal by the Federal Reserve would entail. Reasons cited include an interest in making investments in future technologies rather than in legacy systems; other, more pressing priorities such as dealing with the impact of mergers and acquisitions, conversion of all federal government payments to electronic form in 1999, and century date change issues; and the marginal profitability and limited growth prospects for paper processing.
- C Many participants commented that a Federal Reserve exit from check collection could lead to some areas of the country being underserved if a sufficient number of commercial providers were unwilling to expand their check processing businesses.
- C Many community banks, regardless of distance from the nearest metropolitan area, anticipated problems in obtaining access to check collection services.

- C Nearly all participants thought that prices for check collection services would increase, especially for small and/or remote depository institutions, under the liquidation scenario. However, there were divergent views about the forces behind this increase:
  - C Some participants indicated that the higher prices would reflect the true cost of providing check collection services to these institutions. These participants believe that Federal Reserve Banks under-charge for services to small and/or remote institutions, either by overcharging other Federal Reserve customers, by accepting a lower rate of return than would be required by commercial providers (the private sector adjustment factor is too low), or by not accurately accounting for the full costs of providing the service.
  - C Other participants (especially the smaller institutions) indicated that the price increases would reflect increased market power by commercial providers.
- C A small number of participants suggested that commercial providers would assume the check volume currently processed by the Federal Reserve without significant changes in access or pricing. These participants indicated that the additional volume generated through the Federal Reserve's liquidation of its check collection services would enable commercial providers to be more efficient, primarily through scale economies, and more profitable, encouraging additional providers to enter the business.
- C A number of participants expressed concern about the likelihood of a disorderly transition under the liquidation scenario. Several factors were mentioned that could affect the transition, including the difficulty that the Federal Reserve could have in retaining staff once liquidation is announced and the time frame needed to develop a retail payments infrastructure capable of supporting the Federal Reserve's volume.

In the ACH market:

- C Most participants agreed that, while physical capacity would not be a problem in the long run, the ability to reach the more than 14,000 endpoints receiving ACH items directly from the Federal Reserve would be an issue in the short run. In particular, it could take commercial providers a significant amount of time to connect the full range of low-volume ACH originators and receivers currently served by the Federal Reserve.
- C There was general recognition that Federal Reserve involvement in ACH is necessary in the short run to successfully implement the Treasury mandate to deliver all federal government payments electronically beginning in 1999. The fact that the Federal Reserve is the only entity at this time with an electronic connection to most depository institutions is an important consideration in meeting this mandate.

In general:

- C Most community banks and other small depository institutions are worried about purchasing payments services from commercial banks that in many cases are direct competitors for local deposit and lending business. Part of this concern is that these competitors could derive information about community banks' customers.
- .C Smaller depository institutions regard the Federal Reserve as an essential link to the payments system, both for check collection services and electronic transactions. Several community bank representatives commented that they were able to get access to new technology only through the Federal Reserve. These institutions suggested that commercial service providers do not offer the same degree of access, the same level of service, or the same willingness to invest in back-office technology. Since these providers are often direct competitors, the community banks had the sense that commercial providers could withhold the latest products and services to gain a competitive advantage.
- C Absent the Federal Reserve, continuity of service becomes a concern to some participants. Several participants cited anecdotes about commercial providers that had withdrawn from a service with little or no warning. This issue was articulated perhaps most strongly by participants in those regions of the country that have experienced financial or other crises in recent years.

### **Payments System Evolution**

There was broad consensus that paper checks would remain an important payment method, at least in the next 10 years. Several reasons were cited:

- C Checks are a convenient payment method (easy to originate, widely accepted) with which consumers, retailers, and businesses are familiar and comfortable. Thus, there is little, if any, impetus from check writers to abandon this form of payment.
- C The legal foundations of paper check collection are well-established and broadly understood.
- C Check writers like the benefits of float.

While the financial services industry, including the Federal Reserve, can stimulate the movement to electronics, the pace will ultimately be driven by the consumer.

- C Broad consumer acceptance of electronic payments requires education. Consumers today appear confused by the number of options available.
- C For the most part, electronic payment alternatives today do not currently provide the flexibility and convenience of traditional payment vehicles such as cash and checks.
  - C Pricing strategies in place at most depository institutions discourage the use of electronic payments over checks.
  - C The legal framework that establishes the rights and liabilities of participants in electronic payments transactions is not as well-understood as the framework supporting check collection.

There were divergent views about how the Federal Reserve's withdrawal from interbank check and ACH payment service would affect the speed of evolution from paper to electronic payment methods.

- C Many participants thought that the Federal Reserve's withdrawal could retard the move to electronic payments and the introduction of other payments system improvements. The primary reason cited was that Federal Reserve withdrawal would force depository institutions to divert scarce resources toward managing the transition to a fully commercial system and away from investments in new technologies. In addition, some participants argued that the widespread adoption of new technologies requires cooperation among depository institutions and payment service providers, as well as an ongoing education effort aimed at depository institutions, consumers, and businesses. These participants argued that the Federal Reserve -- with a public policy mandate and a significant market share in these businesses -- is well-placed to coordinate such actions. Its withdrawal as a retail payments service provider might therefore slow the adoption of new payments methods.
- C In contrast, other participants thought that the Federal Reserve's withdrawal from the check collection and ACH markets would provide the incentive and opportunity for commercial providers to introduce new electronic payments methods and innovative electronic processing techniques (such as electronic check presentment). In part, these new techniques would be introduced to limit the costs of serving the remote and low-volume endpoints currently served by the Federal Reserve. More broadly, these participants stated that the Federal Reserve has a tendency to be slow to innovate and to bring new products to market. Thus, its withdrawal as a retail payments service provider could enhance the speed at which new technologies are adopted. Finally, some participants believed that increases in market share would result in higher profits for

commercial providers, which could be used to finance additional investments in electronic payments.

Many participants believed that withdrawal through liquidation by the Federal Reserve would result in a more heavily regulated payments system.

- C Many participants expected that concerns about safety and efficiency and about equal access to the payments system for all depository institutions could lead to regulation with respect to pricing and service availability. These participants suggested that the Federal Reserve's active participation in the retail payments system may have effectively limited the amount of regulation needed to ensure access and availability of service.
- C Large banks and service providers viewed the prospect of a more heavily regulated payments system with concern. Smaller banks seemed to regard such regulation as necessary to ensure their continued viability and their ability to resolve disputes with participants that otherwise would have substantially more bargaining power under this scenario.
- C There was also concern that such regulation could place banks at a disadvantage relative to nonbanks in the provision of payment services. In particular, depository institutions were concerned by the prospect that check and other payment services offered primarily by depository institutions would be subject to regulation not imposed on the services offered by nondepositories.

### **Public Confidence**

On the one hand, participants indicated that the effect of Federal Reserve withdrawal on public confidence is difficult to predict since the public has little awareness of the specific role that the Federal Reserve plays in the payments system.

- C The smooth functioning of the payments system has resulted in the public taking the current payments system for granted. Participants agreed that the public would generally be indifferent to any changes in the payments system unless they experience disruptions in access to funds or availability of service.

On the other hand, many participants -- especially smaller depository institutions -- argued that the Federal Reserve provides stability to the payments system during banking crises.

- C Most of the concerns centered around the question of how the check and ACH systems would function during periods of financial stress if the Federal Reserve were not directly involved as a provider of payment services. For instance, several participants cited instances in which correspondent banks had become troubled and the Federal Reserve provided backstop services to local respondent banks.

- C Many participants were also concerned that commercial providers might tend to underinvest in backup systems and contingency arrangements, which could compromise the public's confidence in the payments system the first time a significant disruption occurred.
  
- C In addition, some argued that disruptions during the transition period to a fully commercial payments system could shake public confidence in the system. Others argued that if appropriate steps were taken to ensure a smooth transition following liquidation, there would be little reason to believe that public confidence would be undermined, given the public is not aware of the Federal Reserve's involvement in the check and ACH systems.

## **Scenario II: Privatization**

### **Scenario Description**

In this scenario, the Federal Reserve would privatize its check collection and ACH operations by placing them under a newly chartered, special-purpose Clearing Bank.<sup>6</sup> The Clearing Bank would subsequently become a commercial entity, with no privileged ties to the Federal Reserve. In the interim, the Federal Reserve would take actions to ensure a level playing field between the Clearing Bank and other commercial providers.

### **Market Impact**

In general, there was little or no enthusiasm for the privatization scenario, and participants expressed little interest in discussing the scenario at length. Participants generally agreed that privatization would in many ways impact the market in a manner similar to liquidation. Small depository institutions and those in remote locations could have greater difficulty obtaining access to services, and prices for check collection and ACH services would increase in some regions and among some segments of the market.

- C Some participants commented that the transition to strictly commercial providers of check collection and ACH services is likely to be more orderly under privatization than liquidation because a special-purpose Clearing Bank would be formed. Several participants commented, however, that the transition would have to be lengthy and perhaps costly to ensure a smooth changeover to a fully commercial system.
- C Many participants stated that privatization would likely result in a large entity motivated by profit rather than by the public interest.
  - C The nature of the ownership of the Clearing Bank was a source of concern, particularly to community banks, because the potential exists for increased market power among their largest competitors.
- C There were different views on the attractiveness of the Clearing Bank's franchise. Several participants noted that the required capitalization could be so high that no single entity could afford it, while others questioned whether any organization would choose to invest in it.
- C Many participants suggested that, once formed, the Clearing Bank would shift its strategic direction to serve only the most profitable market segments. It is unclear whether the Clearing Bank would continue to serve the same markets as the Federal Reserve currently serves without some sort of restriction or regulation.

### **Payments System Evolution**

Participants had mixed expectations concerning the impact of privatization on the pace of transition to electronic payments.

- C Some participants argued that the Clearing Bank would have a stronger incentive than the Federal Reserve to expedite the transition of the retail payments system to electronics because it would be motivated to drive down its costs of paper processing and maximize its profits.
- C In addition, participants suggested that the collaboration needed to make the transition to an electronic payments system is more likely to occur when there is a leader setting the standard for the infrastructure. The privatization scenario preserves a dominant provider that can fulfill the role of industry leader. Views were mixed, however, as to whether the Clearing Bank would have a greater ability to perform this role than the Federal Reserve.
- C Finally, some argued that preservation of a dominant firm could retard innovation because the Clearing Bank would seek to preserve the value of its existing capital investment upon which its dominant share is based.

### **Public Confidence**

A number of participants expressed public confidence concerns with privatization similar to those described under the liquidation scenario. Other participants noted that the potential adverse effect of privatization on public confidence may be mitigated somewhat as compared to liquidation since privatization effectively allows for a longer transition time to a retail payments clearing business operated fully by the commercial sector.

There was general agreement that some entity would need to provide regulatory oversight of the Clearing Bank to ensure that reasonable access and pricing policies were pursued and that the integrity of the payments system remained intact. Some participants recommended that the Clearing Bank be viewed as a quasi-governmental entity or government-sponsored enterprise, such as the Federal National Mortgage Association.

- C Under both liquidation and privatization, participants expressed concern over the prospect that payments system disruptions following the Federal Reserve's withdrawal could weaken public perception of a system that has experienced virtually no operational failure for more than 60 years. Some participants suggested that should the Federal Reserve withdraw as a provider of payment services but retain oversight responsibility, subsequent disruptions could weaken the public's confidence in the Federal Reserve's ability to conduct monetary policy and banking supervision and regulation.

- C Some participants thought that the privatized organization did not have to be a bank. These participants suggested that a nonbank entity would attract a wider range of potential investors, assuming access to the Federal Reserve's net settlement services were granted.
  
- C Given the unknown regulatory burden and uncertainty about the future profitability of the check collection business, participants expressed little interest in purchasing the Federal Reserve's check collection business. There was somewhat greater interest in purchasing the ACH business.

## **Scenario III: Continuity and Access**

### **Scenario Description**

In this scenario, the Federal Reserve would continue to provide check collection and ACH services, but only with the limited goal of universal access for depository institutions. For the most part, the Federal Reserve would allow initiatives by commercial providers to determine the future course of the retail payments system, with competition among these providers of payment services the primary catalyst for innovation in the payments system.

### **Market Impact**

There was general agreement that the goal of universal access in this scenario would ensure continued availability of check and ACH payment services to small and remote institutions, at least in the near term. However, it was acknowledged that Federal Reserve check prices would likely increase over time if its volumes declined.

- C Participants indicated that, in the short run, prices could decline in more competitive, higher-volume markets as alternative service providers adjust prices to attract volume from the Federal Reserve. As a result, depository institutions having access to alternative service providers would abandon the Federal Reserve, and check prices would likely increase for those institutions that had no options other than the Federal Reserve. There was general agreement that the remaining users of Federal Reserve check services would be high-cost endpoints, primarily small and remote institutions.

Some participants noted that the continuing presence of the Federal Reserve as a payments system participant could prevent a few large providers of ACH and check collection services from dominating the market in the near term.

Many participants viewed the continuity and access scenario as a long-term exit strategy. These participants commented that many of the pricing and access issues associated with liquidation and privatization would eventually surface at the time when the Federal Reserve would be forced to exit the retail payments business.

- C Some participants commented that the transition to a commercial check and ACH payments clearing business would likely be more orderly and less disruptive than under liquidation or privatization as the market adjusted gradually to a diminished role by the Federal Reserve in these businesses.
- C Other participants argued that the transition would be more disruptive because the timing of the Federal Reserve's eventual withdrawal from check and ACH services would be unknown.

### **Payments System Evolution**

Participants strongly believed that the level of leadership exhibited by the Federal Reserve in this scenario would be insufficient to influence payments system evolution significantly. There was disagreement, however, on whether the commercial sector, on its own, would exhibit the leadership necessary to foster innovation and influence payments system evolution.

- C On the one hand, some participants noted that the highly uncertain returns on investment in electronic payments would continue to retard innovation and that the passive role of the Federal Reserve would not reduce this uncertainty.
- C On the other hand, other participants suggested that competition among commercial providers should drive a healthy level of innovation and improvement in the payments system. An operational presence by the Federal Reserve, albeit passive, might encourage commercial providers to coordinate their activities with each other and with the Federal Reserve.
- C Despite weak incentives for commercial entities to cooperate in turning payments system improvement ideas into actions, participants cited several examples of depository institutions investing resources in developing enhanced electronic payments applications. The most notable were the development of an electronic check clearing system and the private-sector alternatives to the Federal Reserve's ACH service.

### **Public Confidence**

With the Federal Reserve maintaining an operational presence, this scenario would have no short-term impact on public confidence in the payments system. However, if this scenario resulted in an eventual withdrawal from the check collection or ACH businesses, the public confidence issues that surfaced under liquidation and privatization would be relevant.

## **Scenario IV: Promoting Efficiency**

### **Scenario Description**

In this scenario, the Federal Reserve would use its operational presence in the check collection and ACH markets to enhance the economic efficiency of the interbank retail payments system and would foster innovation by commercial providers.

### **Market Impact**

There was broad consensus that paper checks would remain an important payment method, at least in the next 10 years, and that there should be a stronger focus on improving the efficiency of the check collection system through efforts such as electronic check presentment (ECP) until electronic payments are more widely accepted.

A wide variety of participants expressed significant interest in the concept of ECP and check truncation. These participants argued that electronic check presentment is the most promising near-term strategy for reducing the costs of paper check processing and improving the efficiency of the retail payments system. There were divergent views, however, about the role that the Federal Reserve could play to foster the growth of ECP and truncation:

- C Many participants -- including both large and small depository institutions and payment service providers -- noted that the efficiency of the check clearing process would be enhanced by introducing ECP and truncation as early in the process as possible. While recognizing that this may be a transition step until consumers adopt electronic payments more enthusiastically, these participants thought that focusing on ECP with truncation was appropriate given that checks are expected to be a widely used payment alternative for some time. In contrast, a few participants felt that commercial payment service providers and the Federal Reserve should focus new investment on emerging electronic payment methods, rather than on legacy systems for check collection.
- C A number of participants suggested that the Federal Reserve could foster ECP and truncation by making regulatory changes to support this transition. In fact, several participants argued that ECP would never be adopted on a widespread basis in the absence of regulation requiring depository institutions to make this transition. These participants noted that the sheer size and fragmented nature of the check collection system would preclude the coordination needed for such a system to arise in the absence of a regulatory mandate. Further, these participants felt that there could be significant reluctance on the part of consumers and businesses to move to a truncation-based check collection system, mainly because they will no longer receive cancelled checks. In this regard, depository institutions expressed concern about the competitive implications of implementing check truncation on their own -- they were concerned about losing customers to depositories

that did not take this step. Thus, the idea that the Federal Reserve should mandate the move to truncation and ECP by the entire industry simultaneously had some appeal.

- C Some participants -- especially smaller depository institutions -- further argued that the Federal Reserve is the logical entity to lead such a transition because of its structure and procedures (public comment process), which ensure broad-based input to such policy issues.
- C However, many other participants suggested that, while regulatory changes could be useful in supporting the transition to ECP and truncation, the Federal Reserve should initially focus on collaboration with the industry to effect change. These participants stressed the importance of garnering support for ECP and ensuring that ECP meets the needs of customers and service providers.
- C Overall, there was considerable sympathy for the idea that consumers and businesses should have the choice of payment method, and many participants were uncomfortable with the idea that these choices would be limited by regulatory mandate. These participants expressed a strong desire to provide input and direction to the Federal Reserve on alternatives to expedite the migration to electronic payments and electronic payments processing.
- C Several participants argued that it would be more appropriate for the industry to change its pricing practices so that retail payment end users incur the actual costs of various payment methods. These participants noted that current industry pricing typically favors paper checks over electronic substitutes, whereas the costs of paper check processing are often higher than for electronic alternatives.

Participants generally concurred that the Federal Reserve should play a stronger leadership role in improving the efficiency of the check collection and ACH systems, and in moving the industry toward the retail payment system of the future. While differences were expressed about the appropriate nature of this leadership, a common theme emerged: the Federal Reserve should make greater efforts to collaborate with the industry to develop standards for electronic payments and electronic payments processing, to sponsor education for consumers and businesses about the benefits of electronic payments, and to foster a legal and regulatory environment that would support more efficient payment methods.

There was general agreement among national and regional meeting participants that this scenario would have little impact on the availability of ACH and check collection services, though the nature of these services could change significantly if the transition to electronic payment methods and electronic payments processing were to accelerate.

- C Some participants suggested that if this scenario resulted in more efficient Federal Reserve operations, then the overall efficiency of the check and ACH payments systems could be improved. This improved efficiency could result in lower prices for the industry.

Most participants agreed that the full cost recovery requirement -- which establishes that the Federal Reserve must recover the full costs of providing priced services, including an adjustment for the cost of capital and taxes -- imposes a desirable and necessary discipline on the Federal Reserve's activities as a payments service provider. There was somewhat less consensus, however, as to whether it would be appropriate for the Federal Reserve to introduce more flexibility into its cost recovery guidelines as a way to promote greater use of electronic payments.

- C Some participants were skeptical that under-recovering costs in one service line (electronic products) while over-recovering costs in other product lines (paper products) would be an effective means of encouraging the transition to more efficient retail payment methods. These participants argued that such pricing strategies aimed at the interbank portion of the payments market would be largely ineffective in the absence of pricing changes that directly affect the end users of payment services.
- C Some large banks and payment service providers also argued that under-recovering costs in some service lines would give the Federal Reserve an unfair competitive advantage in those service lines, even if costs were fully recovered overall.
- C Some participants challenged the private sector adjustment factor (PSAF) used in the Federal Reserve's cost recovery calculations, arguing that it may not accurately capture the true costs facing commercial payment service providers.

### **Payments System Evolution**

Most participants stated that the Federal Reserve could play a role in collaborating with diverse participants in the retail payment system to share ideas and identify impediments to the transition to a more efficient retail payments system. These participants stressed that they preferred collaboration among many diverse payments system participants -- rather than a top-down mandate from the Federal Reserve -- as the appropriate leadership approach for the Federal Reserve.

- C Some participants remarked that a deterrent to investment in new payments technology was the substantial uncertainty created by the plethora of competing concepts, all of which require sizeable investment to implement and yet carry the risk of not becoming the standard the industry ultimately adopts. These participants argued that the Federal Reserve could help the industry to determine standards for electronic payments and electronic payments processing, including standards for privacy and security of transaction information arising from payments, standards addressing liability and risk in emerging

electronic payments, and specifications concerning authorization of transactions. Many participants stated that the development of such standards would significantly reduce the uncertainty surrounding the future of electronic transactions.

- C Many participants commented on the need for broader education of consumers, businesses, and financial institutions on the merits of electronic payments and check truncation. Several suggested that the Federal Reserve should inform and educate the public about electronic payments without endorsing one payment alternative over another.
- C There was broad consensus that the Federal Reserve should address the legal issues that may be hindering the transition to a more efficient retail payment system. Several participants suggested that the Federal Reserve could provide leadership to the payments industry by bringing together various retail payment system participants to identify the key legal issues and to develop approaches to addressing them.

Some participants -- especially community banks and other smaller depository institutions -- suggested that the Federal Reserve could also foster the development of a more efficient payments system through its activities as a payment service provider. In particular, these participants commented that the Federal Reserve could foster efficiency and accelerate the transition to a more electronic-based retail payment system by making investments that would permit the Reserve Banks to offer a wider range of electronic services.

- C A number of participants -- especially smaller depository institutions -- indicated that the Federal Reserve's investment in technology-driven products enables them to take advantage of these services without large up-front technological investments.
  - C Several community banks commented that they were able to offer new technology (e.g., imaging services) to their customers through the Federal Reserve. Without Federal Reserve investment in these emerging back-room technologies, some community banks would not be able to provide state-of-the-art services to their customers.
  - C In addition, some participants suggested that commercial entities may be reluctant to take the lead in moving toward electronic payments, perhaps because the short- and long-term returns on investment in new payments technologies are too unpredictable. These participants argued that it was more appropriate for the Federal Reserve -- with its public interest perspective -- to undertake the sort of infrastructure investment that could benefit the entire retail payments system.
- C Many participants, including most community banks and a number of larger depository institutions, advocated a more active operational presence by the Federal Reserve to foster the movement to a more efficient retail payments system. These participants argued that such a presence would result in a faster transition to electronic payments and electronic

payments processing by providing the means for community banks to make this transition, and by setting the model that other retail payments providers would follow.

- C In contrast, a number of larger institutions and payment service providers viewed the prospect of a more aggressive operational presence for the Federal Reserve with concern, arguing that the Federal Reserve has competitive advantages that already make it a strong competitor. These participants commented that a more aggressive operational role for the Federal Reserve was unwarranted, and that the ultimate direction of the industry should be determined through competition among commercial providers and through the choices made by consumers and businesses.
- C Many of these participants suggested that a stronger operational role for the Federal Reserve was unnecessary to accelerate the transition to electronic payments, arguing that the Federal Reserve is behind the times technologically and that commercial providers are already developing new payments methods without the input of the Federal Reserve.
- C Others argued that the Federal Reserve would be in a better position to provide effective leadership to the retail payments industry if it were no longer a service provider, or if it had a somewhat reduced role, thereby avoiding the appearance of a conflict of interest.

### **Public Confidence**

Many participants recognized the potential conflict of interest facing the Federal Reserve in its dual role as service provider and payments system regulator. Again, however, there was a split in views:

- C Several of the correspondent banks and other payment service providers expressed strong concern about the potential for conflict of interest, particularly if the Federal Reserve were to adopt a more aggressive operational presence or attempt to use its regulatory authority to foster the move to electronic payments. These participants were concerned that the Federal Reserve might use its regulatory authority to benefit its service provider role. Several expressed the view that these conflict of interest concerns were sufficiently important that they should preclude the Federal Reserve from adopting a more aggressive competitive stance.
- C In contrast, a number of participants -- including both community banks and some larger institutions -- argued that the Federal Reserve's effectiveness as a regulator is enhanced by its operational presence as a payment service provider. Some further questioned whether the Federal Reserve would be able to serve as an effective partner and facilitator with the commercial sector if it were not also a service provider.

A number of participants noted that the Federal Reserve could help maintain public confidence in the check and ACH payments systems through education, where warranted, about electronic payments. This education could address the safety and reliability of electronic payments and electronic payments processing, in general, as well as the risk and privacy concerns associated with these types of payments.

- C While most participants thought that aggressive marketing and education about the benefits of electronic payments and electronic payments processing would be helpful, there was nonetheless some feeling that these efforts would have only a marginal impact on the ultimate transition away from a paper-based system.
- C However, several of the smaller depository institutions noted that they had successfully implemented check truncation with a minimal loss of customers, and that customer education had been a key part of this transition.

Participants also asserted that the Federal Reserve could help raise the confidence of both the general public and depository institutions in the safety and reliability of electronic payments by helping to establish a strong legal framework for these transactions. Some of the key legal issues noted by participants included responsibility for signature verification in an electronic check collection system and the liabilities of each party to a transaction.

## **Scenario V: Leading Toward Electronic Payments**

### **Scenario Description**

In this scenario, the Federal Reserve would expedite the movement to an electronic-based retail payments system, replicating the universal acceptance and access that characterizes the current paper-based system. The Federal Reserve would accomplish this objective through an aggressive operational presence and by creating incentives for commercial providers to enhance electronic payment methods.

### **Market Impact**

For the same reasons described in the **APromoting Efficiency@scenario**, meeting participants generally agreed that the **ALeading Toward Electronic Payments@scenario** would have little impact on the availability of ACH and check collection services, though the nature of these services could change significantly if the transition to electronic payments and electronic payments processing accelerated significantly.

As in the **APromoting Efficiency@scenario**, participants agreed that the Federal Reserve's full cost recovery requirement imposes a desirable and necessary discipline on its activities.

- C In general, most participants were uncomfortable with the idea that the Federal Reserve might not recover its costs on an ongoing basis, even if such under-recovery was intended to foster the transition to a more efficient payments system.
- C There was some support from these participants, however, for the idea that cost recovery might occur over the long run, rather than on a year-by-year basis, so that the Federal Reserve could fund research and development or investments in new payments methods. Some of the support for this suggestion centered on the Federal Reserve's entering into joint ventures with commercial providers. This suggestion, however, raised concerns from some participants about the potential competitive impact of such ventures.

### **Payments System Evolution**

As in the **APromoting Efficiency@scenario**, there was a broad consensus that the Federal Reserve should take a stronger leadership role in fostering the development of a more efficient retail payments system. While there were diverse views about the appropriate leadership role for the Federal Reserve, many participants stressed the importance of collaboration with other retail payments providers, with depository institutions, and with end users to encourage greater use of electronic payments and electronic payments processing.

While most participants suggested that the Federal Reserve provide leadership to the payments industry in standard-setting and rule-making, there was less consensus about the appropriate role for the Federal Reserve as a service provider. For the reasons discussed in the scenario above, some participants supported the idea that the Federal Reserve would adopt a more aggressive operational presence, offering a wider range of products and services and taking strong steps to lead the retail payments system toward greater use of electronics. Other participants were less enthusiastic about this prospect, instead supporting the idea that the Federal Reserve should adopt a less aggressive posture and allow competition among commercial providers to determine the future direction of the retail payments system.

There was some support for the idea that the Federal Reserve would provide access to its secure interbank communications network (at incremental cost), in effect creating an electronic highway over which depository institutions could transmit various types of emerging electronic payments to other depository institutions.

- C Community banks in particular supported this notion, commenting that this would ensure access to these types of services and would encourage the growth of electronic payments over time.
  
- C However, while some participants commented that there would be interest from commercial providers, a number argued that other communications networks had been, or were in the process of being, established (some, but not many, mentioned the Internet in this regard). In addition, there seemed to be relatively widespread discomfort with the idea that, by offering access at incremental cost, the Federal Reserve might not fully recover its costs in offering this service. Finally, some participants thought that the fixed cost of an extensive network will declining so rapidly that the Federal Reserve's sharing of its network with commercial providers would be anachronistic.

There was some support for the idea that the Federal Reserve would fund research and development efforts in payments system improvements, similar to those used to develop ACH the 1970s. In addition, there was support for the Federal Reserve's making capital investments to improve payments processing, such as the investments in image technology made in the 1980s and 1990s, as long as the costs were recovered in accordance with the cost recovery requirements of the Monetary Control Act.

### **Public Confidence**

Supporters of this scenario agreed that Federal Reserve leadership is important if continuing evolution in payments is to occur in ways that maintain public confidence.

- C Many participants -- especially community banks and other smaller depository institutions -- commented that a shift to electronic payments requires a level of public confidence in the process that might only be realized through Federal Reserve efforts.
- C Some participants, however, argued that public confidence could be shaken if decisions were made to accelerate a shift to new payments methods without broad levels of consumer acceptance.

There was no agreement as to whether open access to the Federal Reserve's communications network would help to improve public confidence in electronic payments.

- C Some participants indicated that a secure, nationwide financial services network among providers is critical to widespread acceptance and use of electronic payments, and that it is unlikely that the Internet will fill this need in the near future because of its inherent openness and inconsistent levels of security.
- C Others, however, commented that the Federal Reserve's network could be less secure, with a deteriorating effect on public confidence, if access to the network were opened to non-regulated organizations.

# **Appendix I:**

## **Payments System Forum Participants**

**National Meeting Participants**

Joseph George, First Chicago/NBD  
Fred Laing, Upper Midwest Automated Clearing House Association  
Thomas Sheehan, Grafton State Bank  
John Beran, Comerica Bank  
Camden Fine, Midwest Independent Bank  
Richard Watson, Bank of Edwardsville  
Richard Ercole, Huntington Treasury Management Company  
Dan Fisher, Fiserv  
Alan Schoen, First Bank, NA  
Mitch Christensen, Norwest  
William McQuillan, City National Bank  
Ray Campbell, Independent State Bank of Ohio  
Charles Kim, Commerce Bank  
Suzanne Boxer, MFC First National Bank  
Leland Stenehjelm, First International Bank and Trust  
Kerby Crowell, Stillwater National Bank and Trust  
Robert Fitzgerald, Chicago Clearing House  
Arnold Schultz, Grundy National Bank  
J. Michael Romey, Citizens National Bank  
Edward Horowitz, Citibank  
Sy Rosen, Citibank  
Steve Stone, PNC Bank  
Jack Stephenson, McKinsey and Company  
Sally Green, MBNA America Bank  
Salvatore Marranca, Cattaraugus County Bank  
Thomas Hales, Union State Bank  
Christopher Thom, MasterCard International  
Jill M. Considine, New York Clearing House  
Thomas Williams, Depository Trust Company  
Joseph Sponholz, Chase Manhattan Bank  
Donna Tihalis, BankBoston  
David Holland, Boston Federal Savings Bank  
Edward Fox, Mid-Atlantic Corporate Central Credit Union  
David Kurrasch, FMR Company  
Rob Evans, Corestates Bank, NA  
Walter E. Daller, Jr., Harleysville National Bank and Trust  
Robert E. Meyerson, Cattail Banchares, Inc.  
Thomas Frost, Cullen/Frost Bankers, Inc.  
Charles T. Doyle, Texas First Bank Texas City  
Chris McDonald, First Community Credit Union  
J. D. Carreker, Carreker/Antinori Group

J. R. Nunn, Citizens Bank  
Stephen Qualls, Nevada State Bank  
Gayle Earls, Texas Independent Bank  
O.J. Tomson, First Citizens National Bank  
Inder Singh, Bank of America  
Terry Robinson, Western Independent Bankers Association  
William Reid, Mechanics Bank  
Diana Starcher, Wells Fargo  
Terry Cochran, Columbia River Banking Corporation  
Karrie Heiserman, Greater Bay Bancorp  
Lewis Levin, Microsoft Corporation  
John Shivers, Southwest Bank  
Carroll Pruett, Mid-State Bank  
Gerry Milano, California Bankers Clearing House  
James Mooney, Chevron Corporation  
Patricia Schulte, Electronic Check Clearing House Organization  
Michael Hansen, BancOne Operations Services Company  
Richard Blair, First Union Corporation  
James Dixon, NationsBank Services  
Ray Hodgdon, Bank Administration Institute  
Brian McDonnell, Navy Federal Credit Union  
Howard McMillan, Deposit Guaranty National Bank  
Russell Stevenson, CyberCash, Inc.  
Robert Prugar, United Parcel Services WorldWide Logistics  
Christopher Dice, ImageSoft Technologies  
Thomas Carr, IBM Corporation  
Robert Whitehead, SunTrust Services Corporation  
Lawrence Baxter, Wachovia Operational Services Corporation  
John Kelley, First Tennessee Bank  
Terry West, JAX Navy Federal Credit Union  
James Kurtz, Ford Motor Credit Company  
Mark Johnson, Check Free Corporation  
Gary Cawthorne, Unisys Corporation  
Glenn Miller, AirNet Systems  
Jeff Harris, AirNet Systems  
James Moore, Mentis Corporation  
John Guthrie, BancTec Advanced Systems Development  
Michael Zucchini, Fleet Financial Corporation  
Tiemann Skipper@Dippel, Jr., Brenham National Bank  
H. Kurt Helwig, Electronic Funds Transfer Association  
Deborah McWhinney, Visa International  
Cynthia Dudley, Goldleaf Technologies  
Steve Roberts, KPMG Peat Marwick  
Lamar Brantley, America's Community Bankers

James L. Brown, Center for Consumer Affairs  
Karen Shaw Petrou, ISD/Shaw, Inc.  
Kenneth Guenther, Independent Bankers Association of America  
Marcia Sullivan, Consumer Bankers Association  
Elliott C. McEntee, National Automated Clearing House Association (NACHA)  
Mary Dunn, Credit Union National Association  
Rae Miles, Credit Union National Association  
John Shain, AFS&LSC  
David Peterson, Goldleaf Technologies  
Anthony Cluff, Bankers Roundtable  
David Smay, Treasury Management Association  
Georgie Thomas, National Association of State Treasurers  
Harold Deal, NationsBank  
Cindy Fuller, American Bankers Association  
Ralph Joy, VisaNet ACH Services  
Ian Macoy, National Organization of Clearing Houses  
Fred Redeker, Clearing House of the Southwest  
Dennis Carlton, University of Chicago  
James McLaughlin, American Bankers Association  
Mallory Duncan, National Retail Federation

**Regional Meeting Participants**

Federal Reserve Bank of Boston

Lawrence Fish, Citizens Financial Group, Inc.  
Robert Hunt, BankBoston and New England Automated Clearing House Association  
Gerald Shencavitz, Banknorth Group  
George Brophy, Webster Bank  
Kelly McDonough, Vermont Federal Credit Union  
Robert Silva, Citizens National Bank  
Doug Kabel, Fleet Services Corporation and Boston Clearing House Association  
Leonard Haug, Digital Equipment Corporation  
David Gifford, Massachusetts Institute of Technology  
Edward Pare, Rhode Island Department of Business Regulation  
Thomas Curry, Massachusetts Banking Commission  
William Lund, Maine Department of Professional and Financial Regulation  
Paul Schlaver, Massachusetts Consumer Coalition  
James Phalan, State Street Bank and Trust Company  
John Robinson, State Street Bank and Trust Company  
John Ellis, Bank of Newport  
Peter Baxter, CFX Corporation  
Richard Osborn, Millbury National Bank  
Scott Smith, New England Bank and Trust Company  
Robert Studley, Maine Bureau of Banking

Sue Clark, Vermont Department of Banking, Insurance, Securities, and Health Care  
Administration  
David Weisman, Forrester Research  
Cliff Condon, Forrester Research  
Diane Szafarowitz, Massachusetts Office of the Attorney General  
Harry Carlson, New England Automated Clearing House Association

Federal Reserve Bank of New York

Allan Posencheg, Summit Service Corporation  
Daniel Harris, Summit Service Corporation  
Lawrence Uhlick, Institute of International Bankers  
David Halvorson, Institute of International Bankers  
Gerald Canonico, Institute of International Bankers, Banca Popolare di Milano  
Robert Minutaglio, Institute of International Bankers, The Fuji Bank  
Thomas Pastore, Institute of International Bankers, Bank Austria  
Stanley Koreyva, Amboy National Bank  
Joseph Gemmell, Bankers Savings  
John Dorman, Broad National Bank  
Anthony Labozzetta, Interchange State Bank  
Barbara Harding, Phillipsburg National Bank  
Steven Eichhorn, Trust Company of New Jersey  
Donald Malwitz, United National Bank  
Peter Crocitto, Valley National Bank  
Louis Prezeau, City National Bank of New Jersey  
George Hamlin, Canandaigua National Bank  
David Morrow, Canandaigua National Bank  
William Green, Cattaraugus County Bank  
James Tilley, Evans National Bank of Angola  
Andrew Dorn, Jamestown Savings Bank  
Richard Halas, Lake Shore  
Dave Nasca, Lockport Savings Bank  
Thomas Massung, Manufacturers & Traders Trust Company  
Thomas Kaiser, Marine Midland Bank  
Brenda Copeland, Bank of Castile  
Sandy De Laus, Summit Federal Credit Union  
Jon Cooper, Wyoming County Bank  
Donald Monks, Bank of New York  
Peter Allutto, Bank of New York  
John Hicks, Bank of New York  
Richard Boyle, Bank of New York  
Thomas Kane, Bank of New York  
Carl Rosenberger, Bank of New York  
Walter Repak, Bank of New York  
Ciro Vitiello, Bank of New York

Frank Behlmer, Bank of New York  
Barry Blenis, ALBANK Federal Savings Bank  
Michael Swart, OnBank and Trust Company  
Josephine Dwyer, OnBank and Trust Company  
Ann Camponino, OnBank and Trust Company  
Richard Woods, Rome Savings Bank  
Anthony Bauer, Rome Savings Bank  
Lawrence Updike, Tompkins County Trust Company  
William Terry, Trustco Bank  
Kenneth Buhmaster, First National Bank of Scotia  
Calvin Welch, First National Bank of Scotia  
Alvin Falso, Solvay Bank  
Robert Moyer, Wilber National Bank  
Sanford Belden, Community Bank System

Federal Reserve Bank of Philadelphia

Ronald H. Frey, First National Bank in Fleetwood  
S. Eric Beattie, Nazareth National Bank  
Francis P. Burbidge, Citizens National Bank  
Frank Kaminski, Jr., Atlantic Central Bankers Bank  
Ronald L. Hankey, Adams County National Bank  
David B. Lee, Omega Bank, NA  
Albert B. Murry, Lebanon Valley National Bank  
Dennis W. DiLazzero, Minolta National Bank  
Otto P. Robinson, Penn Security Bank  
John T. Connelly, First National Bank of Leesport  
Glen M. Thor, QVC Inc.  
Joseph Pirret, ADP Savings Association  
Donald Licciardello, Princeton Telecom Corporation  
Anthony Santomero, University of Pennsylvania  
Janet Garrity, Bell Atlantic Financial Services  
Craig Stock, Vanguard  
Henry W. Van Sciver, Community Banking Consultant

Federal Reserve Bank of Cleveland

Wade Tolman, KeyCorp  
Al Coppola, KeyCorp  
Robert Stasik, Mellon Bank  
James Stewart, Mellon Bank  
David Taddeo, Mellon Bank  
Michael Baker, Fifth Third Bancorp  
William Hagedorn, Fifth Third Bancorp  
Ken Flieu, Fifth Third Bancorp  
Terry Lyons, Fifth Third Bancorp

Jon Gorney, National City Bank  
Thomas Schroath, National City Bank  
Dave Rogers, National City Bank  
John Bowen, Daymon Federal Credit Union  
Mary Martin, Universal Credit Union  
Loren Rush, Universal Credit Union  
Robert Shafer, Daymon Federal Credit Union  
David Seeger, Great Lakes Credit Union  
Sherran Blair, First Community Bank  
Barry Ritchey, Standing Stone National Bank  
Tiney McComb, Heartland Bank  
John Romelfanger, Commerce National Bank  
Douglas Simson, First City Bank  
Thomas Will, First Breman Bank  
Benjamin Pugh, Premier Financial Bancorp  
Ronald Solomon, First West Virginia Bancorp  
William Sonntag, First National Bank of Slippery Rock  
Philip Swope, Chippewa Valley Bank  
Carlos Watkins, First-Knox Bancorp  
Paul Wreede, The Commercial Bank

Federal Reserve Bank of Richmond

Jerome W. Evans, First National Bank of Maryland  
J. William Murray, First National Bank of Maryland  
Harold S. Robbins, Bank of the Eastern Shore  
Rhonda G. Robinson, Bank of the Eastern Shore  
Wiley Tillett, First Citizens Bank  
Norris Pickens, First Citizens Bank  
Reid Hassell, First Citizens Bank  
James Culberson, First National Bank of Asheboro  
Donald G. Chapman, Navy Federal Credit Union  
Sibyl Malatras, Suburban Bank of Maryland  
Jack A. Boggs, South Carolina Automated Clearing House Association  
Robert E. Dael, Columbia Bank  
W. K. Keener, Jr., Reynolds Carolina Federal Credit Union  
G. Dodson Mathias, First Union National Bank of North Carolina  
Burnell T. Rogers, Centura Bank  
Marshall E. Tyner, Branch Banking and Trust Company  
Ralph M. Burns, III, Palmetto Bank  
Harry G. McDonnold, American Federal Bank FSB  
Michael L. Morgan, Wachovia Operational Services Corporation  
Martin W. Patterson, Crestar Bank  
Richard D. Pillow, Virginia Credit Union League  
Kenneth L. Greear, United National Bank

Harold Deal, NationsBank  
Joseph Fulcher, NationsBanc Services

Federal Reserve Bank of Atlanta

Howard Gaines, First National Bank of Commerce  
Waymon Hickman, First Farmers and Merchants National Bank  
Patricia P. Alvear, Banco Internacional de Costa Rica  
Richard Berdy, Executive National Bank  
Todd Bevan, Harbor Federal Savings  
Thomas Burge, Capital Bank  
Emilio Canal, Banco Mercantil  
Carl Griswold, Transflorida Bank  
Edward Kitchen, First National Bank of South Miami  
Russell Rice, Turnberry Bank  
Joseph Thompson, Jr., American Bank of Hollywood  
Dorothy L. Thorpe, Coconut Grove Bank  
Scott Conner, AmSouth Bank of Alabama  
Grayson Hall, AmSouth Bank of Alabama  
Craig Beach, Georgia Central Credit Union  
Mary Ann Bowers, The Bank of Perry  
Richard Thomason, Federal Home Loan Bank of Atlanta  
Bobby Moody, Synovus Financial Corporation  
David Preter, Georgia Central Credit Union  
Jerry Prickett, Main Street Banks, Inc.  
Susan Sarty, The Bankers Bank  
Edward A. Solomon, Regions Bank  
James Wright, Regions Bank  
Young Boozer, The Colonial BancGroup, Inc.  
Ray Cromer, North Florida Education Credit Union  
Richard Morthland, Peoples Bank and Trust of Selma  
William Simms, First National Bank of Greenville  
David Allen, BankFirst  
Jimmie Bearden, AEDC Federal Credit Union  
David Brasfield, SBS Corporation  
Robert E. Curry, First National Bank of Pulaski  
Jerry French, BankFirst  
Emery Hill, First American National Bank  
Olan Jones, Eastman Credit Union  
Buddy Massengill, First American National Bank  
John McKittrick, ORNL Federal Credit Union  
Gary Scott, Cheatham State Bank  
John R. Wallace, Farmers and Merchants Bank  
Byrd Williams, Compass Bancshares  
Stan Ellis, Hibernia National Bank

Carolyn Caillier Dyer, First National Banker's Bank  
Janine Howard, Whitney National Bank  
Brian Hill, Liberty Bank and Trust Company  
Charles Russo, Jr., Metairie Bank and Trust  
Anthony S. Sciortino, State Investors Savings and Loan Association  
Gregory St. Etienne, Liberty Bank and Trust Company

Federal Reserve Bank of Chicago

James Caldwell, First Citizens State Bank  
Helge Christensen, Bankers Bank of Wisconsin  
Stephen S. Cole, Cash Station  
James Constantine, Sears, Roebuck & Company  
Mike Kelly, Community Bankers Association of Illinois  
Fred Julius, Deere & Co. Credit Union  
Richard W. Berglund, Iowa Independent Bankers  
Richard Jenkins, Shazam, Inc.  
Joe DeHaven, Community Bankers Association of Indiana  
Dale Dooley, Shazam, Inc.  
Michael L. Fitzgerald, State Treasurer of Iowa  
William H. King, Indiana Bankers Association  
John Sorensen, Iowa Bankers Association  
Kevin Kruse, Iowa Community Bankers  
Clair Lensing, Farmers State Bank  
Daryl Barklow, East Dubuque Savings Bank  
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Federal Reserve Bank of St. Louis

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Jack I. Fleischauer, Jr., First Commercial Bank, N.A.  
Clarence Hoover, First Commercial Bank, N.A.  
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David Estes, First State Bank  
Judy Loving, The Bank of Yellville  
Phil Porter, Arvest Bank Operations, Inc.  
Reynie Rutledge, First Security Bank  
Tom Spillyards, Simmons First National Bank  
George Walker, Simmons First National Bank  
Austin Favorite, DigiSource

Jeff Fox, ALLTEL Information Services, Inc.  
Bob Pollitzer, ALLTEL Information Services, Inc.  
Linda Hall, DigiSource  
Steve Leverette, Datamatic Financial Services, Inc.  
Pete Maris, Arkansas Community Bankers  
Joanne Carnes, Kentucky Corporate Federal Credit Union  
Annette Hudgions, Old National Service Corp.  
Don Hughes, FCB Services  
Doug Mussler, Great Financial Bank, FSB  
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Benny Young, The Citizens National Bank of Evansville  
Wendell Burkhart, The Citizens National Bank of Evansville  
Ballard Cassady, Jr., Kentucky Bankers Association  
Bill Fallon, The Bankers' Bank of Kentucky  
Tom Miller, Community Bankers of Kentucky  
Eldon Versteeg, Computer Services, Inc.  
John A. Williams, Computer Services, Inc.  
Jackson W. Moore, Union Planters Corporation  
John W. Parker, Union Planters Bank  
Lloyd DeVaux, Union Planters Bank  
Mackie H. Gober, National Bank of Commerce  
Gus Denton, National Bank of Commerce  
Connie Hammons, National Bank of Commerce  
Roy Harness, National Bank of Commerce  
John Womble, National Bank of Commerce  
Clyde Hubbard, Bank of Mississippi  
Alvin Huffman, III, Farmers Bank and Trust Company  
Lewis F. Mallory, Jr., NBC Capital Corporation  
Hugh S. Potts, Jr., Merchants and Farmers Bank  
Katie S. Winchester, First Citizens National Bank  
Bruce Fahnestock, Volunteer Corporate Credit Union  
Trent Fleming, Technology Advisory Services  
Harry Herget, Financial Marketing & Technology Assoc.  
Leo Mallamaci, BANCTEC  
Steve Milam, Check Solutions  
Karl Pezdirtz, Check Solutions  
Steve Smith, MailMaster Corporation  
Thomas H. Jacobsen, Mercantile Bancorporation, Inc.  
Stephen F. Milstid, Mercantile Bank, N.A.  
James T. Ashworth, Carlinville National Bank  
Thomas A. Bangert, First Bank  
Kevin Brueseke, Missouri Corporate Credit Union  
Robert Levin, Normandy Bank  
Frank Sgroi, Enterprise Bank

Joel Miller, KPMG Peat Marwick LLP  
Larry Shasteen, M & I Data Services

Federal Reserve Bank of Minneapolis

Philip Milne, Travelers Express Company  
Joseph Keller, United Check Clearing Corp  
Dawn Keller, United Check Clearing Corp.  
John Cabot, National Item Processing  
Roger Raina, National Item Processing  
William Rosacker, United Bankers= Bank  
Allen Olson, Independent Community Bankers  
Mary Flatten, Minnesota Treasury Management Association  
Karen Wiegert, Minnesota Treasury Management Association  
Mike Carlson, Minnesota Bankers Association  
Anne Eichelman, Minnesota Corporate Credit Union  
William Wilson, First Interstate, Billings  
Steve Tostenrud, First Citizens Bank, Billings  
Michael Grove, First National, White Sulphur Springs  
Michael Blodnick, Glacier Bank, Kalispell  
Sharon Woldstead, Western Federal, Missoula  
John Franklin, First United Bank of Sidney  
Michael Dalton, Mountain West Bank, Helena  
Tom Dedman, Montana Credit Union Network  
John Cadby, Montana Bankers Association  
Wayne Fischer, First National Bank of Brookings  
Ron Buckhouse, First PREMIER, Sioux Falls  
David Johnson, Farmers State Bank, Estelline  
William Fuchs, First National, Pierre  
Leo Stadnik, Highland Bank Operations  
Lucille Brandner, Mid-Wisconsin Bank, Medford  
Ken Heiser, First National, Hudson  
Jack Bellestri, TCF  
Nancy Champagne, TCF  
John Connolly, State Bank of Danvers  
David Lynn, Farmers & Merchants, New Ulm  
Jeanne Walkley, Honeywell-Alliant Techsystems  
John Bresnahan, First National, St. Peter  
Paul Dumdei, First National, St. Peter  
Mary Pekkala, Superior National, Hancock  
Duane Manier, First National Bank, Norway  
Stephen Mattson, MFC First National, Marquette  
Ron Meister, Central Savings, Sault St. Marie  
Stephen Trottier, BAYBANK, Gladstone

Federal Reserve Bank of Kansas City

Bruce Schriefer, Bankers Bank of Kansas  
Joye B. Haneberg, Emprise Bank  
Danny Little, Lamar Bank and Trust  
Bruce B. Morgan, Valley State Bank  
Rick Smalley, Bank Midwest  
Leland Walker, Mark Twain Bank  
Don Abernathy, The Bankers Bank  
John Mark Cassil, Liberty Bank and Trust  
Terry L. Croll, Bank of Oklahoma  
Kerby E. Crowell, Stillwater National Bank and Trust  
Dennis L. Gerhard, Central National Bank and Trust  
Joseph A. Sabatucci, Central National Bank  
Sid Dinsdale, Pinnacle Bank  
Alice Dittman, Cornhusker Bank  
Alan Fosler, Union Bank and Trust  
Don Johnson, Farmers National Bank  
Lloyd Kittrell, Hastings State Bank  
Gerald Wortman, Sherman County Bank  
J.D. Aragon, First National Bank  
J. Paul Boushelle, First Security Bank of New Mexico  
Jack W. Calabrese, First Data Corp.  
Don A. Childears, Colorado Bankers Association  
Alan Lee, Colorado National Bank  
Barbara Walker, Independent Bankers of Colorado  
James E. Williams, Bankers' Bank of the West  
Marie Zoeller, Norwest Services  
Mark Schmidlein, United Missouri Bank  
Mike Porter, United Missouri Bank  
Jim Waterman, United Missouri Bank  
Dan Darrow, United Missouri Bank  
Rich Wheeler, United Missouri Bank  
Dennis Barrett, FirstBank Holding Company  
Bill Iwata, FirstBank Holding Company  
Bruce Lauritzen, First National Bank of Omaha  
Sue Anderson, Community Bankers Association of Kansas  
Steve De Witt, First State Bank  
Harry Catlin, State Bank of Burden  
Marilyn Joerg, First National Bank of Beloit  
Steve Miller, Guardian Trust Co.  
Randy Waters, Grant County Bank  
Max Cook, Missouri Bankers Association  
Michael J. Williamson, Empire Bank

E.L. Burch, Platte Valley Bank  
Stephen R. Green, New Era Bank  
Larry L. Snyder, The Hamilton Bank  
Robert H. Buckner, Country Club Bank  
G.L. Thomas, Blue Ridge Bank  
Bill Dana, Central Bank  
John Borden, MidAmerica Clearing House Assn (MACHA)  
Camden Fine, Midwest Independent Bank

Federal Reserve Bank of Dallas

Kimberly Phillips, Community Credit Union  
Thomas S. Mello, United Texas Bank  
Kirk A. McLaughlin, Security Bank  
Jay Phillips, Institute Advisory Council  
Joe E. Sharp, First National Bank of Weatherford  
Jeff Austin, Jr., Austin Bank, N.A.  
Drake Mills, Community Trust Bank  
Robert Scott, First Bank of West Texas  
Steve Gibbs, Bank of Sierra Blanca  
Bill Robinson, Western Bank  
Leonard Lidiak, Montwood National Bank  
Steven Lutz, Government Employees Credit Union  
Dudley K. Montgomery, Security State Bank of Pecos  
David A. Moore, First National Bank in Alpine  
Lester L. Parker, Bank of the West  
Ben H. Haines, The First National Bank of Dona Ana County  
Charlotte Byus, Brownbuilder Federal Credit Union  
David Castle, First Liberty National Bank  
Zonna Craig, First National Bank Livingston  
Robert Greer, Bank of Tanglewood  
David Sheffield, First Victoria National Bank (retired)  
Jim Meredith, Harrisburg Bank  
Dick Cobb, DataWork, Inc.  
Gregory Crane, Broadway National Bank  
Javier Garza, Laredo National Bank  
Cliff McCauley, The Frost National Bank  
Carroll Putnam, Jefferson State Bank  
Linda Theis, San Antonio Federal Credit Union  
Pat Stewart, International Bank of Commerce

Federal Reserve Bank of San Francisco

Linda Miles, Redding Bank of Commerce  
Richard Borst, American River Bank  
Holly Merrill, American Clearing House

Pete Pritts, Corporate Credit Union of Arizona  
David Minard, M&I Thunderbird Bank  
Stan Pustelnik, The Stockmen's Bank  
Jeffrey Meshey, Desert Schools Federal Credit Union  
Julian Fruhling, Founders Bank of Arizona  
William S. Thomas, Jr., Santa Barbara Bank and Trust  
David Abts, Santa Barbara Bank and Trust  
Enrique Cayado, Glendale Federal Bank  
Catherine Rochmes, Glendale Federal Bank  
Harvey Williamson, First Pacific National Bank  
Richard M. Johnson, California Credit Union League  
David Matson, Union Bank of California  
Elsa Zavala, Citizens Business Bank  
Randy Kahn, Home Savings of America  
Roland Royce, Pacific One Bank  
John Kephart, The Commerce Bank of Washington  
Bill Humphreys, Citizens Bank  
Nancy Ashwill, National Bank of Alaska  
Alan Doman, Washington Mutual Bank  
Michael Reynoldson, Washington Mutual Bank  
Ronald T. DeLude, Western Bank  
Connie Ihrke, Western Bank  
Robert J. Dickson, Frontier Bank  
James Dawson, America First Credit Union  
Ron Eliason, Universal Campus Credit Union  
John Palmer, McKay Dee Credit Union  
Phil Gibson, Brighton Bank  
Dennis Durfee, Cache Valley Bank  
J. Brent Packard, Central Bank  
Clint Williams, First Commerce Bank  
John R. Hanson, First Utah Bank  
Blair Hawkes, Ireland Bank  
Rick Heldebrant, STAR 1 Credit Union  
Carrie Birkhofer, Bay Federal Credit Union  
Christopher Owen, Pacific IBM Federal Credit Union  
Jeanine M. Morse, The Golden 1 Credit Union  
Ken Silveira, Heritage Bank of Commerce  
Sherry Price, Golden Gate Bank  
Leo D. Taylor, Sequoia National Bank

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Thomas E. Hales, Union State Bank

Robert C. Whitehead, SunTrust Services  
Morris Neighbor, Farmers State Bank  
John D. McKittrick, ORNL Federal Credit Union  
LeRoy Sigler, Nekoosa Port Edwards State Bank  
Fred Julius, Deere & Company Credit Union  
Brian McDonnell, Navy Federal Credit Union  
Barbara Walker, Independent Bankers of Colorado  
Ronald V. Congemi, Star System, Inc.  
Steven M. Roberts, KPMG Peat Marwick  
Joe L. Williams, Foothills Bank  
William H. Paolino, First National Bank of Canon City  
Jerry Starks, Citizens National Bank  
Dale Leighty, First National Bank  
Richard Peden, North Park State Bank  
Jerrold B. Evans, Union Bank and Trust  
Frank Pinto, Pennsylvania Association of Community Bankers  
Carolyn Geiser, First National Bank of Durango  
Karen Shaw Petrou, ISD/Shaw, Inc.  
Leonard Heter, National Clearing House Association  
Carol Zimbelman, Bank of Burlington  
Jeffrey L. Lee, Premier Bank  
Glen Materi, Bank of North Dakota  
Mary Dunn, Credit Union National Association  
Ray Cavedo, Community Bankers= Bank  
David Smay, Treasury Management Association  
C.G. Mammel, Bank of Cherry Creek