TOWARDS AN INTEGRATED EUROPEAN CARD PAYMENTS MARKET

Over the last decade the integration of the European cashless retail payments market has been a high priority for payment service providers, regulators and central banks. This integration process focuses above all on credit transfers, direct debits and card payments, which are the non-cash payment instruments most commonly used in Europe. In the card payments domain, in particular, considerable effort is still needed to achieve an integrated European market. This article presents a market overview and the economic principles and features of card payments. It identifies the most challenging areas which have to be addressed in order to achieve the ultimate objective of ensuring that any card can be used at any terminal throughout the euro area. While this article focuses on card payments (and especially debit card payments at the point of sale), it concludes with a short look at the future of card payments in an increasingly "online and mobile" world.

1 INTRODUCTION

Following the successful euro cash changeover in 2002, the integration of the European market for cashless retail payments has been regarded as the logical next step in financial integration. This project is generally referred to as the Single Euro Payments Area (SEPA) initiative. SEPA rests on three main pillars, which are the most commonly used cashless payment instruments[1] in Europe, i.e. credit transfers, direct debits and card payments (see Chart 1).

While the progress made towards establishing the SEPA credit transfer and direct debit schemes[2] is promising and will be further enhanced by regulatory deadlines for migration from legacy domestic formats to the new Europe-wide schemes,[3] substantial effort is still needed in order to achieve an integrated European card payments market. The technical complexity of the card payments market, which consumers are generally not aware of, and the high number of market participants involved, make the establishment of a SEPA for cards a real challenge. Owing to the prevalence of card payments, which are second only to cash as the means of payment used most often at the physical point of sale, regulators, competition authorities and the Eurosystem have a strong interest in this integration process.

A common typology used for card payments is based on the time of funding. In the case of prepaid cards, the cardholder has to make a certain amount of funding available before the card can be used ("pay before" model). Debit cards enable their holders to make purchases and/or withdraw cash and have these transactions directly and immediately charged to their payment accounts ("pay now" model). Credit cards, finally, enable cardholders to make purchases and/or withdraw cash up to a prearranged credit limit ("pay after" model). The credit granted may either be settled in full by the end of a specified period (essentially a delayed debit card), or settled in part, with the balance comprising a form of credit on which interest is usually charged (a revolving credit card). Credit card brands often differentiate between basic cards and more exclusive cards (gold, platinum, etc.), as well as corporate cards.

This article describes the main characteristics of the SEPA project and the mandate of the Eurosystem in the context of retail payments. It focuses on the cross-country differences in the use of payment cards, describes the main parties involved in card payments and how they interact, and discusses the economic importance

1 A payment instrument is a tool or a set of procedures enabling the transfer of funds from a payer to a payee. See the "Glossary of terms related to payment, clearing and settlement systems", ECB, 2009. Available at http://www.ecb.int/pub/pdf/other/glossaryrelatedtopaymentclearingandsettlementsystemsen.pdf

2 Payment schemes are defined as a set of interbank rules, practices and standards necessary for the functioning of payment services. See the "Glossary of terms related to payment, clearing and settlement systems", ibid.

3 To support the migration to the SEPA credit transfer and SEPA direct debit, the EU Member States and the European Parliament agreed in December 2011 on a deadline for the migration of legacy credit transfer schemes and direct debit schemes to SEPA formats of 1 February 2014.

of card payments. Furthermore, the challenges to be overcome on the way to an integrated European card payments market are identified. While the main focus of this article is on so-called proximity card payments (i.e. payments at the physical point of sale, for example at the merchant's place of business just around the corner), the picture would be incomplete if the increasing importance of modern information and communication technology (i.e. the internet and mobile communication technology) were not touched upon. Future developments – some of which are, in fact, to a certain extent already a reality – are examined in the conclusion.

2 INTEGRATION OF THE EURO RETAIL PAYMENTS MARKET AND THE EUROSYSTEM'S COMPETENCE

The legal basis for the Eurosystem's competence in the area of payment and settlement systems is laid down in the Treaty on the Functioning of the European Union. According to the Treaty, one of the basic tasks of the European System of Central Banks (ESCB) is "to promote the smooth operation of payment systems". This provision is mirrored in the Protocol on the Statute of the European System of Central Banks and of the European Central Bank ("the Statute of the ESCB"). Article 22 of the Statute of the ESCB provides that "the ECB and the national central banks may provide facilities, and the ECB may make regulations, to ensure efficient and sound clearing and payment systems within the Union and with other countries". In order to fulfil its legal and statutory mandate in the field of payments, the Eurosystem acts as an operator, overseer and catalyst.

As an operator*,* the Eurosystem provides facilities for the settlement of euro payments in central bank money and for the cross-border delivery of collateral in Eurosystem monetary policy operations and intraday credit operations.

As an overseer, the Eurosystem monitors payment systems and securities clearing and settlement systems operating in euro, assesses them against the objectives of safety and efficiency and, where necessary, fosters change. The oversight function of the Eurosystem also extends to payment instruments, including payment cards, as they are an integral part of the payment system.

As a catalyst, the Eurosystem seeks to facilitate the efficiency and safety of the overall market arrangements for payments, clearing and settlement. In this role, the Eurosystem promotes the development of an efficient and integrated European retail payments market for credit transfers, direct debits and card payments – which is generally referred to as the Single Euro Payments Area (SEPA).[4]

SEPA aims to establish a single market for retail payments in euro by overcoming the technical, legal and market barriers that persist from the period prior to the introduction of the single currency. This will allow customers to make euro payments throughout Europe as easily, securely and efficiently as they can today in their own countries. Once SEPA is completed, there will no longer be any differentiation between national and cross-border euro payments. SEPA not only covers the euro area, but the whole of the European Union as well as Iceland, Liechtenstein, Monaco, Norway and Switzerland. This means that SEPA communities outside the euro area are also adopting SEPA standards and practices for their euro payments. SEPA is thus a key piece in the establishment of a single market for payment services in Europe.

The European Payments Council, which is the coordination and decision-making body of the European banking industry with regard to payments, has developed new European payment schemes for credit transfers and direct debits that are described in rulebooks. For card payments, the European Payments Council has established a framework, which is less binding than a rulebook, with requirements that the

4 For detailed information on the SEPA project, see http://www.sepa.eu

industry must meet in order to comply with the SEPA objectives.

A common feature of the SEPA payment instruments is the need for a clear separation between the scheme management and the infrastructures which process the payments. In addition to establishing the new payment instruments, SEPA also aims to harmonise the handling of cash. In this context, the term Single Euro Cash Area (SECA) is used.

While the progress made on SEPA credit transfers and direct debits gives cause for optimism, developments in the field of European card payments have been lagging behind expectations. Issuers, acquirers, card schemes and processors (see Section 4) will have to comply with the set of high-level principles for card payments developed by the European Payments Council. These principles aim to ensure that:

– Cardholders will be able to pay with one card all over the euro area (limited only by brand acceptance on the part of merchants).

– Merchants will be able to accept all SEPA-compliant cards via a single terminal.

– For increased security, cards and terminals will need to be based on chip and PIN[5] technology instead of magnetic stripe technology.

– Card payment processors will be able to compete with each other and to offer their services throughout the euro area. This will make the market for processing card payments more competitive, resilient and cost-efficient.

These high-level objectives are largely in line with the Eurosystem's policy in the field of card payments, but there are a number of important milestones to be achieved before they can be realised and customers are able to benefit from SEPA in the field of card payments also.

3 CROSS-COUNTRY DIFFERENCES IN THE USE OF PAYMENT CARDS

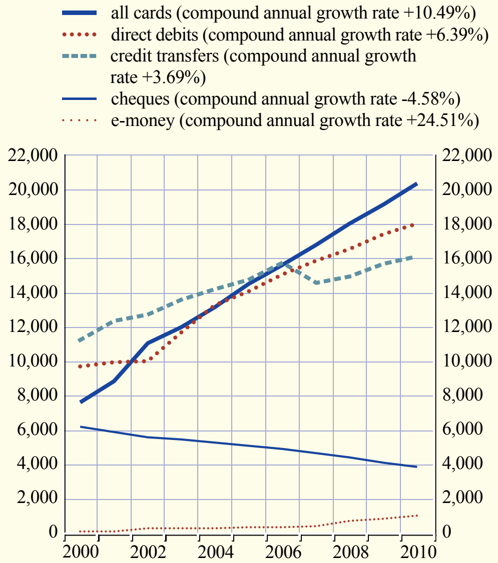
Payment cards are the most commonly used non-cash payment instrument in the European Union and, while cash still dominates in terms of the number of payments at the physical point of sale in Europe, debit cards have been gaining ground and are becoming increasingly important for day-to-day transactions. According to Capgemini,[6] the euro area is the second largest cashless payments area worldwide (21% of the total volume of payments in 2009, after the 40% share of the United States). As shown in Chart 1, in the period from 2000 to 2010 the cashless payment instrument with the highest absolute growth in the euro area was payment

5 A personal identification number (PIN) is defined as a personal and confidential numerical code which the user of a payment instrument may need to use in order to verify his/her identity. In electronic transactions, this is seen as the equivalent of a signature. See the "Glossary of terms related to payment, clearing and settlement systems", op. cit.

6 World Payments Report 2011, Capgemini, p. 10.

Chart 1 Use of payment instruments in the euro area

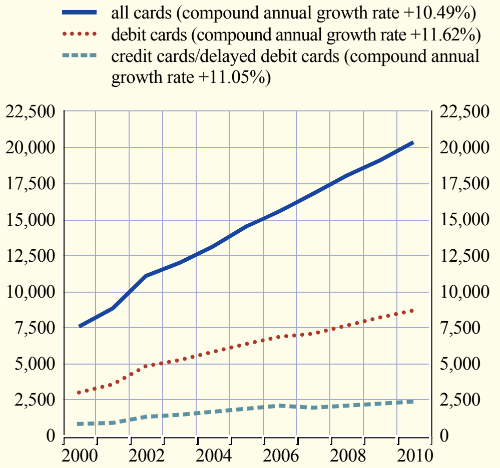
(millions of transactions)



Source: ECB Statistical Data Warehouse.

Chart 2 A comparison of debit card transactions with credit card and deferred debit card transactions in the euro area

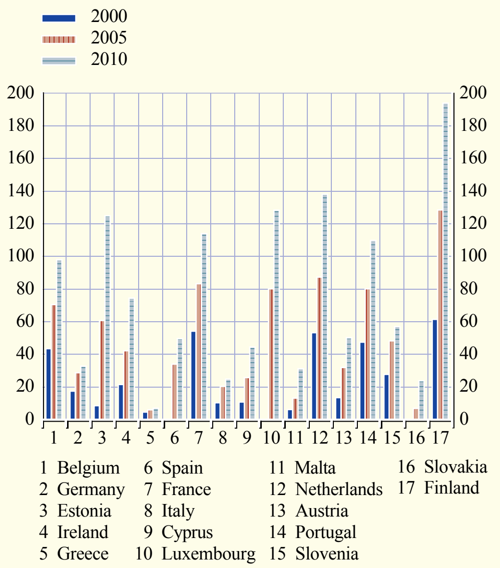
(millions of transactions)



Source: ECB Statistical Data Warehouse.
Notes: The chart shows a positive difference between the number of card transactions and the sum total of all sub-groups, broken down by type of card, i.e. credit/deferred debit cards and debit cards. In other words, the "sum of the components" is not equal to the "total" in all cases. The reason is that, although all the countries provide data on the totals, they do not all provide data on the sub-groups. The relatively large difference is due primarily to data from France, for which no breakdown is provided.

Chart 3 Number of card payment transactions per capita in the euro area

(number of transactions per capita)



Source: ECB Statistical Data Warehouse.
Note: Data for 2000 are not available for Spain, Luxembourg and Slovakia.

cards. Accounting for over 20 billion payments in 2010, payment cards have become the most widely used cashless payment instrument in Europe.[7] In particular, the number of debit card payments far exceeds the number of credit card and deferred debit card payments, as shown in Chart 2.

Although this general trend can be observed throughout the European Union, the starting point differs very widely from country to country, owing to diverging national market infrastructures, payment behaviours and customer preferences.

As shown in Chart 3, within the euro area, cards are most frequently used in Finland, Estonia, the Netherlands and Luxembourg. In Greece and Italy, card payments are least popular, with the smallest increases in the number of card payment transactions per capita over the period. The highest growth in the use of cards for payments has been recorded in Estonia, Slovakia, the Netherlands, Luxembourg and Malta. It is worth noting that, alongside the Netherlands and Luxembourg, countries that have adopted the euro more recently have recorded relatively high growth rates for payment card usage.

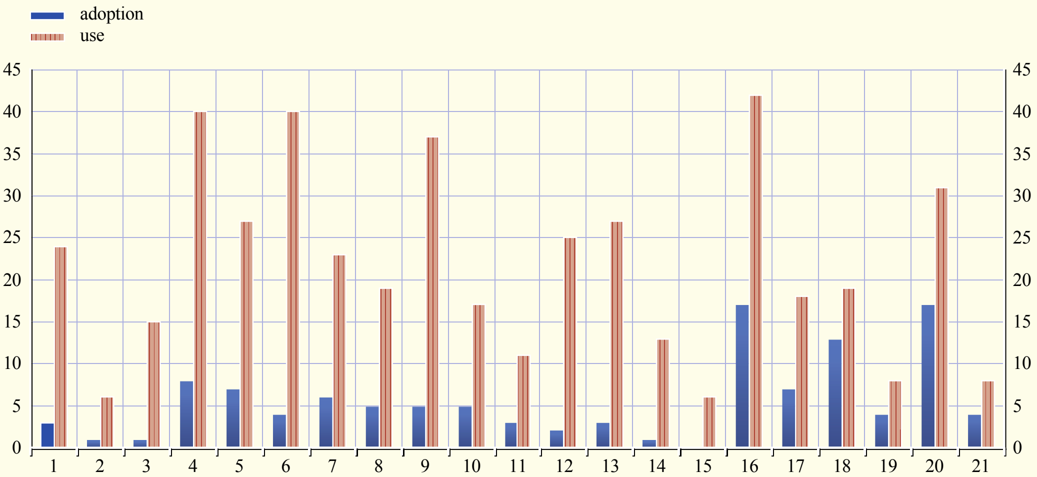
Relatively few studies dealing with consumers' payment behaviour were carried out between the 1960s and the early 1990s, most being purely descriptive and focused on the use of credit cards.[8] Since then the payments landscape has changed considerably: the use of cheques has decreased substantially and, with the introduction of electronic terminals at the point of sale and progress in telecommunication, card payments have become much quicker and more secure.

7 There were 20,355 billion card transactions in the euro area in 2010.

8 For an overview of the early studies dealing with payment behaviour, see Feinberg, R.A., "Credit Cards as Spending Facilitating Stimuli – A Conditioning Interpretation", *Journal of Consumer Research*, 13, 1986, No 3, S.348-56. Available at http://www.jstor.org/stable/2489426

Chart 4 Meta-analysis of 130 empirical surveys on the factors influencing the adoption and use of payment instruments

x-axis: factors
y-axis: surveys in which the given factors were cited



1 network size
2 social influence
3 external influence
4 perceived costs
5 perceived spending control
6 perceived security
7 perceived privacy
8 perceived speed
9 perceived ease of use
10 perceived usefulness
11 funding time
12 customer behaviour
13 payment amount
14 type of goods
15 experience
16 age
17 gender
18 education
19 type of job
20 income
21 place of residence

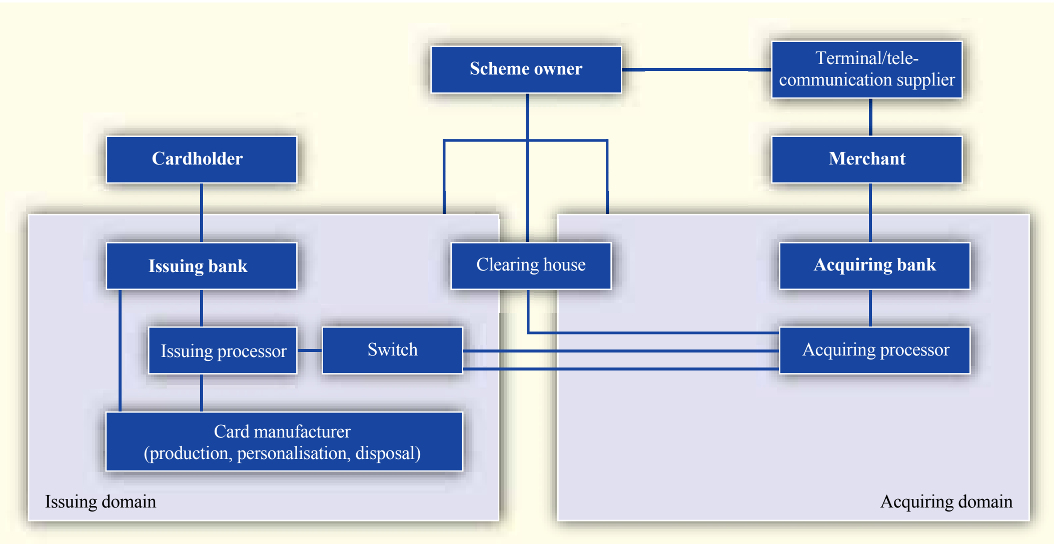
Source: ECB staff calculation.

This development was to a large extent fuelled by the success of debit cards, which triggered increased research efforts in the field of payments. Since the mid-1990s, more than 100 empirical surveys have been conducted worldwide to identify factors influencing the adoption (i.e. the decision to acquire or use a specific payment instrument for the first time) and the continued use of various payment instruments. Although the variables identified seem to differ depending on the circumstances of the payment and the socio-demographic characteristics of the respondents, those cited as the most important factors are costs, security and perceived ease of use.

4 STAKEHOLDERS IN CARD PAYMENTS AND TYPES OF PAYMENT CARD

Card payments at the physical point of sale involve a number of economic agents. The most obvious ones are the cardholder (payer) and the merchant accepting a card payment (payee). The cardholder obtains his/her card from the issuing entity, while the merchant has a contract with the acquiring entity. These issuing and acquiring entities are usually banks. The technical and commercial arrangement set up to serve one or more card brands and which provides the organisation, rules and operations necessary for the card brands to function, is called a card scheme. If not performed in-house by the issuer and/or acquirer, the technical processing of card payments is usually performed by specialised processing entities, which are often owned by the card schemes. An issuing processor opens and manages the cardholder's account on behalf of the issuer, books card transactions on these accounts, authorises card transactions on behalf of the issuing bank and provides statements for the cardholder. In some cases, it also arranges the clearing and settlement of card payments, operates a cardholder call centre (for lost and stolen cards) and/or handles chargeback claims by cardholders. An acquiring processor opens

Chart 5 Roles in the typical card payment process



Source: ECB.

and manages the merchant's account on behalf of the acquirer, forwards authorisation requests to a switch[9] (or directly to the issuer or issuing processor), books transactions on the merchant's account, charges service fees to merchants, produces statements for the merchant and, in some cases, also supplies voice authorisation centres.[10] Finally, for the clearing and settlement of funds between the issuer and acquirer, the services of a clearing house are often used. Clearing houses are entities (or processing mechanisms) through which participants agree to exchange transfer instructions for funds, securities or other instruments.[11]

Chart 5 gives an overview of these entities, their functions and their interaction. One legal entity can play several roles in the card payment process (e.g. a scheme owner can also offer processing services in the issuing and acquiring domain, or a card issuer can also be an acquiring bank).

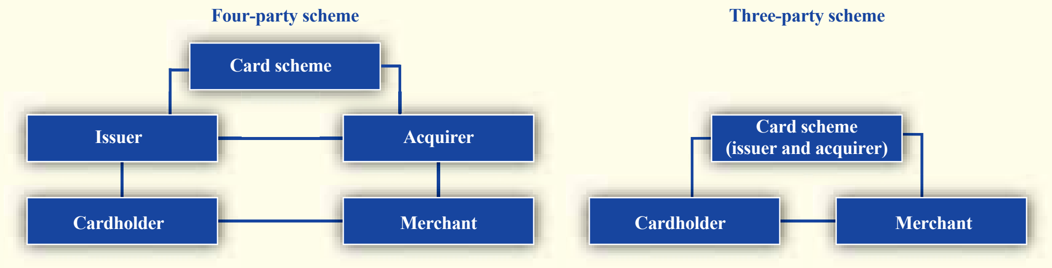
The chart shows a stylised card scheme based on a so-called four-party model ("four-party card scheme"), which is the model used by the vast majority of card schemes in Europe. In a four-party card scheme, the issuer has a contractual relationship with the cardholder and the acquirer has a contractual relationship with the merchant. This is the fundamental difference from card schemes based on a so-called three-party model ("three-party card scheme"), in which the card scheme acts as issuer and acquirer and has a direct contractual relationship with both the cardholder and the merchant; one variant is the three-party model which also allows other payment service providers to obtain an issuing and/or acquiring licence (so-called "three-party card schemes with licensees"). Chart 6 compares the basic structures of a four-party scheme and a three-party scheme.

9 To avoid the need for (costly) bilateral agreements and procedures between issuing entities and acquiring entities, debit card schemes often rely on a central routing switch, or "gateway", for the exchange of payments, which is often a separate legal entity jointly owned by the commercial banks. See Bolt, W. and Tieman, A.F., "Pricing Debit Card Payment Services: An IO approach", De Nederlandsche Bank, Research Memorandum No 735, 2003. Available at http://www.dnb.nl/binaries/wo0735_tcm46-146022.pdf

10 See the "Report on the retail banking sector inquiry", a European Commission staff working document accompanying the communication from the Commission on the sector inquiry under Article 17 of Regulation EC No 1/2003 on retail banking, European Commission, 2007, COM(2007) 33 final.

11 See the "Glossary of terms related to payment, clearing and settlement systems", op. cit.

Chart 6 Business models for the provision of card payments



Source: ECB.

Three-party schemes operating in the EU include American Express and Diners Club, while four-party schemes comprise Visa Europe, MasterCard and the vast majority of national schemes. It should be noted that the three-party schemes are primarily credit card schemes, while the four-party schemes are debit and credit card schemes. All of the larger Member States still have at least one domestic card scheme which only permits domestic card payments.[12] Most commercial banks are members of at least one international card scheme and offer cards which bear both a national scheme brand and the brand of an international scheme, mainly MasterCard or Visa Europe (a practice which is called "co-branding" or "co-badging"). Most domestic card schemes in Europe have a governance structure in which the members are also the "shareholders" of the scheme, i.e. a user-governed structure, which is also the case for Visa Europe. In some cases, not all the members of a card scheme are shareholders as well, but only the bigger commercial banks. Two of the main examples of listed card schemes are MasterCard Inc. and Visa Inc., which are both listed on the New York Stock Exchange.

In the EU (especially in smaller Member States) a trend seems to have set in, in which international schemes are replacing domestic ones and function as quasi "national" schemes.[13] While, in absolute figures, the majority of card payments are still processed via domestic schemes, the growth rates of international schemes are higher.[14] Four initiatives[15] are currently trying to establish new card schemes, which would offer their services on a pan-European level in competition with the well-established international schemes of MasterCard and Visa Europe. Similar moves can currently be observed in other major economic areas, such as Russia, India and Australia.

5 ECONOMIC IMPORTANCE OF CARD PAYMENTS

The card payments market is characterised by a two-sided market structure. Other examples of this structure that are often quoted in the literature are newspapers and magazines (which have to attract both readers and advertisers), online auction platforms (sellers and buyers) and discotheques (both male and female guests). Two-sided markets typically feature one or several platforms (one or more card schemes), which make interactions between end-users (cardholders and merchants) possible and try to bring the two sides "on board" by setting charges for each side at an appropriate level.[16] Markets are two-sided if supply and demand on one side of a given market are determined by supply and demand on the other side of

12 This is the case, for example, in Belgium, Denmark, Germany, Ireland, Spain, France, Italy and Portugal.
13 For example, in Estonia, Latvia, Lithuania, the Netherlands, Austria, Finland and the United Kingdom.
14 See "SEPA Cards: success factors for sustainable card schemes in Europe", Steinbeis University, Berlin, May 2011. Available at http://steinbeis-research.com/pdf/2011_SEPA_Cards_RFS_Steinbeis.pdf
15 These initiatives comprise EAPS (Euro Alliance of Payment Schemes), Monnet, PayFair and EUFISERV.
16 For more information on the two-sided market theory, see Evans, D.S., "Essays on the Economics of Two-Sided Markets", *Economics, Antitrust and Strategy*, 2010. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1714254

that market. The pricing in two-sided markets should therefore take account of both sides of the market. For example, if the pricing of card payments is attractive for merchants but not for cardholders, the latter will be reluctant to adopt and/or regularly use a payment card.

In a three-party card scheme, the roles of issuing and acquiring are performed by a single entity (i.e. the card scheme itself), which can determine the price charged to the merchant and the cardholder, since it has a direct contractual relationship with them. However, the pricing in four-party card schemes is potentially more complex. Four-party card schemes therefore usually apply a so-called interchange fee, which the cardholder's bank receives from the merchant's bank every time a card payment is made.[17] This interchange fee is typically multilateral – i.e. it is not agreed bilaterally between every issuing and acquiring bank. Besides interchange fees, up to four additional fees are applied in a four-party card scheme. First, the acquirer can charge the merchant a fee and thus recover the interchange fee paid to the issuer and charge for the services offered to the merchant. Second, further sources of income for issuing banks can comprise charges levied on the cardholder, e.g. fees for the issuing of the card, periodical fees per card, fees per transaction, and account statement and billing information fees. For both credit and debit cards, periodical fees are the main component of revenues from cardholders.[18] Third, card schemes can charge fees to issuers, and, fourth, they can charge fees to acquirers. These fees are for membership of the scheme and are generally based on the number of cards issued and/or the number of transactions carried out on the acquiring side.

Empirical evidence for Europe indicates that banks which provide retail payment services see an improvement in their performance. Higher usage of electronic retail payment instruments seems to stimulate banking business.[19] In its retail banking sector inquiry conducted in 2007, the European Commission concluded that payment cards, and especially credit cards, are a highly profitable business for the financial services industry. Based on figures for 2004, the European Commission estimated a weighted averaged profit-to-cost ratio of 65% for credit card issuers on a pan-EU scale and 47% for debit card issuers. However, one revenue component, in particular, has recently been the subject of heated debate and has triggered regulatory and antitrust investigations, i.e. the multilateral interchange fee (MIF). While determining whether the interchange fee restricts competition clearly falls within the competence of competition authorities, several central banks have also studied the issue as far as it concerns the smooth functioning of payment systems.[20]

For example, Bolt and Schmiedel (2011) conclude that increased competition between card schemes drives down merchant fees and increases card acceptance by merchants. Moreover, from a European perspective, consumers and merchants are likely to benefit from the creation of SEPA when sufficient competition in the card payments market counters potentially monopolistic tendencies.[21] In addition, the provision of and access to consumer credit in payment networks also affects competition, acceptance of and fees for payment cards.[22]

In recent rulings by competition authorities, MIFs for card payments have generally been considered to be decisions by associations of undertakings, or agreements between undertakings, which restrict competition.

17 For a comprehensive overview of interchange fees, see Börestam, A. and Schmiedel, H., "Interchange fees in card payments", *Occasional Paper Series,* No 131, ECB, September 2011.
18 See the "Report on the retail banking sector inquiry", European Commission, 2007, op. cit.
19 See Hasan, I., Schmiedel, H. and Song, L., "Return to Retail Banking and Payments", *Journal of Financial Services Research*, 2011.
20 For a comprehensive overview of this topic, see Börestam, A. and Schmiedel, H. "Interchange fees in card payments", op. cit.
21 See Bolt, W. and Schmiedel, H., "Pricing of Payment Cards, Competition and Efficiency: A Possible Guide for SEPA", *Annals of Finance*, 2011, pp. 1-21.
22 See Bolt, W., Foote, E. and Schmiedel, H., "Consumer credit and payment cards", *Working Paper Series*, No 1387, ECB, October 2011.

Owing to their multilateral nature, they limit the possibility for bilateral negotiations between issuers and acquirers and consequently restrict price competition between acquiring banks by artificially inflating the basis on which these banks set the charges they apply to merchants. Therefore, a MIF creates a floor for the merchant fee and merchants are unable to negotiate a price below it. This can considerably inflate the costs of payment card usage at merchant outlets to the detriment of merchants and their customers.[23]

While competition authorities do not deny that such agreements could theoretically bring benefits as well, which could make them compatible with competition law, in most cases, card schemes and/or financial institutions have not been able to provide proof of such benefits. In the absence of convincing analysis and evidence justifying the charging of MIFs and the levels they are set at by card schemes, competition authorities have only been able to provide limited guidance in recent decisions. The European Commission's introduction of the "merchant indifference" methodology could, however, contribute some additional guidance with respect to this issue. This methodology seeks to establish the MIF at a level at which merchants are indifferent as to whether or not a payment is made by payment card or by cash. Further guidance is also expected to be given in the pending ruling by the European General Court in a case in which MasterCard has appealed the European Commission's finding that MasterCard breached competition law[24] by, in effect, setting a minimum price (the intra-EEA fallback interchange fee), which merchants must pay to their acquiring bank for accepting payment cards in the European Economic Area (EEA).[25]

Other countries, e.g. Australia and recently the United States, have fixed a maximum cap on MIFs. Overall, and as stated in the Seventh SEPA Progress Report,[26] the Eurosystem's stance on interchange fees is neutral. This is an issue that falls within the field of competence of the European Commission. However, the Eurosystem is of the view that it is critical for the success of SEPA that cards can be issued, acquired and used throughout the euro area to make euro payments without any geographical differentiation. Transparency and clarity with respect to the costs and benefits of different payment instruments are indispensable for a modern and integrated European retail payments market. Interchange fees (if any) should be set at a reasonable level and should not prevent the use of efficient payment instruments. A sharp increase in cardholder costs could induce consumers to use less efficient means of payment, thereby hampering the success of, and objectives pursued by, the SEPA project. Therefore, in compliance with competition rules, interchange fees (if any) should not hamper the overall economic efficiency of the European payments market.

6 CHALLENGES

The lack of clarity regarding the permitted level of MIFs is often cited by market participants as a challenge in their preparations for a SEPA for cards, since it gives rise to uncertainty when planning their investment decisions. Although important, this is only one of the challenges which need to be overcome in order to make progress towards an integrated and competitive European card payments market. The areas of card processing, standardisation and certification, security and business practices, in particular, require further effort by the stakeholders involved.

23 See "Antitrust: Commission prohibits MasterCard's intra-EEA Multilateral Interchange Fees – frequently asked questions", European Commission, Memo/07/590. Available at http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/07/590&format=PDF&aged=1&language=EN&guiLanguage=en

24 In particular, Article 81 of the Treaty and Article 553 of the EEA Agreement.

25 See the European Commission's decision of 19 December 2007 (cases Nos Comp/34.579 MasterCard, Comp/36.518 EuroCommerce and Comp/38.580 Commercial Cards). Available at http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_34579

26 See the "Seventh SEPA Progress Report: Beyond Theory into Practice", ECB, October 2010.

Section 4 described the different roles involved in the typical card payments process and the fact that some parties play several roles. In particular, the card schemes are often also operationally involved in the card payments market and act as a processing entity. In order to facilitate competition and efficiency, the principle of separating the card scheme management from the processing entities aims to guarantee open access, as it gives issuers and acquirers a range of options to choose from as regards the processing of card payments.

Other important issues are standardisation and certification. Common standards are crucial to ensure that, from a technical point of view, any card can be used at any terminal in Europe. A harmonised certification process for cards and terminals, generally accepted throughout the EU, would lower the market entry barrier for manufacturers and processors.

In the same way, clear business rules are essential for the proper functioning of the cards market. In 2010 the Canadian government issued a code of conduct for the credit and debit card industry in Canada, which promotes fair business practices and ensures that merchants and consumers understand the costs and benefits associated with credit and debit cards. Similar regulatory initiatives in the United States and significant efforts in Australia and South Africa have recently been observed. In Europe, there seem to be no plans for extensive public intervention for the time being, however, the European Commission is closely monitoring the situation. Since the European card payments market is heavily reliant on self-regulation by the industry, the European Payments Council, as well as individual card schemes, have an important role to play in the establishment of the sound business practices that are needed for SEPA for cards to function smoothly. Examples of such business practices are increased transparency regarding fees; ensuring that card schemes do not forbid co-badging with other schemes; the elimination of geographic restrictions in licensing, issuing and acquiring; and the possibility for payers and payees to freely agree during the checkout process on the payment instrument which suits them best.

7 CONCLUSION AND OUTLOOK

Cards have become the most widely used cashless payment instrument within the European Union and debit cards, in particular, are increasingly substituting cash at the physical point of sale. While the euro banknotes and coins were successfully introduced in 2002, the logical complement, i.e. a SEPA for electronic payments, has not yet been finalised. For both cash and cashless payments, it is essential that people trust in the security of the payment instrument. While, for euro banknotes and coins,[27] comprehensive counterfeiting data are available, this is not the case for fraud involving electronic payments (including card payments) in the EU. In order to increase security and reduce fraud losses, all stakeholders need to cooperate, take responsibility and commit to effective measures for fighting fraud. As regards cards, the European payments industry has already taken a major step towards improving security with the decision to migrate from magnetic stripe technology to chip and PIN technology. Although this migration is approaching completion, the continuing presence of sensitive customer data on the magnetic stripe makes even chip cards vulnerable to skimming[28] and therefore does not allow the full benefits in terms of fraud reduction to be achieved.

In the view of the public authorities, the establishment of secure European payment solutions requires a level playing field for security, for which reason the ESCB has created

27 See "Euro coin counterfeiting in 2010", European Commission, 2011. Available at http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/47; and "Biannual information on euro banknote counterfeiting", ECB, 2011. Available at http://www.ecb.int/press/pr/date/2011/html/pr110718.en.html

28 Skimming can be defined as the unauthorised copying of card data (e.g. contained in the magnetic stripe) via a manipulated or fake terminal or with a hand-held reading device. The data copied from the magnetic stripe can be used to create a counterfeit card or in card-not-present transactions.

a European forum on the security of retail payments (SecuRe Pay Forum). The SecuRe Pay Forum is a voluntary cooperative initiative between authorities, aimed at facilitating the sharing of knowledge and promoting a common understanding, in particular between overseers and supervisors of payment service providers, with regard to the issues surrounding the security of retail payments. SecuRe Pay addresses issues concerning electronic retail payment services and retail payment instruments (excluding cheques and cash) provided within the EEA or by providers located in EEA countries. Its work focuses on the whole processing chain and aims to address areas where major weaknesses and vulnerabilities are detected and, where needed, recommendations are made. Owing to their prevalence, card payments are naturally one of the main topics of the SecuRe Pay Forum.

While this article deals with card payments at the physical point of sale, cards are also one of the most important payment instruments in the growing segment of e-commerce. According to Eurostat,[29] on average 69% of all individuals in the EU27 are internet users and 53% use the internet almost every day. Despite the recent economic crisis, online retailers saw continued strong sales growth, even though high street retail sales stopped growing or even contracted. In the United Kingdom, the final figures for 2009 show that, year on year, e-commerce grew by over 14%. Similar or higher levels of growth are indicated in the initial figures from Germany and France.[30] However, the vast majority of e-commerce still comprises domestic transactions. Currently only 8% of online shoppers in the EU buy from merchants in another country. According to a study by the European Commission,[31] 60% of attempted credit card payments for cross-border internet shopping orders fail owing to the web merchants' refusal to accept non-domestic credit cards. Furthermore, among shoppers who were willing to purchase online, the main reason for not doing so was concern about the security of online payments. One of the factors is that payment cards have not been designed to cope with the specific needs of online transactions and often cannot be used for cross-border purchases. The challenge is to adapt card payments to make them a more secure means of online payment, e.g. by rolling out secure payment protocols, while at the same time usability should not be adversely affected.

For half a century card payments have been associated exclusively with plastic cards, but nowadays technology offers new ways to make card payments, be they proximity payments (i.e. at the physical point of sale) or remote payments (especially in the field of e-commerce). Moreover, the plastic card itself has become a "smart card", with a chip on it. These chips are in fact small computers, providing new ways to make payments (e.g. contactless payments with the help of near-field technology) and offering services over and above payments (e.g. merchants' reward programmes). Once a contactless point-of-sale terminal structure is in place throughout Europe, the mobile phone could replace the plastic card. The oft-quoted observation that people are more likely to forget their wallet than their mobile phone, together with the technological versatility of the device, has already led to the idea of developing payment mechanisms based on the mobile phone. However, the roll-out of mobile payment solutions in Europe is still at an early stage and its success depends on a wide range of preconditions which need to be fulfilled. Nevertheless, if the implementation of contactless technology is successful, the devices used to make card payments could in future range from a smart card to a mobile phone or even a wristwatch. Forward-looking payment service

29 See "Internet Usage in 2010 – Households and Individuals", issue number 50/2010, Eurostat, 2010. Available at http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-QA-10-050/EN/KS-QA-10-050-EN.PDF

30 See "Consumer 2020: From Digital Agenda to Digital Action", European Commission staff report, 23 May 2010. Available at http://ec.europa.eu/information_society/newsroom/cf/document.cfm?action=display&doc_id=750

31 See "Mystery Shopping Evaluation of Cross-Border E-Commerce in the EU – Final Report", European Commission. Available at http://ec.europa.eu/consumers/strategy/docs/EC_e-commerce_Final_Report_201009_en.pdf

providers are already taking this possibility into consideration by developing integrated payment platforms that offer a wide range of access channels for customers but standardised back-office processes. Such integrated approaches can greatly benefit from the standardisation and integration work achieved by the SEPA project. The different access channels can be combined in sophisticated "wallet solutions" for customers, creating additional value for consumers and merchants and laying the foundations for future growth in card payments.

Card payments, one of the main pillars of SEPA, are lagging behind credit transfers and direct debits in the move towards an integrated European market. Certainly, the complexity of the card payments market, with the large number of parties involved, as well as its economic importance, have contributed to the slow pace of progress. However, if the main challenges relating to processing, standardisation and business practices are successfully overcome, an integrated European card payments market for the benefit of customers and the economy as a whole can be achieved and the basis for further payment innovation can be created.