

**NONBANKS IN THE PAYMENTS SYSTEM: INNOVATION, COMPETITION, AND RISK—  
*A Conference Summary***

By Richard J. Sullivan and Zhu Wang\*

From the early days of automated card sorting to the more recent times of the Internet and check imaging, payments and payments processing have continually embraced new technology. At the same time, the industry has been shaped by its share of entry and exit, through startups, mergers, and the reorganization of businesses seeking the proper scope of horizontal and vertical integration. Many of these changes have introduced new risks to payments. In response, public policy has evolved to help manage these risks.

These changes have enabled nonbank organizations to play a larger role in the payments system. Nonbanks have followed a number of pathways to more prominence: purchasing bank payment processing subsidiaries, carving out niches in the payments market through innovation, and taking advantage of economies of scale made possible by shifting to electronic forms of payment.

The contributions of nonbanks are undeniable. They have introduced some of the most far-reaching innovations to the payments system in recent years, leading to greater efficiencies in payments processing. At the same time, nonbanks have changed the dynamics of competition in payments, leading to a significant change in the system's risk profile.

The Federal Reserve Bank of Kansas City sponsored a conference on nonbanks in the payments system in Santa Fe, N.M., on May 2-4, 2007. The conference addressed many of the key questions raised by the growing presence of nonbanks in payments. Have recent payments innovations been more likely to come from nonbanks? Have nonbanks improved or harmed competition in payments? Have nonbanks increased risk or helped to develop tools to manage it?

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How should public policy respond as increasingly more activity in payments lies outside of the banking system?

Policymakers, industry practitioners, and academics from around the world attended the conference to exchange views on these challenging questions. This article summarizes the contributions of conference presenters and recaps the extensive discussions that followed their presentations.

### **NONBANKS IN THE EUROPEAN AND U.S. PAYMENTS SYSTEMS**

The conference began with the presentation of a study jointly undertaken by staff at the European Central Bank (ECB) and the Federal Reserve Bank of Kansas City. Employing a common set of definitions and a uniform analytical framework, this study documents the various activities performed by nonbanks in the European Union (EU) and U.S. retail payments systems. It also assesses the implications of the growing role of nonbanks for central bank oversight.

The study defines a nonbank payment service provider as any enterprise that is not a bank and provides payment services to its customers, primarily by way of electronic means. Nowadays, nonbanks perform functions for various payment types, such as credit cards, debit cards, electronic checks, credit and debit transfers, e-money, and stored-value transactions. Nonbanks also conduct payment activities, such as hardware and software provision, consumer and merchant interaction, backroom processing, clearing and settlement, and post-transaction accounting.

To assess the role of nonbanks in retail payments, two original surveys were conducted. The EU survey was carried out among payments experts of the national central banks of 13 countries—eight from the Euro area (Austria, Germany, Finland, France, Greece, Italy, Portugal, and Slovenia) and five from non-Euro member states (Bulgaria, Cyprus, Czech Republic, Latvia,

and Lithuania). Meanwhile, a similar U.S. survey was completed by the Payments System Research staff at the Federal Reserve Bank of Kansas City. The results of the surveys show that nonbank presence in retail payments systems is substantial and growing on both continents. In particular, nonbanks are most prominent in the United States, dominating a large number of payments activities for a large number of payment types. In Europe, nonbanks are very important for card payments and, in certain countries (Germany and Italy), other payment types as well. For other payment types, however, the role of nonbanks in Europe is more limited but growing rapidly.

The study also compares the regulatory frameworks in the European Union and United States regarding nonbank payment service providers. While there are many similarities, some differences also emerge. First, the ECB has clear regulatory authority over payments, while the Federal Reserve's authority is more limited. Second, supervision of nonbank payment processors is less uniform across the various countries of the European Union than across the U.S. states. However, it is expected the proposed Payments Services Directive (PSD) should bring more harmony to treatment of both bank and nonbank payment processors in the European Union. Third, in the European Union, a legislative initiative is under way to allow the provision of payment services to end users by a new category of nonbank payment institutions, while the United States has nothing equivalent.

With the above said, central banks in both the European Union and United States face the same challenges: to catch up with the rapid changes in payments and to continue ensuring the safety and efficiency of the system. In particular, the rising importance of nonbanks and the multiple roles they play in the payments chain have changed traditional risk setting. Thus, a critical question is whether the current scope of oversight by central banks remains sufficient.

Accordingly, the paper addresses two important policy issues. First, is there a need for updating the legal basis for central bank oversight on nonbanks? And second, is there a need for coordination among various authorities with different competencies that affect nonbank payment service providers?

During the open discussion period, presenters Simonetta Rosati and Stuart E. Weiner led a conversation with the audience about various issues surrounding the increasing presence of nonbanks in payments. First, what are the implications of telecommunication companies' (telco) entrance into the payments arena? The presenters agreed that mobile payment is a major movement in both Europe and the United States. They pointed out that the recently proposed PSD explicitly addresses this issue in the European Union, where telecommunication companies would be able to set up payment institutions to provide payment services. The United States has not taken similar actions.

Second, what is the role of industry self-regulation in the payments area? Rosati commented that industry self-regulatory efforts supported by public authorities could be very effective. The ongoing Single European Payments Area (SEPA) project in Europe is a clear example. Weiner agreed and pointed out there are similar initiatives in the United States. He commented that a market solution is generally preferred to a regulatory solution, and that there are benefits to private-sector efforts to come to common standards and practices in payments.

Third, in Europe, are the limitations on nonbanks acquiring bank charters like those in the United States? The presenters said yes, although there are between- and within-country differences. As an example, they pointed out France, where the national legal system restricts payment instruments activity to banks only. However, when the PSD is implemented, nonbank payment institutions will be allowed to provide payment services, and the same set of rules will

apply across all Europe.

### **NONBANKS AND PAYMENTS INNOVATION**

In the second session, Bronwyn Hall reviewed the economics of innovation with a special application to payments. Electronic payments are a form of disruptive technology that has the potential to make cash and checks obsolete, thus changing the structure of the payments industry. Like other industries affected by disruptive technologies, many recent innovators and entrants to the payments industry are outsiders. In the case of payments, many of these outsiders are nonbank organizations. Research on innovation has shown that established firms tend to be better at incremental innovations, while radical innovations typically come from outsiders. These tendencies also appear to be true for payments.

Computers and network technology are from a class of what has been called “general purpose technology”—useful for many purposes but requiring significant research and development and co-invention for specific applications. In the case of electronic payments, technical development requires standards for interoperability, development of new labor skills, and complementary investments. With this ancillary development, full diffusion of new applications of general purpose technology can take substantial amounts of time.

Hall’s preliminary analysis of patent data reveals a number of characteristics about payments innovation. Few payment-related patents in the United States come directly from the commercial banking sector. In contrast, in Europe, more than half of payment-related patents are issued to banks or near banks. Patterns of U.S. patenting suggest that a wide range of firms innovate in payments—credit card issuers, transactions processors, security and identification services, and so on. This is true perhaps because of the early penetration of credit cards. Despite the perception of recent rapid change, innovation in payments is not unduly heavy in relation to

the size of the industry.

In his comments on Hall's paper, Lee Manfred noted that, in his experience, there have been many examples of both evolutionary and radical payments innovations coming from both banks and nonbanks. Innovation has been largely tied to the availability of cheap and reliable telecommunication. Manfred evaluated payments innovations from a business perspective. Does it give the consumer a good experience? Does it solve a problem and have a sustainable competitive advantage? Does the company have the capability and backing to make the innovation work? Successful payments innovations today—such as E-ZPass—are good business propositions but often serve niche markets. The issues of network economics described by Hall can make it very difficult for a payments innovation to be widely adopted.

Panelist Benjamin Ling described Google's fundamental business as matching consumers and advertisers. He argued that the business works better if the flow of consumers to its site can be increased. Google Checkout makes checkout easier in an effort to increase completed transactions between consumers and merchants. For consumers, Google Checkout streamlines online purchases, minimizes the number of online accounts, and helps protect personal data. For merchants, it generates more leads, increases conversion rates, and reduces costs. Because e-commerce is still in its early phase, there is a lot of room for growth.

Next, René Pelegero said that a key benefit of the Internet is that it allows transactions between buyers and sellers who do not know one another. One of PayPal's main innovations has instilled more trust in online transactions by allowing customers to make payments without sharing bank account information. Other important innovations include rapid access to funds, ease in establishing a PayPal account, and a convenient transaction process. PayPal has been a leader in security and risk management with its recent efforts to combat phishing and website

spoofing. Pelegero does not view these innovations as radical, but rather incremental improvements to existing systems. Finally, while PayPal is a nonbank, it is under some supervisory authority and must comply with many banking regulations.

Panelist Margaret Weichert began by observing that the view of payments has changed over the years. In earlier days, the system was considered “costly plumbing” that served other lines of business, whereas today it is seen as a critical part of the value that banks give customers and the economy. Innovation in payments must accommodate a complex and fragmented infrastructure. Because many players have a stake in payments, innovation tends to be incremental and slow, but it can be successful if it solves problems, makes improvements, or provides some value for all participants who support the payments system. Nonbanks have some unique advantages that enable them to take part in payments innovation. They are often small, privately held, and less constrained by expectations of stockholders and securities markets. Such advantages may make it easier for nonbanks to introduce more disruptive technology.

Most of the discussion following the formal remarks centered on two themes. First, what is the role of regulation? Some saw it as inhibiting innovation, as evidenced by spates of change following deregulation, as in the airline industry. Others saw it spurring innovation, perhaps to bypass regulatory constraints. Regulation can protect consumers, but it is sometimes troublesome if overly broad and applied in areas where it is not really needed. Technology can also undermine original justifications for regulation, such as the separation of banking and commerce. Some payments technology is now intimately related to particular systems of commerce, such as the relation between PayPal and eBay. Thus, an important question arises: Does this pose an issue if a bank tries to make inroads in this area?

Second, what is the fundamental business structure for recent payments innovations? One

commenter asked whether PayPal or Google Checkout were competitors or partners for other payment providers. Another wondered why banks offered new payment services for a positive price when they fundamentally reduced bank costs. Some expressed concern that a bank's desire to offer banking services to traditionally underserved markets could be tempered by negative public perceptions of these services.

### **PAYMENTS MODERNIZATION IN EUROPE**

Gertrude Tumpel-Gugerell, a member of the Executive Board of the ECB, gave the luncheon speech. Her speech, "Modernizing Payments: No Pain, No Gain," was motivated by the vision that payments modernization is a process of "creative destruction." In this process, well-established products and players are constantly destroyed and replaced by newer and better ones. In particular, nonbanks and cross-border competition are putting increasing pressure on existing service structures and processes.

The speech focused on three issues. First, what drives payments innovation, particularly in Europe? The payment industry around the world is experiencing rapid change. The key forces of this change are political and regulatory initiatives, international competition, innovations in payment services, and the progress in information technology. In Europe, the most notable example is the market-driven initiative to establish SEPA, which seeks to provide common technical and commercial standards for the payments industry. SEPA will be underpinned by a new legal framework in the form of the PSD. By harmonizing the national legal frameworks, the directive will facilitate SEPA's implementation and allow more nonbank players to enter the payments arena. The increased competition, along with changes in technology and regulation, is expected to fuel payments innovations, giving major benefits to the wider economy.

Second, how will nonbanks influence payments modernization? As far as cashless



payments are concerned, nonbanks have been very active along the whole payments processing chain. They have successfully tapped profitable niche markets—for example, by identifying customer needs that are not sufficiently met by traditional payment instruments. The competition brought by new nonbank players may cause pain to existing banks and nonbanks in the payments area. Nevertheless, central banks should support innovation and competition in the payments system from both banks and nonbanks when these factors improve market efficiencies and benefit the user community.

Third, what are the possible risks and the role of central banks? Here, the main issue is to ensure a level playing field for all payments market participants, banks and nonbanks. To achieve that, the central banks and regulators need to analyze the risks posed by diversified players and reflect on adequate policy responses. They also need to develop risk mitigation standards to ensure all players are treated equally with regard to the risks they undertake. And they should recognize that the protection of personal data is expected at all levels of processing so as not to compromise public confidence in the payments system.

Tumpel-Gugerell concluded that the modernization process is worth the pain and effort because it will benefit the payments industry and society as a whole. She therefore encouraged the payments industry to take up the challenges and lead the process toward more modern and innovative payments systems.

During the open discussion, the audience asked questions about SEPA and the PSD. One question concerned how the SEPA initiative will affect network competition as national payments systems in Europe move to the single European payment area. Tumpel-Gugerell responded that SEPA will open national payment network arrangements, which should help create better conditions for competition. Meanwhile, consolidation is the focus at this moment

because of the potential for cost reduction, though competition remains a parallel issue. Another questioner asked how the PSD will affect consumer rights, given that it entitles the bank to specify its own dispute resolution procedure. Tumpel-Gugerell responded that the harmonized consumer protection framework would be the best solution, but this was not possible, and it is too complex to go into legal harmonization. The PSD is a beginning step and will be a sufficient framework for the time being.

### **VERTICAL AND HORIZONTAL INTEGRATION IN PAYMENTS**

The third session started with a paper by Nicholas Economides on “Nonbanks in the Payments System: Vertical Integration Issues.” Economides discussed the incentives for vertical expansion and vertical mergers in the payments industry, paying particular attention to the implications of the existence of network effects in this industry.

Merchants and payments systems provide complementary components for transactions. Given such a relation, the split of surplus created by transactions depends on the relative market power between merchants and payments system, and, in turn, depends on the extent of competition between payments systems.

Merchants may choose to extend vertically into payments systems, and their incentives depend on the concentration in the payments market. A merchant will see a vertical extension or merger as more profitable if it can bypass payments firms with significant market power. Entering this market would most likely lead to a reduction in payments systems fees, even if the majority of transactions occur through the network not owned by the merchants. A recent example is Wal-Mart’s attempt to open an industrial-loan bank to provide payment services.

Payments systems have strong network effects and tend to create extreme market shares, prices, and profit inequality. This inequality does not necessarily result from anticompetitive

actions. At the same time, customers and merchants can use or accept a number of competing payment instruments. This “two-sided multihoming” may mitigate the effects of incompatibility among payment networks. However, the lack of flexibility by payments systems in setting fees for merchants reduces competition among these networks and creates incentives for merchants to extend vertically into payments systems.

Following the paper, panelists presented their views on vertical integration in payments. Michael Cook reviewed Wal-Mart’s attempts to open an industrial-loan bank in the United States, efforts which have been unsuccessful since 1999. The incentive for Wal-Mart to enter the payments space is to bypass the market power of credit card networks. He argued that the payment network does not operate on a level playing field because merchants are not allowed to collectively negotiate against the card associations who collectively set merchant fees on behalf of member banks.

Trey Jinks gave a processor’s perspective on vertical integration. TSYS is a payment processing firm with extensive international presence. TSYS focuses its business on acquiring and issuing processing. It concentrates on its core business and does not intend to be vertically integrated because the firm is concerned that vertical integration may limit its product innovation and lead to a zero-sum competition with its customers. Thus, TSYS prefers to remain an independent service provider and allow its clients to compete with each other.

Pamela Joseph commented on vertical integration from a major bank’s perspective. Taking the historical evolution of online debit, gift cards, and fleet cards as examples, Joseph pointed out that while many payment products were initially developed in merchant environments or by corporations, they eventually migrated out and ended up being owned and operated by payment processors or banks. Therefore, the vertical integration of payments is a

process that disintegrates payments from merchants and integrates them with banks and payment processors. A recent example of this can be found in the payment services for health care.

During the open discussion, many questions centered on market power and pricing issues in the payment card industry. First, merchants are typically charged different service prices by card networks according to their size. How would this affect market efficiency and welfare? The panelists commented that, excluding extreme cases in which there is a tremendous amount of market power by the network or the firm that offers these discounts, offering discounts is generally a good thing. In particular, by offering discounts, the payments industry can internalize user network externalities and perform more efficiently.

Second, merchants are allowed to surcharge their customers for card payments in some countries. How would this affect market competition and welfare? The panelists commented that surcharges will increase the sensitivity of consumers using one card versus another. Such a choice is likely to increase competition among the various card networks. In the Netherlands, surcharging has been available for a long time, but surprisingly few merchants use it. One explanation is that surcharges may have given merchants more edge or effectiveness in negotiating fees, although they are not seen at equilibrium. In the United States, merchants are not allowed to surcharge, and cash discounts appear to be practically impossible for merchants. In Australia, the Reserve Bank of Australia forced the card schemes to remove their no-surcharge rules in 2003. As the result, merchants have more bargaining power against card schemes, and they successfully negotiated lower interchange fees for scheme debit cards. Since the no-surcharge rule was removed, the percentage of merchants surcharging has continued to rise.

The fourth session started with a paper by Professor Jean-Charles Rochet on “Some

Economics of Horizontal Integration in the Payments Industry.” Rochet reviewed the general principles of horizontal integration in traditional economic analysis and argued that the analysis must be amended to take care of the special network effect in the two-sided payments industry.

In a traditional industry, when firms compete on prices, competition drives prices down to the marginal cost, thus leading to a situation that maximizes social welfare. By contrast, if these firms merge and form a monopoly, the price will increase to the monopoly price and depress social welfare. Consequently, mergers in traditional industries tend to harm social welfare unless they generate significant technological synergies. However, in a network industry, this fundamental result may not hold. This result is likely due to a network externality: Consumers get a higher utility from a bigger network, and thus, a greater scale of operation generates a higher economic surplus. Network externalities are similar to increasing returns to scale.

For these reasons, horizontal mergers may have a totally different impact in a network industry than in a traditional industry: Mergers can simultaneously benefit firms and consumers. In a two-sided network like the payment card industry, the analysis of horizontal mergers is more complex because the structure of prices across the two sides of the market also matters. It is true that some tools of classical antitrust analysis can be adapted by looking at the total volume and the total price of card transactions. But the relation between these measures of market power and social welfare is far from clear. The development of nonbank control over payment networks may be problematic in terms of risks, but as far as competition policy is concerned, the only things that matter are the governance structure of the different networks, their access criteria, and pricing rules.

Panelists discussed various issues of horizontal integration in the context of SEPA. Ken

Howes agreed that the SEPA initiative will significantly change the European payments landscape and create a favorable climate for nonbanks' entrance. However, he raised the concern that consolidation and commoditization of payments might have a potentially negative impact, leading to less competition, less investment in payments, and even the withdrawal of traditional banks involved in payments.

B.J. Haasdijk commented on SEPA from the point of view of a payment processor. Equens was created to form a pan-European full-service payment processor by merging two payment processing firms, Interpay in the Netherlands and Transaktionsinstitut in Germany. This merger was motivated primarily to meet the challenge of the SEPA initiative. Through horizontal integration, the firm is able to exploit large economies of scale as well as the first-mover advantage, which is expected to ensure the firm's competitiveness in the single European payments area.

Gerard Hartsink pointed out that the SEPA initiative is one of the steps to create a more efficient financial sector in Europe and is not limited to payments. The job of the European Payments Council in carrying out the SEPA initiative is to set the unified business rules and standards across EU countries. This will certainly change the payments industry structure and competitive environment and will have a huge impact on customers—in particular, corporations, public administrations, banks, card schemes, and service providers.

David Yates talked about his understanding of SEPA. In his mind, SEPA is the political will to create a united Europe from a payments point of view. The single European payments area is already a reality for physical cash but not for electronic payments systems. He expects the SEPA initiative to achieve a more unified and competitive European payments landscape by fueling cross-border horizontal integration, introducing the new “payments institutions,” and

changing the business governance model for card schemes.

During the open discussion, the audience asked various questions about how SEPA will affect the payments industry evolution in Europe. First, how would the separation of processing and scheme work for payment cards? The panelists responded that separation would give any individual bank or merchant acquirer the opportunity to take the processing business, regardless of associated card schemes, to whichever processor they choose—without a cross-subsidy from a scheme to that processing business.

Second, as the payments industry in Europe continues to consolidate, how will the cost-revenue model evolve? The panelists thought it would be more difficult for banks to generate revenues from the retail payments business as competition intensifies. Banks may have to turn toward credit as a tool for generating additional profit. For nonbanks, the business models can look very different from those for banks because some of the traditional revenue streams that banks use to cross-subsidize other aspects of their value proposition are unnecessary in the nonbank environment.

Third, how will consolidation affect the competitiveness of the European payments markets? The panelists predicted that only a small number of players would survive consolidation. However, this will not necessarily harm competition because the surviving firms will be much more cost-efficient given their large scales. In addition, they will still face intense competition from each other. This, in fact, has been seen in the United States on both the automated clearinghouse (ACH) and clearinghouse sides.

### **RISK IMPLICATIONS OF NONBANKS IN PAYMENTS**

In the conference's fifth session, Ross Anderson argued that the management of

information security risks must involve technological solutions. But economic policy is also important to help direct incentives ensure that participants properly manage risks. Online crime has accelerated recently, especially phishing, which has been facilitated by an online underground market for services to commit fraud. Technological countermeasures in the form of front-end authentication systems have progressed but are hampered by incorrect incentives, inadequate security protocols, and improving methods of attack. Back-end controls are therefore vital. Financial institutions should take steps to limit exposure, detect fraud, slow transaction velocity, and recover funds obtained illegally.

The critical question, then, is, What will be the payments system's response to novel threats? In response to a flood of phishing attacks, for example, some U.K. banks have created asset recovery systems on a virtual production-line basis. Adaptation is critical because fraud moves to areas of weakness, and money laundering mechanisms shift toward payment services with easy transfers, irrevocable payments, and effective methods to move funds into unregistered forms of assets. Some nonbank payment services have become the means by which illegal funds are transferred, in large part because they feature irrevocable payments. However, the net benefits of nonbank financial service providers have been positive, including traditional payment providers such as hawalas, because they bring to the market added competition, favorable pricing, and innovation.

Revocable payments are a key tool in the fight against payments fraud. Once fraud is reported, the bank should be able to track the transaction and recover the funds quickly. While some may see irrevocability as an important feature of payments systems, Anderson pointed out that banks have historically offered a mix of revocable and guaranteed (irrevocable) payments. Indeed, an explicit market for guaranteed, large-value payments helps ensure that risk



management practices are applied. Revocable payments could be limited, for example, to smaller-value payments that are unattractive to laundering the proceeds of fraud.

Anderson concluded that, without proper incentives, asset recovery efforts could be undermined. Incentives to control risk are often determined by the liability structure in place when things go wrong. If consumers bear the loss when an unauthorized payment hits their account, then financial institutions have little incentive to recover funds. In the United States, Regulation E limits consumer liability in the case of payments fraud. At the same time, the regulation provides an incentive to financial institutions to ensure that fraud is kept out of payments, and it limits the benefit criminals would obtain from fraud through asset recovery operations.

Avivah Litan began her comments by describing two recent changes in how criminals obtain payment data. First, they are now more likely to attack merchant point-of-sale systems. These systems tend to be easy targets because security was less of an issue when the systems were installed and because merchants generally lack expertise in information security. Second, criminals are more likely to attack consumers directly through phishing e-mails with bogus offers for lotteries, gifts, or prescription drugs, and through malware that can spy on user activities or take over personal computers.

Litan argued that regulators need to help devise solutions to problems of fraud. Because consumers appear to be having a harder time recovering stolen funds, consumer protections should be strengthened. Regulators also need to improve incentives by aligning liability with controlling risk. There is a disturbing tendency for some payments participants to dump liability on others, especially on retailers. While retailers need to do their part, often others in the payments system are in a better position to control risk.

According to panelist Jean Bruesewitz, Visa's model of security assumes that attackers will exploit weaknesses. As a consequence, Visa uses a layered security model that continually improves methods at all points of the transaction cycle. The company uses an account-by-account, transaction-based fraud detection system. All of Visa's credit, debit, and ATM transactions are gathered in a central system that provides issuers with real-time, broad-based authorization and fraud detection. Account takeover is a challenge, and Visa is studying methods to detect legitimate versus fraudulent use of accounts. They are also looking at ways to effectively manage data breaches and to control movement of funds.

Panelist Roy DeCicco agreed with Anderson: Asset recovery is important to the payments industry, but equally important is fraud mitigation at the front end of the payment cycle. As an example of how innovation presents security challenges, he cited the new ability of merchants to convert checks to ACH payments. One result is that merchants will possess thousands of checks as well as associated electronic records, all of which must be properly safeguarded. DeCicco also pointed to industry efforts to manage payments security. The BITS Partner Group recently studied cross-channel payments risk and issued recommendations to promote sharing fraud data, closing liability gaps, and developing standards for third-party access to payments. The National Automated Clearing House Association (NACHA) has done a good job securing the ACH system but has also moved forward with a comprehensive risk management strategy.

Richard Oliver addressed issues important to ACH security, the role of regulation, and nonbanks in payments. He said aggressive follow-up to fraud in ACH is hampered by transaction records that lack identification of payment originators. NACHA is implementing changes—for example, to help expedite responses to problems. It is also reforming its system of fines because,

according to Oliver, “if you want people to pay attention, raise the price of violations.” Regulator responses to ACH risk have helped, but the integration of responses to payment problems has not been sufficient. A comprehensive, cross-channel, cross-regulator, cross-industry approach to regulation is needed. A cross-network database of bad players would help. Finally, many nonbank players pose little risk. Trouble is more likely to come from nonbank payment providers, who approach potential bank partners and ask for a significant degree of control in processing payments.

The final panelist, James Van Dyke, worried that misperceptions about identity fraud are hampering efforts to combat the problem. Most people believe that fraud mainly occurs because of data breaches and Internet use. But evidence shows that at least half of identity fraud originates with data obtained elsewhere. Some believe fraud prevention is the most effective tool for solving the problem, but Van Dyke’s research points to resolution as more effective. Many are surprised to learn that most identity fraud is carried out by those close to the victim and that younger people are the most likely targets. The public generally believes that identity fraud is getting worse, but studies show it is actually declining. People also are mistaken to think that use of electronic channels raises an individual’s vulnerability, when the opposite is true. Van Dyke strongly proposed empowering consumers to use online channels to monitor their accounts and control their risk exposure. A consistent fact is that half of identity theft incidents are first detected by account holders.

In the discussion period, one commentator lamented that publicity about data breaches seems harmless to those responsible, both in terms of devaluation of stock prices and lost customers. Panelists responded that it is hard for consumers to get consistent information about compliance with data security standards. While research has shown a disconnect between

expressed consumer sentiment on privacy and their actual behavior, it has also shown that consumers respond strongly if a second data breach closely follows the first.

One questioner asked if it might be too easy to open an account, drawing several responses. To protect against forged documents and make decisions based on more information, it may be better to shift from document-based verification to an identity score. An industrywide identity database would help accomplish this. It would also be useful to hold credit reporting agencies responsible for disseminating incorrect information about consumers.

Audience questions again generated discussion about the role of regulation. Banks are unlikely to get improved security from some elements of the information technology sector because the financial applications market is too small to justify the expense of specialized software. It is important to consider both industry and government regulation and use them where they are most effective.

### **CENTRAL BANK POLICY**

The final session focused on central bank policy toward payments. Philip Klopper began by explaining the oversight approach over payments at the Dutch central bank. He observed that care must be taken in payments oversight. Autonomous technological change has driven recent changes in payments. New technology has allowed payments services to be unbundled, which, in turn, has made it easier for nonbanks to enter the industry. Regulators should resist attempts to stop or alter autonomous development—or risk harming society and reducing the competitive position of their jurisdiction.

The Dutch approach to payments oversight is scheme-oriented. A payment scheme consists of scheme owners, issuers, acquirers, networks, and so on—players whose activities add

up to a payment product. They use principles-based oversight rather than rules-based regulation. Principles-based oversight is better for payments because it can adapt to future development, maintain adequate oversight of new players, and level the playing field for banks and nonbanks.

This philosophy of oversight places great weight on self-assessments of the scheme owner, who sets a structure of licenses, rules, and regulations. The scheme owner then uses the licensing process and its role as a monitor to control risk. An important advantage is that the scheme owner can make quick assessments of payments innovations and make appropriate adjustments. The central bank assesses the adequacy of the scheme's structure and steps in only if the scheme owner is not doing its job.

Philip Lowe first noted that the Reserve Bank of Australia has explicit legislative authority over the stability, as well as the competition and efficiency, of the payments system. His remarks focused on competition, where the central bank's main objective has been to introduce contestability into all phases of payments, from provision of stored value to clearing and settlement. The RBA explicitly aims at establishing a regime in which nonbanks can have a role, hoping to spur competition and improve payment efficiency.

To open the provision of stored value to competition, reforms have authorized a new specialist class of regulated institutions called "purchased payment providers." These firms can offer transaction services by providing customers with stored-value products that can be used in a wide variety of situations or be redeemed for Australian dollars. Reforms have also opened payment clearing systems to nonbank competition by creating regulated entities known as specialist credit card institutions. These institutions can offer acquiring services or issue credit or PIN debit payment cards. Access to the central bank's settlement accounts is also now open to nonbanks that provide third-party payment services in need of settlement and can demonstrate

that they can meet specified liquidity needs.

Lowé stressed that, in each of these reforms, the Reserve Bank of Australia has addressed risks, through regulation and other means, to allow nonbanks in the payments system without posing an excessive threat to stability. He argued that it is better to allow nonbanks to provide payment services where the risk is managed rather than exclude nonbanks altogether. Moreover, the central bank's comprehensive powers have been an advantage because they allow explicit recognition and analysis of the tradeoff between efficiency and risk in the payments system.

In his comments, Thomas M. Hoenig raised three questions on how the role of central banks might evolve in light of recent changes in retail payments. First, is the supervisory and regulatory structure for nonbanks in payments adequate? More work needs to be done to assess this framework, with initial efforts aimed at understanding the sources of data breaches and the mechanisms by which the data are used for fraudulent purposes. Nonbanks in payments require some special consideration given their increased presence, concentration in certain critical services, custody of vast amounts of sensitive payments data, and limited or lack of direct oversight.

Second, in the context of a changing risk profile of retail payments, can incentives be aligned so that the industry can effectively self-regulate and reduce any need for new regulation? Experience has shown that, within certain boundaries and the right incentives, a market or an industry can successfully self-regulate.

Third, given central banks' valuable experience in providing some banking services, might they also participate in providing retail electronic payment services? The answer must consider a number of issues, such as the value of creating a switch of last resort; accommodation of credit and debit transactions; and the impacts on competition, innovation, efficiency, and

access. These are difficult issues but are worth considering, especially before we are forced to face them in circumstances of crisis.

The discussion period featured questions about regulation in payments. In 2001, the Bank for International Settlements (BIS) published core principles for the design and operation of payments systems that are applicable for all countries. Given the greater roles in the payments system for nonbank payment processors, merchants, and corporations—and the more regional and global nature of payments customers—would it make sense to review the principles to create a more consistent supervisory framework for payments? Panelists responded that the core principles were a good starting point for regulation, but access to payments and interactions between payments systems also needed to be considered. The BIS approach has the advantage of being principles-based, which allows flexibility in a dynamic payments market and applies to both banks and nonbanks. Revising the core principles would be a challenge. It may be more important at this time to encourage international cooperation on payments issues.

Acquiring payments for processing involves some credit risk, which has traditionally been underwritten by banks. What is the best way to regulate the acquiring business if it opens up to nonbank processors? One method is to take a functional approach. Regardless of bank or nonbank status, acquirers must be able to manage risk. Regulators can set a minimum standard, with acquirers free to establish risk controls that are above the standard.

Many foreign countries are opening up the payment settlement system to nonbanks and, in particular, to retailers. Should the United States also move in this direction? Panelists responded by noting that, in Europe, retailers have moved into banking and payments, but unsuccessfully—possibly due to an insufficient business case. Canada's Interac Association opened to nonbanks with success. A key to their success was changing the governance structure

to include all participants—banks, credit unions, retailers, acquirers, and payment processors. The U.S. tradition has been to separate banking and commerce over concerns of conflicts of interest in granting credit. If the United States does move toward granting more nonbank access to payments, it will likely do so slowly.

## CONCLUSION

Conference participants came away with a much clearer understanding of the implications for the payments system of an increased prominence and visibility of nonbanks. The broad picture clearly shows the importance of nonbanks at almost every stage in the payments chain. The tremendous change in the payments arena is embodied in many significant innovations introduced by both nonbanks and banks. In most cases, innovations in payment services build on existing, traditional payment types; while in some other cases, they provide novel solutions. Technological innovation has significantly altered the market structure and competition in payments. Network effects, in particular, have had a strong influence on the degree of vertical and horizontal integration in the industry.

The rising importance of nonbanks and the multiple roles they play, both at the front end and back end, have changed the traditional risk profile of the payments chain. As a result, central banks around the world must confront many questions: Should the rising presence of nonbanks in payments alter central bank policies? Do banks and nonbanks potentially require different regulatory approaches? What incentives are in place for industry self-regulation? The absence of clear-cut answers to these questions is reflected in the many different approaches central banks have taken toward nonbanks in payments systems.