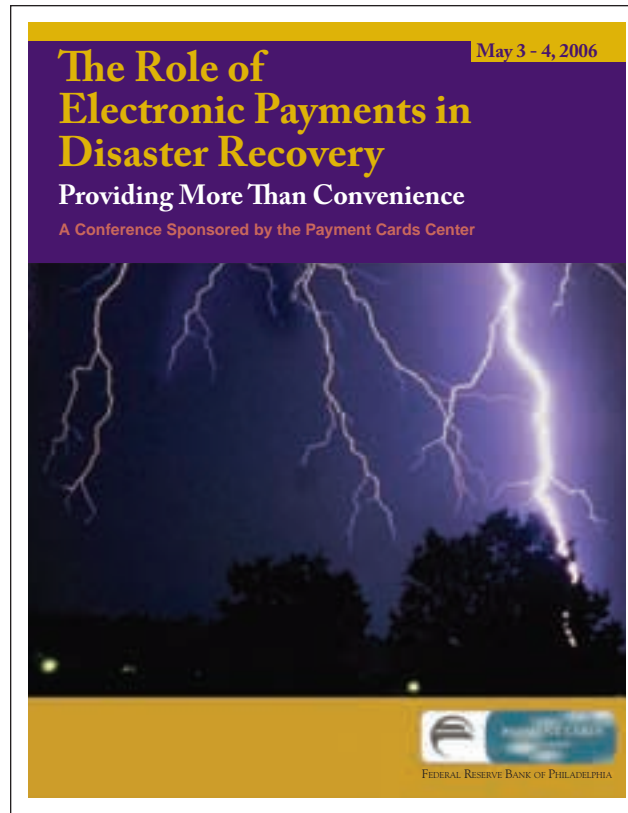


CONFERENCE SUMMARY



The Role of Electronic Payments in Disaster Recovery:

Providing More Than Convenience

May 3 - 4, 2006



FEDERAL RESERVE BANK OF PHILADELPHIA

The Role of Electronic Payments in Disaster Recovery:

Providing More Than Convenience

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Summary

On May 3 and 4, 2006, the Payment Cards Center hosted a two-day conference, “The Role of Electronic Payments in Disaster Recovery: Providing More Than Convenience,” that brought together participants from financial institutions and other payment providers, federal and state government and national relief agencies, and the bank regulatory community. Participants examined the lessons learned from Hurricane Katrina and considered how these experiences may be useful in identifying opportunities to further strengthen the resiliency of our financial system. In the course of the discussion, participants made recommendations, including developing strategies for more government payments to be made electronically, consolidating and sharing data on disaster victims more broadly with relief agencies and payment providers, focusing local communities and state governments on developing contingency plans for payment continuity, and improving public- and private-sector coordination among entities that play key roles in the payment system.

The views expressed here are not necessarily those of this Reserve Bank or of the Federal Reserve System.

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I. Introduction

On May 3 and 4, 2006, the Payment Cards Center hosted a conference titled “The Role of Electronic Payments in Disaster Recovery: Providing More Than Convenience.”¹ The event brought together a range of groups, including financial institutions and other payment providers, federal and state government and national relief agencies, and the bank regulatory community.² Participants examined these organizations’ experiences in responding to Hurricane Katrina and considered how the lessons learned might be applied when developing strategies to further strengthen the resiliency of our financial system.

Jack Guynn, president of the Federal Reserve Bank of Atlanta, gave the keynote address.³ Geographically, the Atlanta Fed manages the Sixth District, which includes operations in Georgia, Florida, and Tennessee, as well as in the states most directly affected by Hurricane Katrina: Louisiana, Mississippi, and Alabama. On a personal note, Guynn also spent many years living in the Gulf Coast region while working in the Atlanta Fed’s New Orleans branch office. As a result, Guynn’s view of the challenges associated with the destruction caused by Hurricane Katrina and the success stories that emerged came from the perspective not only of the president of the Reserve Bank leading the local response but also of someone with personal ties to the region.

The following day, Sandra Braunstein, director of the division of Consumer & Community Affairs (C&CA) of the Board of Governors of the Federal Reserve System, opened the conference by welcoming conference participants. She thanked them for gathering at the Federal Reserve Bank of Philadelphia to share their experiences and to consider how they

may be applied in strengthening contingency plans and disaster response strategies. She emphasized that the conference represented an opportunity to learn from the individual experiences and diverse perspectives of the broad set of stakeholders gathered for this discussion.

The conference was motivated in part by the research of Julia S. Cheney, of the Payment Cards Center of the Federal Reserve Bank of Philadelphia, and Sherrie L.W. Rhine, of the Office of Regional and Community Affairs of the Federal Reserve Bank of New York. Their paper, “How Effective Were the Financial Safety Nets in the Aftermath of Katrina?,” described the financial system’s response to Hurricane Katrina, examined the unique vulnerabilities of unbanked consumers in a disaster situation, and considered the role of electronic payments, specifically the use of prepaid and electronic benefits transfer (EBT) cards, to provide liquidity and access to financial services, particularly for the most vulnerable victims. The subsequent conference discussion confirmed two key conclusions reached by the authors: electronic payments provide far more important benefits than simple consumer convenience in a disaster and coordination among the public and private sectors is critical to strengthening the financial sector’s contingency planning and response to disasters.

Cheney and Rhine presented their research as a way to set the stage for the remaining sessions, which were organized around two primary panel discussions. The first panel, “Electronic Payment Applications as Tools for Delivering Financial Relief: Are Prepaid and Electronic Benefit Transfer (EBT) Cards the Way of the Future?,” focused on developing a better understanding of the challenges faced by payment card issuers, transaction processors, payment networks, and government agencies in responding to Hurricane Katrina. As these organizations worked to maintain the flow of payments and provide access to liquidity, panelists agreed that electronic fund transfers (EFTs) proved to be more efficient in terms of the timing, delivery, and continuity of payments than paper-based alternatives. While these efficiencies exist in normal circumstances, panelists noted that they became increasingly valuable when damage to infrastructure disrupted mail delivery. Panelists pointed to newer card-based payment applications, such as prepaid and EBT cards, as offering unique potential as an effective mechanism for delivering financial relief and other critical revenue,

¹ For the conference agenda, see Exhibit 1, page 23.

² For a list of the organizations represented at the conference, see Exhibit 2, page 24.

³ Jack Guynn joined the Federal Reserve Bank of Atlanta in 1964 and has held a variety of assignments, including responsibility for payment operations, bank supervision, lending, human resources, and other support functions. In 1984 Guynn was named first vice president and chief operating officer, and in 1996, he became the 13th president and chief executive officer of the Federal Reserve Bank of Atlanta. Guynn recently announced his plans to retire effective October 1, 2006. For more information on his 42-year career with the Federal Reserve, see the Federal Reserve Bank of Atlanta’s website at <http://www.frbatlanta.org/>.

particularly for those disaster victims who were unbanked and therefore less apt to benefit from EFTs.

To introduce the second panel, which focused on how to apply the lessons learned from Hurricane Katrina in the future, Rear Admiral James B. Plehal (USN, Ret.), of the Department of Homeland Security, described his experiences with public- and private-sector programs, focusing on Hurricane Katrina. As he noted, the sophistication of our payment networks makes it critically important that planning for payment system continuity include an examination not only of company-centered contingency plans but also of the broader roles organizations and their areas of expertise play in facilitating payments. In the end, Plehal emphasized that bringing together the right people and the right organizations will lead to more efficient mechanisms to deliver financial relief quickly to those in need.

The second panel session, “Lessons Learned from Hurricane Katrina and Looking Toward the Future,” convened representatives from the public and private sectors whose organizations played instrumental roles in delivering critical payments and financial relief to Hurricane Katrina victims. Panelists considered how to apply the many lessons described in the earlier sessions to strategies for further strengthening the financial system’s responses to manmade, natural, or pandemic events. As a result of this discussion, participants advanced recommendations, including developing strategies for more government payments to be made electronically, consolidating and sharing data on disaster victims more broadly with relief agencies and payment providers, focusing local communities and state governments on developing contingency plans for payment continuity, and improving public- and private-sector coordination among entities that play key roles in the payment system.

This summary of the conference proceedings follows the order set forth in the conference agenda (see Exhibit 1). The experiences and lessons learned as described by each speaker are highlighted as well as comments from conference participants who recommended specific strategies to improve contingency planning and disaster recovery.

II. Keynote Address

Jack Guynn, president of the Federal Reserve Bank of Atlanta,⁴ opened the conference with a

keynote address titled “Assessing and Responding to Hurricane Katrina: One Reserve Bank’s Perspective,” in which he shared insights gained from his experience leading the Reserve Bank most directly affected by the storm. Guynn spoke of actions taken by the Federal Reserve and by local bankers and others in the financial services industry to help Hurricane Katrina victims meet their emergency financial needs. Guynn’s perspective was grounded in his personal experience as a long-time resident of the Gulf Coast region.

As Guynn recounted, Hurricane Katrina struck the Gulf Coast on August 29, 2005, causing significant devastation in Louisiana, Mississippi, and Alabama. The storm resulted in widespread destruction in New Orleans, where storm waters breached the levee system and flooded much of the city. The storm surge was estimated to be 28 to 30 feet, with winds reaching 125 miles an hour. In Mississippi, Guynn noted that buildings were flattened more than seven miles inland from the Gulf Coast. Insurers have estimated that hurricane-related losses reached \$100 billion,⁵ and tragically, 1,605 people lost their lives (by current estimates).

In the midst of this devastation, Guynn described the extraordinary efforts of local citizens to help their neighbors and of bankers working together to meet residents’ financial services needs. Several of these “silent heroes,” including Atlanta Fed staff, are highlighted in the Bank’s 2005 annual report as examples of the courage and dedication of ordinary people when faced with extraordinary events. During the course of the conference, participants shared similar stories as examples of special efforts made by individuals in the financial industry and the regulatory community to maintain and restore financial services in the wake of this catastrophic event.

Guynn framed his remarks describing the experiences and lessons learned responding to Hurricane Katrina in two broad areas: people issues and banking and payments issues. With regard to people issues, Guynn observed that establishing contact with area employees was a first-order priority for most businesses,

⁴ As one of 12 Reserve Banks, the Federal Reserve Bank of Atlanta operates six facilities in the Sixth Federal Reserve District, including branch offices in New Orleans, LA; Birmingham, AL; Jacksonville, FL; Miami, FL; and, Nashville, TN.

⁵ www.pbs.org/newshour/bb/weather/july-dec05/katrina/insurance_background.html

including the Atlanta Fed. Eventually, the Bank made contact with all 179 Federal Reserve employees in the New Orleans branch; most were reached within a few days. However, there were several employees who, for a myriad of reasons, took longer to locate. This experience highlighted the challenges faced by area employers attempting to contact their employees. These challenges stemmed from the combination of an extensive failure in the affected area's communication system and the widespread evacuation of residents. These difficulties were particularly evident when employees had provided emergency contact numbers only within the disaster zone, and many of these emergency numbers were affected by localized disruptions to telephone and cellular service.

Guynn suggested that to address this problem, businesses should require employees to provide at least one emergency contact number, outside their local community. In addition, as was done by the Federal Reserve Bank of Atlanta, employers should consider maintaining a phone number, preferably toll free, from a remote location as a secondary point of contact for evacuated employees.⁶ Guynn emphasized that well-designed emergency contact plans can help firms quickly reestablish communications with employees to assist with staff emergency needs as well as helping businesses reorganize their workforce to meet operational demands in the wake of a catastrophe.

Turning to banking and payments issues, Guynn stressed the critical role played by the Federal Reserve System⁷ in ensuring adequate liquidity and maintaining the flow of payments in this emergency. He also noted the important contributions that those in the local banking community made to these efforts. Guynn addressed two particular activities of the Federal Reserve during this disaster: meeting an increased demand for cash and maintaining check services. In closing, Guynn specifically considered the role of electronic payments in disaster recovery, sharing his thoughts on the advantages electronic payments can offer to disaster recovery efforts.

To set a context for his remarks, Guynn began by stressing the importance of insights gained from preparing for events such as Y2K and responding to the terrorist attacks of September 11, 2001. Lessons

⁶ The Atlanta Fed's number was not toll free at the time; it is today.

⁷ The term Federal Reserve System includes the Board of Governors and the 12 Reserve Banks.

learned from these experiences were incorporated into the Federal Reserve's efforts to update and further strengthen its contingency and disaster recovery plans. As a result, when Hurricane Katrina struck the Gulf Coast, the Federal Reserve had established an effective communications plan with its banking customers, positioned strategic inventory locations (SILs)⁸ to assist with cash services needs in disasters, and developed a system of "buddy banks" in which alternative Reserve Banks are designated as secondary service centers that can be called on in a crisis. Guynn noted that each of these contingency actions was activated in the wake of Hurricane Katrina and helped to quickly restore access to financial services for Gulf Coast residents and businesses.

Considering the Hurricane Katrina experience specifically, Guynn noted that Katrina's victims had an urgent need for cash to pay for necessities such as food, water, and shelter. The increased demand for cash is typical in most disasters where damage to infrastructure and the resulting lack of electricity limit the immediate usefulness of electronic means of payment, such as credit cards, debit cards, prepaid cards, and electronic benefit transfer cards. Indeed, cash requests from Gulf Coast banks doubled in the first five days after the storm. In response, the Federal Reserve Bank of Atlanta's cash services offices — including the New Orleans branch's cash services office, which had been relocated to Birmingham, Alabama, in advance of the storm — activated contingency plans and remained open 24 hours a day, seven days a week, dispensing \$70 billion over Labor Day weekend alone.⁹ Several other Federal Reserve "buddy banks" contributed to efforts by moving currency to the affected region. In addition, with the Federal Reserve Bank of Atlanta's New Orleans branch inaccessible, a Reserve Bank SIL in Louisiana was called on to serve as a currency distribution center situated closer to the hurricane zone. Even

⁸ The Federal Reserve Board of Governors established strategic inventory locations (SILs) by contracting with depository institutions and armored carriers to hold and deliver cash from locations remote to Reserve Banks as a precaution against increased demands for cash in expectation of Y2K or, more recently, to respond to potential emergency cash needs. For more detail, see www.federalreserve.gov/boarddocs/rptcongress/annual99/ann99.pdf.

⁹ The Federal Reserve Bank of Atlanta's cash services office covers those services provided by its branch offices, specifically in this case the Birmingham, Alabama, office. Additionally, other Reserve Banks contributed to these efforts.

though the New Orleans branch did not flood, cash operations were not moved back to the branch until over a month after the storm hit because most basic services were not immediately available. Therefore, these contingency processes remained in place for an extended period.

Guynn shared the story of one community bank's efforts in helping to meet the cash needs of local citizens. The First Bancshares and The First, located about 100 miles inland from the Gulf Coast, in Hattiesburg, Mississippi, was along a route many used to evacuate the disaster region. In the days immediately following the storm, this community bank cashed nearly \$500,000 in checks for customers and noncustomers, despite the potential risk of check fraud.¹⁰ To the surprise of some, total fraud losses associated with these check transactions were only \$300, no worse than on any average banking day. Interestingly, Guynn noted that following Hurricane Katrina, the bank experienced a 20 percent increase in deposits and many new accounts, potentially reflecting the effect this goodwill gesture had on the general public.¹¹

Guynn's discussion highlighted the importance of well-designed and well-executed contingency plans that, in the case of Hurricane Katrina, allowed the Federal Reserve to quickly and efficiently respond to the liquidity needs of those in the affected region. His remarks also brought to light the important contributions that local bankers can make in helping to meet their communities' emergency financial needs.

In addition to ensuring adequate cash liquidity, the Federal Reserve was similarly faced with maintaining check processing in the aftermath of Hurricane Katrina. In New Orleans, the Federal Reserve branch typically processes over 1 million checks a day. With this branch and the local check clearinghouses inoperable, the Atlanta Fed saw its check processing volumes increase roughly 25 percent, to more than 5 million items a day. Again, contingency planning and the dedicated efforts of many people contributed to the Atlanta Fed's ability to absorb the increased check volume and

¹⁰ Check fraud occurs when the bank accepting the check is unable to collect funds from the bank on which the check is drawn for reasons such as the check was stolen or a valid check was altered to show an amount greater than the payor intended.

¹¹ The experiences of The First Bancshares and The First are described in more detail in the Federal Reserve Bank of Atlanta's 2005 annual report, p. 13.

maintain the continued flow of payments.

In examining the important role played by electronic payments in disaster recovery, Guynn related in poignant detail stories of the elderly who refused to leave storm-flooded areas while futilely waiting for Social Security checks to arrive in the mail. Those who received such critical income through an electronic fund transfer payment were spared such concerns. At the same time, the lack of electricity and computer system connectivity meant that some area banks could not receive payments through the automated clearinghouse (ACH) system.¹² Guynn highlighted the way local banks addressed this problem as another success story from the Hurricane Katrina experience. Financial institutions that could receive ACH payment instructions accepted electronic data transmissions on behalf of those institutions, often competitors, that could not accept such transmissions. Then, the institutions that received the ACH transmission passed on account-level payment data to the affected institutions. By working together, the local banking industry helped to deliver minimally interrupted access to payroll, Social Security, and other critical revenue for disaster-area residents in the immediate aftermath of the storm. This case underscored the incremental value gained through coordination within the financial services and banking industries that, in the end, helped all banks better serve their customers' financial needs following Hurricane Katrina.

In closing, Guynn acknowledged that a major disaster like Hurricane Katrina obviously results in great personal and economic losses. At the same time, great heroes emerge. Sadly, no one knows what New Orleans will look like in the future, but Guynn expressed a view that the efforts he observed by so many "silent heroes" gives him confidence that the city will emerge from this disaster. Guynn closed by noting that the financial community learned several lasting lessons from this experience:

- The value of having well-planned, well-docu-

¹² The automated clearinghouse (ACH) is a system that processes electronically originated batches of debit and credit transfers. ACH transfers may be used to execute payroll, Social Security, and other benefits payments. Collectively, the Federal Reserve Banks are the nation's largest ACH operator. The only private-sector operator, the Electronic Payments Network (EPN), processes the balance of ACH transfers. For more information, see www.federalreserve.gov/paymentsystems/fedach/default.htm.

mented, and well-communicated contingency plans;

- The benefits that can be achieved by coordinating response among private-sector financial institutions; and
- The importance of close collaboration between the private and public sectors.

President Guynn's remarks helped set an effective framework for the conference and provided a set of themes that were reflected in many of the ensuing discussions.

III. Conference Sessions

a. Welcome and Setting the Stage

The next day, Sandra Braunstein, the director of the division of Consumer & Community Affairs (C&CA) of the Board of Governors of the Federal Reserve System, welcomed conference participants and asked them, as part of the day's discussions, to examine their practical experiences in responding to Hurricane Katrina. By sharing these observations, participants could offer insights into ways to further strengthen our nation's financial system. This shared dialogue, Braunstein argued, may also help to identify actions that can lead to quicker and more efficient ways to bring financial relief to disaster victims and, in the end, speed the return to normalcy in regional financial markets following a catastrophic event. Braunstein emphasized that the scope of this dialogue — considering the broader roles of electronic payments in disaster recovery — is important to the Federal Reserve System's responsibility to ensure continued functioning of the economy during a national crisis. It is also a topic keenly relevant to the mission of the C&CA division and its efforts to support consumer confidence in the financial products and services available to them.

Echoing Guynn's keynote remarks, Braunstein described the damage Hurricane Katrina caused to the physical infrastructure and that of electronic payment systems as incomparable with the havoc caused by previous disasters. Despite the challenges presented by the immensity of the destruction, Braunstein noted that using newer electronic prepaid payment applications to deliver financial relief was a significant development. Indeed, two types of prepaid cards were employed: branded prepaid cards,¹³ hereafter called just prepaid cards, and electronic benefit transfer (EBT) cards. The Federal Emergency Management Agency (FEMA) and

the American Red Cross, as well as some other national relief agencies, offered prepaid cards. State governments used EBT cards to deliver financial relief to their constituencies.

Braunstein briefly described the prepaid card model as a card-based payment application where value is "loaded" or associated with the prepaid card account. For example, the American Red Cross distributed prepaid cards branded with the MasterCard payment network. The prepaid cards were loaded with values ranging from \$360 to \$1,565, and cardholders could subsequently use the cards to purchase goods and services at merchant locations that accepted the MasterCard brand or to withdraw cash at ATMs in networks participating in the program.

Braunstein emphasized that because cardholders are limited to the value loaded on the prepaid cards, these cards are especially valuable to unbanked¹⁴ and low- and moderate-income¹⁵ consumers who may not qualify for traditional banking products such as credit cards or deposit accounts. On the other hand, these consumer segments may be less familiar with traditional electronic payment instruments and the consumer protections they afford. Braunstein noted that one lesson learned from Hurricane Katrina was that prepaid cards turned out to be a particularly useful way to distribute financial relief, particularly to low- and moderate-income consumers. (This was discussed in more detail in the next session.) Braunstein observed that educating consumers about these products is an important consideration for financial educators in their efforts to help better prepare all U.S. citizens for a catastrophic event.

In addition to financial education, the Federal Reserve Board's C&CA division is also responsible for developing legislatively mandated consumer protection regulation. As this responsibility relates to prepaid cards, Braunstein emphasized that the nature of the

¹³ Branded prepaid cards are branded by a payment network: MasterCard, Visa, American Express, or Discover. These prepaid cards are generally accepted at retail and ATM locations that accept the network brand on the card.

¹⁴ The term unbanked refers to individuals who do not have a deposit or savings account.

¹⁵ To be characterized as low income, a family must have income less than 50 percent of the median family income for the metropolitan area. Similarly, family income greater than 50 percent but less than 80 percent of the median family income for the area is defined as moderate income.

prepaid card market presents its own set of challenges for bank regulators. These cards represent a new and still evolving form of payment with much variation across programs in terms of card functionality, product pricing, and consumer acceptance. Moreover, for many consumers, the prepaid card market remains a relatively new product compared with their familiarity with traditional debit and credit cards.¹⁶ In the absence of a more settled prepaid card market, Braunstein stressed that “the regulatory community walks a thin line between continuing to encourage innovation, particularly with regard to promising new payment tools such as disaster relief cards, and ensuring that consumers have the information they need to understand how these products function and the risks associated with their use.” She emphasized that regulations governing prepaid cards are still evolving, but she noted that the C&CA division and the Board of Governors are committed to developing regulations that meet the needs of both consumers and card issuers but doing so in a way that continues to support development and innovation.

Braunstein noted that the C&CA division has a particular opportunity to leverage the Hurricane Katrina experience to demonstrate and reinforce the benefits provided by electronic payments to individuals, including the 20 million unbanked consumers in the United States who may not yet be comfortable with electronic-based payment products such as prepaid cards. Indeed, prepaid cards and electronic benefit transfer cards seemed to work well in providing financial relief when disaster victims had a relatively good understanding of:

1. The way prepaid cards function; and
2. The consumer protections they afford.

Ultimately, Braunstein’s vision is to leverage the community development experience in the C&CA division and the constructive example of Hurricane Katrina to focus on efforts to provide financial education for consumers who may be unbanked so that they better understand the benefits of participating in the financial mainstream and the benefits associated with electronic payments. She emphasized that, as discussed further in

¹⁶ Mercator Advisory Services estimated total volume processed on prepaid cards in 2004 to be \$160 billion, whereas the total purchase volume on MasterCard and Visa credit and debit cards was over \$1.5 trillion, according to *The Nilson Report*.

the next presentation, adopting more efficient, and often electronic, forms of payment presents an opportunity to more quickly deliver financial services and relief to victims following a catastrophic event.

Braunstein closed by thanking participants for their dedication to helping those citizens devastated by Hurricane Katrina. She recognized that the group gathered in the room had an intimate knowledge of the specific challenges Hurricane Katrina imposed on business functions supporting the financial system. Finally, she challenged participants to look back on their experiences and find areas where improvements might be made or things done differently to reach a better result in the future.

b. Hurricane Katrina: A Case Study

The conference was motivated in part by a recent Payment Cards Center discussion paper titled “How Effective Were the Financial Safety Nets in the Aftermath of Katrina,?” co-authored by Julia S. Cheney and Sherrie L.W. Rhine.¹⁷ The authors presented their research findings to set the stage for the two panel sessions that followed.

As outlined by Rhine, the paper’s four primary objectives were to describe the U.S. financial system’s response to the destruction caused by Hurricane Katrina, examine how these and other relief efforts helped meet consumers’ needs in the aftermath of the storm, highlight the increased importance played by electronic payments in providing liquidity and restoring financial services, and present areas for further study that might lead to new strategies to further safeguard the U.S. population and the financial system against future catastrophic events.

In describing the steps taken by the Federal Reserve and other federal bank, thrift, and credit union regulatory agencies and by the private-sector financial services industry in meeting the financial needs of Hurricane Katrina’s victims, she and Julia Cheney in their paper, Rhine noted, made several of the same observations made by President Guynn the previous

¹⁷ “How Effective Were the Financial Safety Nets in the Aftermath of Katrina?” is available on the Payment Cards Center’s website at <http://www.philadelphiafed.org/pcc/HurricaneKatrinaJan06.pdf>. Julia S. Cheney is an industry specialist with the Payment Cards Center at the Federal Reserve Bank of Philadelphia, and Sherrie L.W. Rhine is a senior economist with the Office of Regional and Community Affairs at the Federal Reserve Bank of New York.

evening. A key observation of both the authors and Guynn was the relevance of learning from past events to strengthen contingency planning. In the case of Hurricane Katrina, the Federal Reserve was able to effectively move cash to the affected areas, provide check clearing services from alternative locations, and make available emergency lending through the discount window¹⁸ because of effective contingency planning. Additionally, financial institutions and payment networks had plans in place that allowed for clearing and settlement operations to be conducted from alternative locations, outside the immediate disaster zone. Moreover, the bank regulatory agencies encouraged financial institutions to be flexible in providing financial services to noncustomers as long as the institutions maintained safe and sound banking practices. The agencies also asked financial institutions to consider other actions to assist area residents dealing with economic disruptions, including providing immediate, short-term financial relief such as waiving certain fees (for example, ATM withdrawal fees) and arranging credit payment deferrals on some types of consumer loans.

Considering these responses by the financial community and its regulatory agencies, the authors concluded that consumers with established banking relationships were able relatively quickly to access their financial accounts and associated liquidity, financial services provided by financial institutions, and financial relief made available by financial institutions. On the other hand, unbanked consumers were found to be far more vulnerable to financial disruptions than those with established banking relationships.

To give a sense of the particular vulnerabilities of Hurricane Katrina evacuees severely affected by the storm, Rhine first highlighted several findings from a survey of evacuees at the Houston Astrodome conducted by the *Washington Post*, the Kaiser Family Foundation, and the Harvard School of Public Health.¹⁹ The results of this survey shed light on these evacuees' socioeconomic characteristics: 98 percent

¹⁸The Federal Reserve makes loans to depository institutions at the discount window using three main lending programs: primary credit, secondary credit, and seasonal credit. In addition, according to the Board's website, "in unusual and exigent circumstances, the Board of Governors may authorize a Reserve Bank to provide emergency credit." For more information on the Federal Reserve's discount window, see <http://www.frbdiscountwindow.org/discountwindowbook.cfm?hdrID=14&dtIID=43>.

were from the New Orleans area, 75 percent had family income of less than \$30,000 (and, therefore, fell in the low- and moderate-income category), 65 percent were unbanked, 72 percent did not own a credit card, and almost all were members of a minority group.

Rhine described several extenuating circumstances that contributed to the financial vulnerability of the Houston Astrodome evacuees and other unbanked or low- and moderate-income Gulf Coast residents affected by the storm. As Guynn discussed in his keynote remarks, disruptions in mail service caused delays in receiving critical check payments, for example, payroll, Social Security, supplemental Social Security income, and child support. In addition, because Hurricane Katrina struck the Gulf Coast at the end of the month, residents depending on first-of-the-month payments were particularly hard pressed to make ends meet. Rhine emphasized that this point clearly illustrates that in emergencies, direct deposit of income provides more benefits than just simple convenience.²⁰ In addition, Rhine noted that unbanked consumers from low- and moderate-income groups often had limited or no savings to draw on. This population also tended to rely more on check cashers and other non-traditional money services businesses in their neighborhoods to meet their financial services needs. Many of these single-office businesses were severely damaged or destroyed by the storm, leaving their customers with few, if any, alternatives.

Each of these circumstances added to the difficulties faced by those who were not part of the financial mainstream and contributed to these victims' inability to easily access liquidity and other needed financial services. Reflecting on Braunstein's earlier remarks, Rhine strongly agreed that an opportunity exists for financial educators to leverage the Katrina experience. In their paper, Cheney and Rhine address

¹⁹ The survey's intent was to cover the population hardest hit by the hurricane: those who did not make it out of the city in time, those who had to rely on government help to evacuate, and those who did not have access to alternative shelter on their own. The survey was conducted September 10-12, 2005.

²⁰ The benefits of direct deposit apply to both unbanked and banked populations who still choose to receive payments by paper check. To reinforce this point, Rhine referenced a U.S. Department of the Treasury survey that showed that 32 million of 72 million baby boomers do not use direct deposit, nor do they want to. See "Survey Reveals Baby Boomers Lag Seniors in Direct Deposit Usage," Press Release, December 27, 2005, www.fms.treas.gov/news/press/go_direct_poll.html.

the importance of developing curricula to teach the benefits of establishing an account with a mainstream financial institution, using direct deposit and other electronic payment applications, and maintaining a level of savings to safeguard against emergencies. As Rhine noted, these educational messages are relevant to all income groups, but when traditionally unbanked low- and moderate-income consumers are faced with unexpected financial disruptions, these practices can provide a lifeline.

Because they recognized the vulnerabilities and unique needs of unbanked and low- and moderate-income Gulf Coast residents, government and relief agencies used prepaid and electronic benefit transfer (EBT) cards to facilitate the delivery of financial relief. Cheney briefly described the card-based programs offered by the American Red Cross, FEMA, and various state governments (Louisiana, Mississippi, and Alabama). Taken as a whole, these efforts reflect the general trend toward electronic payments and an appreciation of the advantages provided by card-based payment applications over checks and cash.

Both the American Red Cross and FEMA used branded prepaid cards, although the American Red Cross program was decidedly more successful than FEMA's program, which was discontinued after a few days. Alternatively, state governments leveraged existing EBT card programs to deliver food benefits and cash assistance to residents of their states. As the authors note in the paper, EBT cards seemed to be particularly effective, largely, Cheney argued, because relief was distributed through an existing payments infrastructure and with a product type generally familiar to area residents. The American Red Cross's prepaid card relief program benefited from the Red Cross's experience in planning and testing prepaid cards as a way to deliver financial relief in a disaster. The value of the experience and planning in successfully executing these programs was reinforced throughout the day's discussions, and the topic is addressed again in later sections of this conference summary.

Cheney highlighted several benefits to using prepaid cards for disaster relief. Prepaid cards are less costly than traditional paper check disbursements (roughly \$0.20 per electronic transfer as opposed to an average of \$1.00 to \$2.00 per check).²¹ Additionally, they are often a safer and quicker way for families to access emergency funds. Prepaid cards eliminate

the need for cashing a relief check and for carrying large amounts of cash. Branded prepaid cards also offer the convenience of being accepted at merchants and ATMs where similarly branded debit and credit cards are accepted. Even disaster victims evacuated to remote locations were able to use prepaid cards to meet their immediate needs. The experiences of the prepaid and EBT card programs led the authors to conclude that these cards can be a particularly useful way to deliver financial relief, especially to unbanked and low- and moderate-income disaster victims who may not have other alternatives.

Next, Cheney emphasized a significant finding from her research with Rhine: When structuring prepaid card relief programs, organizations need to strike a balance between bringing financial relief to families quickly and efficiently and controlling fraud and other misuse. This balance is inherently addressed in several decisions that determine the characteristics of a particular prepaid card relief program, including the procedures for confirming an applicant's identity and eligibility and the functions that will be provided as part of the card program, for example, whether the cards will be reloadable or whether they will restrict the types of merchants at which purchases can be made.

On the basis of these and other issues that surfaced during her research with Rhine, Cheney posed several questions to conference participants to consider. She suggested that addressing these areas may result in new insights about ways to help make the recovery from catastrophic events smoother, more efficient, and less stressful for those affected.

These questions were:

1. How can we verify individuals' identities and eligibility for financial relief in disasters?
2. Are there reasons to enhance data-sharing after a disaster? If so, how can this be achieved?
3. How can prepaid cards and electronic benefit transfer cards be better leveraged as delivery mechanisms for financial relief?

²¹ See Eric Miller, "Payroll Debit Cards," proceedings from the conference on Stored Value: The Shape of Things to Come, Pelorus Group, October 2004. In addition to the costs of check printing, employers save by reducing or eliminating costs related to distribution, escheat compliance, replacement of lost or stolen checks, check fraud, error correction, and reconciliation for termination pay.

4. How can the coordination of public- and private-sector efforts be improved?
5. What is the role of financial educators?

In a discussion following the formal presentation, several participants referred to the clear benefits provided by electronic payments over paper-based methods and raised the possibility of federally mandating electronic payment of all government disbursements. In response, Braunstein and others noted that this was exactly what had been envisioned with electronic transfer accounts (ETAs). ETAs were designed by the U.S. Department of the Treasury as a way for consumers to receive federal payments electronically, and they were part of its electronic fund transfer program of 1999. But for a variety of reasons, consumers have not widely adopted ETAs for this purpose.²² In support, Paul Simpson, of JPMorgan Chase, cited the success of EBT cards. He noted that one of the reasons the food stamp program and its use of EBT cards worked well as a distribution method for disaster relief was the result of mandatory electronic distribution. Several participants suggested that perhaps it is time to reconsider broader legislation aimed at electrifying all government payments and to do so in combination with a supporting program of consumer education.

c. Electronic Payment Applications as Tools for Delivering Financial Relief: Are Prepaid and Electronic Benefit Transfer (EBT) Cards the Way of the Future?

The first panel focused on the mechanics of delivering disaster relief payments using both paper-based and electronic distribution methods. As described by the moderator, Gary Palmer, of eFunds Corporation, the intent was to examine the fairly complicated processes and the various parties involved in support of these payment systems. Panelists drew on their experiences in responding to Hurricane Katrina and shared observations on how they managed the interdependencies among the various parties. They also considered what might be done to improve the ability of payment providers and their partners to deliver and process consumer payments faster and more efficiently in disasters. Palmer emphasized the benefits of having on the panel experts on a range of payment products, including checks, electronic benefit transfer cards, and

prepaid cards. The panel included Robert Mange, U.S. Department of the Treasury; Doug Perry, U.S. Department of Agriculture; Paul Simpson, JPMorgan Chase; and Scott Galit, MasterCard International.

Given his background in prepaid cards, Palmer introduced the session by describing the complexity inherent in delivering disaster relief payments using these cards, a relatively new but promising alternative distribution method. He began by cataloging several of the steps, business needs, and organizations that contribute to a disaster response prepaid card program, beginning with the production of the physical card plastic.

Manufacturing card plastic normally takes several weeks and involves the bank card issuer, the program provider (for example, the Red Cross, Salvation Army, or FEMA), and the company that produces the plastic. As a result, the production process can create a bottleneck in a large-scale disaster unless sufficient inventory has been stored in advance. Even if card plastic is readily available, Palmer emphasized that transporting the product into a disaster zone can be a complicated undertaking in an unsettled local environment, necessitating coordination with local, state, and federal relief and law enforcement agencies. In addition, effective on-site distribution relies on establishing a secure network of on-the-ground personnel to manage the interaction with recipients, as part of, for example, efforts to register or enroll applicants for aid, transmit data, or educate cardholders. During the distribution period, remote call centers will likely experience spikes in volume, often straining existing service capacity.

Finally, Palmer noted that procedures for funding and clearing and settlement must be established and tested by all parties involved: the bank card issuer, the program provider, the transaction processors, and the underlying networks.

The processes and challenges described were not intended to be all-inclusive for prepaid cards but rather to illustrate the sophistication required to manage a card-based program efficiently and seamlessly. Palmer noted that all payment delivery mechanisms carry their own set of complexities and share the challenges of meeting human and financial needs in potentially dangerous environments following a catastrophic event.

In closing, Palmer emphasized that when using card-based technology to deliver financial relief and access to financial services, this complexity makes

²² For more information, see www.fms.treas.gov/eta/.

planning and coordination among the many stakeholders in each aspect of delivery and execution critical to successful outcomes.

The U.S. Department of the Treasury and, specifically, the Financial Management Service (FMS) play a significant role in facilitating payments. FMS issues over \$1.5 trillion annually in government payments, including disbursements related to Social Security, veterans benefits, income tax returns, and other federal payments.²³ The majority of these payments are made by electronic funds transfer (EFT) to an established bank account, that is, by direct deposit; the rest are made by check.²⁴ Robert Mange, director of FMS's Regional Financial Center in Austin, Texas,²⁵ described his experience in the wake of Hurricane Katrina in maintaining EFT and check processing of traditional government payments while also meeting increased demand as the issuer of all FEMA payments in the region. Mange estimated that since September 1, 2005, the Austin Regional Financial Center has issued over 2.9 million FEMA disaster relief payments, or about \$7 billion.

Mange described in more detail aspects of the operational coordination between FEMA and FMS's Regional Financial Center in Austin following Hurricane Katrina. FEMA transmitted payment instructions to the Austin center four times a day: twice in the morning and twice in the afternoon. These instructions specified payment by check or by direct deposit. Payments were issued the same day for all instructions received in the morning. For instructions received in the afternoon, only EFT payments were issued the same day; checks were issued the following day. As a result, recipients who chose to receive their relief funds as a direct deposit were generally able to access these funds the next day, thereby eliminating delays related to timing, printing and mailing checks, and — perhaps more important for disaster victims — navigating the damaged infrastructure in order to cash a relief check. Mange used this example to also emphasize that account ownership and the ability to receive direct deposits have critical value for individuals caught in a disaster.

²³ For more information, see www.fms.treas.gov/aboutfms/index.html.

²⁴ For more information, see www.fms.treas.gov/aboutfms/welcometofms.html.

²⁵ The FMS Austin Regional Financial Center processes over 175 million payments each year, or about \$353 billion.

Next, Mange considered the challenges faced in delivering checks in the aftermath of Hurricane Katrina. It quickly became apparent that applicants for relief were providing addresses that, in many cases, were associated with houses destroyed or made uninhabitable by the storm. As a result, a majority of relief checks mailed to these addresses were returned as undeliverable. Mange shared estimates indicating that 50 percent of all benefit checks, including Social Security and other types of disaster relief checks, were returned as undeliverable in the first few weeks after the storm. In some regions of New Orleans, this percentage was as high as 70 percent. In September alone, Mange noted that 47 percent of all FEMA checks were returned. Moreover, from September 2005 through April 2006, 76 percent of the 63,000 total checks issued on behalf of FEMA were returned as undeliverable. Obviously, in addition to the standard delays presented by checks and compared with direct deposit, these delivery failure rates further emphasized the limitations of checks as a method for quickly providing liquidity to victims following a catastrophic event.²⁶

In summary, Mange highlighted two key conclusions from his experience:

1. The efficiencies electronic payments provide for consumers in a catastrophe²⁷ and
2. The importance of capturing and sharing updated contact data on evacuees, especially those victims who continue to choose checks as their payment method.

Doug Perry, U.S. Department of Agriculture, discussed his experience with a benefits program that relies on an electronic payment application as its only distribution method: the EBT card. The Food and Nutrition Service of the U.S. Department of Agriculture administers the food stamp program.²⁸ Benefit recipients use their EBT cards and personal identification

²⁶ The U.S. Department of the Treasury and the Federal Reserve sponsor education campaigns to describe the benefits associated with direct deposit. As one example, Mange highlighted the GoDirect campaign. For more information on the GoDirect campaign, see www.godirect.org/

²⁷ Despite these advantages, Mange noted that some people still prefer to receive their benefits in the form of a physical check, and the Treasury's check distribution system is quite efficient: It has a 99.7 percent on time and accuracy rating, disasters aside.

²⁸ States are able to use the EBT system to distribute Temporary Assistance for Needy Families and other state-administered benefit programs.

numbers (PINs) to authorize transfers of their government benefits from a federal account to a retailer's account to pay for products received. Behind the scenes, purchase authorization and clearing and settlement take place as part of an electronic process between the retailer and the EBT card issuer or its processor.²⁹

Since food stamp benefits were converted to electronic payments, Perry noted, the benefits distribution process has worked very effectively, even allowing the flexibility to provide supplemental benefits,³⁰ paid overnight to registered recipients, and to modify the timing of such payments. As a result, Perry said, these state programs are able to provide benefits earlier than scheduled as well as supplemental emergency relief funds to residents who may be in the path of a hurricane or other natural disaster. Consequently, residents have earlier access to relief funds and can use these funds to prepare for a disaster, for example, by purchasing necessities or paying for evacuation expenses.

Perry noted that while the distribution process is reasonably smooth, the application process is an area where the Food and Nutrition Service continues to search for improvements. For example, in states in the Southeast, new recipients must apply in person but cannot leave the on-site application facility with their benefits. Instead, applicants must wait for an approval process to be completed. Perry noted that the application process as it exists was initially established to limit the potential for fraud, but, during natural disasters, these registration controls make it difficult to deliver financial relief to new applicants in a timely manner.

Despite this constraint, using EBT cards to deliver financial relief during the recent Gulf Coast hurricanes, Perry emphasized, worked extremely well. He attributed this success to three key factors:

1. The payments infrastructure was in place;
2. Protocols for issuing and distributing benefits were well established and well understood; and
3. Recipients generally understood how these cards functioned.

²⁹ For more information, see <http://www.fns.usda.gov/fsp/ebt/FAQ.htm>.

³⁰ Perry noted that supplemental benefits are in addition to standard benefit amounts but may not exceed the maximum benefit limit set by the Food and Nutrition Service. Supplemental benefits are a way to distribute disaster relief to area residents over and above what recipients may qualify to receive as part of the standard food stamp program.

In fact, Perry noted that EBT cards were used to distribute \$225 million and \$300 million in food stamp benefits in Louisiana and Texas, respectively, in the wake of hurricanes Katrina and Rita.

Paul Simpson, JPMorgan Chase, agreed with Perry's assessment of EBT cards' effectiveness, noting that his company was the issuer behind not only the EBT cards but also the American Red Cross and FEMA prepaid cards. Because of his experience with all three programs, Simpson brought a unique perspective to the discussion that allowed him to contrast these programs and identify strategic hurdles that must be addressed regardless of the card payment application.

A critical lesson from Simpson's experience was that in cases where planning had been a priority and program processes, procedures, and distribution points had already been established, the card programs worked very well. When planning had not been done and programs were being organized on the fly, insurmountable challenges arose in meeting the critical response times necessary to quickly get relief to Hurricane Katrina victims. Simpson emphasized that a successful program for using prepaid cards in disaster relief cannot be organized in a day or two; rather, it requires all involved parties to focus their attention for an extended period in order to effectively address the many behind-the-scenes steps that must be taken to support program development and delivery. He observed that in the wake of Hurricane Katrina, the financial services industry needs to consider how to better prepare public-sector partners involved in disaster relief in understanding the details of card-based programs and the level of planning required to ensure a safe and reliable payment application is delivered to victims of a catastrophic event.

Simpson also expanded on a point introduced in an earlier session: The Hurricane Katrina experience clearly demonstrated the benefits of receiving income and financial relief electronically rather than through paper-based alternatives. Simpson suggested that to continue to support consumer adoption of electronic forms of payment, the federal government may need to consider mandating all government payments be made electronically. With the support of the federal government, Simpson believed that both public- and private-sector stakeholders would be better positioned to set priorities and dedicate resources to developing electronic payment infrastructures that may be lever-

aged, as EBT cards already have been, to effectively deliver financial relief to victims in a crisis.

Picking up this discussion thread, Scott Galit, MasterCard International, noted that payment networks such as MasterCard International are in a unique position to bring together a broad set of constituencies to work on coordination issues. Given the central role played by networks in connecting many of the parties involved in disaster relief payments, Galit noted that acting as a facilitator is a natural role for networks. He cited several areas where network contributions can make a difference, including educating consumers about the benefits of electronic payments, explaining to nonbank partners the processes behind a consumer electronic payment, helping to coordinate the public and private sectors in contingency planning, and supporting technology development aimed at improving verification of identity and eligibility during the application process. In closing, Galit emphasized the numerous ways that networks contribute to educating both cardholders and merchants with respect to a variety of payment-card-related topics. By leveraging its existing communication channels with these constituencies, MasterCard International is also providing information that specifically addresses responses to disasters.

In the discussion that followed, participants focused on two related issues: privacy and fraud. Hurricane Katrina showed that during emergencies, when people are vulnerable and in need of financial relief, expectations about consumer privacy and related limitations on data sharing may become an obstacle to quickly getting funds to those in need. The inability of relevant parties to obtain up-to-date contact information for disaster victims was cited as one example of how a lack of data sharing frustrated the disaster relief process, making it difficult to serve the needs of disaster victims. For example, banks with access only to existing records for their customers were often unable to contact customers in the disaster region, even though the individuals may have registered updated information with a relief organization, government agency, or other entity. In many cases, these organizations were unable to broadly share such information with private-sector banks and other service providers. As a second example, Mange described the difficulties the U.S. Department of the Treasury experienced in mailing government checks to old addresses based on stale contact data received from its government partners. In the

end, several participants suggested that a need exists for a centralized database of information related to disaster victims that is accessible to all authorized stakeholders. While most thought this a sensible approach, others cited privacy concerns that might arise or even conflicts with existing privacy laws that would need to be addressed in order to develop such a database and provide shared access to this type of information.

On the subject of fraud, it was noted that there are two primary types of fraud to consider when structuring disaster relief programs: application and transaction fraud. Application fraud occurs when ineligible individuals apply for benefits using false or stolen information or when a single eligible individual attempts to apply for the same benefits more than once. One participant noted that limiting this form of fraud requires answering three key questions:

1. Is the applicant the person he says he is?
2. Was he, in fact, harmed by the catastrophic event?
3. Has he already received benefits?

Authenticating and confirming an applicant's eligibility in a situation such as this — where a large number of people were affected and significant damage occurred across a wide area — is challenging and may require some combination of enhanced technology, data-sharing protocols, cross-channel controls, and coordination between the public and private sectors. Simpson captured the general feeling among participants when he stated that on-site authentication of applicants in such a large-scale disaster is “one of, if not the single, largest challenge program organizers face.”

Transaction fraud³¹ generally occurs either when an unauthorized person uses a lost or stolen prepaid disaster relief card to purchase goods or services or when authorized cardholders use these cards for seemingly “nonemergency” goods and services, such as purchases made at merchants selling alcohol, jewelry, or firearms. Some participants suggested that to address transaction fraud, card issuers should limit card acceptance to preapproved types of merchants or, if possible, restrict purchases to authorized merchandise.³² In response, Michael Brackney noted that the Red Cross's

³¹ Transaction fraud may also be called payment card fraud.

³² Several participants made the point that while prepaid cards offer improved tracking of purchases, the same due diligence is impossible when relief funds are converted to cash, since cash is intrinsically an anonymous form of exchange.

experience suggests that as time passes, there may be more reason to restrict card use because abuses and criminal fraud tend to emerge as we get further away from the event. Moreover, Kim Brock, of Florida's Department of Children and Families, noted that in the immediate aftermath of a catastrophic event "everyone needs food, water, and shelter" and quickly getting aid to victims has positive economic and social consequences, including reducing incentives to criminal activity.

In conclusion, several participants argued that it would be at least inefficient to get into the business of determining whether an emergency purchase was indeed "appropriate"; rather, providers of relief might be better off focusing on developing improved methods to validate victims' identities and eligibility at the point of application, particularly when responding to large-scale events. Other participants emphasized that while no one is recommending that relief agencies police all purchases made by disaster victims, it is incumbent upon disaster relief agencies that are distributing funds taken from taxpayer dollars or private contributions to vigorously investigate all instances of potential fraud. Brackney emphasized that such investigations are conducted by the American Red Cross, FEMA, and others. Describing the Red Cross's experience in more detail, Brackney noted that prepaid cards were distributed to over 1.4 million families as part of Katrina-related disaster relief efforts, and among these cases, the Red Cross identified about 7,000 incidents of "questionable" behavior. While the questionable use of disaster relief funds was generally limited, the Red Cross is reviewing each of these cases for potential application or transaction fraud.³³

d. Public- and Private-Sector Partnerships: How and When Do These Work Well?

Rear Admiral James B. Plehal (USN, Ret.), Department of Homeland Security (DHS), introduced

³³ The Government Accountability Office (GAO) released a report in February 2006 titled "Expedited Assistance for Victims of Hurricanes Katrina and Rita: FEMA's Control Weaknesses Exposed the Government to Significant Fraud and Abuse." This report addresses both application and transaction fraud stemming from FEMA's relief program. The GAO's analysis found weaknesses in the application process, but when addressing transaction fraud, the GAO noted that the "majority of (noncash) transactions was associated with purchases of food, clothing, and personal necessities." To view the full report, see www.gao.gov/new.items/d06403t.pdf.

the afternoon session, which incorporated the areas identified in the morning sessions into strategies to further strengthen the resiliency of our financial system. Plehal's long history of professional involvement in coordinating partners that provide infrastructure security served him well in setting a framework for this discussion. Currently, Plehal is a business liaison in the Office of the Private Sector at DHS, but he has also served as the deputy director of the National Infrastructure Protection Center and as director of the Information and Warning Division, Information Analysis and Infrastructure Protection Directorate, Department of Homeland Security. This experience uniquely positioned him to speak to the issue of where opportunities may exist for better coordinated efforts between the public and private sectors.

Echoing portions of the morning discussion that highlighted improving planning to establish processes, procedures, and protocols for disaster relief card programs, Plehal noted that partnering, planning, and information exchange are indeed key components of the mission of the DHS and its Office of the Private Sector. In his liaison role and in support of FEMA's prepaid card program, Plehal worked with both financial institutions and retail merchants. This experience led him to look for areas in the development and execution of disaster relief prepaid card programs where coordination and collaboration among these parties and between these parties and government agencies can lead to strengthening of financial safety nets. He noted that these efforts are particularly important for those underserved consumers who faced many of the vulnerabilities described earlier by Cheney and Rhine.

Plehal stressed that Hurricane Katrina's size and location greatly contributed to the unprecedented destruction in the region and presented responders with problems of an immensity that had not been encountered with previous hurricanes. Plehal noted that with such widespread and long-lasting destruction to the transportation, electricity, telecommunications, and physical infrastructures, Hurricane Katrina did not allow for pre-existing plans to be scaled to a point that could be useful in the storm's immediate aftermath. Moreover, DHS faced several of the same challenges described earlier, including difficulties accessing affected areas and doing so in a way that ensured the security of on-the-ground personnel involved in logistical planning and, then, managing priorities among the many needs of local, state, and federal agencies.

While Plehal was not directly involved in planning or developing FEMA's prepaid card program, he was asked to work with local financial institutions and retail merchants to introduce the program. Plehal described several questions raised during discussions with these entities and grouped them into four broad areas: prepaid card functionality, program rules, program implementation, and education of cardholders, merchants, and financial institutions. Issues concerning prepaid card functionality included considerations such as how much to limit amounts loaded to the cards, whether to allow cash-back options at the point of sale, and whether to restrict card use either to merchants selling necessities or to specific types of products. Plehal observed that program rules include decisions about the design of card plastic, the consistency of card functionality with that of other relief agency prepaid cards, and the application of sales tax. He grouped program implementation issues with those related to the production of card plastic and its delivery to a disaster region, the application process for relief recipients, and the fund loading and transaction processing procedures.

Finally, Plehal emphasized that the breadth of topics covered in the first three areas brought to light a need to develop communication strategies not only to educate prepaid card recipients but also to build relationships with private-sector partners that play key roles in supporting card-based payments. In short, Plehal's experiences reinforced an earlier observation about the complexity of these programs and emphasized the need for planning and better coordination of public- and private-sector efforts.

Based on his Hurricane Katrina experience, Plehal concluded by outlining two key success factors in building public- and private-sector partnerships not only in the payments arena but also more generally:

1. Planning and coordination must happen ahead of a crisis; and
2. Both private- and public-sector entities would do well to rely on the expertise of partners when these entities step outside their own areas of expertise.

e. Lessons Learned from Hurricane Katrina and Looking Toward the Future

The second panel was introduced by moderator T. Jack Williams, Tier Technologies, who stressed that this session's goal was to consider the steps needed

to continue work toward strengthening our financial networks in the face of weather-related or other types of disasters. Building on Plehal's remarks, he noted that a specific objective of this session was to point out opportunities to improve coordination between the public and private sectors. In fact, many of Williams's professional responsibilities with Tier Technologies involve facilitating such collaborations, particularly as they pertain to the use of card-based applications for distributing federal and state benefits.

Williams focused panelists' remarks by posing the question: "What keeps you up at night?" Then, he asked each panelist to share his or her thoughts on how the risks he or she has identified might be mitigated in the future. Williams noted that he wanted the group to broaden the scope of the discussion to consider actions that may be applied in response to manmade disasters and pandemics as well to natural disasters. The panel included perspectives from the public sector and national relief agencies: Stephen Middlebrook, U.S. Department of the Treasury; Diane Rath, State of Texas Workforce Commission; and Michael Brackney, American Red Cross. It also included perspectives from private-sector payment service providers: Jack Antonini, Cardtronics; John Gruce, Bank of America; Frank D'Angelo, Metavante; and Stan Paur, Discover/Pulse EFT Association. Each panelist considered Williams's question when describing possible strategies to further strengthen the structure for delivering disaster relief payments and restoring financial services following a catastrophe.

Public-sector panelists recommended a general strategy: to improve integration among local, state, and federal government agencies, national relief agencies, and the financial services industry. In defining the term integration, panelists primarily specified efforts to respond to disasters. But as both Williams and Plehal emphasized, integration of response goes hand in hand with integration of preparedness.

To help participants think about improving integration, Stephen Middlebrook, U.S. Department of the Treasury, proposed a framework using four progressive stages:

1. Developing communication channels;
2. Sharing information;
3. Exchanging processes; and
4. Using a single payment device.

Middlebrook noted that the first stage is relatively general but that broad-based forums such as this confer-

ence are one way to build channels of communication among interested organizations.

As Middlebrook envisions the process, information sharing provides various stakeholders with access to consolidated information on disaster victims, including data related to benefits registration, evacuees' contact information, and benefits payments. Currently, as Diane Rath noted, much of these data are maintained in separate places or by different agencies, and retrieving them in an emergency is costly and inefficient. Rath emphasized that by consolidating this information and providing organizations with need-to-know access to the data, stakeholders can potentially eliminate duplication of effort, for example, when different organizations attempt to register the same person for benefits or services and when recipients try to register with multiple organizations for financial relief. Such information sharing, Rath argued, would lead to more efficient and better ways to serve all aid recipients and the providers of such aid whether they are state, federal, or not-for-profit agencies.

From the nongovernmental organization (NGO) sector, Brackney described a database initiative that, in the Red Cross's experience, has worked well in facilitating data sharing among member relief agencies. The American Red Cross partnered with other NGOs to develop a database system called the Coordinated Assistance Network (CAN).³⁴ The CAN system allows a "client"³⁵ to apply once for a range of benefits. Once a recipient is registered, the application data are shared with other participating relief agencies who are members of the network. In this way, the data-sharing system allows electronic referrals to multiple relief agencies, limits duplication of effort since the client registers only once, and is generally a more efficient way for organizations to distribute benefits. To date, 3.5 million potential recipients are registered in the CAN database. Brackney proposed that the CAN system may serve as a constructive example for the structure of a broader data-sharing initiative.

The next stage in Middlebrook's framework takes the concept of data sharing a step further: exchanging information related to underlying business processes and procedures. For example, exchanging

³⁴ For more information on the Coordinated Assistance Network (CAN), see www.can.org/.

³⁵ Brackney used the term client to refer to an individual who applied to receive funds from a relief agency.

processes may mean sharing protocols pertaining to the benefits registration process, the eligibility determination process, and the payment process. A key reason for sharing processes, Middlebrook noted, is to develop best practices for planning responses to emergencies. Rath acknowledged that states and local communities may particularly benefit from a best practices approach, saving both time and expense by allowing these governments to leverage the experiences of their sister communities. At the same time, several participants questioned whether the federal government would need to take the lead in order to facilitate information sharing among state and local communities.

Middlebrook characterized the final stage as the introduction of a single payment device that would enable multiple organizations to load funds on the card and track the funds by type of benefit or payment. As envisioned, the common payment device could be issued to all disaster victims or even beforehand to all U.S. citizens. In response, Brackney suggested that a single device may be the ultimate solution but getting there might best be achieved through a more iterative process. He suggested that, as an initial step, financial institutions and their partners now have an opportunity, based on their experiences with Hurricane Katrina, to standardize the financial products and services applied in response to disasters. In this way, Brackney noted, an "in-the-box" solution would be easier and quicker to activate in a disaster and it would be easier to build advance awareness of it among the general population.

Middlebrook stressed that making progress in each of these phases of integration will require attention to legal and regulatory issues. As an attorney, Middlebrook described several legal issues in areas such as privacy law, intellectual property law, and consumer protection law that may need to be addressed in order to, ultimately, move toward better integration between the public and private sectors.

In terms of privacy law, Middlebrook noted that the federal government and its agencies operate under the Privacy Act of 1974.³⁶ The act governs federal agencies' collection and use of personal information about individuals. In particular, the act prohibits the disclosure of personal information without the

³⁶ For reference, the full text of the federal Privacy Act of 1974 can be found at <http://www.usdoj.gov/foia/privstat.htm>. An overview may be found at http://www.usdoj.gov/04foia/04_7_1.html.

individual's consent unless the disclosure falls within a handful of narrow exceptions. Several participants stressed that greater flexibility in data-sharing rules would help organizations, when dealing with disasters, to quickly identify victims' needs, the status of existing and potential new benefits, and financial account relationships. Middlebrook responded that while such data sharing may be more efficient, it also raises issues because, in this scenario, multiple organizations would be able to access consumer data for various purposes. In particular, it raises legal questions as to the entity that owns the data, the entity responsible for managing the data, and the entity liable if the data are stolen, misused, or inaccurate.

Intellectual property law is particularly relevant as business processes and payment devices are shared. To the extent that business processes are proprietary or technology is patented, Middlebrook noted that organizations would have to determine and contractually agree on provisional access and use of this intellectual property. Government agencies may also have restrictions on the extent to which they share processes with other agencies or across levels of government that need to be considered.

With regard to consumer protection law, Middlebrook emphasized that using a single payment device may cloud the roles played by traditional service or benefits providers and, therefore, may raise liability-related questions with regard to consumer rights and protections. Careful examination of these issues would have to be a part of each of the proposed steps toward further integration of disaster planning and response.

Despite legal issues constraining a more integrated response, the private-sector panelists noted that the response to Hurricane Katrina offered numerous examples, several of which were described in earlier sessions, in which the financial services industry coordinated well with government and national relief agencies and with each other to meet the needs of disaster-area residents. At the same time, panelists pointed out several areas where further improvement may be made.

Jack Antonini, of Cardtronics, described his company's experience in managing its network of ATMs in the Gulf Coast. Cardtronics had 300 ATMs that were out of service following Hurricane Katrina. As a result, cash in these damaged machines was generally contaminated and, in some cases, destroyed or lost, for example, completely washed away by the storm. As one of the largest nonbank ATM operators,

Cardtronics has standard contingency plans that allow the company to deliver cash safely and securely in areas affected by natural disasters. Additionally, and in part as a result of its experience with Hurricane Katrina, Cardtronics enhanced its contingency plans to allow a staged removal of cash immediately before a forecasted disaster hits a region and to restore cash immediately afterward. In so doing, Cardtronics hopes to limit potential losses but still allow local residents maximum accessibility to cash. In further support of Cardtronics' cash delivery management processes, Antonini presented a plan to build mobile cash transports to safely and securely move cash quickly into disaster zones and to provide critical services for disaster victims. As he envisions them, these mobile transport vehicles would have satellite communications, and therefore, they would not rely on the local communication infrastructure. They could also be used to make available services outside traditional banking, such as filling prescriptions and allowing people to send e-mail via satellite to family outside the disaster zone.

John Gruce, of Bank of America, reiterated that the steps taken by financial institutions to help victims of Hurricane Katrina were generally successful, providing financial relief, serving critical financial needs of both customers and noncustomers, and maintaining the flow of payments. At the same time, the experience of the financial services industry brought to light several areas where opportunities exist to improve contingency planning and execution. For example, almost immediately, it became clear that demand for and production of card plastic presented real challenges. Bank of America's experiences have also motivated an examination of its card-ordering, card-activation, and card-funding processes to ensure that these systems are sufficiently scalable to meet increased demand in future catastrophes.

Frank D'Angelo, Metavante, focused on his company's role as a payment processor. In that role, Metavante, through its many business relationships, indirectly touches over 45 million consumers across the United States. For D'Angelo, the experience of Hurricane Katrina brought to light a need for more inclusive continuity planning, reaching beyond Metavante's proprietary systems and extending to the disaster recovery plans of its business partners. For example, although Metavante's processing systems may be functioning after a disaster, it is possible that its business partners' data systems may not be. He raised the question of

whether there is an appropriate role for Metavante and other processors to play in helping business partners develop contingency plans and, in the case of a catastrophe, in restoring data transmissions for these partners. D'Angelo noted that this potential role for major payment processors reinforced the earlier discussion by the public-sector panelists related to the need for increased integration in disaster recovery planning. In the end, D'Angelo's suggestion was that there may also need to be better integration among the various private-sector parties involved in the payments process.

When considering Williams's question about what keeps you up at night, Stan Paur, of Discover's Pulse EFT Association, said that, given the experience of Hurricane Katrina, his sense was that the financial community's contingency plans were generally proven to be effective in responding to a single catastrophic event. In the case of Pulse, based in Houston, Texas, many years of experience in responding to hurricanes led to reconfigurations of Pulse's data systems and telecommunications networks to ensure redundancies. As a result, Pulse was able to continue operations without downtime after hurricanes Katrina and Rita.

Keeping Paur up at night, though, is the issue of whether this adeptness at dealing with a single event would carry over if the country were hit with multiple, simultaneous incidents. Indeed, his fear is that such a situation could cripple key payment systems. Consequently, this experience caused him to weigh whether it is sufficient for individual companies to have established single or multiple redundant capabilities or rather should back-up systems be built to support and provide coverage for multiple participants, even competitors, playing key roles in our payment networks. As an example, Paur described a possible scenario where one debit or credit card network's processing sites, including any back-up sites, would be rendered inoperable. In this case, Paur asked whether other networks could be used during the outage to maintain the flow of payments.

In summary, Paur suggested that broader contingency planning that takes into account multiple simultaneous events is an area to which further thought might be given. At the same time, he noted that such an effort will present challenges due to the numerous interdependent entities involved in executing an electronic payment.

In the discussion that followed the panelists' formal remarks, participants considered again the im-

portant role played by electronic payments in disaster recovery. Gruce reiterated the notion of aggressively promoting or even mandating electronic payment not only of critical government payments but also of payroll disbursements. In response, Rath noted that while there may be a good argument for electronic payment of government-issued payments, the electronic payment of payroll may not be realistic, given the large number of small employers that pay employees in cash. She stated that, in Texas, 70 percent of employers have fewer than 10 employees and many of these businesses have cash-based payrolls. She stressed that it would be very difficult, if not impossible, to force these employers to switch to electronic payroll distribution. At the same time, Rath and others emphasized that communicating the advantages of electronic payment of payroll and other sources of revenue is certainly an opportunity for financial educators and the government. Moreover, such educational programs should not be limited to consumers; they should also be relevant to small businesses.

As part of this discussion, Rath used the example of unemployment insurance to raise another important consideration related to incentives. For unemployment insurance, the distribution of federal funds is administered by individual states, with the Department of Labor reimbursing all administrative expenses incurred by the states. As a result, state administrative offices are less motivated by the potential cost-savings typically associated with converting from a paper-based to an electronic distribution process. Instead, state administrative offices must be made to consider other benefits gained through electronic payment of these funds, such as the efficiencies electronic payments offer for customers during a disaster.³⁷ All too often, Rath noted, these factors are insufficient to alter behavior. In response, several participants emphasized that continued migration toward electronic payment of government disbursements may require a legislative change in order to align incentives. Ron Congemi, of First Data Corporation, captured the sentiment of many participants in this discussion when he suggested that, ultimately, electronification of government disbursements will require not only private-sector efforts but also leadership from both the executive and con-

³⁷ Munge described many of these efficiencies earlier in the discussion; see page 14.

gressional branches of the federal government.

Indeed, since the Payment Cards Center conference was held in early May, several developments in this regard have taken place, including two separate requests for information issued by the Department of Health and Human Services, both of which were motivated by recommendations detailed in a report called *The Federal Response to Hurricane Katrina: Lessons Learned*.³⁸ The first request for information relates to *Voluntary Storage of Personal Data in Preparation for Emergencies* and asks for comment on the feasibility of “private sector services through which individuals could voluntarily submit their personal information for storage so that they, their family members, or other designated individuals could access the information in an emergency.” The second request, *Development and Implementation of Electronic Benefits Transfer System for Victims of Disaster to Receive Federal and State Benefits*, calls for consideration of “establishing a system of Electronic Benefits Transfer (EBT) as a simple, comprehensive, and efficient means to deliver to disaster victims the Federal, State, and local human services for which they qualify.” In addition, on June 15, 2006, the Federal Financial Institutions Examination Council (FFIEC) member agencies and the Conference of State Bank Supervisors jointly produced a booklet³⁹ that listed les-

³⁸ The full report can be found at www.whitehouse.gov/reports/katrina-lessons-learned/.

³⁹ For more information, see www.ffiec.gov/katrina_lessons.htm.

sons that financial institutions learned in the aftermath of Hurricane Katrina. This booklet is intended to serve as a reference for institutions to use in their contingency planning.

IV. Conclusion

While events like Hurricane Katrina may result in overwhelming destruction and have significant consequences for victims, they also represent an opportunity to reexamine the readiness of participants in our payment system. The broad representation from all levels of government and from across the financial services and payment industries at this conference demonstrates the commitment of these participants and their organizations to applying the lessons learned from Hurricane Katrina to strengthen both contingency and disaster-response planning.

Conference participants translated the experiences discussed during the conference sessions into steps that can be taken in both the short and long term to continue to strengthen the resiliency of our financial system. These recommendations included developing strategies for more government payments to be made electronically, consolidating and sharing data on disaster victims more broadly with relief agencies and payment providers, focusing local communities and state governments on developing contingency plans for payment continuity, and improving public- and private-sector coordination among entities that play key roles in the payment system.

Exhibit 1: Conference Agenda

Wednesday, May 3, 2006

“Assessing and Responding to Hurricane Katrina: One Reserve Bank’s Perspective”

Keynote Address: Jack Guynn, President, Federal Reserve Bank of Atlanta

Thursday, May 4, 2006

Welcome and Setting the Stage

Sandra Braunstein, Board of Governors of the Federal Reserve System

Hurricane Katrina: A Case Study

Julia S. Cheney, Federal Reserve Bank of Philadelphia

Sherrie L.W. Rhine, Federal Reserve Bank of New York

Electronic Payment Applications as Tools for Delivering Financial Relief: Are Prepaid and Electronic Benefits Transfer (EBT) Cards the Way of the Future?

Moderator: Gary Palmer, eFunds Corporation

Panelists: Scott Galit, MasterCard International

Robert Mange, U.S. Department of the Treasury

Doug Perry, U.S. Department of Agriculture

Paul Simpson, JPMorgan Chase

Public- and Private-Sector Partnerships: How and When Do These Work Well?

Rear Admiral James B. Plehal (USN, Ret.), Department of Homeland Security

Lessons Learned from Hurricane Katrina and Looking Toward the Future

Moderator: T. Jack Williams, Tier Technologies

Panelists: Jack Antonini, Cardtronics

Michael Brackney, American Red Cross

Frank D'Angelo, Metavante

John Gruce, Bank of America

Stephen Middlebrook, U.S. Department of the Treasury

Stan Paur, Discover/Pulse EFT Association

Diane Rath, State of Texas Workforce Commission

Exhibit 2: Institutions Represented at the Conference

Allpoint Network	Federal Reserve Board
American Red Cross	First Data Corporation
Bank of America	First Data/Western Union
Bryan Cave LLP	Florida Department of Children and Families
Capital One	Jaguar Acquisition Corporation
Cardtronics	JPMorgan Chase
Department of Homeland Security	MasterCard International
Discover Financial	Metavante Corporation
Discover/Pulse EFT Association	Network Branded Prepaid Card Association
eFunds Corporation	Texas Workforce Commission
FDIC	Tier Bank
Federal Reserve Bank of Atlanta	Tier Technologies
Federal Reserve Bank of Boston	U.S. Department of the Treasury
Federal Reserve Bank of Chicago	U.S. Department of Agriculture
Federal Reserve Bank of New York	Virginia Department of the Treasury
Federal Reserve Bank of Philadelphia	Visa USA



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Peter Burns
Vice President and Director

Stan Sienkiewicz
Manager

The Payment Cards Center was established to serve as a source of knowledge and expertise on consumer credit and payments; this includes the study of credit cards, debit cards, prepaid cards, smart cards, and similar payment vehicles. Consumers' and businesses' evolving use of electronic payments to effect transactions in the economy has potential implications for the structure of the financial system, for the way that monetary policy affects the economy, and for the efficiency of the payments system.