

Perspectives on the Role of Public Policy in Facilitating Payment Innovation

Moderator: Sean O'Connor

Mr. O'Connor: As the title indicates, this session will focus on the role of public policy in payments system innovation. So how can public policy facilitate innovation? The focus is less on new innovation in front-end systems—as we talked about yesterday—and a little bit more on how it facilitates, partly in the back end and partly in terms of the infrastructure and schemes development.

Our panel has perspectives from central banks, both from the operations side and from the oversight side, from the antitrust regulatory framework, and from private-sector standards.

Ricardo Medina has been the director of the Payment Systems department at the Bank of Mexico since 2004. Ricardo will comment on Mexico's new interbank electronic payments system and the role of the Bank of Mexico in its development.

Gerard Hartsink is well known to us as the Chairman of the European Payments Council, but he also has a real day job as senior advisor to the managing board of ABN AMRO. Gerard has a long history in dealing with policy issues and he's quite knowledgeable about the European market infrastructure. Gerard is going to talk a bit about the public sector's role in SEPA.

Malcolm Edey is the Assistant Governor of the Reserve Bank of Australia. He has responsibilities for financial systems, including of course payments systems. He is a member of the reserve bank's senior policy committee and deputy chairman of the Payments System Board. Malcolm will comment on inertia and coordination problems in payments networks.

M.J. Moltenbrey is a partner with the firm Dewey & LeBoeuf. M.J. represents clients who are subject to a variety of civil and criminal actions brought by federal and state antitrust authorities, including cases in the federal court and FTC proceedings. M.J. will provide some thoughts on anticompetitive practices and competition issues in retail payments.

Mr. Medina: It is an honor to be here. Thank you very much for the invitation to the Kansas City Fed. I am also very glad to share the panel with my distinguished colleagues from international bodies. I would like to present our experience in Mexico regarding payments systems. In my opinion, the Central Bank of Mexico has had a very important role in the development of our payments systems.

The first thing I would like to mention is that in the Central Bank of Mexico Act, one of the main responsibilities of the Central Bank is to foster and seek a well-functioning payments system in the country. The Act was put into place in the mid-1990s. Traditionally, the interpretation of “seeking a well-functioning payments system” had been oriented to large-value payments systems—the payments in the financial markets, principally.

Recently, the Central Bank of Mexico has focused its interest on consumer payments, or retail payments. This is also an important interpretation of the “seeking a well-functioning payments system” mandate.

With that background, I would like to present the development of SPEI, which stands for Sistema de Pagos Electrónicos Interbancarios in Spanish. SPEI was launched in 2004. Let me tell you about the main features of SPEI. SPEI is a hybrid system. We continuously perform a multilateral netting algorithm. There are two conditions that trigger the multilateral netting: if there are 300 new payments pending to be settled, or when 20 seconds have passed since the last settlement cycle. It is almost continuous settlement. Every 20 seconds, you will see a lot of payments arriving to the system. Usually, a new settlement cycle initiates when 300 new payments have arrived, which happens, on average, every six or seven seconds.

Another important feature of SPEI is that we do not provide credit to the participants. For our participants to make a payment, they must have a sufficient balance in their accounts. When we launched SPEI, the system was oriented principally to large-value payments, but we realized that the capacity of the system also permitted retail payments to be processed. Today, payments for amounts under \$8,000 represent 90 percent of the volume in SPEI. Thus, something like 90 percent of the payments in SPEI are in fact retail payments.

Regarding our processing capacity, last December, on a peak day, we processed more than 2 million payments. SPEI is open to participants 23 hours per day. We open at 7 p.m. and close at 6 p.m. on the next day. Because this is an important feature, we are working on making SPEI available 24/7.

Another important characteristic of SPEI is that banks are not the only participants. Other kinds of financial institutions also participate in SPEI. This was a very difficult measure to implement into SPEI because we encountered a lot of opposition by the banks. They wanted to remain the only participants in the payments system.

It is important to mention that SPEI is converging to real time. We really think and observe that clients appreciate real-time processing in the payments system. Banks are already offering SPEI to their clients from 6 a.m. to 5:30 p.m., we are working with banks on a plan for them to offer SPEI to their clients 24/7.

An important condition for promoting convergence to real time is that the Central Bank of Mexico wrote a rule that encourages participants to offer a very high-quality service to their clients. The rule establishes maximum time lapses. After the originating bank receives an instruction from a client, it is obligated by the rule to send that instruction to SPEI within 30 seconds (the time-to-send). Similarly, when the receiving bank receives a payment from the system, it has the obligation to credit the beneficiary's account within 30 seconds (the time-to-credit).

The time lapses when SPEI started operations were not 30 seconds, but 30 minutes. Then we reduced them to 10 minutes, then to 5 minutes and finally to 30 seconds. Let me tell you that these are the time constraints that the participants have to process data received from or to be sent to SPEI. Once a payment arrives to SPEI, the system settles it in 6 seconds or less. Our statistics show that on average, it takes 23 seconds for a payment to be processed, from the moment it is ordered to the time the funds are credited to the beneficiary account.

It happens for me personally when I instruct a transfer to one of my family members. While I instruct the transfer, I call them on the phone and during the conversation the person who is receiving the money checks his account and acknowledges receipt of the transfer. It happens like this for a lot of transactions in SPEI.

In order to achieve this very efficient processing in SPEI, we implement a proprietary protocol with very short messages. The messages include all the relevant information for payment identification, mainly for the receiving client.

In recent stress tests, we prove to have a processing capacity of 1 million payments per hour, more or less. SPEI does not require a very sophisticated equipment or infrastructure to operate: two sites with a medium-sized IBM server are enough. Of course, the Central Bank of Mexico is encouraging the participants to implement STP (straight through processing) for their operation with SPEI. We do not provide client applications to the participants.

Here an important point is: What is the role of the Central Bank of Mexico in SPEI? The Central Bank of Mexico operates SPEI, but it also has the responsibility for making sure SPEI is very efficient. In order to achieve this, we have the regulatory powers but we also work in close coordination with participants to improve SPEI performance and reliability.

Another important fact I would like to stress about SPEI is pricing. Pricing, I think, is very important and something the clients appreciate very much. The

Central Bank of Mexico charges the participants the equivalent of 4 cents per transaction during the day shift and less than 1 cent during the night shift. The transaction is very cheap to participants.

How do participants translate this cost to their clients? A normal SPEI transaction is charged to the originating bank's client. The average is 40 cents of a \$1, something like 5 pesos. Very cheap. An important fact is that by rule of the Central Bank, the beneficiary customers are not charged.

Another important fact is that participant banks cannot differentiate the fee they charge to their clients based on the amount of the transfer. What I mean by this is that if a bank charges 5 pesos for a \$100 transfer, it also has to charge 5 pesos for a \$1 million transfer. The cost for the bank is almost the same for the two transfers.

The Central Bank has constantly advertised SPEI in the media. We would really like payments to be more efficient in the country and transition from a lot of checks and cash to electronic payments. It is important to mention that the government processes all its payments through SPEI.

We have a payments-tracking service in SPEI. This payments-tracking service was very relevant in the past, when the time-to-send and the time-to-credit were longer than 30 seconds. Now the most important feature of the payments-tracking service is the provision of official receipts. These electronic official receipts confirm the credit to the beneficiary's account.

If I would like to have a receipt for a payment, I can go to SPEI's tracking service and get an electronically signed receipt from the beneficiary's bank. I can obtain the receipt very easily. I can also obtain receipts easily for a large number of payments to confirm that the payments were made to the correct accounts.

As for future steps, we would like to reduce the time lapses to five seconds. We are already working with the banks on this matter. We would like to process 2 million transactions per hour, which is a lot of capacity. We will also work toward 24 hour access. These steps are very important for us.

Also, mobile payments are already being processed through SPEI. To do a mobile payment, a client only needs to identify the account by a mobile telephone number. Normally, the accounts in Mexico are identified by a standard account number, of course, or the debit card number associated with the account. Now banks also identify accounts by the cell phone number associated with the account. Mobile payments are evolving. In addition to mobile payments, the federal government is already making payments through SPEI; state governments have a great potential to do so as well.

This is the evolution of SPEI. We started with 20,000 payments per day, but now on a peak day we are processing 2 million payments. As I mentioned, almost 90 percent of the transactions are of low value, below 100,000 pesos. Most of

Chart 1
Number of SPEI Payments During the Day
(February 2012, daily average)

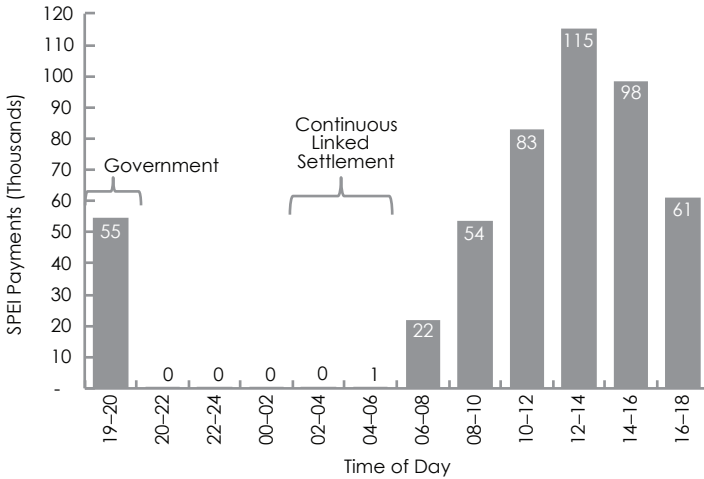
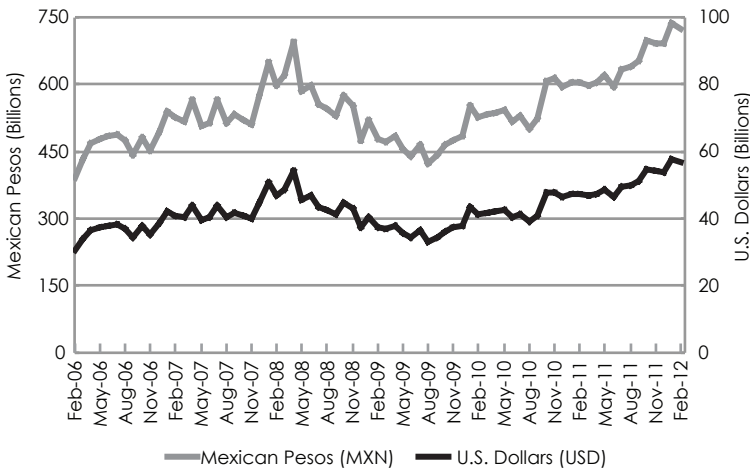


Chart 2
Daily Value of SPEI Transactions
(monthly average)



the transactions occur at midday. You can see on Chart 1 that the bars are higher between noon and 2 p.m., when most transactions occur. And Chart 2 illustrates the value for the transactions in both U.S. dollars (black) and Mexican pesos (gray). We process 60 billion pesos daily in SPEI.

Mr. Hartsink: Good morning, I'm here in my capacity as Chair of the European Payments Council (EPC). The theme for this session is "Perspectives on the Role

of Public Policy in Facilitating Payments Innovation.” I am not the guy from the public sector, but I have some views about what happened in Europe from the public sector. Basically, the EPC is a private-sector regulator for payments covering 31 different countries and 74 members, and all the big boys are sitting around the table.

What I’d like to share with you is—What are the expectations of the public sector? What are our deliverables?—some remarks about governance, and conclusions.

The whole show started with one currency and one set of payments system. That was the clear message of the governing council—not only the European Central Bank (ECB), but all the partners of the euro system. In particular in 2005, Mr. Jean-Claude Trichet at the time was crystal clear, and also in his dialogue with the CEOs of the major banks in his regular meetings, that his expectation was: “Please deliver credit transfers, direct debit, an additional card scheme, and move forward with electronic and mobile.”

From a public-sector perspective, an initiative was also started in those days to have a better legal relation in law of the EU 27 countries, so not only the euro-area countries, but between the banks and their customers. In that piece of legislation, it is really a financial innovation, there are elements which are very important for the payment industry—for instance, principles such as D+1 (maximum execution time requirement). It is done by public regulation embedded in all the laws of the EU 27. So it is a directive and not a regulation.

The industry, in the end, was confronted with the fact that, “OK, we are ready but who is telling the customers that SEPA (Single Euro Payments Area) is on the radar screen? It is the task of the public sector.”

We quarreled quite long on this topic. In the end it was concluded, not only by the banks but also by the buy side of the industry—consumers, SMEs, corporates—together with the ECB and the European Commission, that there should be an end-date regulation. Not so much as to stick it to banks, because we were ready in Europe, but, in particular, we needed that for the buy side of payments services—our customers. We wanted to avoid what happened in certain markets if banks collectively make a decision for which they will be criticized by the competition authorities. So we needed a piece of legislation for an end-date regulation.

It was also recommended by the SEPA council and it is published today in Europe. It was approved by the European Parliament and by the Council. That means on Feb. 1, 2014, in the euro countries, all current formats of credit transfer and direct debit have to be changed into the new format. There are still 23 months to go. There is no issue in Finland and, for instance in Luxembourg, they are ready. But serious issues remain in some of the member states. Not all member states have started in the same way.

After 2014, if everyone is able to reach that deadline, we will have a complete renovation of the industry—the backbone of the industry—based on the newest technology. The expectations of the public sector are pretty high; an additional

card scheme, how to move forward with e-payments—basically using the authentication tools of banks to initiate the payment—and how to move forward with mobiles to initiate payment.

At the end of last year, the green paper was published. If you are interested, please read it. The consultation is still open. It is not closed for Americans or if you come from other jurisdictions. You can give comments to all or part of it.

I personally felt, of course the public sector was very clear, it is a market failure. I will explain in a moment a bit more about the topic. It is more or less a fair assessment, because the industry was not able to conclude on that. Under the umbrella of the EPC, two-thirds of the plenary did not support the move forward as fast as was expected by the public sector.

The message in the green paper is crystal clear. On Page 21, at the bottom, it says, “We may consider legislative action to keep you moving.”

What we are facing, as banks and the EPC plenary at large, is the multitude of public policies from the ECB, the euro system, and also the European Commission that have an impact on payments of the ECB, the euro system, and also of the European Commission—this is a short list, there are even more—that have an impact on payments. But it led to a sentiment in the plenary early last year. So, we wrote a letter to Jose Manuel Barroso, the chair of the European Commission. In his own commission, different commissioners delivered messages on payments, what it should or should not be and they were totally inconsistent. For instance, Neelie Kroes taking care of innovation, or Joaquin Almunia taking care of competition, or the French commissioner (Michel Barnier) taking care of market integration. They did not have a consistent policy, apart from the views of the euro system, the governing council.

So we wrote a very nice letter. Creating a letter with 74 members is not easy, but after version 20 it was the right letter—the answer with concrete examples of where the inconsistencies were. Of course, in three weeks, we got a letter back. “You have a different view. It is not correct and we have one consistent policy.”

Well, the response was not convincing. Nevertheless, if you have more than one public policy and you have more than one legal entity in the public sector to take care of public policies, then you mostly end up with inconsistency. That is reality in life. So, if the United States wants to renew the industry, it is probably a point to consider.

Commitment of the banks. A point we had to address in Europe: Where is the borderline between the cooperative and the competitive space? That was different in the different communities in Europe. In the end we agreed, “OK, we will create a set of standards, rules, rule books, and also end-to-end or customer-to-customer standards.”

That was not easy to achieve. We worked with the concept of a three-layer model, not only for credit transfer and direct debit, but also for cards. The first

layer: the delivery of payment services to customers—competition. The second layer is cooperation on the rules and standards. The third layer is the processing network—again, competition. That’s the thinking behind the model in Europe, not only for credit transfer and direct debit, but also for cards.

The rule books are basically a master agreement among scheme participants and all scheme participants sign that they support and will stick to the rules of the rule book. The implementation guidelines are basically message implementation guidelines according to the ISO language for technology end-to-end. Part of it, bank-to-bank, is mandatory and bank-to-customer is recommended. Also, from a competition perspective, we could not have a decision to make it mandatory apart from the individual decision of banks from the bank to the customer space. So the releases are available on our website. We have a large number of scheme participants and you may also find them on our website.

For cards, the story from the public sector was clear: Take care of standardization. The Economic and Financial Affairs Council (ECOFIN), basically all the ministers of finance, had a very clear view. The EPC had no policy from the start. Also it was expected by the governing council of the ECB to create an additional European card scheme. There is a lot of documentation, if you are interested.

But we thought it makes sense for a consumer to be able to use his or her card in any ATM or point-of-sale (POS) terminal in Europe. That is why we created the SEPA card framework. It has principles not only for banks, also for the second layer for schemes, and also for service providers. Those principles, of course, were challenged by EuroCommerce, the trade association for merchants. In the end, while we were grilled by the competition authorities on that matter—it took one and a half years—in the end all we had to clarify were 17 points. They are all published on our website.

We still work on one specific point of the card framework, which is basically standardization. It is a very complex area. We created—and this is all available on the website—functional standards. In standardization we are focusing on end-to-end for POS and ATM transactions—in particular POS—security requirements, and how to take care of certification.

Beware, we did not yet take the step to do real standards. Think about ISO 8583. Think about ISO 20022 for messaging. Because excluding standards—and that will be the name of the game—will have an impact on the market. So, in particular, for POS to inquiring hosts there are a multitude of standards. If you make whatever choice not to include certain standards, you immediately are faced with the challenge that several of the merchants and banks or whatever type of company in between will start to challenge the decision taken. So we did not yet find the right recipe for that matter, but the requirements are OK. If you are interested, you can give your comments, if you prefer.

“E” is a complex story. How to use the authentication tools in relation to the bank and initiate a payment at a web merchant. While we had a lengthy debate for a couple of years within, then, in the end, the plenary concluded that we will not create an e-payment scheme on top of the SEPA credit transfer scheme. That was not appreciated by the euro system. We continue to work on the framework, like the card framework, with principles, and the principles over time became more and more interoperability principles. The day before we wanted to launch the framework for public consultation, we got a nice letter from the Directorate-General for Competition and it had an impact, so we stopped. We first like to listen and understand what you are really, as public authorities, wanting us to do. Because if you want to start public consultation and you send us these types of letters, you don't feel comfortable, not only the EPC, but every member in its own right feels confronted with that letter. I don't know what the outcome will be.

“M” payments in the end has to do with, How do we organize the chip of the mobile—in particular, according to UICC (universal integrated circuit card) standards of ITSI (individual terminal subscriber identity)—in such a way that it accommodates an additional piece of technical security. Think about the house—and one of the rooms of the house can be rented to somebody else, but the owner of the house is not allowed to open that room in the house. That is the concept behind it.

So we did a lot of work together with GSMA, which is the trade association of all mobile operators. So far, it has been very fruitful and is very promising. It is not only the pipeline for initiating a payment but the pipeline to banking infrastructure at large. So what is currently the chip of the plastic of payment cards is basically the chip of the SIM. The SIM is owned by mobile operators, but we would like to have the SIMs organized in a systemic way—an organized, pan-European way. Maybe we need a piece of regulation for that, so that this room in the house of any SIM is organized by banks, so banks continue to have the freedom to have deals with whatever mobile operator. The endgame is that any consumer is free to choose a bank account, free to choose a mobile operator, and free to choose a handset provider. That is very important to understand.

Cooperation. Currently, this is at the top level of the model in Europe. That means that there is the public sector at the highest level. Mr. Benoît Cœuré, a board member of the ECB, together with Jonathan Faull—reporting to the Commissioner of Internal Market and Services—are co-chairs of the SEPA Council. On the buy side, there are the representatives of consumers, SMEs, corporate, treasurers, and the public administration; and on the supply side it is the European Banking Federation inclusive of the EPC.

These are the objectives and this body may evolve to have even more authority over time. They do not have legislative power. If you need legislative power, it can be done through the trick of the European Commission, together with the Council and the European Parliament, which can make legislation if required.

But the coordination problem is complex in Europe, more complex than in the United States. It is not only the European level which has a certain mandate. But it is not true that all member states have given all their decision-making power to Brussels—definitely not. You always have the balance that a similar body exists at a national level. In general, you can say the supply side of the industry (being the banks) is pretty well organized, because the major banks are active at the national and European level and are mostly multicountry. But it is more complex for consumers and SMEs. Sometimes the representatives at the European level tell a completely different story as the same institution at the national level. That is a complex coordination problem.

Conclusions. SEPA will definitely create a single market, as expected by the public sector. SEPA is realized by coregulation. The industry is doing part of the work in the public sector with a stick behind the door of the regulator. There is no misunderstanding about that. Otherwise we would probably not have moved. It is also clear that, based on the green paper (it is maybe too strong to say), but the public sector is fed up with the progress. We did not make enough progress and that is why there is this green paper.

On the other hand, the public sector is easy to tell there is a market failure of the private sector. From my perspective, there also may be a failure by the public sector because of the inconsistency of public policies. Thank you very much for your attention.

Mr. Edey: Good morning, I am not using PowerPoint. I am going to be using word of mouth. It's an old-fashioned technology but it's still a good one.

The question I have been asked to address is whether inertia (or coordination failure) is an obstacle to payments system innovation. And if so, what do we do about it?

To begin with, it helps to distinguish between two types of innovation: proprietary and systemic.

An example of the first type might be a new piece of card technology, or a new customer platform for an individual bank. An example of the second might be the adoption of a new interbank messaging standard or a systemwide shift to faster payment times. The difference lies in whether the benefit can in some sense be captured by the innovator, or whether the benefits are more dispersed and dependent on coordinated action.

Payments service providers are good at proprietary innovation, as you would expect—they have an incentive to be good at it. It's in the second area that problems of inertia and coordination failure can come into play.

I can think of two general reasons why this is the case.

The first is the problem of capturing benefits so as to give a return to the innovator. To give a concrete historical example, think of the question of faster check clearing. For a given cost, faster clearing is obviously an improvement, but it can only be achieved collectively. Yet doing so confers no competitive advantage to any individual participant in the check-clearing system, so there is little incentive to agree on costly action to make it happen.

To make the example more up-to-date, the same problem exists with incentives to deliver faster (or real-time) electronic transfers at the retail level. Faster payments can only happen if the system as a whole is set up for it, and then only if a critical mass of the individual participants are set up to provide timely access. But putting this in place will obviously involve some cost, with little or no proprietary benefit to the investor, particularly where it may cannibalize other potentially profitable product lines. This problem would exist even if all the payments industry participants faced identical incentives. Without an effective coordinating mechanism, industry will tend to underinvest in this kind of innovation.

The second reason is that the costs and benefits of participating in coordinated actions of this kind are not in fact evenly distributed across participants. Some participants will benefit more than others from a given innovation, or may find it more costly than others, for reasons to do with their size or their business model. Another factor is the timing of investment cycles: collective action has to be collective, but the timing of any given investment in payments technology will always be more advantageous to some than to others. A bank that is just about to undertake a regular technology upgrade may be quite receptive to aligning that with a general change in standards; whereas a bank that has just completed a major round of investment may not.

These things can make it very hard for industry participants to agree on the timing of a systemic innovation, or on the pricing arrangements that will underpin it. The end result can be a degree of inertia, or a slower pace of innovation than would be socially efficient.

I think this problem is inherent in any network that doesn't operate as a kind of proprietary unit in the way that, for example, a credit card network does (competing of course with other networks).

For the payments system as a whole, then, this points to the need for coordination mechanisms. What sorts of mechanisms might we be talking about?

For a lot of issues, the appropriate coordination mechanism could be an industry body—especially where the issue is mainly technical and where there are no strong proprietary interests at stake. An example would be routine updating of technical standards.

But where there are significantly conflicting incentives that make coordinated decisionmaking more difficult, it may need a regulator to take a leadership role.

In Australia, the payments system regulator is the central bank, and regulatory decisions are made by the Reserve Bank Payments System Board. We have a mandate to promote stability and efficiency, which I think we can view as including the efficient resolution of the coordination problems that I've just described. And we have significant powers that can be directed to that end.

For these reasons, the Reserve Bank of Australia (RBA) has been increasing its focus on these coordination issues in recent times.

As you may be aware, we announced a Strategic Review of Innovation in the Payments System in July 2010, and we are now in the finishing stages of that review. In the course of the review, we held two rounds of extensive consultation with service providers as well as with end-users of the payments system.

Broadly speaking, the Review focused on three questions, which I could sum up as gaps, governance and hubs.

On gaps, the question is, are there potential innovations that would be in the public interest that are not happening because of coordination failures?

Responses to the consultation suggested that there might be. The main points highlighted as possible areas for improvement were: faster or real-time payments at the retail level; greater availability of payments systems outside normal banking hours; improved capacity to send information with payments; and, greater ease of addressing payments.

The last one of these can be illustrated by analogy with the check. A check payment can be addressed very easily when all you know is the name of the recipient. But we don't yet have a comparably easy mechanism for addressing electronic payments.

Obviously it is not costless to deliver these things, and so a coordinated decision process would need to have some way of taking into account both the costs and benefits, including benefits to end-users, in order to determine whether an investment is worth making.

That raises the further question of who should provide that leadership and under what arrangements—the general question of governance.

To make it more concrete, we can pose the following questions. In the Australian case, should the Payments System Board take a more prescriptive approach to setting objectives for payments system innovation? Could it, for example, set an objective of real-time consumer payments, or the adoption of new messaging standards, by a specified target date? Could it then perhaps delegate the implementation of those targets to an industry body with the necessary technical expertise?

All of that would amount to a governance model where the regulator makes high-level decisions as to the public interest, while industry participants determine the most efficient means of implementing them. I won't foreshadow what we

might conclude on these things, but these are the sorts of questions the Payments System Board is now considering.

The Board is also considering a third area, namely hubs, or specifically the question of whether there needs to be greater use of centralized architecture for clearing and settlement of retail payments. This is a particular issue in Australia, because many of our payments systems are built on bilateral links between institutions. Arguments can be made in favor of hubs on the basis that they may be more efficient than bilateral networks and more conducive to both competition and innovation. But these considerations need to be balanced against the costs of the investment. Again, this is a key question of system design for which there needs to be a coordinated answer, whether the eventual decision is for or against.

To sum up, coordination failures can be an obstacle to innovation. That problem is inherent in the nature of payment networks. It's very hard to design governance structures that make appropriate provision for coordination while still allowing for normal competition to occur. That suggests a role for leadership by payments regulators or central banks. In some ways, central banks have a natural leadership role because they act as a hub already in many payment systems. In Australia's case, the central bank is also the regulator for payments-system efficiency and stability.

Finally, in carrying out any leadership role in this area, it's very important to consult. The advantage we have (as regulators or as central banks) is that we can take a public-interest perspective. But we also need to make use of the expertise of payments industry participants in determining what is feasible and what are the most efficient means of delivery. Thanks very much.

Ms. Moltenbrey: Good morning. I am going to speak to you this morning not as an expert in payments systems, so I feel a little bit intimidated by the depth of knowledge of some of the people I have been listening to already. My area of expertise is antitrust enforcement. I want to talk a little bit about the role of antitrust and the ability of antitrust to promote innovation, as well as more generally, to promote competition in payments systems markets.

My background is as an antitrust enforcer. I spent most of my career at the Justice Department and I spent a fair number of years of that career conducting a very in-depth and protracted investigation of Visa and MasterCard and some of their membership rules, ultimately culminating in a case the government brought against both associations. I am going to talk about that case for a few minutes.

That tells you a little bit. My perspective is generally to be very much in favor of vigorous antitrust enforcement. There are certainly people who think when you're talking about innovation and competition that antitrust enforcement is potentially an impediment to innovation, and excessive enforcement can actually have unintended consequences and maybe a negative, chilling effect on companies' willingness to invest.

I am not going to give a final answer on that or stake out a final position. Trying to apply antitrust to the payments systems industry is a very, very challenging exercise. It is probably a mistake to think antitrust can solve all the problems and be the sole policy that is going to promote innovation and deal with some of the issues that have to be dealt with in this industry.

There has been a lot of antitrust enforcement in the payments system industry over the years. One of the difficulties of antitrust, at least in the United States, is that enforcement is very much case-specific. Most cases are focused very much on a set of practices or a very specific set of issues which are dealt with in isolation. Even a very big, complicated case is going to be focused on a very narrow aspect of what is going on in payments systems. The reality is, when you push on any side of the payments system, it is going to have an impact elsewhere in the system.

There are also limits of antitrust's ability to deal with innovation markets, in the sense of being able to predict how things are going to play out. If you look at some of the history of antitrust litigation and payments systems markets, you can see how some of the theories and concerns of both the regulators and private parties have evolved.

I am going to run through just a couple—this is a very small sampling—of the antitrust litigation that has taken place in the industry and what some of the effects of it have been. Very early on with respect to payment card systems there were challenges to Visa's requirement at the time that card issuers be exclusive to one network or another. The first cases on that were brought by a private party—a member of the Visa Association, then called National BankAmericard—claiming the rule that stated you could only issue one card was a group boycott and a violation of the antitrust laws. The court rejected that challenge, in part because the system was so new at the time and people did not know exactly how it would play out.

Visa then decided it was going to apply its exclusivity rule not just to issuing banks but to acquiring banks as well. In doing this, it went to the Department of Justice (DOJ), because there were obvious competition issues here. One of the tensions you see all of the time in payments systems, especially in talking about private coordination in the payments system area, is the tension between exclusion and collusion and how to deal those things.

So Visa went to the DOJ and asked for a business review letter, which basically asked the DOJ to opine on whether what it was about to do was lawful under the antitrust laws. They received a wishy-washy response. The DOJ said they were not at that time going to object to exclusivity for issuing banks, but were concerned exclusivity with respect to acquiring banks would potentially inhibit the development of new payments systems. They thought that was important, so they declined to bless an exclusivity rule as applied to acquiring banks.

Visa turned around and decided they were going to eventually get rid of all their exclusivity rules. You ended up with a system where members of Visa could also be members of the other competing card system at the time, which was MasterCard.

The next big, significant challenge was related to the setting of interchange fees. There were challenges that the collective setting of interchange fees would be price-fixing and thus, a violation of the antitrust laws. Again, the courts declined to weigh in on that. This was a private litigation, a private challenge to the setting of interchange fees. As of yet, government enforcement agencies have not really taken a position on interchange and whether or not there are competition issues with the collective setting of interchange fees.

The first time the government decided to intervene was the case I was talking about which I worked on. In my earlier discussion, I shared that the initial concerns were whether or not to allow exclusivity for payments systems associations or whether or not you should require the associations to allow banks to issue competing cards.

When we started looking at this issue at the DOJ, it was a very, very complicated issue—and I'm not going to give away any real internal deliberations—but anyone who was talking with us as we were conducting this investigation was very aware of the two competing arguments that the antitrust agency was grappling with. One was an argument that a real problem in payments systems existed because both Visa and MasterCard had gotten rid of their exclusivity rules and the same banks were in both agencies. They were governing both agencies. They were making decisions about what both agencies would do. While those banks competed with each other in issuing cards, in terms of actually running the association and systems, they were not really competing very vigorously.

So there was a camp that thought the biggest problem that existed with respect to the two associations was there was not exclusivity. There was too much coordination and too much inclusion between the two agencies.

You also had a camp that felt that one of the anticompetitive issues that needed to be dealt with was that Visa and MasterCard both—while they allowed banks to issue one another's cards—had adopted rules that arguably were intended to exclude competing payments systems networks from getting into or expanding in the market. Those would be American Express and Discover. So a bank could issue a Visa card or a MasterCard, but it could not issue an American Express or Discover card. There were a lot of people who felt that was also a very anticompetitive restriction that was limiting the scale and the scope of American Express and Discover and their ability to innovate and bring new products to market.

It is important to mention here that an important aspect of that case—and if you look at the briefs and the complaint and the arguments that were made—was that the focus was very much on innovation and whether or not the restrictions and the structure of the association were inhibiting innovation.

The Justice Department ended up walking a very fine line. There were some tensions in the case that it brought, but it brought forward two separate counts. The first challenged both the dual governance of Visa and MasterCard. It said you

need to separate these two entities. You should not allow banks that are serving in governance roles on Visa to also serve in governance roles and issue and profit from MasterCard. Doing so chills the incentives of those associations to invest in new innovations, because part of what will incentivize those associations to invest is the ability to steal share from one another.

The second part of the case was that meanwhile, banks who are members and nongoverning members of the associations should be allowed to issue American Express and Discover cards. Doing so will allow those associations that will remain independently governed to expand, to get greater scale, and to work with banks to introduce new products and services.

Now this investigation lasted several years and the case went to trial relatively quickly for an antitrust case, but still more than a year after it was filed. Ultimately it was resolved. The government lost the first part of that case; the court said there was not enough evidence that the common governance of the two associations was having any impact whatsoever on innovation by the associations. However, on the second part of the case, the court ruled in the government's favor that excluding American Express and Discover from having access to the member banks and allowing banks to issue those cards was anticompetitive.

While that case was in progress, there was a pending private class-action litigation challenging Visa and MasterCard's "honor all cards" rules. That particular challenge focused on the requirement that a merchant who wanted to accept one of the payments systems' cards would have to accept both debit and credit cards. You could not choose one or the other. The argument was that practice was a tie that was allowing the payment associations to sustain higher interchange fees for debit cards.

The government looked at that issue. One of the challenges of relying on antitrust enforcement and law enforcement to set competition policy in this area was at the time we did not have the capability or the resources to tackle that issue at the same time we were tackling the other case. So we decided we would let that private case go forward. That case was ultimately settled and the associations agreed to eliminate those rules.

There are a few other cases to mention in passing. I will not talk about them in detail: 1) challenges that banks and associations coordinated with one another and conspired to set currency conversion fees—again, challenges to collective action; 2) challenges to merchant restrictions that place provisions on merchant contracts that limit the merchant's ability to steer customers to use one payments system over another, whether that is through recommendations or preferences or through surcharges or discounts offered for particular cards.

I want to talk just a minute about what happened after the government won the case I was involved in. It has some interesting results to it. It is not clear that we have seen a huge amount of additional innovation in some specific topics we talked

about during the case, for example smart cards. We have not seen a huge explosion of innovation. There has been some progress, but not a lot. You can argue about whether that is because we did not win the first part of the case—that perhaps if we had, there would be more, but I do not know whether that is true.

One area where we definitely saw a significant increase in competition was between the payments systems for banks issuing high-value credit cards. Shortly after that case was won, Visa and MasterCard started creating unique card products targeted at high-value consumers, with very high rewards programs and levels of services, and as a consequence, that were supported by very high levels of interchange. One of the impacts of that was increased competition on one side of the market. On the other side of the market, however, that competition was driving up interchange fees. That is something people have expressed a lot of concern about, certainly on the merchant side of the business. I have heard criticism that the primary beneficiaries of the case we brought are very well off consumers who get gold or platinum rewards cards and receive a lot of benefits from them. It is not an illegitimate criticism. I very much believe competition and antitrust enforcement should drive competition wherever it goes. One of the impacts of the case was it was very focused on what was happening on one side of the market and not the other.

Most recently, the DOJ brought another case, which is targeted at what they call the merchant restrictions. While I am not privy to how they came to the decision to bring that particular case, I suspect there was a recognition that increased competition for banks to issue cards was driving interchange fees up and something was needed on the merchant side of the market to promote competition to try to drive fees back down again. The goal of that case is that the merchants must be able to offer discounts in order to steer customers to use a less-expensive card with a lower interchange fee as a way to try to put some competitive pressure on the issuing side of the market.

These issues are not going to go away in this industry. There are going to be recurring issues, including how to deal with the significant network externalities that encourage cooperative ventures. There are good reasons to have cooperative ventures here. They can distribute risk, encourage infrastructure investments and help companies achieve necessary scale. However, antitrust issues that come up are how should access in membership be dealt with; if you are going to have cooperation, do you want that agency to be able to limit who will be participants in it or do you want it to be open to the entire industry; how should exclusionary conduct be dealt with; and how should costs be assessed on different sides of the market.

The answers the antitrust laws might give you may vary, depending on where you are and what stage in the development of the industry you are at. So, as you can see, early on the agencies and the courts were reluctant to weigh in on Visa's exclusionary rules. But, as the industry matured and there was less interest in having initial systems get established and more in having new competitors come into the market, the willingness to challenge exclusionary rules increased.

You have issues with the fact that the payments systems are dual-sided platforms, so whatever actions you take on one side of the market will have an impact on the other side of the market and not always in a way that you would predict. I have talked about this in the context of that case.

Standard setting and inoperability. Standard setting is obviously necessary in this industry, but standards can also be used to entrench incumbents. And how and when do the antitrust agencies weigh in to ensure the process itself is working to promote competition rather than to protect incumbents with market power?

How to think about the role of nontraditional payments service providers. A particular challenge here is some of the entities that are involved in and are talking about innovating in this space are incumbent players in related or adjacent spaces who may have market power in those spaces. These incumbents may be the best-positioned to promote innovation, because of their ubiquity, size, and the value they can extract from payments systems in a very rapid way. On the other hand, you worry that those incumbents—who already have market power—will use innovation to entrench their market power and expand it into other payments systems markets. How do the antitrust laws deal with that, and when and at what stage of development can they do so?

One of the final challenges I'll mention about antitrust law is that relying on it as a promoter of innovation in this industry results in a bias toward bringing cases that challenge coordinated behavior. These are easier cases to bring. Under the antitrust laws, coordinated action by two independent entities, whether trade associations or an association of banks setting up a payments system, is a much easier type of case to bring than if you have a single entity that is engaged in conduct you think is exclusionary. In part because of that ease, I know it was at least one of the factors that went into Visa and MasterCard's decisions not to be joint ventures of banks anymore, but to privatize instead. You can question whether that is a good or a bad outcome for an antitrust enforcement. One of the risks is that there may be just as much risk to competition in this industry from dominant incumbents as there is from collective action. But those cases are much, much harder to bring. They are especially hard to bring when you have nascent industries and that you do not want to step in and choke off.

I do not know what the right answer is there. I clearly think there is an important role for antitrust in promoting innovation in these industries, but it is also a very, very challenging thing to do and to get right. I will leave it there.

General Discussion

Session 6

Mr. O'Connor: Before we turn it over to the floor for questions, I'll give the panelists a few minutes to ask each other questions or make comments on presentations of other panelists.

Mr. Edey: I will just ask Ricardo, who described the setting up of a piece of centralized infrastructure for real-time payments in Mexico by the central bank, did you consider getting the private sector to do that and what sorts of considerations were involved in making that decision?

Mr. Medina: Thank you, Malcolm. When we decided to implement our payments system, it was difficult. We first tried to collaborate and see if the private sector could construct and operate a system. There was a lot of conflict of interests, and a lot of big participants wanted to have control of the system. Therefore, we decided it would be better if an unbiased and not very important player in the payments system, like the Central Bank, operated the centralized system. It was a very important decision and there were a lot of discussions internally within the Central Bank. Thank you for the question.

Mr. O'Connor: Questions or comments, panel? I'll turn it over to the floor.

Mr. Grover: Gerard, EU regulators seem to have experienced a bout of cognitive dissonance. On the one hand, they have called aggressively for the establishment of an additional European new payment scheme. At the same time, they imposed price controls on interchange and they jawboned networks to reduce network fees. So I have two questions for you: In that kind of environment, why would European banks want to invest billions of euros, creating what out of the gate would be an inferior payments system or payment network? Secondly, wouldn't encouraging existing networks, such as American Express, Discover, Diners, to expand in Europe and/or encouraging commercial rollup of legacy national payment schemes be a better path?

Mr. Hartsink: OK, I understand the question. Interchange is a complex topic. For cards, the European Commission has taken the stance that the story for cards is different than for direct debit. For direct debit, we had multiple models in Europe at the national level and we had to find a new model for interchange at the European level.

After a debate of I believe three years, we ended up with the perfect number, 9.3 cents as a default. Then, it took the ECB about one day to find out it was 8.6 cents. OK, we accepted that. But then the intervention of DG Competition started and we ended up in a complex game. The market asked for clarity. There were different models. In the end, it was by law and it is part of the SEPA regulation, which is published today, that for direct debit, it is only legally possible for returns and not for regular transactions. That is the outcome.

The policy consequence of the decision is that, in certain member states—think about France, Portugal, Italy—the corporates (the acquiring bank) are not in the end, paying it anymore. Rather, the consumer banks have to charge a bit more to their consumers. That is the reality of this policy intervention.

Second, your question was more related to card schemes. There are several cases on the table in Europe for cards and interchange at the national level but also at the European level. There is one case of one of the international card networks where they did not accept the outcome of the competition authority and it is a pending case at the European court. Nevertheless, the outcome from my perspective as an industry expert is interchange will come down. That means the real debate in the end is not all about interchange. No, it has to do with the discussion of, Who is paying the bill for payments? Should it be the consumer or should it be the one who receives the money? That could be the public sector—20 percent of the number of payments has to do with the public sector—or corporate SMEs.

I am not aware of a strong political stance of the public sector on who is paying the bill. What you hear in a lot of member states in Europe is the question “Who is paying the bill for payments?” The parliaments are crystal clear—the consumer should not pay. Lobbyists on behalf of the merchants are also crystal clear that merchants should not pay. In the end, in this terra incognita of who should pay the bill, the market reality is that probably around 20 percent of the cost space in Europe has to do with payments. The public sector—and it is probably also true here in the United States—and even the central banks, which are active in the debate as a catalyst, ignore that there is also cash in town. That is the most costly factor. But based on the behavior of central banks issuing bank notes and stuff like that, they have an interest in that. Mostly, the policy people are different people than those who run cash. I know the ECB tries seriously to get the costs of payments as a whole on the table, and to have to the debate of who really should in the end, from an efficiency perspective, pay the bill in society. We are talking about 2 percent of GDP and it is probably similar numbers in other communities.

I know some member states are reluctant to give the real data to the ECB. I have a Dutch background. We did deliver the CFO data, so external auditors send the real data to the Dutch Central Bank and the Dutch Central Bank being partner of the ECB.

We know pretty well—if you take segment by segment, consumers on the receiving end or sending side or SMEs, corporates, public administration—who is paying the bill on balance. They are definitely not large corporates. Our guess is it mostly is the SMEs in a lot of member states. If you talk about card networks, I think interchange will go down—that is the market trend. And the value-based interchange will probably go down even faster than transaction-based interchange. It is becoming more and more popular in Europe, if I listen carefully to the public sector.

Mr. Anderson: A question for Gerard. Going back to the security issue, we have seen one market failure in the case of EMV, where there have been repeated implementation vulnerabilities in the payment protocols. For example, there was disclosed in 2009 and published in 2010, the no-protocol attack whereby stolen cards can be used in stores without knowledge of the PINs. Now EMVCo. does not seem prepared to do anything about this and the various vendors pass the buck. In the meantime, individual banks say this is an industry problem not ours. So the big question is, Is this something that you are prepared to take on board and do something about or should it be left to some other body to coordinate that?

Mr. Hartsink: I cannot give comments on EMV as such. What I can give comments on is that the industry decided to implement EMV on the cards, on the POS terminals, and on the ATMs in Europe. Analyze the number—it is all over 95 percent. So that is the market reality. The ECB has a very clear position. They prefer that, on the issuing side—so not on the acquiring side—that banks only issue cards with an EMV chip, but no magnetic stripe anymore. It is a public policy. One of the colleagues of the ECB is still in the room. He can confirm that this is formal policy of the ECB.

The banks, however, were already reluctant in the decision of December, in the plenary last year, to accept this policy. Some banks do. They only issue cards with a chip. The story is “Yeah, but outside Europe you cannot use the chip.” Well, if you are able to fly to the United States, then you are probably also prepared to buy an additional piece of plastic. That is not the real cost of the issue compared with the ticket price you pay.

Of course, in Europe, we were—the ECB—also approached by consumer organizations from the United States. Will, over time, it no longer be possible for Americans coming to Europe using a card without a chip to get money out of the ATM or POS? Well, the policy of the euro system currently is only on the issuing side. The thinking is based on the enormous frauds, so it makes sense to do so also on the acquiring side.

The ECB is working together with Europol, the European Banking Authority, and the Commission on a paper about card-not-present fraud that will probably be released within one or two months, I expect. Europol is based in the Netherlands and I've seen serious cases of fraud. So, one way or another it makes sense for the United States to consider, if it continues with the plastic, also to implement the EMV chip. Another way of thinking is that maybe over time we will not need the plastic anymore, although I doubt it. Then at least, it should be done with the mobile.

Mr. Ramamurthi: As you go from thinking to getting things done, I have a two-part question for Ricardo. First, it is very impressive what you guys have been able to do in getting payments out in five seconds in some cases. As we look at similar systems in the United States, my question is on ID verification. I am familiar with CURP ID, which is a very impressive thing that you can actually verify online in Mexico. How valid is that, in terms of real-time authentication, along with voter's registration? That is part A of the question.

Part B is related to what you talked about in regard to being able to use mobile devices as a proxy, meaning the telephone numbers. My question is, Is the Bank of Mexico going to provide a directory service, whereby there is some kind of authentication layer? It kind of relates from part A to part B. If you can answer that.

Mr. Medina: Regarding the portioning of the payments system SPEI in Mexico, the Central Bank of Mexico very much regards and takes care of the center of the diagram. By the center of the diagram, I mean SPEI is at the center. The sender bank, or the sender participant, is on one side. On the other side is the receiving participant. The Central Bank is not involved very much in the relationship between the two participants and the clients. We leave that relationship—the ID, security, and all the issues regarding the client—to the banks and the receiver client with the receiver banks. We left it to the banks. The only thing we asked of the participants, the sender banks and the receiving banks, is that if they want to participate in SPEI, they must comply with the rules and should provide very high-quality service to their clients. We imposed rules for the velocity of payments, for some kind of security of the clients' identification. The ones who implement all these measures are the participants of SPEI. I appreciate your question very much. Thank you.

Mr. O'Connor: We are finishing on time. I will thank the panelists for their excellent presentations and I will thank the audience for their participation.

Ms. George: Let me thank all of you again. I want to close by thanking each of our authors, the discussants, the panelists we have had over the last couple of days, particularly those of you who have come a great distance to join us—my thanks for that. You have certainly added to the quality of our discussion here.

This conference has certainly exceeded my expectations. As we started yesterday, I knew that—because of the quality of the participants we have had—it would

be a good conference. But, as we look at the range of issues we have covered on this time frame, ranging from interconnectedness and innovation, thinking about the information content that is coming from consumers, thinking about the issues of privacy and security, all the way to the issues of segments of consumers, including the unbanked that we need to be thinking about in this space, issues of barriers. I found it very interesting as we try to balance this issue of innovation with what role—if any—public policy might play in that space, particularly as we see the emergence of very innovative and significant platforms coming into play around mobile payments and other aspects here.

Finally, for me personally, as I think about the role of the central bank, today has been most informative in terms of raising the issues about what role public authorities play in this space and how we think about this going forward.

We certainly have enjoyed a range of views, valuable perspectives, and insights. We have raised questions we can take away to research and think more about.