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THE FUTURE OF RETAIL PAYMENTS: OPPORTUNITIES AND CHALLENGES

A JOINT CONFERENCE OF THE EUROPEAN CENTRAL BANK AND THE OESTERREICHISCHE NATIONALBANK
12-13 MAY 2011

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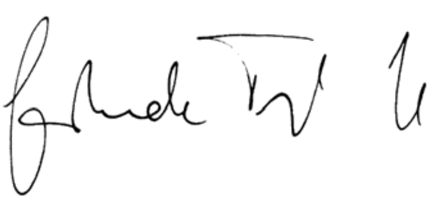
PREFACE

The way people are paying is continuously changing, as a result of innovations in retail payments, a pursuit of greater efficiency and regulatory changes. This changing environment creates opportunities for some and challenges for others in the retail payments sector. The impact of these changes on the future of retail payments was the main theme of the biannual retail payments conference organised by the European Central Bank (ECB) in cooperation with the Oesterreichische Nationalbank (OeNB) on 12 and 13 May 2011 in Vienna. More than 200 high-level policy-makers, financial sector representatives, academics and central bankers from Europe and other regions attended this conference, reflecting the topicality of and interest in the retail payments market.

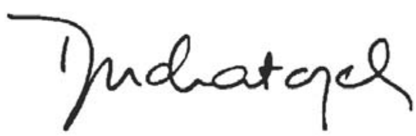
The aim of the conference was to better understand current developments in retail payment markets and to identify possible future trends, by bringing together policy-making, research activities and market practice. A number of key insights and conclusions emerged, as summarized later in this document.

We would like to thank all participants in the conference. In particular, we would like to acknowledge the valuable contributions and insights provided by all speakers, discussants, session chairpersons and panellists, whose names can be found in the annexed conference programme. Their main statements are summarised in this document.

Behind the scenes, a number of colleagues from the ECB and the OeNB contributed to both the organisation of the conference and the preparation of these conference proceedings. In alphabetical order, many thanks to Nicola Antesberger, Stefan Augustin, Michael Baumgartner, Christiane Burger, Stephanie Czák, Susanne Drusany, Henk Esselink, Susan Germain de Urday, Monika Hartmann, Monika Hempel, Wiktor Krzyżanowski, Thomas Lammer, Tobias Linzert, Alexander Mayrhofer, Hannes Nussdorfer, Simonetta Rosati, Daniela Russo, Wiebe Ruttenberg, Heiko Schmiedel, Doris Schneeberger, Francisco Tur Hartmann, Pirjo Väkevainen, Katharina Wolner-Rößlhuber and Juan Zschiesche Sánchez.



Gertrude Tumpel-Gugerell
Former member of the Executive Board
European Central Bank



Wolfgang Duchatczek
Vice Governor
Oesterreichische
Nationalbank

1 EXECUTIVE SUMMARY

Retail payment markets have been developing rapidly throughout the last decade. In Europe a number of legal and regulatory measures have been adopted with the aim of achieving an integrated single market for payments. In other regions (e.g. Australia, Canada and the United States) retail payments have recently also been subject to regulatory and legal interventions. The market-initiated Single Euro Payments Area (SEPA) project has accelerated the development of the European retail payments market into one that is based on increasingly integrated and more competitive market structures. Technological innovations have facilitated these fundamental changes. Other regions have had similar experiences or even more significant changes in the field of payment innovations and developments. Although there is a widespread belief that developing and increasing the integration of the retail payments market is likely to generate macroeconomic benefits, it may also involve challenges regarding risks and security threats. Against this background, it is important to understand the economic factors driving future developments and to take a forward-looking perspective that anticipates the factors likely to influence developments in the retail payments market.

In this context the ECB organised the second biannual retail payments conference, this time in cooperation with the Oesterreichische Nationalbank. The conference took place in Vienna on 12-13 May 2011. Its objectives were twofold: first, to improve the general understanding of payment economics (and related disciplines) in the field of retail payments and, more specifically, to help identify possible developments and dynamics that will shape the future payment landscape; and second, to provide a forum for debate and interaction among market participants, policy-makers and researchers.

The two-day event was centred on four main themes:

- the transformation of the banking business and its impact on retail payments;
- payments behaviour and usage of payment instruments;
- the creation of a competitive retail payments market;
- future challenges and opportunities in retail banking and payments.

The following paragraphs highlight a number of key messages and conclusions that emerged from the debate on these themes.

It was widely acknowledged that retail payments are a cornerstone of retail banking and consequently banks' business case. As the financial crisis has shown, Europe has benefited substantially from the level of integration and innovation achieved so far in the field of retail payments and banking. However, more work needs to be done to achieve a fully integrated and innovative European retail payments market. It further emerged from the discussions that retail payment integration should be understood not as harmonising payments behaviour but as harmonising instruments, standards, rules and systems.

For Europe, it was recognised that the SEPA project is on the right track and that a lot has been achieved over recent years. However, more work needs to be done, in particular in the area of the standardisation of card payments and the migration towards the SEPA payment instruments. In this respect the Eurosystem welcomes the European Commission's proposal for a regulation setting an end date for migration. Moreover, it is important to involve users and to ensure the acceptance of the SEPA instruments.

In this respect, a few speakers mentioned network effects as an obstacle to integration and innovation and argued in favour of intervention by public authorities to address the coordination failure in payment innovations and in the standardisation of the security of retail payments. Other speakers said that the policy strategy should be clear and the regulatory environment stable and consistent in order to win support from banks for change.

Research work in this field has concluded that payments behaviour differs considerably across cultures and countries. In fact, a marked persistence of traditional payment habits can be observed across European countries. Despite the relatively high cost of cash when it comes to payments above a certain threshold, cash continues to be used extensively for day-to-day payments at the physical point-of-sale. One reason why the use of cash is high in some countries is the budget monitoring and memory feature of cash. Further country evidence shows that other factors also play an important role in consumers' payment decisions, i.e. speed, merchant acceptance and low transaction-specific fees. Empirical evidence shows that debit and credit cards are used for higher-value transactions because of perceived safety, record keeping, rewards and the possibility of delaying the settlement of the payment.

Another important topic addressed during the conference and closely linked to perceived safety related to fraud in retail payments. Even if financial stability is not directly affected by the overall level of fraud losses, fraud incidents can have downward effects on card usage. On the basis of evidence from the analysis of debit card payments and media coverage of security incidents, however, it can be concluded that the effects seem to be economically relatively small compared with other influencing factors. This suggests that consumer confidence in the debit card is relatively high and robust.

Efficient and secure payment systems are a key concern for central banks worldwide, for which reason central banks are interested in the field of retail payments. While the role of central banks in offering large-value payment systems is generally accepted, the future of retail payment processing in an integrated market and the operational involvement of central banks is still subject to intensive discussions.

A large part of the conference was dedicated to the discussion of issues related to card payments. Country-level evidence demonstrates that merchants' perception of the cost of different payment instruments affects acceptance as well as surcharging decisions. Merchants who find payment cards expensive are less likely to accept them and more likely to surcharge their customers for card payments. Merchants facing competition accept debit card payments relatively more often and are less likely to surcharge their customers for debit card use than merchants with monopoly power.

The discussion on the possible and/or allowed level of multilateral interchange fees in the field of cards and the methodology to be used for calculation has not been conclusive so far. Therefore, increased clarity on the business model for cards seems to be needed to increase planning security for issuers and acquirers.

The provision of consumer credit in payment networks plays an important role in efficient pricing and competition between debit card and credit card networks. Moreover, academic research has shown that merchant fees and reward programmes generate an implicit monetary transfer to credit card users from non-credit card (debit card, cheque or cash) payers because merchants generally do not set differentiated prices per payment instrument to recoup the costs of fees and rewards. Since credit card users are on average wealthier than persons without a credit card, this monetary transfer also benefits higher-income families to the disadvantage of lower-income families. Accordingly, reducing merchant fees and card rewards would likely increase consumer welfare.

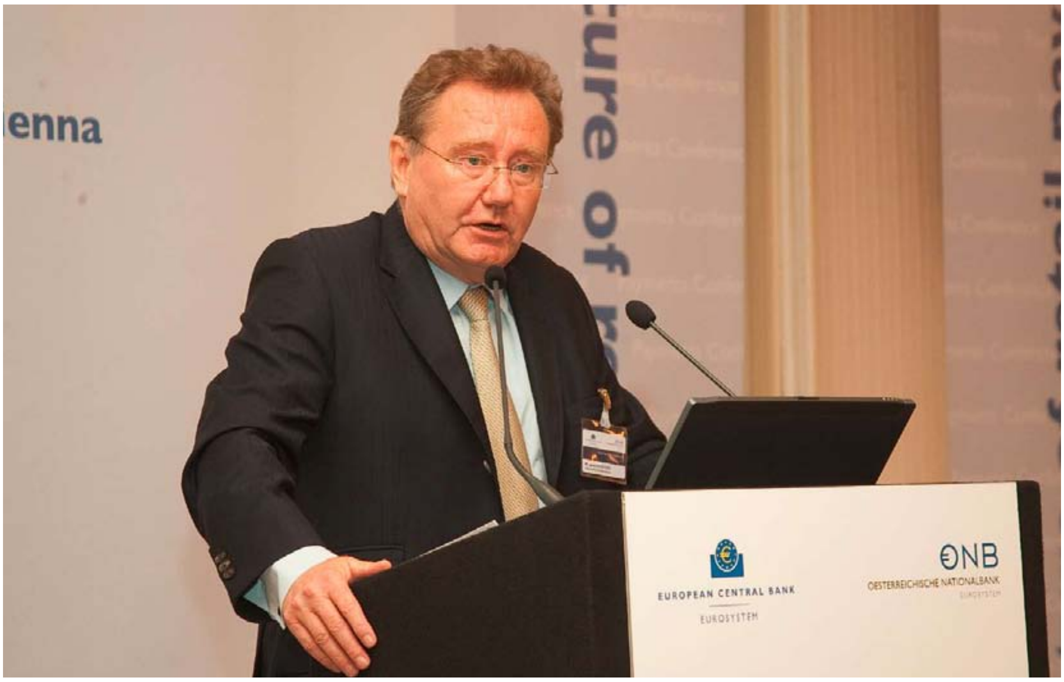
It was generally accepted that innovations in retail payments will make everyday life more convenient by offering easier access to payment instruments. In addition, innovation may also be a chance to decrease the number of unbanked and underbanked people, i.e. it could be a powerful tool for financial inclusion. Several speakers pointed out that innovations in retail payments are taking place more rapidly than ever and that banks and regulators should adapt quickly to their changing business and technological environment.

The remainder of these conference proceedings is structured as follows. Section 2 contains the opening and welcome remarks by Wolfgang Duchatczek (Oesterreichische Nationalbank). Section 3 presents a summary of the first panel session, chaired by Gertrude Tumpel-Gugerell (European Central Bank), including her opening remarks. Section 4 highlights the discussions on payments behaviour and the usage of payment instruments. Sections 5 and 7 deal with issues relating to the creation of an efficient and competitive retail payments market. Sections 6 and 8 give keynote speeches on opening financial services markets by Cecilio Madero Villarejo (European Commission) and on innovation in retail payments by David S. Evans (Market Platform Dynamics). Section 9 highlights the key messages from the panel session on innovations, security and financial inclusion.

The conference presentations and papers are available on the ECB's website.[1]

1 http://www.ecb.europa.eu/events/conferences/html/ecb_oenb.en.html

2 OPENING REMARKS BY WOLFGANG DUCHATCZEK



Wolfgang Duchatczek (Oesterreichische Nationalbank)

Ladies and gentlemen,

It is my pleasure to welcome you to the conference "The future of retail payments: opportunities and challenges" and I would like to thank Ms Gertrude Tumpel-Gugerell, Member of the Executive Board of the European Central Bank, for the excellent cooperation during the planning and organisation of this joint ECB-OeNB conference held today and tomorrow here in Vienna. This conference is not only the second biannual joint retail payments conference but has been organised on the special occasion of Ms Tumpel-Gugerell's farewell as Member of the Executive Board of the ECB, since her term is due to expire by the end of this month.

Looking at the intensive agenda for the coming two days, you will see that this event brings together a very distinguished group of high-level speakers from central banks, regulatory bodies, market players and universities. We were in the lucky position that our call for papers had triggered the submission of numerous high-quality academic papers. Although we have introduced parallel sessions, we unfortunately had to decline a number of high-quality papers, with which we could have easily filled the agenda for a third and fourth conference day. This proves that retail payments are, despite the economic crisis, very much in the focus of academic research. But retail payments are not only a topic of academic interest; they have a real impact on banks' P&L and are of major macroeconomic relevance.

One of the lessons learned from the financial crisis is that safe and stable payment systems help to reduce the uncertainty in the financial system. It has definitely paid off that the financial sector invested great effort in enhancing the safety and efficiency of the payments infrastructure prior to the crisis. And while other business areas have shown some volatility during the past few years, payments have remained an important source of steady income for banks. According to Capgemini's World Payments Report 2010, payments volumes continued to expand. However, payment service providers cannot take this development for granted, since payment behaviour is continuously evolving and some major trends can be observed: especially incumbent providers like banks face the challenges of market integration and concentration, new technologies (e-payments, mobile payments and contactless payments) and increasing competition from non-banks.

Moreover, retail payment revenues are coming increasingly under pressure because of increased competition, the high interest of competition authorities in the field of retail payments, regulatory initiatives and substantial investment needs due to the trends just mentioned.

Regulators and competition authorities have to find the optimal balance between regulation, cooperation and competition and provide the market with sufficient planning security based on clear and consistent decisions at the national as well as the European level.

One example is the SEPA migration end date. Only rapid and complete migration to SEPA payment instruments will generate the full benefits of a fully integrated payments market. In this context self-regulatory efforts have proven not to be sufficient. Therefore the European Commission's proposed regulation regarding a binding SEPA migration end date is an important and necessary step. When it comes to multilateral interchange fees in the field of card payments, one of the main topics of our conference, the Eurosystem has been asking for more guidance to allow the market to progress in its business case considerations for an additional European card scheme.

In my opinion the role of central banks as catalyst will become even more relevant in future. In some markets, however, central banks are operationally involved in retail payments processing as well. This involvement is sometimes seen as critical, and this is one of the reasons why we have dedicated a specific session to the discussion on the role of central banks in retail payments. In a number of countries, however, retail payments are still processed via correspondent banking instead of multilateral clearing services. The overall volumes of payment transactions flowing through unregulated correspondent banking arrangements are still significant. Any instability in such arrangements may have a negative effect on the smooth functioning of the financial system. Therefore, a clearing house with final settlement in central bank money is from a security and stability point of view essential.

I have to admit that we have quite a busy conference schedule ahead of us, but the programme as well as today's evening reception should allow the discussion of all relevant issues and still provide the opportunity to raise any critical question. I have already briefly touched upon one or the other topic of our conference, but let me give you nevertheless a quick overview of the next two conference days.

Immediately after my intervention we will discuss the transformation of the banking business and its impact on retail payments, in particular on governance, efficiency and integration. This session will be chaired by Ms Gertrude Tumpel-Gugerell. The following academic session will provide fundamental insights into payments behaviour and the usage of payment instruments. After the lunch break we will have two parallel streams: an academic and a practitioners' session, which both will discuss a number of very topical issues, such as trust and fraud in payment systems, customer benefits of an integrated payments market and the role of central banks in shaping the future of retail payment markets. Leading academics in the field of payments research will present their work regarding network effects and surcharging. So you will be spoilt for choice, but you can change between the two streams during the break.

This evening a reception will be hosted within the premises of the Oesterreichische Nationalbank, and Mr Ewald Nowotny, Governor of the Oesterreichische Nationalbank, will give the dinner speech.

Tomorrow morning we will continue with the discussion on how to create a competitive retail payments market and will analyse topics such as competition, interchange fees, innovation, efficiency and security. We are grateful that two distinguished keynote speakers have agreed to contribute to our conference: Mr Cecilio Madero Villarejo (European Commission) will provide us with his insights on “Opening financial services markets – the European approach” and Mr David S. Evans (Market Platform Dynamics) will tell us how we are likely to pay in the future, thanks to the expected “Innovation in retail payments”. The conference will be concluded by the closing panel, which will outline the future challenges in the payments business.

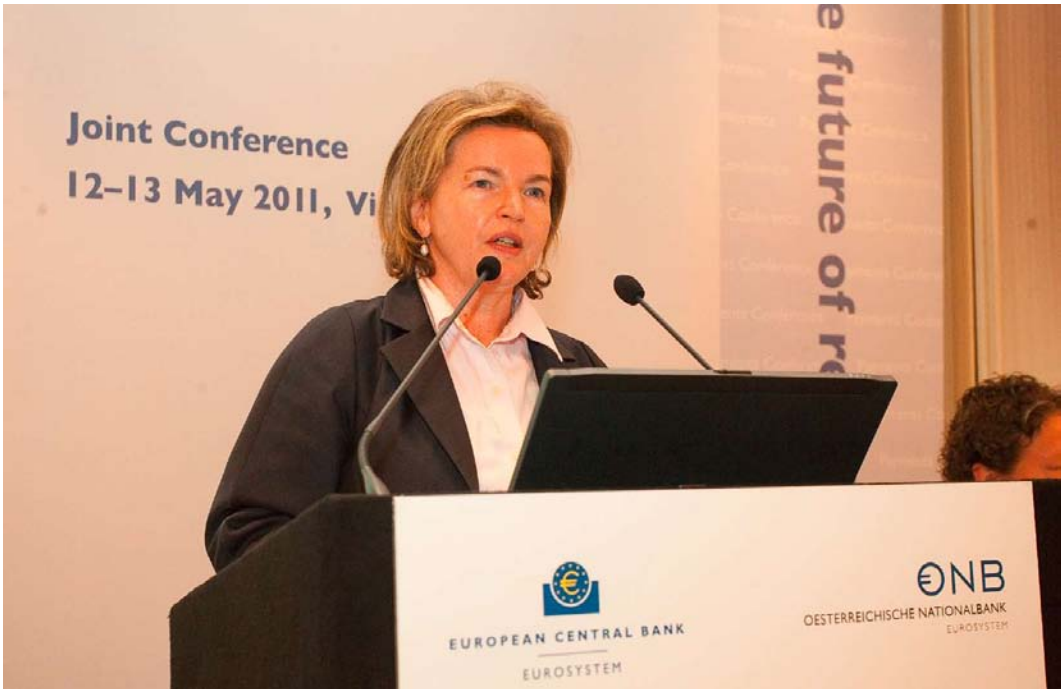
We are confident that the balanced mix of keynote speeches, policy panels and academic as well as practitioners’ sessions will be interesting for all of you. The first indication is the high number of registrations; more than 200 people are here today, despite the fact that this conference is by invitation only.

But I don’t want to continue keeping you in suspense and therefore I would like to welcome the first high-level policy panel, chaired by Ms Gertrude Tumpel-Gugerell. This panel brings together the views of central banks from inside and outside the EU, a commercial bank with a strong focus on central and eastern Europe and a major global consulting company. The discussion will focus on the transformation of the banking business and its impact on the governance, efficiency and integration of retail payments.

I wish all of us a successful and interesting conference, and I would kindly ask Ms Gertrude Tumpel-Gugerell to start with the first panel.

3 TRANSFORMATION OF THE BANKING BUSINESS AND ITS IMPACT ON RETAIL PAYMENTS: GOVERNANCE, EFFICIENCY AND INTEGRATION – PANEL SESSION

3.1 INTRODUCTORY REMARKS FOR THE PANEL SESSION



Gertrude Tumpel-Gugerell (European Central Bank)

Ladies and gentlemen,

It is a great pleasure for me to be here in Vienna – the town where I studied and where I spent a good part of my life. It is also a great pleasure to be here at this conference, which has been organised by the two central banks that have shaped my professional career – the Oesterreichische Nationalbank and the European Central Bank. And, last but not least, it is also a great pleasure for me to chair the first panel session, which brings together five renowned representatives from the public and private sector.

From the public sector, I would like to welcome (in alphabetical order) Mr Giovanni Carosio, Member of the Governing Board at the Banca d'Italia, Ms Feriha Imamović, Vice Governor at the Central Bank of Bosnia and Herzegovina, and Ms Júlia Király, Deputy Governor at the Magyar Nemzeti Bank. From the private sector, I am pleased to welcome Mr Rainer Hauser, Member of the Management Board at UniCredit Bank Austria, and Mr Bertrand Lavayssière, Managing Director at Capgemini. I hope we will have an interesting discussion, and I am looking forward to hearing your views on our discussion topic.

The theme of this panel session is the transformation of the banking business and its impact on retail payments. Let me start my introduction with the observation that almost as we speak, Vienna is celebrating the Wiener Festwochen, a festival of music and the performing arts. It will feature 41 productions from 23 countries – an impressive demonstration of the internationalisation and universality of art.

As is the case for art, the banking business has become more and more international. This is demonstrated by the increase in foreign assets and liabilities in banks' balance sheets. In Europe, the internationalisation has been driven to some extent – but not exclusively – by the economic and monetary integration of the EU. Advances in information technology have also contributed substantially in enabling banks to offer financial services not only at national level but to foreign businesses and individuals, too.

The expansion of the potential customer base has opened possibilities for synergy effects and efficiency gains. It has also made those banks that succeeded in creating an international customer base less vulnerable to local shocks. However, the success of the internationalisation of the banking business also depends on a number of factors such as legal certainty, technical standardisation, sound governance and, last but not least, a readiness to discard some national models and habits.

In the area of retail payments, the groundwork necessary to enable European integration has been largely done. The Directive on Payment Services (PSD) and the Regulation on cross-border payments provide the legal basis for the provision of pan-European payment services. The payments industry – represented by the European Payments Council (EPC) – provided technical standardisation by developing payment schemes and frameworks, although standardisation in the area of cards still needs to be further pursued. The European Payments Council also provided the governance structure for the design and implementation process of the payment schemes and frameworks.

It is at the final stage, at the point of migration to the payment schemes and frameworks, that the integration process has stalled. SEPA migration as a self-regulatory process has not achieved the required results. The banking industry's self-imposed deadline of December 2010 for SEPA instruments to be in general use has not been met. It would be simplistic to only blame the banking industry for this. As we all know, it takes two to tango, and migration can only succeed if the supply and demand sides share the same aims. Thus, one of the lessons learned is that the involvement of the demand side in the governance of the integration process is necessary to facilitate migration.

Last but not least, the integration process at European level requires a readiness to discard some national models and habits. Probably this is the most difficult part of the transformation of the retail payments market. The media in some countries report that bank customers cling to familiar national payment instruments and national account numbers, which they are loath to change. However, if change is made mandatory, as was the case with the cash changeover to the euro, the process is often even faster than necessary. And when it comes to adopting new technological devices – the mobile phone, MP3 players, tablet PCs – people embrace them quickly. Thus, I expect that the adoption of the proposal for a SEPA migration end date will finally unlock the potential for integration and efficiency gains in the European retail payments market.

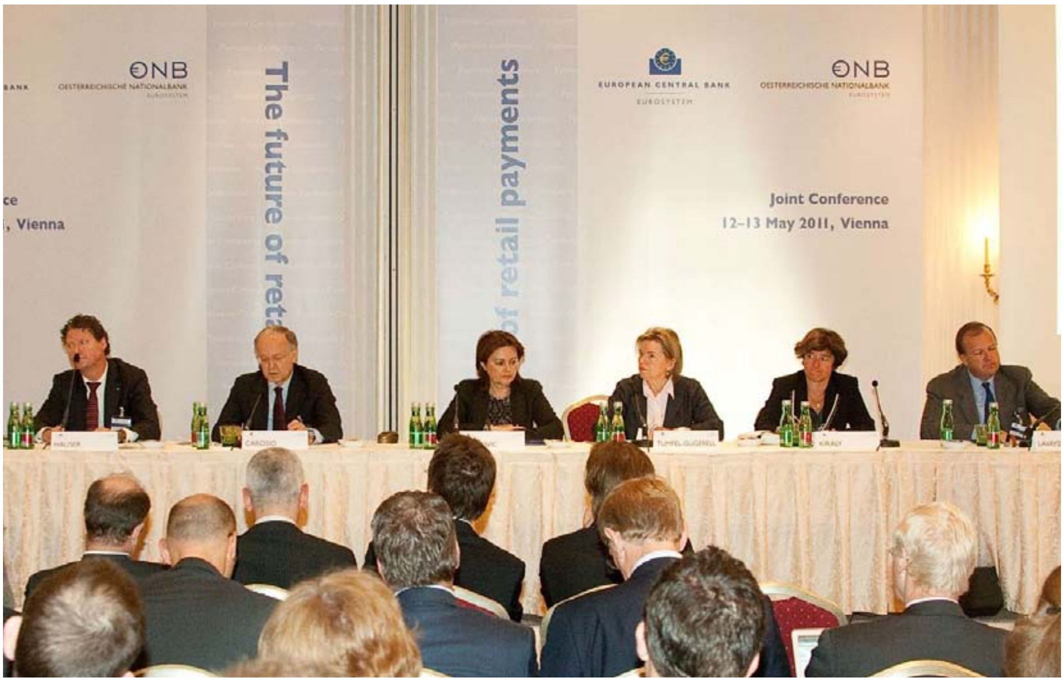
In the conference on retail payments integration and innovation held at the ECB two years ago, we established that despite the financial crisis, the retail payments business has been resilient, providing reliable and regular revenues. Before the crisis, the fact that the retail payments business is a substantial source of revenue in banking, accounting for up to 25% of total bank revenues, was often neglected. Now, the observation that banks with a balanced business model have been in a better position to cope with the crisis has led to a better recognition of the importance of retail banking and retail payments.

Still, despite their resilience and stable nature, retail payments revenues cannot be taken for granted. They are under pressure from different directions: increasing competition, substantial investment needs to keep up with customer demands and technological progress, and a more decisive stance on the part of competition authorities. With regard to the pricing of payment products, payment service providers have to face the paradox that on the one hand, they are being pressurised to ensure more price transparency, and on the other, direct pricing would probably result in an increase in pricing that would neither be accepted by the customers nor by the regulators.

The financial crisis has not only led to a better recognition of the importance of retail banking and retail payments: it has also sharpened the focus on banking governance. In recent years, many banks were giving increasing priority to the interests of the shareholders. Consequently, it can be argued that the interests of the clients, and thereby of society as a whole, slipped too much into the background. In short, the public service function of banks, which is particularly relevant in the field of payments and loans, has been neglected.

Now, it is time for me to hand over to the panellists. I am interested to hear your views on the key issues relating to the transformation process of the banking business, in particular as regards retail payments. What are the prerequisites for and barriers to successful integration in the field of retail banking and payments? What does an efficient retail payments market look like? Which governance models are appropriate to steer the retail payments market?

3.2 PANEL DISCUSSION



From left to right: Rainer Hauser, Giovanni Carosio, Feriha Imamović, Gertrude Tumpel-Gugerell, Júlia Király, Bertrand Lavayssière

The panel session on the impact of the transformation of the banking business on retail payments was chaired by **Gertrude Tumpel-Gugerell** (European Central Bank). **Giovanni Carosio** (Banca d'Italia) focused on the scope of intervention by public authorities in the field of retail payment systems. He expressed the view that the payment sector is very much a network business and that new developments in this network suffer from coordination failures. He therefore argued in favour of intervention by public authorities to address these coordination failures and possibly to create incentives to shift to more efficient forms of payment. In this respect he mentioned especially the security of payment systems as an area for intervention. In other areas public authorities could take a less interventionist approach and foster efficiency and a level-playing field for payment service providers by promoting innovation, transparency in the pricing of the different payment instruments, and fair and transparent access requirements for payment infrastructures, and by creating the conditions for fair competition. In terms of governance, he said that the views of all stakeholders should be considered and that he, therefore, welcomed the work of the SEPA Council. Nevertheless, as the SEPA Council as a stakeholder group cannot take operational or legally binding decisions, he saw a need for industry groups to develop technical standards. Finally he called for a single body where the various overseers could meet.

Feriha Imamović (Central Bank of Bosnia and Herzegovina) explained the importance of well-developed retail payment systems for economic development. She mentioned that the use of cash for retail payments is still high in her country. Lower cash levels would, however, increase the liquidity of banks and reduce security risks. She therefore argued that banks should raise awareness of and promote efficient means of payment. As regards cross-border payments she referred to the establishment of an international clearing and settlement institution with some neighbouring countries. As a result prices for cross-border payments with these countries are in the same range as domestic payments. In general, she said that the future of retail payments should focus on the reduction of risks and costs, a higher resilience of systems and transparent prices. The main challenge for Bosnia and Herzegovina in the field of payments would be the accession to the EU and the associated adaptation of national laws and technical infrastructures.

Rainer Hauser (UniCredit Bank Austria) focused in his presentation on the way the commercial bank can meet customer requirements and fulfil regulatory requirements. Regulation can be good for the customer, for example the Regulation on cross-border payments in the Community or the Payment Services Directive. However, it is difficult for the bank to explain to its customers that this requires a change in behaviour or systems, given that the benefits are not always immediately perceived by the customer, such as with the need to use IBANs and BICs. Mr Hauser said that regulation does not always follow customer needs. In this respect he clearly saw a need for the standardisation of domestic and cross-border internet payments, but on the other hand felt there was no demand from his customers for European account mobility.

Júlia Király (Magyar Nemzeti Bank) also mentioned network problems and the promotion of efficiency as the main reasons for public authorities to take action in the field of payment services. The network character of the payment sector requires the involvement of all stakeholders to address the network problems. In Ms Király's view the central bank should act in the interest of the public and take into account the overall social efficiency in its consideration of whether to regulate. She said that according to a study from the Magyar Nemzeti Bank the social costs of payments amount to 1.5% of GDP in Hungary, of which two-thirds relate to the cost of cash. The study also showed that if payment behaviour in Hungary was the same as in some Scandinavian countries, cost savings of 0.4% of GDP could be achieved. She therefore felt that the central bank could not be neutral as regards the choice of payment instruments, but should promote those instruments which are most efficient from a societal point of view. She felt that public authorities should lead the way by making use of the most efficient means of payment.

Bertrand Lavayssière (Capgemini) focused on the question of how regulation could ease the transformation of the payment system landscape from an external consultant's point of view. His central message was that the regulation of the industry (ROI) should not be incompatible with the return on investment (ROI) of that industry. He said that banks are concerned about the consequences of new regulation in terms of investments and revenue streams. This means they do not want to be confronted with too many changes in their business environment. In the view of Mr Lavayssière, there are too many parties involved in the discussions on the regulation of the payment sector, which adds to the uncertainty for the banks as regards investments. In the SEPA project too there are still many uncertainties. He, therefore, suggested that clarity should be created and SEPA instruments should be implemented at the same time everywhere.

Summing up, the discussion focused on the role of central banks versus competition authorities and the fact that the different public policies as regards market integration and competition are sometimes conflicting in their implementation. The panel agreed that in principle regulation needs to take into consideration network effects and competition policy should not impede the development of certain technical standards. It was also acknowledged that competition policy sometimes assumes that there is already a fully integrated single market for payment services although this is not the case yet. In her concluding remarks Ms Tumpel-Gugerell said that if the founding fathers of the euro had included some rules on the standardisation of payments, progress could have been made much faster. Nevertheless, she reminded the audience that much has already been achieved and that the current work provides the potential for further integration and efficiency.

4 PAYMENTS BEHAVIOUR AND THE USAGE OF PAYMENT INSTRUMENTS – ACADEMIC SESSION

From left to right: Ulf von Kalckreuth, Leo Van Hove, Kim P. Huynh and Heiko Schmiedel

Leo Van Hove (Vrije Universiteit Brussel) chaired the academic session on payments behaviour and the usage of payment instruments. The first paper, "Using cash to monitor liquidity – implications for payments, currency demand and withdrawal behaviour was presented by **Ulf von Kalckreuth** (Deutsche Bundesbank) and co-authored by Tobias Schmidt (Deutsche Bundesbank) and Helmut Stix (Oesterreichische Nationalbank). The paper starts from two empirical observations: first, the high cash use in Germany, which is only declining very slowly despite the wide availability of cashless payments (90% of German adults own a debit card) and, second, the high heterogeneity in the consumer profiles and demographics of cash users. Various studies have recently highlighted how habit persistence, differences in the relative costs of using the alternative payment instruments and individual comfort-with-technology attitudes explain only part of this phenomenon. The paper addresses two questions in this respect.

1. What makes cash so attractive to certain consumers? The paper argues that cash has a "memory function" and some consumers use cash as a means to better monitor their expenses, i.e. to control their remaining and future remaining liquidity or budget.

2. Who are these consumers heavily relying on cash? The authors say that keeping track of liquidity via cash use is a strategy adopted mainly by those consumers who have a liquidity constraint and need to monitor their expenses closely. These consumers typically have limited information processing capabilities and need a quick and practical way to check their residual budget. For these "pocket watchers" cash is an attractive alternative to electronic payments, as a glance in their pocket immediately and easily informs them of their remaining cash.

The proposed theoretical model was tested using detailed data on payment and cash withdrawal behaviour of German consumers, drawing on the 2008 survey "Payment Habits in Germany" carried out by Ipsos on behalf of the Deutsche Bundesbank. The survey included 2,292 interviews and allowed detailed information to be recorded on more than 25,500 transactions on the basis of a payments diary kept by participants in the seven days after the initial interview.

The estimation results confirmed the model's testable assumptions that, compared with other consumers, pocket-watchers on average (i) use cash more intensively (ii) withdraw cash less often and for higher amounts, and hence hold larger cash balances (iii) tend to use payment (debit) cards only for payments of a relatively higher amount and (iv) hold fewer payment cards. The authors concluded that while the liquidity monitoring function of cash may not be the only explanation for cash use persistence, the evidence on pocket-watchers helps to explain resistance to adoption of cheaper payment instruments which may be (or be *perceived* as) more costly in terms of information processing for the purpose of liquidity monitoring. Finally, the authors found support for the pocket-watching hypothesis in the analysis of the data correlation structure. Some results – as the expected sign of the correlation between the cash share of the total payments made and the withdrawal frequency – held true also when tested on data available from (partly) similar surveys carried out in Austria and in Italy. The latter result suggests that pocket-watching as a rational strategy to monitor remaining liquidity may not necessarily be typical of German consumers but could represent a broader phenomenon among certain (i.e. information and budget-restricted) consumers.

The second paper, "Will that be cash, debit, or credit? How Canadians pay", was presented by **Kim P. Huynh** (Bank of Canada) and co-authored by as Carlos Arango and Leonard Sabetti (Bank of Canada). The focus of this paper is on consumers' payment choices at the point of sale. In Canada credit and debit card use has grown rapidly, but cash remains predominant for lower-value transactions (those below CAD 25). Understanding consumers' payment choices at the point of sale (and the switching patterns among alternative payment methods) is thus relevant for the central bank, for instance to enable it to anticipate the demand for cash relative to alternative payment instruments, also in the light of financial innovations. More specifically, the paper investigates the effect of three types of factor on the probability of cash, a debit card or a credit card being used, i.e.:

(i) *consumer socio-economic characteristics* (e.g. income, age, education, employment status, marital status);

(ii) *attributes of the payment instruments*, both in terms of consumer perceptions (e.g. ease of use, acceptance, record keeping, risk of fraud, counterfeiting and theft, cost) and in terms of conditions of use (e.g. portfolio features, monthly and transactions fees, participation in a reward programme or revolving credit programme);

(iii) *transaction features* (value, type of purchased good, day of the week, acceptance at point of sale, top reasons for choosing the specific payment method.

The authors employed a discrete-choice multinomial logit model estimated on micro data from a sample of participants in the Method of Payment survey commissioned by the Bank of Canada in 2009. The survey data were obtained from a detailed questionnaire complemented by a three-day diary compiled either in computer-based form (online diary, which was optional) or in paper form (offline diary, which was intended to capture (also) the segments of the population without internet access). The dataset used for the study was a sub-sample of the original survey and combined the information obtained from the online and offline questionnaires and transactional data covering 2,352 diaries and 10,368 transactions.

The main results of the analysis are, first, that above the threshold of CAD 25 (up to which cash is predominant), consumers use both debit and credit cards without a clear dominance of one type of card over the other, a result which contradicts the common view that Canada is a debit card-intensive economy. Second, portfolio effects are strong, as shown by the "use commitment" effect of fees. For instance, a credit card fee increases the probability of the card being used by 5%, while a monthly debit card fee and unlimited free transactions increase the probability of the debit card being used by 10%. Credit card rewards also play a significant (positive) role in the probability of using the card. On the other hand, this effect is muted if the user is revolving the credit card debt instead of paying it in full. In this respect, the authors also investigate the relationship between card use and participation in reward programmes, where the reward is usually linked to the value of the payment. For this purpose they define various measures aimed at capturing the pattern of substitution.

- First, they calculate an *extensive margin* (which captures the difference in the predicted probability of a credit being used card when a reward programme is introduced, keeping all other characteristics such as the consumer profile and the transaction value equal) and an *intensive margin* (which reflects the change in the extensive margin with a marginal change in transaction value). Based on the assumption that rewards are on average 1% of the transaction value (a measure in line with the market practices of Canadian financial institutions) and taking a marginal transaction value change of CAD 1, the authors' computations show that rewards' extensive and intensive margins are small at transaction values of below CAD 25 (a segment in which consumers prefer cash to cards). However, as transaction value increases above CAD 50, the positive effect of rewards on credit card use is relatively high, with the increase in the credit card market share taking place at the expense of debit cards.

- Second, they propose a discrete approximation of credit card reward elasticity. Reward programmes vary by financial institution and type of card. According to the authors' computations of the elasticity for different transaction values between CAD 5 and 125, substitution patterns imply that, on average, for a 10% increase in the dollar value of rewards the probability of the credit card being used increases by not more than 1.2%. These elasticities highlight that the effect of rewards on credit card usage is inelastic.

Finally, the authors find that, among the point-of-sale factors influencing the payment choice, cash is preferred by consumers when they perceive either debit or credit cards not to be welcome, and for certain types of purchase (e.g. entertainment).

Among consumers' perception factors, results show that Canadian consumers prefer using debit cards to cash when security is an important element. By contrast, cash is preferred when the speed of the payment is important and when the consumer has a fear of overspending (a result that interestingly confirms the reliance on cash by some financially constrained users, which was addressed in the previous paper).

The discussant for both papers was **Heiko Schmiedel** (European Central Bank). He praised the two papers, which he found were complementary in investigating consumers' choices in different cultural backgrounds and in the light of non-monetary incentives.

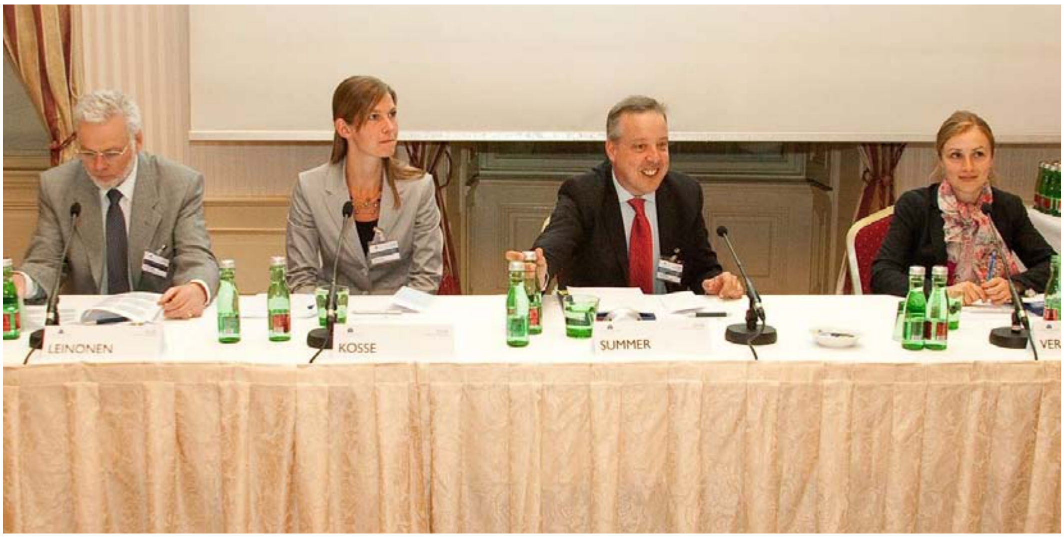
As regards the first paper, the discussant noted that interesting points for reflection could be, first, the interest of central banks in understanding the implications of such preferences for cash for the wider efficiency of retail payments. Second, from a methodological point of view, he suggested that the pair-wise testing of the correlation of variables on the basis of data from Austria and Italy (two countries where the use of cash is high, similar to the German market) could be extended, subject to data availability, to countries with a less cash-focused economy (e.g. the Netherlands or some Scandinavian countries). Third, he suggested analysing how alternative cashless payments rank in terms of "pocket watching", easiness of use or capabilities. Fourth, he saw some limitations of the "pocket watcher" argument, as financially constrained consumers would need to monitor all and not only cash-related expenses. These consumers would qualify as "account watchers" rather than "pocket watchers". Finally, he recommended expanding the paper's conclusions by reflecting on the implications of pocket-watching behaviour for financial innovation (e.g. the potential for developing more sophisticated services relating to cashless payments to meet the expenses-monitoring needs of consumers).

As for the second paper, the discussant noted some limitations in the underlying data survey which in his view could be considered for future surveys. For example, three-day diaries may not capture certain relevant day-of-the-week effects, which could be investigated by extending the survey to a full week. Furthermore, combining online and offline survey results may in his view overlook relevant differences in payment behaviour between users comfortable with technology and more traditional users. Turning to the econometric analysis, he further suggested considering a nested logit model to relax the assumption of proportional substitution patterns in discrete choice models. Next, pointing to the paper's result that the use of revolving credit dampens the positive impact of reward programmes on the use of credit cards (owing to the card being used more for its consumption smoothing function than purely for its payment function), he proposed considering a similar effect for debit cards, which may also be supported by account overdraft facilities (a feature that is common in some countries). Finally, he suggested developing the discussion of the policy context surrounding the pattern of substitution among payment instruments by, for instance, looking at the implications of the paper's findings for surcharging, interchange fees and pricing as factors steering consumers' choices.

In the ensuing discussion, a number of comments were made by the audience. First, it was noted that both papers present evidence pointing to elements playing a role in consumers' rational choices, an academic topic of practical relevance for both consumers and the payment industry. However, it was also observed that the rationality of this choice is often limited by supply-side constraints. For example, it is not uncommon that even when merchants accept various payment methods in principle, in practice they may explicitly discourage the use of certain payment options. Another way the rationality of the consumer's choice could be negatively affected is that consumers are not explicitly charged a fee reflecting the higher costs of cash handling compared with more efficient cashless payments. In this respect, it was suggested that it may be useful to investigate how consumers rank cash and cashless payment options in terms of their (perceived) costs. Second, the emergence of payment-accessory services in some countries shows how the adoption of more efficient cashless payments could be supported by innovation: examples are mobile telephone text messages confirming to the user the execution of a payment (but not yet the remaining account balance), or the diffusion of card readers that the consumer can use to verify the residual credit line. Third, as regards the finding that cash remains predominant for payments of low value it was noted that in some countries the existence of fees for electronic transactions below a certain threshold may also play a role. However, because cash use is also persistent in countries (such as Germany) where such fees do not exist, it was suggested that the academic debate could benefit from a deeper analysis of the determinants of cross-country differences and similarities in the adoption of payment instruments.

5 CREATING A COMPETITIVE RETAIL PAYMENTS MARKET

5.1 TRUST IN PAYMENT SYSTEMS AND THE IMPLICATIONS OF FRAUD – ACADEMIC SESSION



From left to right: Harry Leinonen, Anneke Kosse, Martin Summer, Marianne Verdier

The academic session on trust in payment systems and the implications of fraud was chaired by **Martin Summer** (Oesterreichische Nationalbank).

In their paper "Fraud, Investments and Liability Regimes in Payment" **Marianne Verdier** (Université Paris Ouest Nanterre) and Anna Creti (Université Paris Ouest Nanterre and Ecole Polytechnique) analyse how liability regimes (be they established by regulation or by the private sector itself) affect the merchant's and the payment platform's incentives to invest in the prevention of fraud with electronic payment instruments. A payment platform is defined in their paper as the platform which organises the interaction of payments between merchants and consumers. The model developed by Verdier and Creti shows that a profit-maximising payment platform will choose a level of liability for merchants which reflects a trade-off between minimising the expected loss as a result of fraud and maximising the transaction volume. According to their model this will mean that if consumers bear no liability for losses as a result of fraud, payment platforms will let the merchant bear the full liability. However, from a welfare maximisation point of view this is not optimal, since there would be no incentive for the payment platform to invest in fraud detection. The model also shows that in a monopolistic situation payment platforms could use liability regimes to generate extra profits from merchants. One of the lessons that can be learnt from the paper is that even though regulators could regulate the interchange fees that the merchant's acquirer has to pay to the card issuer, the payment platform is still able to influence the costs of the electronic payment instrument for the merchant by changing the liability regime.

The discussant of the paper, **Harry Leinonen** (Bank of Finland), said that the work shows how difficult it is to model the behaviour of all stakeholders in the payment process. As an example he mentioned the migration from the magnetic stripe to the EMV chip, which will only be accomplished if the right incentives are set for all stakeholders in the payment chain. One of his comments on the paper was that it does not distinguish between the types of merchant, although it is evident that a large e-commerce retailer will take different investment decisions on fraud prevention and will react differently compared with a small kiosk retailer. During the discussion with the audience it was noted in this respect that the different types of merchant will also respond differently to liability shifts. Further, Mr Leinonen remarked that if the paper assumes monopolistic situations, it should acknowledge that monopolies do not determine their prices on the basis of costs. This would mean that the cost of fraud in monopolistic situations is less relevant. He also noted that although the paper assumes that the merchant bears the costs of fraud, ultimately the consumer always pays for all the costs related to fraud and investments in fraud prevention. He said that in this regard the social planner's point of view and the consumers' point of view should be the same. During the discussion it appeared that in reality merchants may not want to adopt fraud prevention measures proposed by the payment platform because they are concerned that these technological measures may prevent consumers from buying their products.

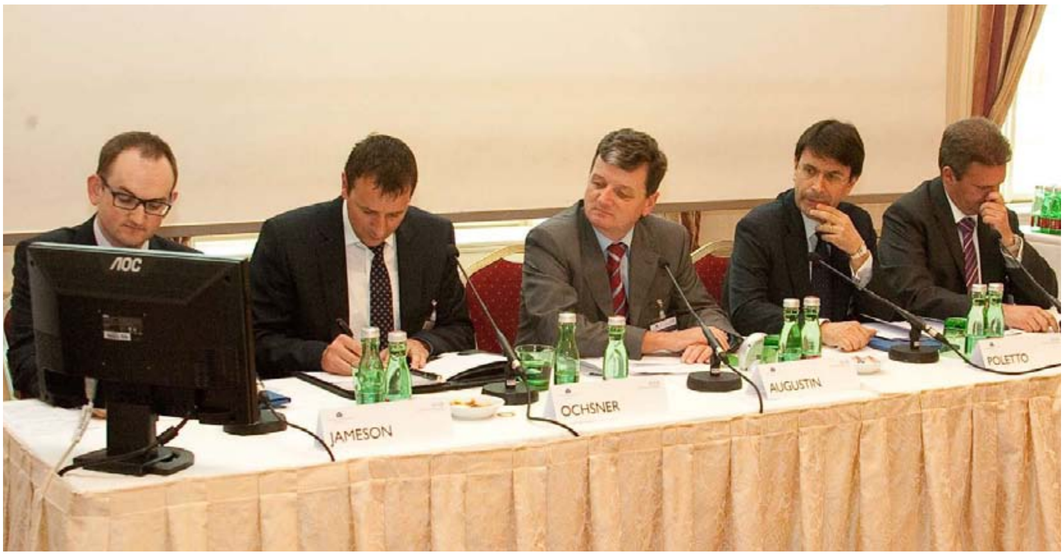
Overall the paper was appreciated as it contributes to a better understanding of the impact of liability regimes on the interests of the various stakeholders in the payment process.

In her paper **Anneke Kosse** (De Nederlandsche Bank) investigates the impact of newspaper articles on skimming fraud on the use of debit cards in the Netherlands. For her research Ms Kosse counted and analysed Dutch national and regional newspaper articles on skimming fraud at automated teller machines (ATMs) and at point-of-sale (POS) terminals from 1 January 2005 to 31 December 2008. The data on the newspaper articles were compared with daily debit card transaction data, broken down by zip code, covering the same period. In order to address the variability in the debit card usage, the debit card data were corrected for calendar and holiday effects, as well as for the effects of rainy days.

The results of the study show that newspaper articles on skimming fraud do impact debit card usage, but only to a limited extent and for the period of one day. The impact for articles on fraud at POS terminals is different from that for articles on fraud at ATMs. In the long-term equilibrium debit card payments are 1.2% lower on days when newspaper articles on skimming at POS terminals are published. Interestingly, the effect of newspaper articles on skimming at ATMs was found to be positive, in the sense that in the long-term equilibrium debit card payments increase by 1.1% the day after a newspaper article on skimming at ATMs is published. It seems that articles on ATM skimming deter some people from withdrawing cash at an ATM and they use their debit card instead of cash, but only for one day after the event. Ms Kosse found no evidence that news on skimming in a certain city has a different impact on the payment behaviour in that city from that at the national level.

In his review of the paper the discussant, **Harry Leinonen** (Bank of Finland), said that the model that was used in the study to analyse fluctuation in POS and ATM usage was very interesting and should be exploited further. He was, however, somewhat sceptical on the causality found between the newspaper articles on skimming and debit card usage, given that only 3 out of 1,000 inhabitants in the Netherlands would have changed their behaviour for one day as a result of the newspaper articles on skimming. He noted in this respect that also other news (such as on cash robberies) or weather factors (such as temperatures and sunshine) could have influenced consumers' payment behaviour. The most important aspect mentioned by Mr Leinonen and repeated during the discussion was that it would be interesting to analyse the impact of news on skimming on those consumers who do not use debit cards, and to determine the extent to which such news prevents them from starting to use cards. In her answer Ms Kosse explained that this could not be taken into account in the study, which analyses payment behaviour at a macroeconomic level. However, earlier studies based on surveys have shown that people who are more concerned about the security risks associated with cards tend to use more cash.

5.2 CUSTOMERS' BENEFITS FROM AN INTEGRATED RETAIL PAYMENTS MARKET AND THEIR READINESS FOR CHANGE – PRACTITIONERS' SESSION



From left to right: Peter Jameson, Daniel Ochsner, Stefan Augustin, Luca Poletto and Mark Roemer

This panel – chaired by **Stefan Augustin** (Oesterreichische Nationalbank) – brought together the views of two companies operating major payment factories, i.e. Würth Finance and Global Transaction Bank Siemens Financial Services and two important commercial banks, i.e. Bank of America Merrill Lynch and BNP Paribas. Mr Augustin started the session by saying that there is still a lack of SEPA awareness, for which reason SEPA instruments – as measured by the SEPA indicators – are so far barely used by public administrations, companies and consumers. Therefore more communication on the SEPA project and its benefits for stakeholders is important. It is expected that the creation of SEPA will increase consolidation among European banks and payment processors, owing to the fact that the payments industry is a volume-driven business relying heavily on economies of scale. The aim of this panel was a discussion of the extent to which banks and globally operating companies have already gained the benefits of SEPA and where they see potential for further improvement.

Peter Jameson (Bank of America Merrill Lynch) was of the opinion that SEPA migration is an important first milestone in a long journey towards a truly integrated single market and the advantages that accrue from it. Corporate clients have seven major expectations from SEPA: first and foremost harmonisation, followed by centralisation, standardisation, geographical reach, competition, security and full end-to-end straight through processing. As regards the perceived lack of user readiness for SEPA, Mr Jameson was not surprised that, in the absence of legislative pressure, adaptations were not progressing as expected by public authorities. Therefore a regulation with specific deadlines would help all relevant stakeholders to focus their minds and reduce the uncertainty about timing. The payments industry has been successful in ensuring that SEPA is "the best of breed", but as soon as SEPA migration end dates are decided a much greater communication effort will be needed to explain to customers how they can take advantage of SEPA. Among corporations it is recognised that SEPA has generated immediate cost savings, as regards fees for cross-border payments as well as lower investment costs for technology platform updates. Mr Jameson is pleased that the interest in SEPA seems to be returning, as companies are getting slowly back to normal business after the economic crisis. He expects that companies and banks will work much closer together to ensure the success of SEPA in the months to come.

Luca Poletto (BNP Paribas) expects that more and more companies will thoroughly analyse their payment (initiation) value chain with special focus on the potential for rationalisation, streamlining and optimisation. As a consequence banks will be forced to continuously improve and enhance their services. But banks will not only face pressure from the demand side, competition on the supply side is likely to increase as well. The Payment Services Directive makes it a lot easier for newcomers to enter the payments market with innovative services and/or low cost service platforms.

While the migration of the SEPA credit transfer (SCT) is slowly but surely progressing, the SEPA direct debit (SDD) has not taken off yet. For Mr Poletto, the reason for this is a combination of several factors: the greater complexity of direct debit products compared with credit transfers, the concern among a number of customers as regards the reachability of the debtor's bank as well as the need for companies to implement new mandate management tools. It goes without saying that the migration to SDD will be less difficult in those countries where the legacy direct debit scheme is similar to the SDD scheme. BNP Paribas helps its customers to evaluate their rate of operational readiness to migrate to SEPA (e.g. with check-lists). In addition, customers are encouraged to evaluate how beneficial a migration would be for their organisation (e.g. the potential cost reduction). According to Mr Poletto, a close collaboration between companies and banks as well as strong sponsorship and commitment on the part of all in-house stakeholders (IT, treasury, etc.) will be important factors for a smooth and successful migration. BNP Paribas offers its SEPA services in 22 European countries and tries to actively support its customers' SEPA migration.

Daniel Ochsner (Würth Finance) stated that, in view of the SEPA initiative, Würth Finance had already optimised its payment factory some years ago. As a result of these optimisation efforts, it had been able to reduce its IT support and administration costs as well as its banking fees by up to 50 %, which corresponds to an annual cost reduction of about €100,000. In Mr Ochsner's opinion SEPA is a perfect opportunity for companies to improve their payment factory, upgrade systems, optimise processes, standardise payment formats and consequently decrease costs significantly. As Würth Finance is "SEPA ready", companies of the Würth group are benefiting from the possibility of executing SEPA payments via Würth's payment factory without major SEPA migration investments. Payment centralisation within Würth Finance has increased its bargaining power vis-à-vis banks as a result of higher volumes and increased flexibility to switch to a new banking partner. However, SEPA also creates challenges, and according to Mr Ochsner it remains to be seen whether small, locally operating companies are able to benefit from SEPA, as the migration can lead to high investment costs (IT resources, administrative burden, etc.). Another challenge Mr Ochsner sees is the tendency of different communities to introduce variants of the SEPA formats at a national level, which could undermine the standardisation efforts. For Mr Ochsner some challenges are still to be solved, e.g. the SEPA migration end date as well as companies' unreadiness for change due to crisis-induced reductions in IT budgets.

Mark Roemer (Global Transaction Bank Siemens Financial Services) explained the SEPA experience within Siemens. The Siemens group holds in total 750 bank accounts within the euro area. For payment execution it currently uses local payment and clearing systems and EDIFACT as the standard payment format for communication with banks. Siemens's strategic objective would be to hold only one account for all its euro payments, which could trigger substantial cost savings (e.g. as regards account fees, communication interfaces, one-off implementation costs, operational risk and complexity of the payments value chain). SEPA can be seen as the enabler and driver of this optimisation vision. In principle Siemens is ready for change, but beforehand certain issues have to be resolved to allow it to maintain its operational quality in the SEPA world. From a customer's perspective, Mr Roemer criticized the fact that SEPA credit transfers above €50,000 are often still subject to high cross-border charges. Moreover, the implementation of the IBAN and BIC in certain countries is still lagging behind, and public administrations often require local accounts (e.g. for tax payments). Mr Roemer is convinced that SEPA is the right way forward, and that it can provide huge benefits for Siemens. With reference to the migration end date regulation, Mr Roemer pointed out that clear guiding principles are needed in order to avoid a series of legacy formats being simply defined as niche solutions.

Finally, he said that, for companies like Siemens and Würth, competition between banks is of course beneficiary. However, banks should compete on products and services and not on different technical standards.

During the questions and answers session the panellists representing corporate customers said that for their respective companies online e-payments are less important, owing to their focus on business-to-business, but e-invoicing is a key issue for both companies. It was discussed whether innovation is an issue that is sometimes neglected by banks and which is mainly tackled by other institutions. Mr Jameson agreed that this was the case and emphasised that it is important to look beyond SEPA migration and to also focus on the more innovative parts of the payments value chain. Mr Poletto added that cooperation and competition are prerequisites for innovation. As SEPA will foster competition it is more than likely that this might also enhance innovation. Direct debits are less relevant for Würth and Siemens. In general the SDD is likely to become relevant in those countries where consumers are already very much direct debit-oriented. Companies see the need to adapt the existing SCT in order to better meet the requirements of business-to-business payments.

5.3 CARD PAYMENTS, NETWORK EFFECTS AND SURCHARGING – ACADEMIC SESSION

From left to right: Özlem Bedre-Defolie, Nicole Jonker, Cornelia Holthausen, David Henriques

Cornelia Holthausen (European Central Bank) chaired the academic session on card payments, network effects and surcharging. The main question for this session was whether a surcharge rule is desirable or not.

The first paper, "To surcharge or not to surcharge? A two-sided market perspective of the no-surcharge rule", was presented by **David Henriques** (Stern School of Business, New York University) and co-authored by **Nicholas Economides** (Stern School of Business, New York University). The paper uses a three-party model (consumers, merchants and proprietary electronic payment networks) to analyse the impact of a no-surcharge rule on the electronic payment system and, in particular, on competition among electronic payment networks, network pricing to merchants and consumers, electronic payment networks' profits and social welfare. The no-surcharge rule imposes on merchants the requirement to charge the same final good price regardless of the means of payment chosen by the customer. The theoretical model does not distinguish between each type of payment card (debit, credit or prepaid).

The analysis of the elasticity shows that i) the platform's profit maximisation problem can be decomposed into two steps: setting the total fee level and setting relative fees, ii) consumer demand for payment services becomes less elastic with respect to merchant fees under the no-surcharge rule, and iii) the absence of surcharge variations among electronic payment networks holds back network competition, resulting in higher total fee levels.

In addition, the paper shows that the no-surcharge rule rebalances the relative fees in favour of cardholders and against the merchants. It also investigates under which circumstances the no-surcharge rule is a profitable strategy for electronic payment networks. One finding is that a no-surcharge rule strategy increases electronic payment networks' profits only if the cross-group externality exerted by merchants on cardholders is sufficiently weak. The no-surcharge rule inflates merchant fees, decreasing merchant demand for electronic payment networks. Therefore, if the cross-group network effect is strong, consumer demand and by implication electronic payment networks' profits will both sharply decrease.

According to the authors, imposing a no-surcharge rule has a number of effects. First, it softens competition among electronic payment networks and unbalances the fee structure in favour of cardholders and to the disadvantage of merchants. Second, a no-surcharge rule seems to be a profitable strategy for electronic payment networks only if the network effect from merchants to cardholders is sufficiently weak. Third, a no-surcharge rule is socially (un)desirable if the network externalities from merchants to cardholders are sufficiently weak (strong) and the merchants' market power in the goods market is sufficiently high (low).

The resulting policy advice is that regulators should decide on whether a no-surcharge rule is appropriate on a market-by-market basis instead of having a uniform regulation for all markets.

The second paper, "Card acceptance and surcharging: the role of costs and competition", was written and presented by **Nicole Jonker** (De Nederlandsche Bank). The aim of this study is to gain insight into the factors influencing merchants' acceptance and surcharging decisions, using survey data collected among 1,008 merchants in the Netherlands in 2007. In this year 70% of the retailers in the Netherlands accepted debit cards; every fifth debit card accepting retailer in the Netherlands surcharges debit card transactions below a threshold of €10.10 (average surcharge: €0.24). Only 28% of retailers accepted credit cards, of which 13% surcharged credit card transactions. Thus a significant share of merchants do surcharge debit card payments.

The expectation is that in countries where consumers mainly use cash and debit cards at the point of sale, a further substitution of cash by debit card payments could bring considerable economic benefits for society as a whole. Moreover, it is assumed that such a substitution would be favoured by higher card acceptance at points of sale and a reduction of surcharging by merchants.

The paper derives four hypotheses related to the influence of transaction costs and the effect of competition on card acceptance and surcharging. According to the author, merchants are sensitive to the cost of accepting card payments, especially fixed costs. The statistical analysis supports the results from the theoretical literature, suggesting that if card acceptance increases average unit transaction costs, merchants will be less likely to accept cards (hypothesis 1) or become more likely to surcharge their customers for using them (hypothesis 2).

The paper assumes that the possibility to surcharge has fostered card acceptance among Dutch merchants that would otherwise not accept card. Surcharging may therefore lower the barrier to card acceptance for merchants.

The results also reveal that costs are not the most important factor explaining merchants' acceptance and surcharging decisions. Competition seems to be at least as important. The effect of competition on card acceptance in the Netherlands depends on the type of card. Having moderate competition compared with having monopoly power encourages merchants to accept debit cards (hypothesis 3a), and to accept them without surcharging (hypothesis 4a). In a perfect competitive market Dutch merchants also become more likely to accept credit cards (hypothesis 3b). Merchants that are local monopolists and accept debit card payments surcharge their customers significantly more often than merchants who face at least moderate competition. They use surcharging as a way to extract as much consumer surplus as possible from card holders. The levels of the surcharge fee and the threshold they use support this conclusion. The "no-surcharge" rule which some card companies impose on merchants is under pressure from regulators and competition authorities. The results suggest that lifting this rule might stimulate specific merchants to start accepting payment cards and might increase card use among consumers.

The paper finds empirical support for the predictions of economic theory with regard to the effects of costs and competition on card acceptance, i.e. that a decrease in unit transaction costs increases card acceptance and leads to less surcharging (in the case of debit cards), and that competition affects card acceptance and surcharging decisions. These decisions seem to depend on the type of card as well as on national peculiarities. In the Netherlands, the possibility of surcharging debit cards seems to have stimulated card acceptance among merchants that would otherwise not have accepted them. However, if regulators consider limiting the use of surcharges legally, the author advises balancing the advantages and disadvantages of such a measure carefully and taking into account the possible impact on the pricing decisions of acquiring banks, the card acceptance decisions of merchants and the payment behaviour of consumers.

The discussant for both papers was **Özlem Bedre-Defolie** (European School of Management and Technology). She summarised the main findings of both papers and commented on the research done. With regard to the paper presented by **David Henriques**, the discussant pointed out that a no-surcharge rule has no impact on the retail price for cash users, implying that under a no-surcharge rule merchants do not pass through card acceptance costs to the cash price. In addition, the paper assumes that a no-surcharge rule has no impact on the merchants' card acceptance conditions, an assumption that should be further examined. The discussant argued that two issues need to be distinguished: one is that surcharging has an effect on card usage and that there is price discrimination with respect to the type of payment. The other is the merchants' cost pass-through that exists even under a no-surcharge rule.

Regarding the paper by Ms Jonker, the discussant noted that merchants who surcharge card payments might overstate their costs from card payments to justify the surcharging. She added that including market power as an explanatory variable might improve the identification of competition effects versus sector effects.

With regard to the different sectors analysed, she noted that fuel stations sell homogeneous goods, whereas fashion stores might be highly differentiated, and therefore the results are not easy to compare. In addition, she proposed including the merchant size and type (independent/chain) as explanatory variables. For example, independent merchants more likely to find fixed costs of debit cards high than chain stores. Small-sized merchants are more likely to find variable costs of debit cards high than larger merchants.

A number of comments were made by the audience. With regard to the second paper, it was noted that the costs of cash are not considered. The author confirmed that merchants sometimes overlook cash costs as they focus on the fees paid to other parties. In addition, the discussion focused on the potential consequences of surcharging in countries where card usage is still low and whether a surcharge could negatively affect card usage.

5.4 ROLE OF CENTRAL BANKS IN RETAIL PAYMENT PROCESSING: COMPETITOR, FACILITATOR OR PARTNER FOR COOPERATION? – PRACTITIONERS' SESSION

From left to right: Günter Ernst, Gerard Hartsink, Wiebe Ruttenberg, Gian Bruno Mazzi, Matthias Schmudde, and Coen Voormeulen

Wiebe Ruttenberg (European Central Bank) chaired this practitioners' session, which brought together representatives of national central banks, privately owned clearing houses and a multinational bank. He introduced the topic by referring to the fourth SEPA Progress Report, which had already stated in 2006 that "The ultimate objective of the SEPA in this field [retail payment clearing and settlement infrastructures] is threefold: first, retail payment systems have to be able to process the SEPA instruments and to be fully interoperable; second, existing market infrastructures should consolidate in order to exploit economies of scale; and third, modern technology should allow further cost reductions to be made. It is expected that, as a result, the number of retail payment clearing and settlement infrastructures and the costs related to their services will decrease substantially."

While some progress on reachability and interoperability has been made, the consolidation process is by far slower than originally expected, and many clearing services are still focusing on national markets. For cross-border transactions, these clearing services often cooperate bilaterally. Not only has consolidation been slow; some communities have even decided to start new clearing services from scratch, in some cases with central banks acting as facilitators and/or operators. The panellists were asked to reflect on the current situation and the developments in the field of clearing in the next ten years.

Gerard Hartsink (ABN AMRO Bank) expressed his surprise at this development, since rule books for SEPA payment instruments are in place and the migration to SEPA has already started. He is of the opinion that legacy payment instruments should be phased out, which would technically not be a problem. Public authorities (including national central banks) should only become actively involved in clearing in case of market failure – which is not the case in Europe. From an individual bank's perspective, three factors are crucial for the decision on outsourcing of payment services: cost, risk and especially customer service. Apart from the possibility of outsourcing payment services to clearing houses, small banks could also consider seeking partners among the bigger commercial banks. Outsourcing might help to solve the problem that many banks are still not able to ensure SEPA-reachability despite having signed the adherence agreements. For Mr Hartsink, market pressure might not yet be strong enough to trigger considerable consolidation in the payment services market, but in the medium term three clearing houses seems to be a likely outcome for Europe. When looking at the payments value chain, central banks are important for the settlement part; the core clearing service itself could offer huge consolidation potential. Bilateral links between clearing services might not be the best way forward to meet the challenges of the coming decade, e.g. SEPA migration by 2014 and innovative payment solutions. For Mr Hartsink it is obvious that at present competition policy is more important in Europe than integration policy, which makes it difficult for banks to agree on a joint approach on innovative services.

Günter Ernst (GSA – Geldservice Austria) confirmed that Austria is one of the countries in which a new clearing service is currently being set up – an initiative supported by the vast majority of Austrian commercial banks. The Oesterreichische Nationalbank is acting as enabler for the establishment, and from November 2011 GSA will act as operator. In comparison with the current situation in Austria, in which payments are mainly exchanged bilaterally, the clearing service should facilitate settlement in central bank money, reduce banks' exposure due to netting, increase security and facilitate monitoring. As a result, total savings of between €9 and 14 million are estimated for participating banks. The Austrian clearing service has no intention of becoming a pan-European solution, since cross-border transactions can be processed efficiently via bilateral links and/or EBA Clearing's STEP2. National central banks can play an important facilitating role in overcoming the still existing technical fragmentation, and SEPA could induce harmonisation and consolidation in the next ten years.

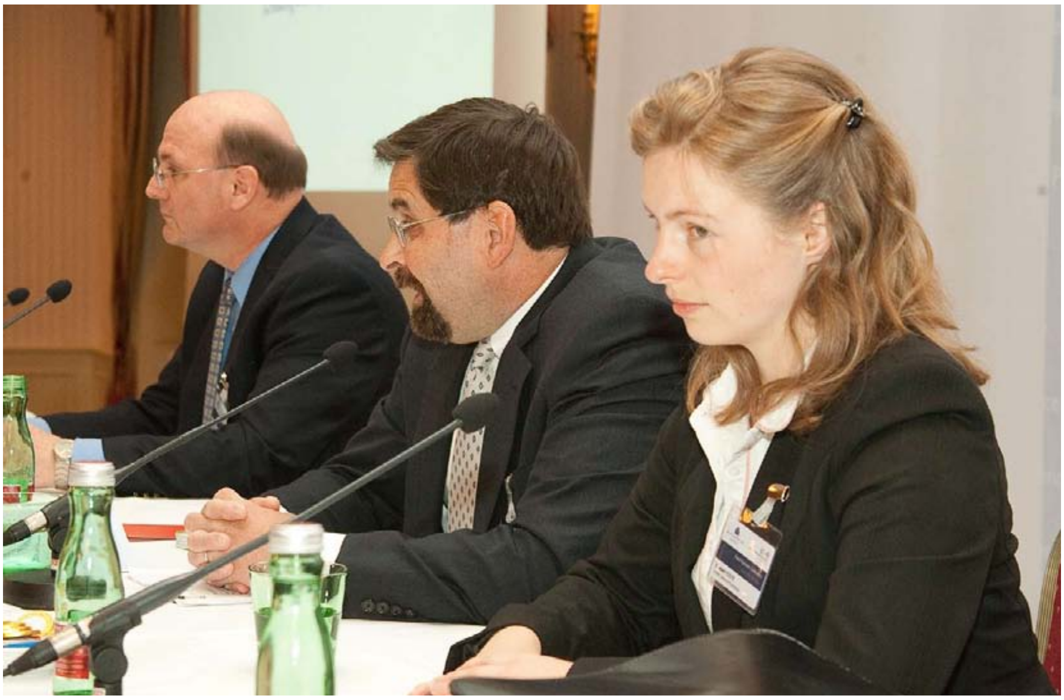
Gian Bruno Mazzi (SIA-SSB) highlighted the fact that SIA-SSB is in fact the result of a merger. Nevertheless, there are two further privately owned clearing houses in Italy, as well as the Banca d'Italia's clearing service for the processing of the public administration's payments. For him, national central banks should – as defined in their statutes – ensure the smooth functioning of payment services.

They can fulfil this requirement by acting as an overseer, catalyst and/or operator. While Austria is an interesting case study for a public-private joint venture, other countries do not have national clearing houses at all (e.g. Ireland). Owing to the fact that the core clearing service only accounts for 5-10% of the whole payments value chain, service providers have to offer additional services on top of the core clearing and settlement. Without doubt there is still a large over-capacity as regards clearing services in Europe, and national clearing houses will not be able to realise the same economies of scale as big, pan-European clearing service providers. In addition, the model of bilateral links between clearing services is too complex owing to the high number of connections needed, for which reason a centralised clearing platform seems to be the best solution in the medium to long term.

Matthias Schmudde (Deutsche Bundesbank), representing a national central bank active in the field of retail payments processing, explained the role of the Deutsche Bundesbank as operator of the only German clearing house. The Deutsche Bundesbank has been participating in the pan-European STEP2 service since 2003 and has established bilateral links to several other European clearing houses. While Mr Schmudde is of the opinion that SEPA will finally lead to a certain degree of consolidation, he has doubts that a "one size fits all" approach, i.e. forbidding national clearing houses, would be feasible or reasonable. When it comes to the question of who should operate clearing services, there is no reason why central banks should not fulfil this role as long as oversight is strictly separated from operations and the principle of cost recovery is fulfilled. For Mr Schmudde, bilateral clearing, interoperability links and Europe-wide clearing solutions will continue to exist in parallel in the years to come.

Coen Voormeulen (De Nederlandsche Bank), as a representative of a national central bank without active involvement in retail payments processing, referred to the Dutch situation, which has considerably changed in the past 20 years. 20 years ago two Dutch clearing service companies were operational; however, without providing interoperability and at the cost of low efficiency. As a result of a consolidation process there is now only one clearing house active in the Netherlands, while efficiency has considerably increased. For Mr Voormeulen, this is evidence that consolidation can have positive and private companies should operate clearing services because they tend to be more efficient. A small number of clearing services, offered by the private sector, would be sufficient for Europe. This would make the role of public authorities (including national central banks) even more important, since also in this case effective interoperability and the introduction of standards are essential to overcoming technical obstacles, which could again trigger further consolidation. For the time being interoperability is still to be improved, for example De Nederlandsche Bank acts as intermediary for the link between Equens and STEP2. In the medium term the need for De Nederlandsche Bank's involvement should cease, and in the long term interoperability as such should become obsolete, since the remaining clearing services would compete at the European level with each other.

5.5 CARD PAYMENTS, HOUSEHOLD FINANCE AND INTERCHANGE FEES – ACADEMIC SESSION



From left to right: Scott Schuh, Stuart E. Weiner and Elizabeth Foote

Stuart E. Weiner (Kansas State University) chaired the session on card payments, household finance and interchange fees. The first paper, "Who gains and who loses from credit card payments? Theory and calibrations", was presented by **Scott Schuh** (Federal Reserve Bank of Boston) and co-authored by Oz Shy (Federal Reserve Bank of Boston) and Joanna Stavins (Federal Reserve Bank of Boston).

The study aims to prove the existence of a welfare transfer in the United States due to the use of credit cards and related reward programs. For the paper a structural model of a simplified representation of the US payments market was constructed to show consumer payment choice. It was calibrated with US micro data on consumer credit card use and related variables. The three main parties are households, merchants and banks. The term "banks" includes issuers and acquirers of payment cards, and card companies. The authors used an accounting methodology to calculate two types of implicit monetary transfer: 1) the transfer between cash buyers and credit card buyers and 2) the transfer between low-income and high-income households. The results for both types seem to be economically significant and robust to changes in the assumptions made. It is assumed that all households pay the same price for an available product, i.e. there is no difference between cash and card buyers. "Cash" includes all payment instruments other than credit cards. Moreover, the retail price includes the full merchant fee, and the rewards to card users are not funded via banks' revenue from borrowing activities.

The results indicate that every year there is a monetary transfer, of USD 50 on average from cash-using households to card-using households. Therefore, each card-using household receives an average premium of USD 240 from cash users. There are also differences between convenience and revolving credit card users, the latter subsidising the former (revolvers USD -511 and convenience USD 833). In addition, low-income households pay USD 83 and high-income households receive USD 361. Credit card spending and rewards are positively correlated with household income, and there is evidence for a regressive transfer from low-income to high-income households, considering a pass-through rate for the merchant fee of above 50%. For public policy purposes, several possible recommendations are made, such as "cost-based pricing", i.e. charging differential prices according to the use of the payment instrument, and the provision of full information on fees and related costs. Furthermore, a possible redistribution to compensate the low-income households, increased competition from alternative payment instruments, and regulating fees and rewards could bring possible improvements for the overall welfare situation.

The second paper, "Consumer credit and payment cards" was presented by **Elizabeth Foote** (London School of Economics) and co-authored by Wilko Bolt (De Nederlandsche Bank) and Heiko Schmiedel (European Central Bank). The main research question of this paper is: how does the provision of consumer credit affect pricing of debit and credit cards? As in the first paper, a model of payment cards was developed comprising three types of agent – consumers, merchants and payment network providers – and two different business models for consumer credit. Credit is offered through debit cards via an overdraft on a current account, or through credit cards via a credit line including a grace period. In this model "payment network providers" stands for the banks, which are issuer and/or acquirer of credit cards, and infrastructure providers. The paper analyses the impact of the decisions of the three agents regarding monopolistic and competitive payment pricing arrangements for debit and credit cards.

The consumers have to decide whether to subscribe to a payment card and pay a fixed subscription to bridge a possible liquidity gap in their financing capabilities. The consumer agent group is homogeneous and utilitly maximizing when choosing and using payment instruments. Merchants, by contrast, need to take the decision to accept only one payment card type and the related per-transaction merchant fee. They form a heterogeneous group. The card networks are responsible for setting consumer and merchant fees.

The framework designed consists of two periods. In period one ("day"), the consumer decides subscribing to a payment card because of the existing liquidity gap in the event of a potential purchase. In this case, a credit line or an overdraft will be needed, and the merchants will choose whether to accept the related card. In period two ("night"), the consumer can receive income and reimburse the used credit line or overdraft. At the end of that period card networks incur credit losses and realise total profits.

The authors tested three different scenarios. For the first scenario they assumed a monopolistic network situation for debit cards. In such a "debit card-only" world, default risk and funding cost have no effect on consumers or merchants. The characteristics of an overdraft facility for cash and debit cards are nearly the same; hence the only benefit for consumers is the extra security over cash but not the opportunity to obtain extra credit. In a "credit card-only" world, the merchant is affected by the default risk and the funding cost for credit card use. Credit cards provide a credit opportunity for consumers in period one. In this case there is competition between the credit card and the overdraft facility for cash. As a result, higher expected costs of servicing overdrafts could lead to lower credit card merchant fees, and the acceptance ratio for credit cards increases. For the last scenario, the authors analyse the effects of competition between debit and credit card networks. The competition between these two card types may cause a drop in the payment fees and increases the complementarity of the types for consumers. In a situation where there is competition, default risk and funding affect both card types, with a stronger effect on credit cards. Nevertheless, banks offering debit cards gain revenues from consumers maintaining a positive current account under the condition of consumers using credit instead of debit cards. Consequently, discouraging the use of debit cards by raising the debit card fee would be a step towards the possibility of debit cards being driven out of the market in equilibrium due to the complementarity between credit and debit cards.

The results support the idea of having different interchange fees for debit and credit cards because no extra credit is provided through debit cards. Nevertheless, debit cards are affected indirectly by default risk. Increased competition between the two business models for consumer credit would result in downward pressure on fees. Further research will be made on the search for socially optimal fees in card payments and the related consumer credit market.

The discussant for both papers was **Stuart E. Weiner** (Kansas State University), who chaired the session. In his opinion, both papers contribute greatly to the existing literature in light of their innovative approaches. The two papers focus on different core aspects of the payment card market, on the one hand the consumer welfare transfer due to the use of credit cards, and on the other alternative business models for payment card types and the effects on related fees.

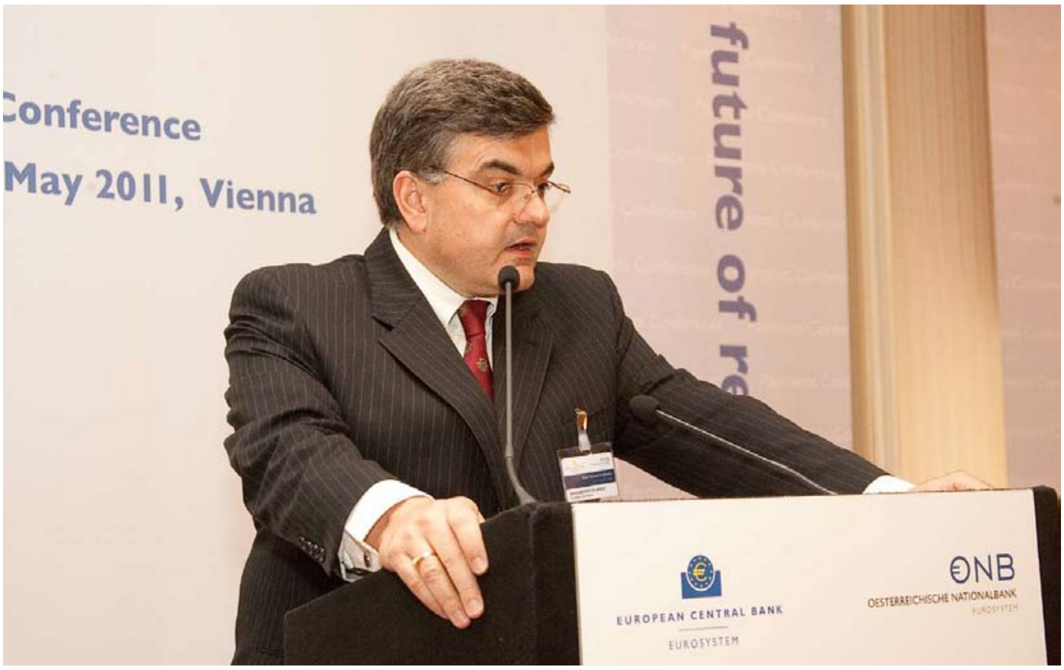
With regard to the paper presented by Mr Schuh, the discussant referred to the transfer accounting methodology, which is a novel approach to the specific topic. As for the welfare transfer between cash and credit card users and from low-income to high-income households, intuition had always suggested this, but there had never been proven results. However, the paper relies on several assumptions, especially on the pass-through rate of the merchant fee to consumers. Differential pricing would enhance overall consumer welfare, and there are initiatives on the way, such as the Durbin Amendment in the United States. The other implications and recommendations are reasonable, but the measurable effects are assumed by Mr Weiner to be doubtful.

Regarding the second paper, the discussant praised the way credit provision is being modelled the scenario of competition between debit and credit cards. As in the other paper, some assumptions have been made to develop the model, but a merchant accepting only one of the two card types is a clear restriction compared with the real world. Interchange fees are indirectly modelled through the merchant service charges in the paper. The paper explains very well the complicated situation of network banks' pricing decisions and thereby influencing the setting of interchange fees in the industry.

The interchange issue and its pricing is a very controversial topic worldwide. In the United States, as an example, the Durbin Amendment attached to the Dodd-Frank Act is intended to focus on this. Durbin may empower the Federal Reserve System with the ability to set standards and levels for debit interchange fees, routing restrictions and discounting. Thus the Federal Reserve would be directly regulating industry prices, which has not happened ever before. In Mr Weiner's view, the effect will be considerable, but the industry and market will adjust to it. The introduction of new rules and regulations such as these will improve the situation, though an ideal outcome will not be accomplished.

A number of comments were made by the audience. With regard to the first paper the assumption of the merchants' pass-through rate and the relative costs of not having payment cards or having a restricted card choice were discussed. A question was raised about the effect of the distribution of wealth regarding especially the income from dividends, which is concentrated normally in the high-income segment. Moreover, a comment suggested that the correlation between rewards and retail prices could be taken into account for further analyses. Concerning the second paper, it was mentioned that multihoming merchants, merchants accepting both card types, would be a possibility for further research. Another question dealt with the default risk affecting the merchant. The reason for this is that a higher default risk means the consumer has to pay a higher interest rate for the funding of the credit line or the overdraft. The resulting consumer fee, therefore, is lower, and the networks are forced to charge a higher merchant fee. The Durbin Amendment proposal and the possible interchange fee reduction were also at the centre of a discussion. In the end it was pointed out that consumers' preference for taking up credit or not is an intrinsic factor which is difficult to measure or simulate.

6 KEYNOTE SPEECH: OPENING FINANCIAL SERVICES MARKETS – THE EUROPEAN APPROACH

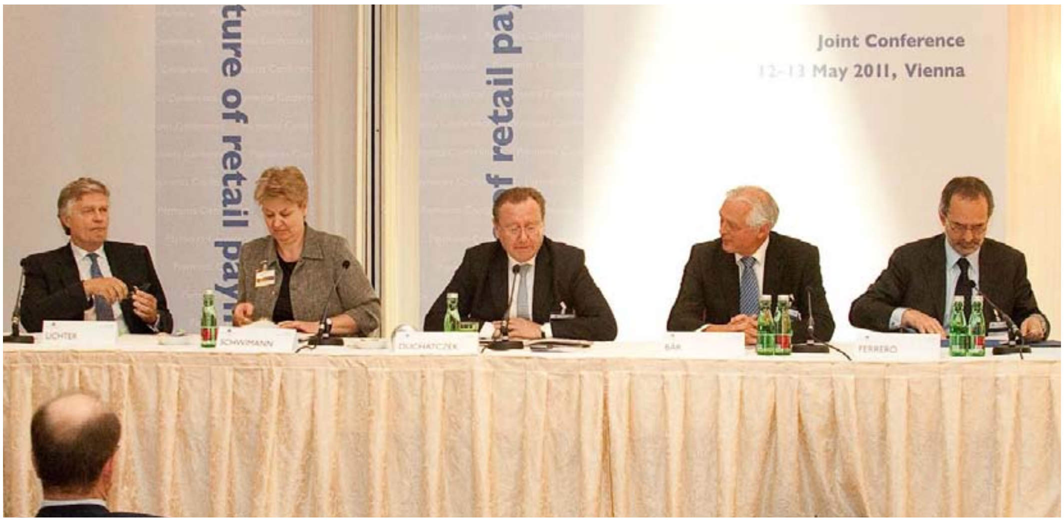


Cecilio Madero Villarejo (European Commission)

In his keynote speech "Opening financial services markets – the European approach", Cecilio Madero Villarejo (European Commission) highlighted the importance of retail payments, as they constitute a reliable and substantial share of bank revenues. He said that multilateral interchange fees (MIFs) are currently the most controversial task in the payments sector. Point-of-sale MIFs for payment card transactions account for a considerable share of revenue both worldwide and in the EU.

Mr Madero Villarejo emphasised the relevance of SEPA as an important step in moving towards a fully integrated internal market where consumers and companies can enjoy the full benefits of the euro and the Single Market. In addition, the implementation of the Payment Services Directive should make it easier for new players to enter the market and should promote efficiency and competition. But in his opinion, there is still a lot to be done in order to achieve full integration. In the area of credit transfers and direct debits, very substantial progress has already been made. However, progress is relatively slow in the area of card transactions, as the European card payments market is still split along national lines and new card schemes, in particular, are making it difficult for non-banks to enter the market. Furthermore, the card payments market is a highly concentrated market. The ECB is among those that have strong concerns about the dominant role of the two big players in the European card payments market. In line with the ECB's opinion, the European Commission also prefers a market with at least three to four players in order to increase competition. A lack of common standards and market transparency as well as the misuse of new payment technology are further issues which have to be tackled by regulatory bodies. Mr Madero Villarejo added that new payment methods – such as mobile phones and e-commerce – do not achieve the desired market penetration for several reasons. These difficulties in the payments market, relating to cross-border payments and e-commerce transactions in particular, hinder complete market integration. He concluded that the EU's 2020 agenda and the implementation of a SEPA migration end-date are very important steps in addressing these challenges.

Taking account of the obstacles and challenges ahead, the policy panel, which came together immediately after Mr Madero Villarejo's keynote speech, tried to find a balance between efficiency and competition in retail payment markets. This is crucial as it is expected that the creation of SEPA will spur consolidation and mergers among European payment processors to more optimally realise economies of scale in payments.



From left to right: Gilbert Lichter, Irmfried Schwimann, Wolfgang Duchatczek, Fred Bär and Giorgio Ferrero

The session on "Efficient and competitive retail payment markets", chaired by **Wolfgang Duchatczek** (Oesterreichische Nationalbank), brought together the views of two automated clearing houses, two commercial banks and a competition authority.

Regarding efficiency in the payments market, **Fred Bär** (VOCALink) pointed out that the current regulatory initiatives may, at the beginning, lead to higher costs for banks and infrastructures. In the longer term, he noticed a trend towards consolidation of internal (banks) and external (market infrastructures) technical platforms. In his opinion, there will be an increase in pressure on smaller players to share development efforts and "consolidation will become more attractive". Standardisation is still very much fragmented along national lines and, in his opinion, needs further progress because, at present, banks are not realising economics of scale. In this context, Mr Bär emphasised that there is increasing demand from the users (e.g. companies) to have multibank solutions with one standard on a national and an international level. He therefore observed a drive within the market and envisages that a winning standard will emerge. As the key criteria for sourcing decisions, he cited (i) the cost advantage from outsourcing, (ii) replacing internal fixed costs with external variable costs, (iii) sharing the compliance burden and (iv) the transparency of the business model.

In the field of competition, Mr Bär was of the opinion that for banks, the importance of having the ability to choose between different clearing and settlement mechanisms for price, cost or quality reasons will gradually diminish. From a market efficiency perspective, the more the clearing process is seen as a pure utility service, the less logical it becomes to have multiple providers. But there are other reasons to justify having more than one provider: avoiding systemic risk concentration and retaining redundancy in operational provision of retail clearing.

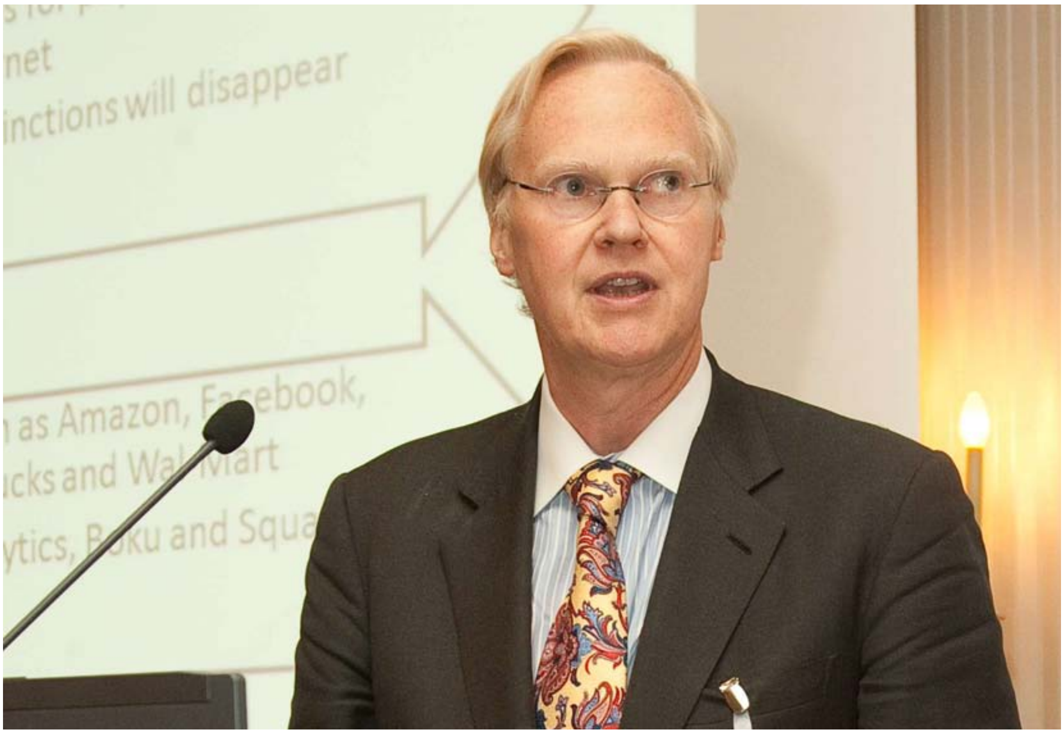
Giorgio Ferrero (Intesa Sanpaolo) illustrated the efficiency structure and the competition dynamics in the retail payments market from a banking perspective. He began by emphasising that safe and secure payment systems and services are of common interest for banks and regulators. The resilience and security of payment systems are taken for granted, and these factors are not given any credit by the general public: "the value of it, even in economic terms, is perceived only if there is a lack of it. It's like the water from the tap".

Strategic regulation to ensure resilient and efficient payment systems and the adequate communication of its improvements is therefore essential. As the payments market becomes more and more competitive, banks have to refine their operating models. Instead of investing more in existing payment infrastructures, banks should focus on achieving economies of scale. In this context, a balanced approach between affordability, sustainability and availability should be implemented. Regulatory bodies should give banks enough time to implement regulatory standards and they should ensure that a level playing field is in place in the payments market.

Gilbert Lichter (EBA Clearing) highlighted the importance of the SEPA initiative and welcomed the implementation of the SEPA migration end date. Regarding the migration to SEPA, he strongly believes that the Pan-European Automated Clearing House (PEACH) concept is the ideal solution. For efficiency reasons, every PEACH has to offer collaboration between private and public sector clearing and settlement mechanisms. A need for consolidation can be observed at the processor level, as scale effects are non-existent at present. Mr Lichter pointed out that the consolidation opportunities brought about by SEPA should not be missed as otherwise this will lead to increasing costs for banks. Regarding innovation, he was of the view that SEPA is changing the borders of collaborative space. A pan-European solution – also for online banking-based e-payments – is required for executing transactions, and this will lead to a higher level of harmonisation and a lower level of fees. Regarding the question of why there is currently no successful European online banking-based e-payment solution, he was of the opinion that innovation has less to do with technology; the crucial point is being ready to share.

Irmfried Schwimann (European Commission) said she fully shared the European Payments Council's vision regarding SEPA and recognised the progress that has been achieved in the field of SEPA direct debits and SEPA credit transfers, in particular. However, further improvements are necessary in a number of areas, especially in the fields of payment cards and e-commerce. First, the issue of standardisation has to be addressed, as standardisation reduces costs, increases competition and enables interoperability, and therefore leads to benefits for customers. In this context, the standard-setting process should be accelerated, as progress is very slow at present. In the view of Ms Schwimann, it is not the lack of standardisation itself that is an issue for competition authorities, but rather the process of standard setting, in particular if it is performed by private sector companies. In this regard, all stakeholders should be involved in the standard-setting process. Second, market transparency should be enhanced in terms of "when, how much and how to pay". In the context of enhancing price transparency, she pointed to surcharging as a possible solution. Third, Ms Schwimann saw a lack of alternative business models for cards, with the classic business model being based on MIFs. Although high MIFs are not formally prohibited, they pose an entry barrier, and she pointed out that MIFs must comply with competition rules. A look into the future showed a lack of common rules for new payment methods, in particular for online payments. It will be important to analyse these new payment methods and to gain an understanding of the high-tech payments business.

The audience also highlighted the importance of a competitive and efficient retail payments market. Moreover, the question was raised whether more competition could be achieved through new technical platforms, greater price transparency or new business models. Regarding innovation, it was pointed out that a combination of new technical capabilities and improvements in the supply chain will be necessary to foster innovation.



David S. Evans (Market Platform Dynamics)

Payments innovation is happening at an intense pace. **David S. Evans** (Market Platform Dynamics) sees a number of indications of this. In the United States, venture capital firms are pouring money into payments. That is not surprising given recent successes of venture-backed firms such as Bill Me Later, which was sold to eBay for almost USD 1 billion in 2008, and Revolution Money, which was sold to American Express for USD 300 million in 2010. Leading payments firms are announcing frequent innovations and initiatives. Some of these involve collaborations with innovators, such as Visa's alliance with mobile financial services provider Monitise. At the same time, many significant "new economy" firms that are outside of payments proper have been entering this area. These include Google, Facebook and Amazon.

The specifics of innovation vary country by country because a large number of payments are still tied to domestic institutions and culture, but many of the developments are likely to either be rolled out globally or diffuse rapidly across countries. Facebook Credits is an example of this. One development that is extremely important and will have wide-ranging implications is the simultaneous connection of point-of-interaction devices for senders and receivers of payments to the internet and cloud-based software solutions. This includes the increasing use of mobile devices by consumers, but also the development of internet-connected cloud-powered devices at the point of sale for merchants.

The topic of payments innovation can lead to some irrational exuberance. We have been hearing for half a century that cash will soon be dead. The nature of the payments ecosystem is such that innovation diffuses very slowly – or at least has done. This is because new payment systems need to get merchants and consumers on board and in sufficient numbers to make the system attractive to both. But consumers, and especially merchants, have significant sunk-cost investments, including learning, in existing ways of doing things. In addition, the complex payments system environment is very difficult to change quickly. The experience of contactless payments in the United States shows just how difficult it is to persuade merchants and consumers to adopt what seems to be an innovative idea.

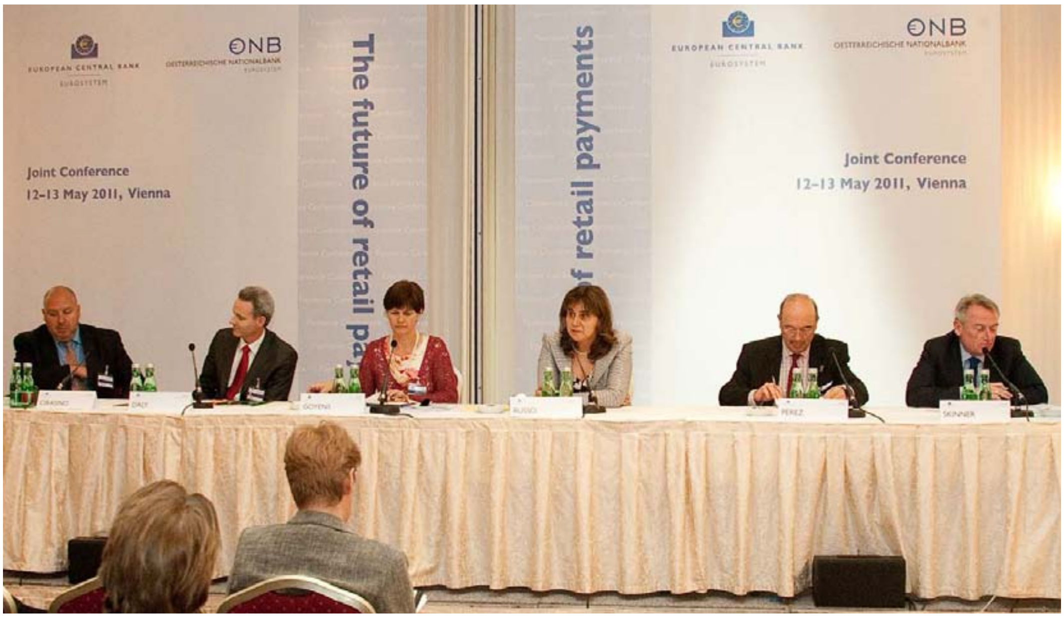
Nevertheless, several interrelated technological revolutions are likely to spur innovation. A key development is the fact that senders and receivers of money are all likely to be connected to the internet at the point of interaction and, through the Internet, have access to cloud-based software. Almost all consumers worldwide have mobile phones, and increasingly these mobile phones have internet connections and software platforms that enable the deployment of both local (client-based) and remote (cloud-based) software. Merchants are likely to replace their point-of-sale terminals over time with ones that have internet connections and rely on cloud-based applications instead of closed, client-based software.

Once the connection between the mobile devices and the point of interaction is established – through the widespread deployment of contactless, barcode or some other technology – there will be the prospect of rich software applications with which we can work and interact on the buyer and seller side of transactions. As we have seen with the development of the "app stores" around the iPhone and Android, the development of these software platforms will stimulate entrepreneurs from around the world to develop payment-enabled applications. Software developers will be able to integrate payments into a whole host of innovative products and services. In thinking about this we should recognise that one of the greatest innovations in payments – the credit card – is a mashup of payment functionality and a lending facility.

This future can be seen today in two recent developments. The first is PayPal X. PayPal has introduced an open software platform and has encouraged developers to write applications for it. This has led to thousands of developers working on applications that integrate PayPal payment methods. MasterCard and Visa have announced plans for similar open software platforms. The second development is Square. This is a mobile device-based payment processing system aimed at a move towards small businesses. Small merchants can accept payment transactions by attaching a small device to a smart phone or tablet device. Larger equipment providers such as Verifone are going down a similar path of developing internet/wireless-enabled point-of-sale devices.

While one needs to keep irrational exuberance in check and recognise that most predictions of innovation in payments either come to naught or take far longer than anyone thought, the development of open software platforms, cloud-based computing and internet connectivity could lead to very rapid innovation.

9 RETAIL PAYMENTS: INNOVATIONS, SECURITY AND FINANCIAL INCLUSION – PANEL SESSION



From left to right: Massimo Cirasino, Declan Daly, Monique Goyens, Daniela Russo, Javier Perez and Chris Skinner

The panel session, which brought together an interesting mix of experts to discuss the future challenges in retail banking and payments, was chaired by **Daniela Russo** (European Central Bank). Ms Russo opened the discussion by explaining that the aim of this session was to discuss views on the future of retail payments, not only by considering technical innovations and the feasibility of these innovations, but also by investigating the consequences for payment security as well as the potential exclusion of certain groups of people from these new technologies. She asked that special attention be given to the interrelation between the three issues: innovations, security and financial inclusion.

Furthermore, Ms Russo asked the panel to discuss the following questions on payment innovation:

- Who initiates payment innovations and which stakeholder groups have the greatest influence on payment innovations? What are the main barriers to innovation and how can a culture of payment innovation be facilitated? Which payment types will see the most innovation in the coming five years? Who will be the main actors in this field?

- With regard to security, how can the right balance be struck between technical security and the development of innovations? How can consumer trust in retail payments be ensured? What are the barriers to increasing security in retail payments?

- And finally, with regard to financial inclusion, who are the under and unbanked people? What are the reasons for financial exclusion and to what extent does financial exclusion also mean social exclusion? How can innovations contribute to financial inclusion? Are there lessons to be learned from M-PESA's success for emerging markets and/or industrialised countries?

Ms Russo completed her introduction by highlighting the fact that central banks promote security as well as innovation. It was for this reason that, following the publication of the seventh SEPA Progress Report, the European Forum on the Security of Retail Payments was created to strive for further improvements in security.

Massimo Cirasino (World Bank) opened the panel by presenting the Payment Systems Development Group, which is at the centre of an international network and has as its main objective to reform payments, remittances and securities settlement systems. He said that the Global Payment Systems Survey (published in June 2011) indicates that, after 15 years of discussions and reforms, important progress has been made worldwide in terms of the legal framework and high-value payments. Today, 116 central banks have an RTGS system in place. Nevertheless retail payment systems in developing countries still lag behind significantly when compared with those of developed countries. As the market has not yet fixed the problem, central banks and stakeholders in retail payments must work together to develop a clear strategy for future developments. Therefore, the right balance has to be found between cooperation and competition among the stakeholders. The World Bank is supporting these initiatives with its retail payments strategy, which includes supporting tools such as a methodology for retail payments stocktaking, supporting the development of guidelines for government payments as well as supporting the development of legal frameworks for innovative retail payment mechanisms.

Taking into account the situation in retail payments in, especially, developing countries, **Declan Daly** (Western Union) presented Western Union's business model. He stated that in developing countries, 2.7 billion people are unbanked (72% of the adult population) and that even in developed countries, 160 million people (19% of the adult population) are still unbanked. In his opinion, non-bank payment service providers often serve as a first entry point into formal financial services. Lowering the access barrier seems to be the key factor for financial inclusion, and mobile phones have huge potential as access devices for retail payments in developing countries. The experience of Western Union shows that the use of cash still remains strong – with cash-to-cash remittance still being Western Union's most important business area. Mr Daly also argued that increased financial inclusion might help to reduce the use of informal, non-regulated service providers. This seems crucial, especially in the context of consumer protection. In the global money remittance industry, a key enabling factor is an appropriate legal and regulatory regime. He also said that the EU regulatory framework does not yet encourage innovative money transfer products.

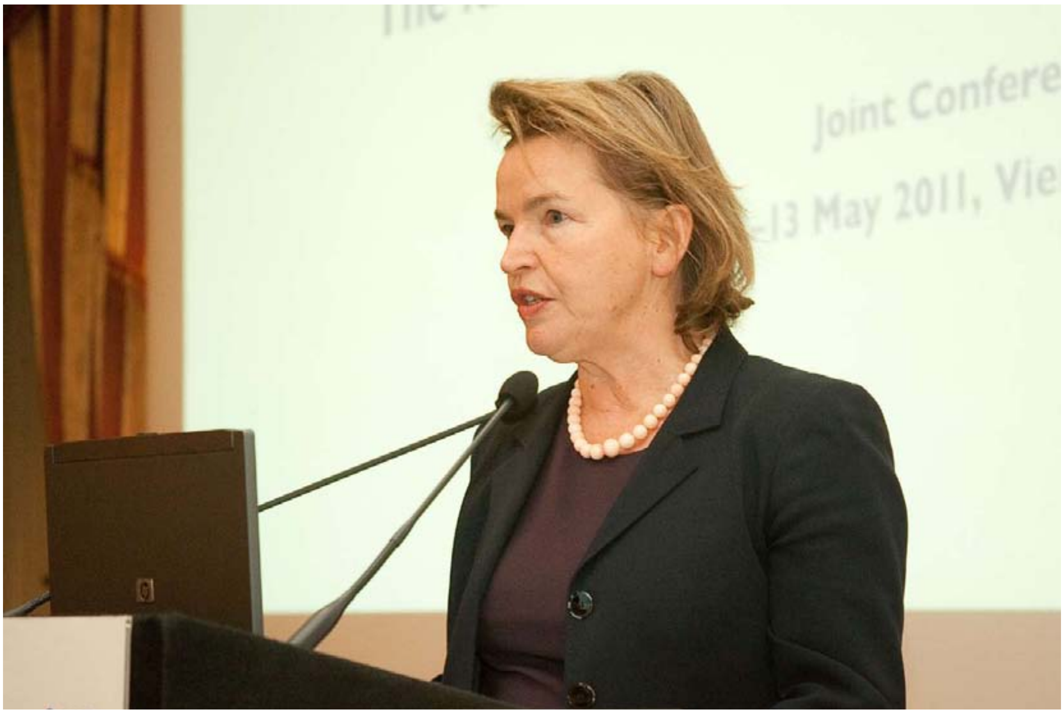
Monique Goyens (European Consumers' Organisation BEUC) focused on the perspective of consumers and consumer protection. In her opinion, existing business models and wrong incentives are major barriers to innovation. She also pointed out that dominant international card schemes compete to get as many banks as possible on board with the result that small, and often efficient, national card schemes are disappearing. With reference to the discussion on surcharging, she claimed that consumers always have to have a choice of at least two different means of payment, one of which always has to be accepted without surcharge. She pointed out that the security of retail payments is the crucial factor for consumer trust in payment services, and that there is a clear need for increased transparency on fraud in order to steer consumers towards more secure payment instruments. Special attention should be given to online payments since they are frequent targets of fraud anyway, and unsafe payment services should be identified and banned. The development of new technologies in the area of retail payments might also promote financial inclusion. Nevertheless, from Ms Goyens's perspective, access to a basic bank account is the basis for inclusion into normal economic and social life. This should be feasible in Europe.

Javier Perez (MasterCard Europe) also maintains that financial inclusion is crucial, and it might be easier to achieve nowadays owing to increased connectivity thanks to technological progress and innovations. One possible solution for unbanked people would be to focus on pre-paid cards. But not only unbanked people rely on cash: given that 78% of all payment transactions in Europe are still made in cash, the potential market for payment cards and innovative retail payment instruments is huge. In his view, the security of payment instruments is a prerequisite for consumer confidence. He explained that MasterCard therefore continuously invests in fraud prevention (e.g. EMV chip and PIN, PCI standards, SecureCode) and detection. He also pointed out that the combination of contactless technology with innovative ways of initiating payments (e.g. via mobile phone) will revolutionise the payments world.

In his intervention, **Chris Skinner** (Balatro Ltd.) emphasised the importance of technological innovations as well as the incredibly high use of social media. These social media companies, in particular, are currently developing not only their own payment solutions, but in a number of cases also their own currencies. In his opinion, information – and no longer labour or capital – is the greatest future asset, and innovative companies are already making use of it. Mobile phones, in particular, are bringing major changes to the retail payments industry, with "apps" the major source of income.

Despite the very diverse backgrounds of the panellists, the discussion led to the common conclusion that financial inclusion is a top priority for both developing and developed countries and that this is a precondition for social inclusion. Thanks to innovations in information and communication technology, access to financial and payment services may well now be easier to achieve than in the past, However, a proper regulatory and consumer protection framework must also be ensured.

10 CLOSING REMARKS BY GERTRUDE TUMPEL-GUGERELL



Gertrude Tumpel-Gugerell (European Central Bank)

Ladies and Gentlemen,

After two very intensive and extremely interesting days of presentations and discussions on the opportunities and challenges in retail payments, it is my utmost pleasure to be able to conclude this conference together with Vice Governor Duchatczek.

Let me recall the objective of this two day conference.

- Firstly, to put retail payments in the middle of a debate between central bankers, market participants, regulators and academics.

- Secondly, to discuss the opportunities and challenges ahead of us in retail payments.

Although we heard in the sessions on payments behaviour that cash still plays an important role in day-to-day payments, the main focus of this conference was of course on electronic payments. Non-cash retail payments have witnessed increased popularity in Europe and other regions over the past decades and will continue to do so. For example, on average, volumes of cashless payments in the euro area have increased by 6% per year. In the euro area card payments experienced the highest growth, by about 10%, and have become the most used non-cash payment instrument, with over 19 billion payments in 2009.

In this context, we take the ever increasing memory and processing capacity of our computer equipment for granted – something technicians often describe as “Moore’s law”, named after Intel co-founder Gordon E. Moore.

In fact it was yesterday, exactly 70 years ago, when the world’s first workable computer, called Z3, was introduced in Berlin by Konrad Zuse. Despite its being destroyed in the chaos of war, this date marks the foundation of something we today take for granted. And even 30 years ago, when the first Personal Computer of IBM was introduced, nobody expected the change in all of our lives it would entail. This ongoing technical progress has already changed the way we pay and will even more substantially do in future. The keynote speech of David Evans this afternoon as well as the outstanding panel we just listened to, gave an impression of how this development might look like.

Similar to the amenities of technological developments, we got used to the advantages the European integration has brought with it very quickly. Sometimes we take these achievements even for granted. However, 15 years ago, we had no euro and only ten years ago euro banknotes and coins were introduced.

When it was first launched in 1999 and then when the euro cash changeover took place in 2002, the euro was met with a certain degree of criticism and scepticism. Today, the euro is the single currency for 17 countries, with a total population of 330 million citizens. The euro has proved to be a resounding success.

In 2002, the European banking industry laid the foundation of the Single Euro Payments Area, by publishing the White Paper "Euroland: Our Single Payment Area!" In addition to the banks, many stakeholders want to bring the SEPA project further and have contributed to its progress so far.

First, remarkable progress has been made by the payments industry in delivering SEPA, by agreeing on common schemes for credit transfers and direct debits, to be used throughout Europe.

Second, I believe that we should not forget the role public authorities are playing to get SEPA up and running. They typically represent a major share of a country's overall payments volume and in a number of countries we see great progress by public administrations moving to SEPA standards. Currently the European Parliament and the Council are discussing the European Commission's proposal for an end date to SEPA migration. In my view these discussions are progressing well, not least because of the commitment of the Hungarian Presidency. Another aspect in which public authorities have been very active in the last year has been in the establishment of the SEPA Council. We, the ECB, and the European Commission recognised that having both the demand and the supply side around the same table discussing SEPA-related issues in a transparent way is crucial for the success of the project.

Of course it is impossible to summarise these two days of conference in a few minutes. In fact the conference documentation is provided online and we have already informed all registered participants about the respective link. Moreover, we will publish a summary with the key findings of the conference in due course. At this point I would only like to mention some "headlines" which I took away from the two days full of extremely interesting presentations and discussions:

- During our conference it has been widely acknowledged that retail payments are a cornerstone of retail banking and the banks' business case.

- As the financial crisis has shown, Europe has benefited from the level of integration and innovation achieved so far. However, there is still considerable room for more of the same.

- Retail payment integration is not on the harmonisation of payments behaviour, but on the harmonisation of instruments, standards, rules and systems. Payments behaviour differs considerably across cultures and countries. In fact we can still observe a strong persistence of payment habits. Moreover, there is country evidence that the cost of cash can be substantial and there is room for efficiency gains.

- Even if financial stability is not directly affected, fraud in retail payments could have a societal impact and effects on the use of different payment instruments.

- Although customers have obvious benefits of an integrated retail payments market, their readiness for change is not to be taken for granted. However, as we learned yesterday, especially companies doing cross-border are in favour of SEPA and even ask for a migration end date.

- The role of central banks in offering large value payment systems is generally accepted In contrast to that, the future of retail payment processing in an integrated market and the operational involvement of central banks in it is still intensively discussed.

- Innovation in retail payments will not only make our everyday lives more convenient by offering easier access to payment instruments, it might also be a chance to further close the gap between the unbanked and banked populations. Innovation might be a tool to increase financial inclusion.

According to my assessment, the contributions in the past two days have by far excelled the expectations and ensured that the objectives for this conference have been clearly met.

I would like to thank our co-organisers, the Oesterreichische Nationalbank, for hosting this event in Vienna and their excellent organisation, as all of us have experienced the past two days.

With this in mind I would like to sincerely thank all the speakers and participants of this conference for their essential contribution to the success of this event and I hope that this conference will contribute to ensuring that we succeed in mastering the challenges in retail payments and seize the opportunities as well.

For me personally this has been the last retail payments conference I have hosted as ECB board member. These have been eight challenging years, in which the integration of the European retail payments market was always one of the top priorities of my agenda. Although a lot has been achieved, the realisation of a fully fledged Single Euro Payments Area will still take one or the other year. However, knowing the stakeholders involved in this project – a lot of them are here today – I am convinced that SEPA is in good hands.

ANNEXES

1 PRESS RELEASE

13 May 2011

ECB AND OENB CALL FOR A FASTER IMPLEMENTATION OF THE SINGLE EURO PAYMENTS AREA

During their joint conference, "The future of retail payments – opportunities and challenges", representatives of the European Central Bank (ECB) and the Oesterreichische Nationalbank (OeNB) called on the financial services sector to speed up the implementation of the Single Euro Payments Area (SEPA). Gertrude Tumpel-Gugerell, Member of the Executive Board of the ECB, and Wolfgang Duchatczek, Vice Governor of the OeNB, both emphasised that the SEPA project is the logical consequence of the creation of the euro, and that only a prompt implementation of SEPA will help to achieve an integrated and competitive European market for cashless payments in euro.

Ms Tumpel-Gugerell stressed that given the slower than expected migration towards the new pan-European payment instruments – the SEPA credit transfer (SCT) and the SEPA direct debit (SDD) – joint action and increased effort is needed to finalise the transition. Therefore, the Eurosystem, comprising the ECB and all national central banks of the euro area, calls for concrete deadlines for this migration, i.e. the end of January 2013 for credit transfers and the end of January 2014 for direct debits.

Ms Tumpel-Gugerell indicated that retail payment solutions offered throughout SEPA must be easy to use and efficient, but also secure. Responsibility for the security of retail payments is shared by regulators, payment service providers, retailers and consumers. To reduce the possibility of fraud, the Eurosystem recommends that, within SEPA, payment cards are issued with only a chip and not with a magnetic stripe, since the latter is an easy target for fraudsters.

Ms Tumpel-Gugerell recalled the need for at least one additional European card scheme, which offers its service in competition with already existing international cards schemes. She also stressed the importance of innovative payment solutions, and called for the emergence of European online e-payment services based on online banking, secure card payments on the internet and mobile payment solutions, all meeting consumers' and merchants' requirements.

Mr Duchatczek emphasised that for the implementation of an integrated payments market, joint and coordinated action by all stakeholders at the European level as well as in the individual SEPA communities is required. He confirmed that the implementation of SEPA is progressing well in Austria and that nearly all Austrian banks are able to initiate SEPA credit transfers and direct debits. In addition, owing to the decision of large companies to migrate early to SEPA direct debits, Austria is currently the country with the highest share of such transactions executed in the new SEPA format.

Mr Duchatczek supported the proposed EU regulation on SEPA migration end dates and highlighted the crucial role of communication. In this regard, he drew attention to an ongoing OeNB information campaign, as part of which experts from the OeNB visit all major cities in Austria to explain the implications of SEPA to the people there.

In view of the request to migrate to chip-only cards, Mr Duchatczek stressed that almost all point-of-sale terminals and automated teller machines in Austria are already capable of using “chip and PIN” for the authorisation of card transactions.

Lastly, Mr Duchatczek confirmed the establishment of a clearing house with final settlement in central bank money in Austria, which not only should facilitate full migration to SEPA, but also aims to increase security, quality and efficiency in the Austrian interbank payments market by considerably reducing banks’ liquidity needs and costs. The new clearing service will become operational in November 2011 and will be operated by Geldservice Austria, a private-public partnership between the OeNB and commercial banks. The vast majority of Austrian retail payments will then be processed via this clearing infrastructure. With the combined effort in the customer-to-bank as well as the bank-to-bank domain, the OeNB together with the Austrian banks are confident of being able to successfully meet the SEPA challenges ahead.

2 CONFERENCE PROGRAMME

A JOINT CONFERENCE OF THE EUROPEAN CENTRAL BANK AND THE OESTERREICHISCHE NATIONALBANK

THURSDAY, 12 TO FRIDAY, 13 MAY 2011
VIENNA

THURSDAY, 12 MAY 2011: MORNING SESSION

8:00 a.m.	Registration
9:00 a.m.	**Opening remarks:** **Wolfgang Duchatczek** (Vice Governor, Oesterreichische Nationalbank)
	Theme I **Transformation of the banking business and its impact on retail payments: governance, efficiency and integration**
9:15 a.m.	**Panel session:** Chair: **Gertrude Tumpel-Gugerell** (Member of the Executive Board, European Central Bank) **Giovanni Carosio** (Member of the Governing Board and Deputy Director General, Banca d'Italia) **Rainer Hauser** (Member of the Management Board, UniCredit Bank Austria) **Feriha Imamović** (Vice Governor, Central Bank of Bosnia and Herzegovina) **Júlia Király** (Deputy Governor, Magyar Nemzeti Bank) **Bertrand Lavayssière** (Managing Director, Capgemini)
10:30 a.m.	Coffee break
	Theme II **Payments behaviour and the usage of payment instruments**
11:00 a.m.	**Academic session:** Chair: **Leo Van Hove** (Professor of Economics, Vrije Universiteit Brussel – Free University of Brussels) **Using cash to monitor expenditures – implications for payments, currency demand and withdrawal behaviour** **Ulf von Kalckreuth** (Principal Economist, Deutsche Bundesbank) **Tobias Schmidt** (Economist, Deutsche Bundesbank) **Helmut Stix** (Research Economist, Oesterreichische Nationalbank) **Will that be cash, debit, or credit? How Canadians pay?** **Carlos Arango** (Principal Researcher, Bank of Canada) **Kim P. Huynh** (Senior Analyst, Bank of Canada) **Leonard Sabetti** (Bank of Canada) Discussant: **Heiko Schmiedel** (Senior Market Infrastructure Expert, European Central Bank)

12:30 p.m. Lunch

THURSDAY, 12 MAY 2011: AFTERNOON SESSION

Theme III
Creating a competitive retail payments market

2:00 p.m. **Parallel streams**

– **Academic session:**
Trust in payment systems and the implications of fraud
Chair: **Martin Summer** (Head of Division, Oesterreichische Nationalbank)

Fraud, investments and liability regimes in payment platforms
Marianne Verdier (Assistant Professor of Economics, Université Paris Ouest Nanterre)
Anna Creti (Professor, Université Paris Ouest Nanterre and École Polytechnique)

Do newspaper articles on card fraud affect debit card usage?
Anneke Kosse (Policy Advisor, De Nederlandsche Bank)

Discussant: **Harry Leinonen** (Advisor to the Board, Bank of Finland)

– **Practitioners' session:**
Customers' benefits from an integrated retail payments market and their readiness for change
Chair: **Stefan Augustin** (Director, Oesterreichische Nationalbank)

Peter Jameson (FI Product Management Head, Bank of America Merrill Lynch)
Daniel Ochsner (Head Central Settlement, Würth Finance)
Luca Poletto (Head of SEPA Offer, BNP Paribas)
Mark Roemer (Head of Global Transaction Bank, Siemens Financial Services)

3:30 p.m. Coffee break

4:00 p.m. **Parallel streams**

– **Academic session:**
Card payments, network effects and surcharging
Chair: **Cornelia Holthausen** (Adviser, European Central Bank)

To surcharge or not to surcharge?
A two-sided market perspective of the no-surcharge rule
David Henriques (Ph.D Visiting Scholar, Stern School of Business, New York University)
Nicholas Economides (Professor of Economics, Stern School of Business, New York University)

Card acceptance and surcharging: the role of costs and competition
Nicole Jonker (Senior Policy Advisor and Economist, De Nederlandsche Bank)

Discussant: **Özlem Bedre-Defolie** (Assistant Professor, European School of Management and Technology)

– **Practitioners' session:**
Role of central banks in retail payment processing: competitor, facilitator or partner for cooperation?
Chair: **Wiebe Ruttenberg** (Head of Division, European Central Bank)

Günter Ernst (Managing Director, Geldservice-Clearingservice Austria)
Gerard Hartsink (Senior Executive Vice President, ABN AMRO Bank)
Gian Bruno Mazzi (Managing Director, SIA-SSB)
Matthias Schmudde (Head of Division, Deutsche Bundesbank)
Coen Voormeulen (Division Director, De Nederlandsche Bank)

5:30 p.m. Close of conference day I

THURSDAY, 12 MAY 2011: EVENING PROGRAMME

7:30 p.m. **Evening reception**
Venue: Oesterreichische Nationalbank, Otto-Wagner-Platz 3, 1090 Vienna

Pre-dinner statement:
Ewald Nowotny (Governor, Oesterreichische Nationalbank)

FRIDAY, 13 MAY 2011: MORNING SESSION

Theme III
Creating a competitive retail payments market (cont.)

9:00 a.m. **Academic session:**
Card payments, household finance, and interchange fees
Chair: **Stuart E. Weiner** (Visiting Professor, Kansas State University)

Who Gains and Who Loses from Credit Card Payments? Theory and Calibrations
Oz Shy (Senior Economist, Federal Reserve Bank of Boston)
Scott Schuh (Director Consumer Payments Research Center and Economist, Federal Reserve Bank of Boston)
Joanna Stavins (Senior Economist and Policy Advisor, Federal Reserve Bank of Boston)

Consumer credit and payment cards
Wilko Bolt (Senior Economist, De Nederlandsche Bank)
Elizabeth Foote (Teaching Fellow, London School of Economics)
Heiko Schmiedel (Senior Market Infrastructure Expert, European Central Bank)

Discussant: **Stuart E. Weiner** (Visiting Professor, Kansas State University)

10:30 a.m. Coffee break

10:50 a.m. **Keynote speech:**
Opening financial services markets – the European approach
Cecilio Madero Villarejo (Deputy Director-General, DG Competition, European Commission)

11:15 a.m.	**Panel session:** **Efficient and competitive retail payment markets** Chair: **Wolfgang Duchatczek** (Vice Governor, Oesterreichische Nationalbank) **Fred Bär** (Managing Director, VOCALink) **Giorgio Ferrero** (Head of Payment System Development and Strategy, Intesa Sanpaolo) **Gilbert Lichter** (Chief Executive Officer, EBA Clearing) **Irmfried Schwimann** (Director DG Competition, European Commission)
12:30 p.m.	Lunch

FRIDAY, 13 MAY 2011: AFTERNOON SESSION

Theme IV
Future challenges in retail banking and payments

2:00 p.m.	**Keynote speech:** **Innovation in retail payments** **David S. Evans** (Author and founder of Market Platform Dynamics)
2:30 p.m.	**Panel session:** **Retail payments: innovations, security and financial inclusion** Chair: **Daniela Russo** (Director General, European Central Bank) **Massimo Cirasino** (Head of the Payment Systems Development Group, World Bank) **Declan Daly** (Vice President Central Europe, Western Union) **Monique Goyens** (Director General, BEUC) **Javier Perez** (President, MasterCard Europe) **Chris Skinner** (Chief Executive, Balatro Ltd)
3:45 p.m.	**Joint closing remarks:** **Gertrude Tumpel-Gugerell** (Member of the Executive Board, European Central Bank) **Wolfgang Duchatczek** (Vice Governor, Oesterreichische Nationalbank)
4:00 p.m.	Close of conference