

# Chicago Fed Letter

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## Developing a roadmap to improve the U.S. payment system

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On October 22–23, 2012, the Chicago Fed hosted its 12th annual Payments Symposium, where industry leaders convened to evaluate the implications of recent technological changes for the payments industry, including the attendant rise in customer demand for faster, more convenient payment options that are safe and interoperable. Participants proposed a number of ideas that, taken together, could help foster the creation of a roadmap to unify the fragmented payments industry and ultimately improve the payment system.

**Over** the past few years, the payments industry has been facing an array of technological changes, particularly with the advent and growing adoption of mobile computing. Nascent payment methods like mobile payments often rely on legacy payments infrastructure, such as automated clearinghouse (ACH) and payment card networks, thereby continuing and potentially magnifying the limitations of traditional payment methods. Additionally, consumers and businesses are demanding more of their payment service providers than ever before, in part because the new technologies have enabled more payment capabilities for those historically underserved. The efficiency, speed, and security of payments remain paramount concerns; yet, according to the symposium participants, the creation of benefits for different populations that access the “payments ecosystem” in multiple ways should be a focus for the payments community as well.

More than 150 senior leaders representing all sectors of the payments industry—including financial institutions, industry associations, consulting firms, processors, vendors, networks, merchants, and regulators—came together at the Federal Reserve Bank of Chicago’s Payments Symposium to discuss key payment

trends. Over 30 experts participated as speakers at the event, which served as an opportunity for payments professionals to educate one another on a variety of issues that affect the payments marketplace today.

To kick off the symposium, Sandra Pianalto—president and CEO of the Federal Reserve Bank of Cleveland and chair of the Federal Reserve’s Financial Services Policy Committee—gave a keynote speech that highlighted the need for payments to be faster, more efficient, and more responsive to end-users’ needs than they presently are.

The opening panel documented several key changes affecting the overall payments environment (e.g., the introduction of new mobile technologies, as well as new regulations). These changes, particularly the ones related to technological innovations, are leading banks and other payment service providers to increasingly reevaluate their current strategies so that they can better align them with the fast-changing payments behavior of their customers. The second panel, which featured Federal Reserve senior officers, and the third panel, which featured industry experts, discussed how both the wholesale and retail sides of the industry

For details on the symposium, including its agenda, see <http://paymentssymposium2012.org/>.

could develop faster, more convenient payment options that are safe and interoperable to better meet the needs of end-users. The fourth panel reviewed the current state of the market for consumer payments, including innovative person-to-person payment services like Google Wallet and PayPal. Panelists noted that significant experimentation, while positive, can lead to greater balkanization, which may result in higher industry costs and more security risks. The fifth panel discussed how payments

very start of a transaction through its completion).

- Establish safe, easily accessible, and efficient directories of transaction account information that can be used in an interoperable fashion and that leverage current payments infrastructure to benefit end-users.
- Create faster payments that improve the availability of funds (i.e., payments that minimize the delay in payees' receipt and use of funds); improve

Given the rapid pace of technological change, symposium participants agreed that U.S. payment system participants, including consumers and businesses, would benefit from the industry having a unified strategy.

tend to work in the business-to-business space, highlighting the persistence of paper checks; however, the panelists did note that all-electronic payment options—e.g., electronic payment order (EPO) products—could soon benefit business-to-business transactions. The sixth panel emphasized the need for financial institutions, other payment service providers, and regulators to maintain an open dialogue as the payments landscape evolves on account of new regulations and further payment innovations. This panel explained the importance of ensuring that the legal and regulatory framework for payments allows financial institutions to innovate and push the industry forward.

Based chiefly on the previous panel discussions, the speakers who made up the final panel synthesized a range of goals to meet over the medium term (i.e., the next three to five years) and other goals to achieve over the longer term. That is, the panelists, with input from many symposium participants, proposed that the United States needs a roadmap to improve its payment system. More specifically, the panelists noted that over the medium term, the payments industry should strive to reach the following goals to improve the U.S. payment system:

- Develop an electronic payment order product, or a “paperless check” (i.e., a check that is digital from the

error resolution (e.g., resolution of disputes over bookkeeping errors or unauthorized transactions in customers' bank accounts); and provide additional transaction-level information to payers and payees.

The panelists also indicated that over the longer term, the industry should try to achieve the following goals to make the U.S. payment system better:

- Form a national payments strategy or framework, with broad industry involvement and support.
- Develop incentives for different parties involved in payment transactions (e.g., consumers, merchants, and payment service providers) to continue to improve security practices and ensure the integrity of the overall system.
- Invest in generating and implementing new standards (e.g., for authentication) that account for the industry's fast pace of change.

Symposium participants acknowledged the difficulty of achieving these longer-term payment solutions; however, they noted that the medium-term goals had sufficiently high promise to deliver real benefits to consumers, businesses, banks, and payment service providers in a few years. In the following sections, all of these goals are explained in greater detail.

## Electronic payment orders

Paper checks emerged as an area of particular interest during the symposium. Today, certain businesses are still heavily dependent on paper check payments because of the lack of convenient electronic payment options.<sup>1</sup> Of the 27.8 billion total paper checks written in 2009, nearly 8 billion were business-to-business checks, while 5.2 billion were business-to-consumer checks, according to a 2010 Fed study. These numbers were down only slightly from such check volumes reported in a previous similar study by the Fed (measuring the number of checks written in 2006).<sup>2</sup> In 2010, the majority of business-to-business payments (57%, according to the *2010 AFP Electronic Payments Survey*) were made with paper checks.<sup>3</sup> Such continued reliance on paper instruments points to a need for a new all-electronic solution that maintains the most desirable attributes of paper checks. As many have pointed out, current electronic alternatives to checks, such as ACH payments, do not offer some of the features desired by small and medium-sized business customers—e.g., full remittance information, the ability to make partial payments, and integration with widely used accounting software. However, an electronic payment order would offer many of these features. It was also noted that building new payments infrastructure is expensive; therefore, any new product like an EPO should leverage current infrastructure in order to succeed.

## Shared directories of transaction account information

Attendees noted that person-to-person payments are at present cumbersome because most current solutions require individuals to belong to the same institution (or service) or to know each other's detailed transaction account information. However, many initiatives and programs are emerging to address this problem as companies seek to pin down the best business models to provide new and improved forms of such payments. Therefore, participants stressed the need for industry-level account directory tools that could link transaction account information across institutions. The goal would be to develop tools that, much

like the check, could be used to pay anyone regardless of affiliation with a specific institution. As one speaker noted, this capability would be analogous to what is made possible by the Internet Domain Name System (DNS), which helps ensure that the Internet is stable and interoperable for all users around the globe.

### **Faster, more convenient payments**

According to several symposium participants, while customers are generally satisfied with the variety of payment options available, some of their needs are not being met in the U.S. payment system. For example, consumers today cannot easily make immediate payments (i.e., those processed and settled in real time with finality) to other consumers or businesses. This fact exposes the need for a faster, more accessible payment service in the United States that could emulate services that exist in other countries, such as the UK and Mexico.<sup>4</sup> To be truly effective, a faster payment service should be ubiquitous and allow for interoperability among different payment service providers.

Moreover, symposium participants commented that in a world where merchants are increasingly aiming to ship products for delivery on the same day or early the next day, it is going to be important for institutions to offer faster payments. Therefore, symposium participants stressed the need to develop capabilities for processing and settling payments in real time (or at least on the same day).<sup>5</sup> That said, participants noted that banks and infrastructure providers should deliver benefits to their customers beyond faster speed—such as improvements in error resolution and provision of more-detailed transaction-level information to both payers and payees.

### **A national payments strategy**

Symposium participants agreed that unlike most other nations' payment systems, the United States' payment system operates without a unified strategy. While such a wide-open system may foster more innovation, the lack of a shared vision in the U.S. payment system has contributed to a balkanization among payment service providers operating within it.

Symposium participants agreed that collaborating on a national payments strategy will be difficult, given the diverse nature of the U.S. banking market (which features over 10,000 financial institutions) and the U.S. payment system's decentralized governance structure. Additionally, most banks have historically tended to focus on institution-specific payment solutions rather than on strategies that would move the industry as a whole forward.

A poll of symposium attendees revealed that most believe that the U.S. payment system is in need of a shared vision (or compass) to help increase the speed, integrity, interoperability, and efficiency of payments. The wrap-up panel suggested that the creation of this type of shared vision should account for input from a wide and diverse range of stakeholders and that the Federal Reserve Banks could play a helpful role in supporting the process.

As the attendees explained, the overarching goal of a national strategy should be to figure out where the payment system is now and where it should be in five to ten years, with the recognition that there is no straight-line path to success. Those at the symposium emphasized that because the U.S. payment system is so large and diverse, strong and thoughtful leadership—whether it comes from the private or public sector—will be needed to successfully carry out a national strategy, which should cultivate the best ideas of *all* industry participants. Panelists highlighted the U.S. experience with developing and implementing Check 21<sup>6</sup> as a successful example of this type of collaborative effort.

### **Security incentives**

Symposium participants discussed the changing nature of security risks in the U.S. payment system. Fraud is a threat to the payment system's efficiency because it degrades operational performance and increases costs—not only for the parties whose payments are compromised, but also for all participants in the system. As a cost of doing business, fraud losses are not very large. However, firms recognize the impact that security (and privacy) issues may have on their reputations and brands.

The incentives to prevent, detect, and manage payment fraud may be insufficiently aligned for the different parties potentially involved in a payment transaction. For instance, some consumers may not protect their payment information as carefully as they should, since “zero liability” policies and certain regulations indemnify them from losses in cases of payment card fraud. Moreover, payment service providers, merchants, networks, and other players naturally have different views about whether the liability for fraud losses is equitably distributed throughout the payment chain.<sup>7</sup>

Symposium participants noted that it is very difficult to adjust these types of policies once they have been put in place. However, they said that additional work could be done to better align incentives—e.g., by fostering policies to encourage upfront investments in improving security protocols when sufficient societal benefit will be gained. While it is challenging to configure optimal policies in a rapidly changing market, symposium participants agreed that it is possible to improve the dialogue and information sharing on security and liability issues among payment service providers, regulators, and other stakeholders. Currently, security

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enhancements are largely developed and adopted through private sector initiatives; therefore, symposium attendees said that it would be helpful for industry leaders to build stronger rapport across the industry so that firms can work better together.

### Investments in payment standards

Another challenge discussed at the symposium revolved around ensuring that adequate investments are made to design and implement standard-setting policies. Participants discussed the ISO 20022<sup>8</sup> and EMV<sup>9</sup> standards as two examples. These standards have critical international interoperability components; but to be effective, they require significant investments from banks, processors, merchants, and other stakeholders, whose resource pools are already challenged.<sup>10</sup> Even if payment standards have vital implications for the industry as a whole, individual firms provide the resources that make them viable. However, each firm on its own usually lacks enough incentive to invest in the research and development, infrastructure building, and deployment efforts necessary to make new standards succeed; this fact is complicated by the breadth and diversity of the U.S. payments market. A national payments strategy could help payments industry players decide

which standards are the most beneficial and how their development should be fostered.

### Conclusion

Given the rapid technological changes affecting the payments market, the U.S. payments industry would benefit from a unified strategy, according to participants at the 2012 Payments Symposium. Additionally, participants noted that such a strategy should incorporate an international dimension in recognition of the global nature of payments and electronic commerce today. A well-functioning payment system is vital not only to its participants but to the economy as a whole. To achieve the goals set forth by the symposium participants, both collaboration within the industry and strong and thoughtful leadership are required.

Importantly, the Federal Reserve System has made a commitment to supporting such collaboration and improving the efficiency of the U.S. payment system. At the symposium, Cleveland Fed President Sandra Pianalto spoke of the Fed System's updated multiyear direction as follows:

We will place greater emphasis on improving the efficiency of payments from end to end—that is, from the

initiator to the ultimate receiver of the payment. We will engage and collaborate with payments industry partners like you to ensure that we fully understand the needs of the industry now, and in the future, and we will expand our research and industry engagement efforts in pursuit of these goals. We also will partner with industry participants to enable us to be part of the solutions that will best serve the needs of different end users, including banks, consumers, businesses, and governments. Throughout our work, we remain dedicated to ensuring the speed, efficiency, certainty, security, fraud resistance, and market responsiveness of the U.S. payments system.<sup>11</sup>

Indeed, industry participants at the 2012 Payments Symposium invited public sector entities like the Fed to partner with them to find such solutions. Undoubtedly, a roadmap developed by payments professionals with diverse perspectives on the industry is expected to evolve over time. In order for the roadmap to be successful, it is vital that a wide range of players—from payments technology innovators to banks and regulators—actively participate in realizing its goals.

<sup>1</sup> NACHA and FIS, 2012, "Still paying with paper: Small businesses continue to write and receive checks," research brief, Herndon, VA, and Jacksonville, FL, October, available at <https://www.nacha.org/sites/default/files/files/Still%20Paying%20with%20Paper%20-%20White%20Paper%20pdf%281%29.pdf>.

<sup>2</sup> Board of Governors of the Federal Reserve System, 2011, *The 2010 Federal Reserve Payments Study—Noncash Payment Trends in the United States: 2006–2009*, Washington, DC, April 5, p. 39, available at [https://www.frbservices.org/files/communications/pdf/research/2010\\_payments\\_study.pdf](https://www.frbservices.org/files/communications/pdf/research/2010_payments_study.pdf).

<sup>3</sup> Association for Financial Professionals, 2010, "2010 AFP electronic payments: Report of survey results," Bethesda, MD, November, p. 4, available at [www.afponline.org/eypaysurvey/](http://www.afponline.org/eypaysurvey/).

<sup>4</sup> Katy Jacob and Kirstin E. Wells, 2011, "Evaluating the potential of immediate funds transfer for general-purpose payments in the United States," *Chicago Fed Letter*, No. 292a, November, available at

[www.chicagofed.org/digital\\_assets/publications/chicago\\_fed\\_letter/2011/cflnovember2011\\_292a.pdf](http://www.chicagofed.org/digital_assets/publications/chicago_fed_letter/2011/cflnovember2011_292a.pdf).

<sup>5</sup> See, e.g., Bruce J. Summers, 2012, "Facilitating consumer payment innovation through changes in clearing and settlement," in *Consumer Payment Innovation in the Connected Age*, Kansas City, MO: Federal Reserve Bank of Kansas City, pp. 175–205, available at [www.kansascityfed.org/publicat/pscp/2012/Summers\\_final.pdf](http://www.kansascityfed.org/publicat/pscp/2012/Summers_final.pdf).

<sup>6</sup> For more details on Check 21, see [www.federalreserve.gov/paymentsystems/regcc-faq-check21.htm](http://www.federalreserve.gov/paymentsystems/regcc-faq-check21.htm)

<sup>7</sup> Julia S. Cheney, Robert M. Hunt, Katy R. Jacob, Richard D. Porter, and Bruce J. Summers, 2012, "The efficiency and integrity of payment card systems: Industry views on the risks posed by data breaches," *Economic Perspectives*, Vol. 36, Fourth Quarter, pp. 130–146, available at [www.chicagofed.org/digital\\_assets/publications/economic\\_perspectives/2012/4Q2012\\_part2\\_cheney\\_etal.pdf](http://www.chicagofed.org/digital_assets/publications/economic_perspectives/2012/4Q2012_part2_cheney_etal.pdf).

<sup>8</sup> ISO 20022 is a standard for financial services messaging using popular computer syntaxes, such as extensive markup language (XML). For further details, see [www.iso20022.org](http://www.iso20022.org).

<sup>9</sup> EMV (Europay, MasterCard, and Visa) is a global standard for the interoperability of chip-based payment cards with point-of-sale devices and automated teller machines. For further details, see [www.emvco.com](http://www.emvco.com).

<sup>10</sup> Debra Hjortland, 2012, "ISO 20022 & X9," *X9 Extra*, Vol. 3, No. 1, April, available at [https://www.x9.org/newsmedia/x9\\_extra/X9\\_Extra\\_Newsletter\\_April\\_2012.pdf](https://www.x9.org/newsmedia/x9_extra/X9_Extra_Newsletter_April_2012.pdf); and John Rozek, 2012, "Are U.S. retailers ready for EMV?," *BAI Banking Strategies*, March 6, available at [www.bai.org/bankingstrategies/payments/remotepayments/are-us-retailers-ready-for-emv](http://www.bai.org/bankingstrategies/payments/remotepayments/are-us-retailers-ready-for-emv).

<sup>11</sup> Sandra Pianalto, 2012, "Collaborating to improve the U.S. payments system," speech at 12th annual Payments Symposium, Federal Reserve Bank of Chicago, October 22, available at [www.clevelandfed.org/For\\_the\\_Public/News\\_and\\_Media/Speeches/2012/Pianalto\\_20121022.cfm](http://www.clevelandfed.org/For_the_Public/News_and_Media/Speeches/2012/Pianalto_20121022.cfm).