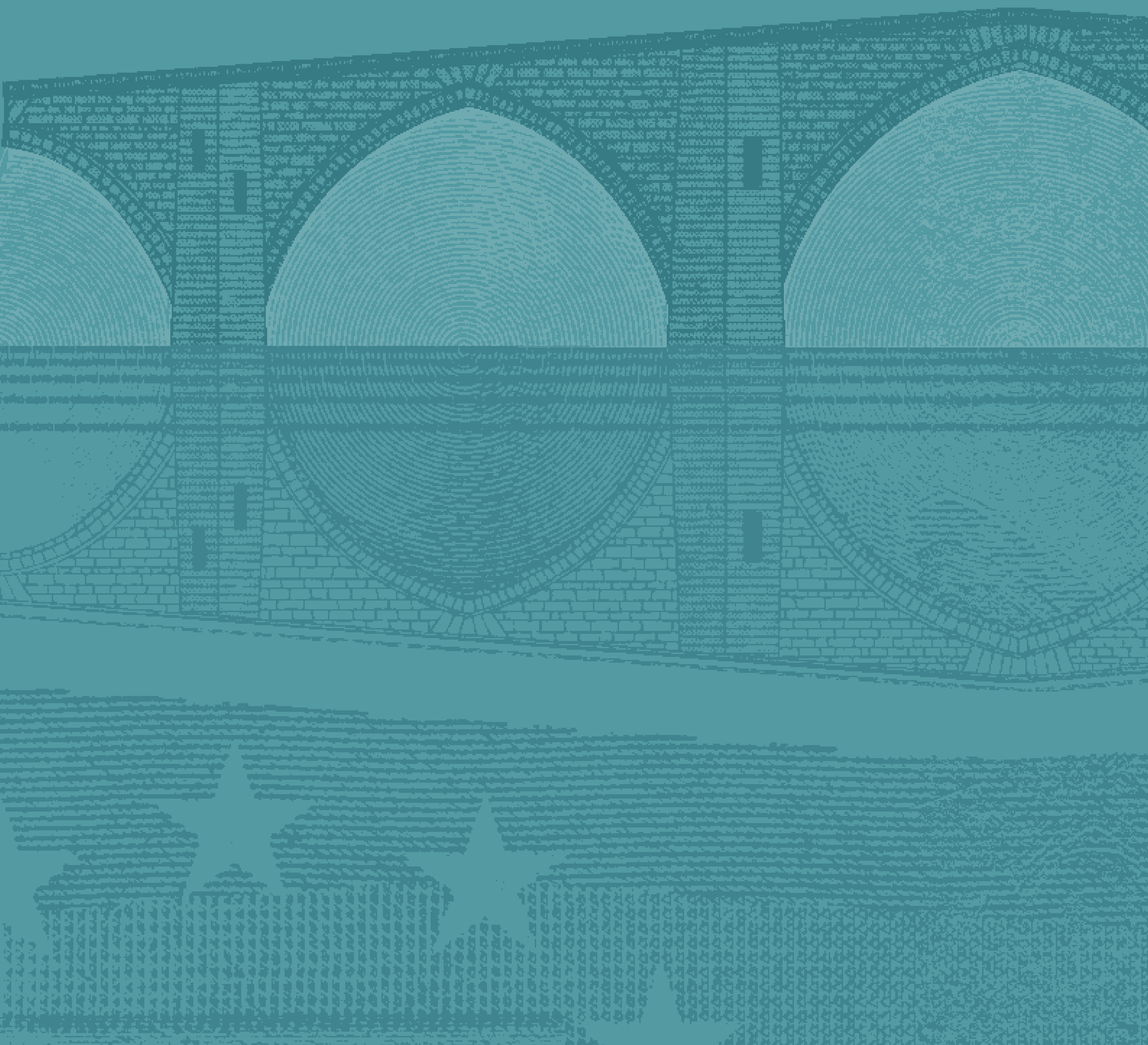
EUROPEAN CENTRAL BANK

EUROSYSTEM

CARD PAYMENTS IN EUROPE – A RENEWED FOCUS ON SEPA FOR CARDS

APRIL 2014



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In 2014 all ECB publications feature a motif taken from the €20 banknote.

CARD PAYMENTS IN EUROPE

A RENEWED FOCUS ON SEPA FOR CARDS

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EXECUTIVE SUMMARY

Over the past decade, the integration of the European retail payments market has been a high priority for legislators, regulators, central banks and payment service providers. This project has become known as the Single Euro Payments Area (SEPA) and has focused, above all, on credit transfers, direct debits, and card payments, which are the three electronic retail payment instruments most commonly used in Europe. While European legislation has determined the deadlines for the migration to SEPA credit transfer and SEPA direct debit schemes in the euro area by 1 February 2014, card payments are at a much more premature stage of European harmonisation and integration. For "SEPA for cards" to work – often depicted as "any card at any terminal" – considerable efforts are still required over the coming years.

The purpose of this report is to provide a comprehensive and up-to-date overview of the status of card payments in Europe, which should serve public authorities and the general public alike. It also provides the rationale behind the Eurosystem's views, policies and objectives in the field of card payments and the ultimate aim of SEPA for cards: a harmonised, competitive and innovative European card payments area.

While payment behaviour in Europe differs considerably from one country to another, the general trend over the past decade has been similar. Card payments are gaining importance and the number of card payments per capita has increased in each and every EU country. The Eurosystem does not consider uniform payment behaviour as its ultimate goal, but rather aims at harmonising the principles, business practices and rules, and technical standards relating to card payments. Therefore, impediments such as the absence of the technical competencies of the card and the terminal to interoperate, and the commercial limitations for merchants to accept certain cards, or finally cardholders being disconcerted by different "payment experiences" across Europe should be eliminated across SEPA.

The security of card payments, and the trust of the general public in making card payments, is a matter of concern for the Eurosystem. Fraud with cards issued within SEPA stood at €1.3 billion in 2012 or 0.038% of the value of card transactions. Technological advances have made card transactions safer, i.e. the use of a chip instead of a magnetic stripe for authenticating the card. As long as the magnetic stripe is still on payment cards, the use of those cards should, by default, be blocked for certain regions, a practice referred to as "geo-blocking". One of the main challenges is the increasing fraud for "card-not-present" payments, especially in e-commerce. Therefore, the implementation, by 1 February 2015, of the "Recommendations for the security of internet payments", as developed by the European Forum on the Security of Retail Payments (SecuRe Pay), is of utmost importance.

The separation of card schemes and card payment processing entities is a core element in increasing competition and efficiency in card payments. The principle of the separation of schemes from processing should apply at the corporate level, including, in particular, operational separation, information separation, financial/accounting separation, commercial separation and, ideally, also legal separation. This issue of separating the schemes from the processing is currently being addressed in the context of the European Commission's proposed regulation on interchange fees for card-based payment transactions from July 2013. In addition to separating these two aspects, a SEPA card processing framework and a technical interoperability framework should be developed to foster a competitive card processing market.

In order to establish an integrated and competitive card payments market, certain business practices and rules also need to be changed and even more so if the number of card schemes in Europe decreases further and, as a consequence, also competition. In the proposed regulation on interchange fees for card-based payment transactions, such business practices and rules are dealt with extensively. While the Eurosystem takes a neutral stance on interchange fees, as such, it welcomes increased clarity on the legal soundness of the charging models applied to card payments. In general, transparency and clarity on fees is to be welcomed. Surcharging and rebating could be used to steer cardholders towards more efficient payment instruments, as long as they are not applied in an undifferentiated way or misused as an additional source of income. When it comes to geographic differentiation (restrictions in issuing and acquiring licences, fees, etc.), the Eurosystem advocates eliminating any kind of restrictions within the EU that are based on national borders rather than any objective rationale. Moreover, any kind of steering practices (honour-all-cards rule, co-branding, and/or the choice at the checkout) should not create a lock-in effect reducing the choice for cardholders, card payment acceptors, issuers and/or acquirers.

While harmonised principles and harmonised business practices and rules are necessary, they are not sufficient: what is hampering SEPA for cards is also the fact that there are too many country or card scheme-specific requirements and implementation specifications ("technical standards") which are not interoperable. Notwithstanding the successful migration, certainly within Europe, to the EMV specifications as de facto standard for the communication between chip card and terminal, other standardisation domains need to follow suit. Standardisation of the functional and security requirements, and the development of implementation specifications on that basis, is a pre-condition for the production of "SEPA-compliant" cards and terminals. A harmonised functional testing/ security evaluation process, as well as a harmonised certification process, will complete these efforts. Needless to say, the Eurosystem expects security requirements, and the security evaluation and certification processes for new types of cards and terminals, to be not only harmonised, but also set at the appropriate level to reduce or prevent card fraud.

Despite several promising developments, card payments, one of the three pillars of SEPA, have not yet reached the same level of harmonisation and integration as credit transfers and direct debits. However, if the main challenges, as outlined in this report, are successfully overcome, SEPA for cards can be achieved for the benefit of the supply side, the demand side, and the economy as a whole.

I INTRODUCTION

At the latest with the introduction of the euro in 1999 and the cash changeover in 2002, the establishment of a single payments area – as an element of the single market – was regarded as a priority. This project has become known as the Single Euro Payments Area (SEPA). SEPA addresses the three most commonly used cashless payment instruments[1] in Europe, which are credit transfers, direct debits and card payments (see Chart 4, Page 25).

The greater use of cashless payment instruments after cash, or in some countries cheques, has positive effects for society as a whole. The ECB carried out a study of the costs of different payment instruments.[2] It shows that the costs to society of providing retail payment services amount to almost 1% of GDP. However, these costs vary from 1.20% to 0.80% of GDP. Some of the differences between the two ends: around four times more credit transfers per capita, three times more card payments, and one-and-a-half times more direct debit payments in the countries with the *lower* social costs.

The European Payments Council, the coordination and decision-making body of the European banking industry for all payment-related issues established in 2002, has developed SEPA schemes for both credit transfers and direct debits. The migration towards these Europe-wide credit transfer and direct debit schemes has been enforced by law.[3] The deadline for migration is 1 February 2014, with a two-year grace period for some niche products and for euro payments in the non-euro area Member States. On 9 January 2014, the European Commission proposed a six-month transitional period allowing payment service providers to continue, until 1 August 2014, processing payment transactions in euro in the legacy formats.[4]

By contrast, substantial efforts are still required in order to achieve a single *card payments* area. The technical complexities behind card payments, the number and type of market participants involved, as well as their various and, sometimes, conflicting business interests – all aspects that are not usually obvious to the general public – make the establishment of "SEPA for cards" a far greater challenge. Due to the prevalence of card payments, which are second only to cash as the means of payment most commonly used at the physical point of sale, legislators, regulators, including competition authorities, and the Eurosystem, have a keen interest in achieving this endeavour. Following the migration to SEPA credit transfers and direct debits, a renewed focus on cards is needed.

What is still missing to achieve SEPA for cards? From a cardholder's perspective, card payments are not accepted as much as one would expect given the efficiency, safety and convenience that these payments can bring as compared to cash payments. Card payments are also less accepted or even absent in specific sectors of the economy. Moreover, some cards, even though SEPA-compliant, are not accepted at locations where other SEPA-compliant cards are being accepted. From the perspective of a merchant, the decision to accept card payments will certainly be influenced by the expected unit costs per card payment, but there can also still be technical restrictions. Merchants

1 A payment instrument is a tool or a set of procedures enabling the transfer of funds from a payer to a payee. Definitions used in this report are mostly taken from the "Glossary of terms related to payment, clearing and settlement systems", ECB, 2009.

2 Schmiedel, H., Kostova, G., and Ruttenberg, W., "The social and private costs of retail payment instruments: a European perspective, 2012, available at: http://www.ecb.europa.eu

3 Regulation (EU) No 260/2012 of the European Parliament and of the Council of 14 March 2012 establishing technical and business requirements for credit transfers and direct debits in euro and amending Regulation (EC) No 924/2009.

4 Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) 260/2012 as regards the migration to Union-wide credit transfers and direct debits.

are also not always faced with a great choice of acquirers, and cannot easily choose to use a foreign acquirer. Internationally active retailers face difficulties with different business practices and rules within SEPA, as well as different functional and security requirements for their payment terminals. Acquirers are sometimes bound by restrictive membership or licensing rules in the card schemes. At the level of the processing of card transactions, several restrictions still prevail. This shows that there is still much to do to achieve the objective of SEPA for cards.

At the same time, emerging payment solutions based on recent technological innovations shed some doubt on the future importance of card payments. In particular, the use of mobile telephones for making payments poses interesting questions. On the one hand, the mobile device can be just another "card" format for making contactless card payments. However, with a mobile device, especially with a "smartphone", previously "remote" payment instruments – such as a credit transfer – can be introduced into the "bricks-and-mortar" environment. The work on SEPA for cards needs to take such developments into account.

The fact that the SEPA migration end date for credit transfers and direct debits (1 February 2014), the recent EU legislative proposals with a profound impact on card payments,[5] and the emergence of innovative payment solutions are all taking place at the same time has led the ECB to publish a report on card payments in Europe. The purpose of this report is to provide a comprehensive and up-to-date overview of the status of card payments in Europe, as well as to provide the rationale behind the Eurosystem's views, policies, and objectives for SEPA for cards.

5 On 24 July 2013, the European Commission adopted a legislative package proposing a revised directive on payment services in the internal market (PSD2) and a regulation on interchange fees for card-based payment transactions.

2 THE ROLES OF THE EUROPEAN CENTRAL BANK AND SEPA

2.1 COMPETENCIES IN THE FIELD OF PAYMENT SYSTEMS

The legal basis for the competencies of the ECB and the national central banks in the area of payment 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 Statute of the European System of Central Banks and of the European Central Bank (Statute of the ESCB and of the ECB). Moreover, Article 22 of the Statute of the ESCB and of the ECB 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 ECB and the national central banks of the euro area countries, in their capacity as the Eurosystem, acts as 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 for 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 these against the objectives of safety and efficiency and, where necessary, fosters change. The oversight function of the Eurosystem also extends to payment instruments, including card payments, as they are an integral part of the payment system.

- As a **catalyst**, the Eurosystem seeks to promote a safe, efficient and reliable payment system in the euro area. Over the past decade, this work has focused on facilitating the development of a single payments area for cashless retail payments (i.e. credit transfers, direct debits and card payments) – generally referred to as the Single Euro Payments Area or SEPA.[6]

The ECB also has the power to make regulations, take decisions, and issue recommendations to promote the smooth operation of payment systems (see Article 132 of the Treaty).

2.2 THE SINGLE EURO PAYMENTS AREA

SEPA aims to establish a single payments area for cashless retail payments in euro by overcoming the technical, legal and geographic 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 individual countries of residence. Once SEPA is complete, there will no longer be any differentiation between domestic and cross-border euro payments within the European Union. SEPA covers the euro area, but also the other countries in the European Union, as well as Iceland, Liechtenstein, Monaco, Norway, San Marino and Switzerland.

6 Detailed information on the SEPA project is available at: http://www.sepa.eu

The European Payments Council (EPC)[7] was established in 2002 as the coordination and decision-making body of the European banking industry for all payment-related issues. In a self-regulatory approach, it has developed SEPA payment schemes for credit transfers and direct debits that are described in rulebooks (first published in 2005). Following a rather slow uptake, migration towards these Europe-wide schemes has been enforced by means of Regulation (EU) No 260/2012 setting the deadline for migration as 1 February 2014.

For card payments, the EPC has established a framework, the "SEPA cards framework" (SCF), which is less prescriptive than a rulebook. The SCF, first published in 2005, spells out high-level principles and rules which — when implemented by the card industry — will enable the objectives of a SEPA for cards to be achieved. These principles aim to ensure that:

- cardholders will be able to pay (or make ATM withdrawals) with one card all over SEPA (limited only by acceptance on the part of the merchant);

- merchants will be able to choose any acquirer and accept any SCF-compliant card;

  The EPC continues to contribute to free and open international standardisation activities so as to provide the cardholder and merchant with the same kind of payment experience.

- in the interest of increased security, cards and the communication between card and terminal will be based on EMV chip technology instead of the magnetic stripe technology; the use of a PIN[8] instead of a signature will be up to the discretion of the issuer; and

- the separation of SEPA card scheme governance from the processing operations that need to be performed by the service providers and the infrastructures under these SEPA schemes is mandatory.

Moreover, in 2009, the EPC published the "SEPA Cards Standardisation Volume – Book of Requirements" ("Volume") which complements the SCF.

However, implementation of the SCF is only mandatory for EPC members; indirectly they ensure that the card schemes in which they are participants become SCF-compliant.

The EPC's objectives for card payments have been largely in line with the Eurosystem's views in the field of card payments, but the Eurosystem has noted that the SCF leaves room for different interpretations and remains too general on some issues (such as on standardisation, processing, certain card schemes' business practices, strategies against fraud). More broadly, the ECB and the Eurosystem have facilitated the development of SEPA. It has done so by acting as a catalyst (see Sub-section 2.3) and as an overseer by developing harmonised oversight standards for card payment schemes (see Sub-section 2.4).

7 Further information is available at: http://www.europeanpaymentscouncil.eu/
8 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 regarded as the equivalent of a signature.

2.3 CATALYST ACTIVITIES WITH A FOCUS ON CARD PAYMENTS

In its role as a catalyst, the Eurosystem has facilitated the development of SEPA. It has monitored the work of the EPC intensively and has provided guidance to the EPC and other market participants, both informally and in the format of various SEPA progress reports and other publications.

Despite a number of legislative, regulatory/antitrust and oversight activities, the European card payments market has, thus far, heavily relied on self-regulation. In order to provide the payments industry with guidance and impetus for their self-regulatory activities, the catalyst role of the Eurosystem has been essential in developing a harmonised, competitive and innovative European card payments area. The Eurosystem has not only participated as observer in meetings organised by market participants (for example, the Cards Working Group of the EPC, and the Cards Stakeholders Group in which the supply and demand side have combined forces), but it also organises meetings and fora on its own initiative, whenever necessary (for example, the Forum on the SEPA Certification Framework and the Forum on SEPA Cards Standardisation). In addition, the Eurosystem has formulated its vision of a SEPA for cards in numerous publications, of which the following are the most relevant:

Between 2002 and 2010 the Eurosystem issued seven **SEPA Progress Reports**, in which card payments are considered as one of the three basic SEPA payment instruments after credit transfers and direct debits. In addition, a dedicated report entitled "The Eurosystem's view of a "SEPA for cards"' was published in 2006.[9]

The Eurosystem then defined the Terms of Reference for the SEPA compliance of card schemes in 2009.[10] These Terms of Reference are based on the criteria contained in the SEPA cards framework developed by the European Payments Council and the criteria included in the above-mentioned Eurosystem report of 2006. In order to achieve the desired transparency, the Eurosystem expected card schemes aiming to become SEPA-compliant to conduct self-assessments and to publish their findings on their websites. The following card schemes published self-assessments on their websites and made them available to the relevant central bank: Activa (SI); American Express; Bancomat/PagoBancomat (IT); Cartes Bancaires (FR); Euro 6000 (ES); Girocard (DE); JCB; Laser Card (IE); MasterCard; Multibanco (PT); Servired (ES); Sistema 4B (ES); and Visa Europe. The Eurosystem will reassess the SEPA compliance criteria for card schemes and decide whether or not to update and maintain them.

2.4 OVERSIGHT ACTIVITIES FOR CARD PAYMENTS

Central banks generally have the explicit objective of fostering financial stability and promoting the soundness of payment and settlement systems and oversight is an essential function in fulfilling this objective. As a rule, the extent of the oversight efforts that should be invested to ensure the compliance of the overseen entity should be in proportion to the systemic importance of that entity from a risk perspective. In line with this risk-based approach, the Eurosystem's common oversight began with those payment systems that could, under certain circumstances, undermine the stability of financial institutions and markets; thus, it developed standards for large-value systems, and, thereafter, standards for retail payment systems. The risks in the provision of payment instruments (such as e-money, card schemes, direct debits and credit transfers) have not generally been considered to be of systemic concern, but the safety and

9 For further information, see: http://www.ecb.int/pub/pdf/other/eurosystemsviewsepacards200611en.pdf
10 Available at: http://www.ecb.europa.eu

efficiency of payment instruments are important for both maintaining confidence in the currency and promoting an efficient economy. The smooth functioning of payment instruments facilitates commercial activities and, thereby, welfare.

In the light of this, the Eurosystem developed oversight standards for card payment schemes in 2006/07, which were finalised after a public consultation in 2007 and approved by the Governing Council in January 2008. The report entitled the "Oversight Framework for Card Payment Schemes – Standards"[11] lays down Eurosystem oversight standards with regard to card payment schemes operating in the euro area. These oversight standards focus on ensuring the safety and efficiency of the card payment schemes and form part of the Eurosystem's oversight policy on card payment schemes (both, four-party and three-party schemes) and are applicable to all card payment services offered either by debit card and/or credit card. In principle, the oversight standards are addressed to the governance authority of the card payment scheme, which is responsible for ensuring compliance. The responsible overseer may liaise with any other actor(s) in charge of certain card payment scheme functions which are not directly under the responsibility of the governance authority.

Taking the oversight standards for card payment schemes as a starting point, the Eurosystem has developed a generalised approach and a minimum set of common oversight standards for payment instruments. These standards create the common ground for all payment instrument frameworks, while leaving enough flexibility for the specificities of the individual instruments involved. Instead of elaborating frameworks in response to market developments on a case-by-case basis, the common oversight standards represent foundations on which oversight of payment instruments in general can be built. The oversight standards for card payment schemes remain nevertheless in force, since they are in line with the provisions of the generalised approach and a minimum set of common oversight standards for payment instruments.

The Eurosystem's harmonised oversight standards for payment instruments[12] cover SEPA direct debits, SEPA credit transfers and card payments, as well as any other new payment instruments that are used SEPA-wide. With respect to both card and e-money schemes, the common standards rely on policies that the Eurosystem had adopted even before the common standards entered into force. Each national central bank may decide to apply the common standards, even for the oversight of local payment instruments, if they deem this to be appropriate and the payment instrument is not going to be phased out in the course of SEPA migration.

11 For further information, see: http://www.ecb.int/pub/pdf/other/oversightfwcardpaymentsss200801en.pdf
12 See: http://www.ecb.int/

Box 1

THE EUROPEAN COMMISSION'S LEGISLATIVE PROPOSALS FOR CARD PAYMENTS

There are a number of European laws which have a direct impact on the card payments market. The most relevant are briefly discussed below. European legislation is complemented and sometimes implemented (in the case of directives) by way of national legislation. Annex 1 lists the most relevant laws by Member State.

The **Regulation on cross border payments in euro**[1] ensures that, from July 2002 onwards, charges for cross-border electronic payment transactions (including card payments) shall be equal to those for domestic transactions.

Payment cards also fall within the scope of the **Payment Services Directive (PSD)**.[2] The PSD covers (amongst others) services enabling cash withdrawals from a payment account as well as all the operations required for operating a payment account, the execution of payment transactions through a payment card or a similar device, and the issuing and/or acquiring of payment instruments. Apart from a number of provisions regulating the rights and obligations between the consumer and payment service provider (PSP), the PSD also touches upon specific business practices in the field of card payments (e.g. surcharging).

In July 2013, the Commission adopted a **Proposal for a revised Payment Services Directive (PSD2)**.[3] The PSD2 aims to promote cost transparency and the use of the most efficient payment instruments and also touches upon surcharging. The PSD2 foresees that Member States and PSPs should not prevent the payee from charging the payer for using a specific payment instrument, duly taking into account the provisions set out in the Consumer Protection Directive (see below). This should act as a steering mechanism towards the cheapest means of payment. However, the right of the payee to apply a surcharge should only be valid for those card and other payment instruments for which interchange fees are not regulated, as per the proposed regulation below. For a large number of card payments, surcharges will, therefore, not be likely if the proposed regulation is subsequently finally approved.

Although the **SEPA migration end-date regulation**[4] explicitly excludes card transactions, as the common standards for card payments are still being established, it does cover transactions for which a payment card at the point of sale is used as the means to initiate a payment transaction which directly results in a credit transfer or a direct debit to and from a payment account identified by the existing national basic bank account number (BBAN) or the international bank account number (IBAN). The European legislator considered that there was a need for a transitional period in relation to such payment services owing to the substantial transaction volume involved and their relevance in specific Member States. In order to enable the stakeholders to implement an adequate SEPA substitute for the legacy credit transfer or direct debit schemes that they currently base their services on, Member States were given the possibility to introduce an extended transitional period for those payment transactions until 1 February 2016.

The **Consumer Protection Directive**,[5] which was transposed into national law on 13 December 2013, prevents "traders from charging consumers, in respect of the use of a given means of payment, fees that exceed the cost borne by the trader for the use of such means" and should, therefore, avoid excessive surcharging by card acceptors.

1 Regulation (EC) No 2560/2001 of the European Parliament and of the Council of 19 December 2001 on cross-border payments in euro and Regulation (EC) No 924/2009 of the European Parliament and of the Council of 16 September 2009 on cross-border payments in the Community and repealing Regulation (EC) No 2560/2001.
2 Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market.
3 Proposal for a Directive of the European Parliament and of the Council on payment services in the internal market and amending Directives 2002/65/EC, 2013/36/EU and 2009/110/EC and repealing Directive 2007/64/EC: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52013PC0547:EN:NOT
4 Regulation (EU) No 260/2012 of the European Parliament and of the Council of 14 March 2012 establishing technical and business requirements for credit transfers and direct debits in euro.
5 Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights.

The **Proposal for a regulation on interchange fees for card-based payment transactions**[6] was presented by the Commission in July 2013. This proposal does not only regulate the maximum levels of interchange fees, but a number of business practices in the field of card payments too. Its content will be briefly discussed in Chapter 7 on business practices and rules.

6 Proposal for a regulation of the European Parliament and of the Council on interchange fees for card-based payment transactions: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52013PC0550:EN:NOT

3 BASIC CONCEPTS OF CARD PAYMENTS

3.1 TYPES OF PAYMENT CARDS

The common notion of payment cards is the time at which a transaction is debited. **Debit cards** enable cardholders to make purchases and/or withdraw cash and have these transactions directly and immediately charged to their payment accounts ("pay now" model). **Credit cards** 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 (a charge card, 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). Given that transactions with a credit card are not necessarily directly and immediately charged to the payer, the card scheme's rules and the processing of the transaction, and as a consequence also the card acceptance environments, can be broader as compared to transactions with a debit card. Credit card schemes often (and debit card schemes sometimes) differentiate between basic cards and more exclusive cards (gold, platinum, etc.). As a variant of credit cards, **delayed (or deferred) debit cards** enable cardholders to make purchases and/or withdraw cash and have these transactions charged to a payment account held with the card issuer, up to an authorised limit. The balance of this account is then settled in full at the end of a predefined period.

In the special case of **prepaid cards**, the cardholder has to make a certain amount of funding available before the card can be used ("pay before" model). In terms of its usage, that is to say, for making payments or cash withdrawals, it can, however, work in a similar way to a debit card or even a credit card.

A prepaid card should not be confused with an "electronic purse". For an electronic purse, an amount of electronic money can be stored on the chip of the card or on a central server, which is debited when a payment is initiated. From a European legal perspective, such payment instruments are regarded as e-money[13] instead.

If the cardholder entering into a contract with the card issuer is a private individual, these cards are referred to as consumer cards. If cards are offered to companies and their employees and to self-employed professionals, the cards are referred to as commercial cards. These can be cards for travel expenses, procurement or fleet expenses or a combination of these. This differentiation is especially relevant for merchants, who are typically charged higher fees for commercial cards compared to consumer cards.

EUROSYSTEM POLICY LINE ON THE TYPES OF PAYMENT CARDS

- The Eurosystem includes all types of payment cards (debit, delayed debit and credit cards), irrespective of the time of debiting, within the scope of its policies for payment cards and/or card payment transactions.

- However, an "electronic purse" is regarded as e-money and not a payment card and/or card payment transaction.

13 Electronic money is a digital equivalent of cash, stored on an electronic device or remotely at a server. One common type of e-money is the "electronic purse". Further information is available at: http://ec.europa.eu/internal_market/payments/emoney/

- If a payment card is merely used for obtaining data, based on which a credit transfer or direct debit is initiated, these payments are considered as credit transfers or direct debits respectively and their initiation is not considered as being part of the card payment process.

Box 2

DIRECT DEBIT TRANSACTIONS BASED ON THE INFORMATION ON THE CARD

Not everything which appears at first sight to be a card payment transaction is really executed as such. Sometimes data stored on the card can be used for the initiation of payment instruments other than card payments (i.e. direct debits or credit transfers), while the perception of a cardholder might be that of initiating a card payment transaction. Probably, the most successful example in this context is the "Elektronische Lastschriftverfahren (ELV)" which is offered as a means of payment by retailers in Germany and Austria.[1] In this case, data stored on the debit card is used to issue a mandate for a one-off direct debit, which the cardholder authorises at the physical point of sale (typically via his/her signature). Recent developments in the field of retail payments (migration from magnetic stripe to chip, new legal requirements, and the migration from local direct debit schemes to SEPA direct debit), do not only provide challenges for traditional payment service providers, but certainly also for service providers offering the ELV. The "ELV Forum" is currently working on the technical adaptation of the ELV to this changing environment.

1 In the 1980s German retailers, in cooperation with technical service providers and a major German bank acting as creditor bank, introduced a non-guaranteed payment scheme based on direct debits. The reason for this was that the financial services industry did not follow the retailers' request of introducing such a solution and retailers wanted to save costs compared to the debit card solution offered by credit institutions. With the help of account details stored on the magnetic stripe of German payment cards, ELV-enabled POS terminals generated a direct debit mandate, which the payer has to sign at the POS. Blacklists and service providers offering guarantees allowed retailers to keep card fraud at an acceptable level, despite the lack of online-to-issuer authorisation.

3.2 USAGE

Payment cards were originally introduced, in the 1930s, for making payments at the **physical and attended point of sale,** particularly in the "travel and entertainment" sector and later, in the 1950s, in the form of a "general purpose" card by Diners Club. Meanwhile, technological progress made it possible ("technology push") and changing consumer behaviour created a demand for ("demand pull") using payment cards for making **remote** payments. A card-centric classification of usage, describes a remote payment as a "card-not-present" (CNP) transaction. While CNP transactions were first introduced for "MO/TO" (Mail Order/Telephone Order) commerce, they really took off with the emergence of the internet and the successful introduction of online shopping. The largest share of the volume and value of transactions is still being executed at the physical point of sale. However, the growth rates for CNP transactions are considerably outperforming these and are, therefore, of strategic relevance for any card scheme.

A subcategory of "card-present" transactions are those at the **unattended point of sale**, which are typically low value payments, competing with coins, low-denomination banknotes or e-purses (e.g. at vending machines, toll ways, parking meters, etc.). The only notable exceptions are payments directly at the pump at petrol stations.

Furthermore, "card-present" payments can either be made in contact-mode (for which the card is inserted into the terminal) or be made as contactless payments (for which near-field communication technology is used and for which it is sufficient to bring the card close enough to the terminal without the need for physical contact). To emphasise the fast and easy-to-use aspects of contactless cards, some card schemes forego requiring a PIN (or signature) for each and every "low-value" payment, for example, below €20. For contactless payments, the "card" can also take the form of a mobile telephone[14], or any object that can be equipped with a chip and an NFC-antenna.

EUROSYSTEM POLICY LINE ON USAGE

- The Eurosystem assumes that the relative importance of card-not-present transactions will further increase in the short to medium term. It is, therefore, considered important to have an inclusive approach, considering both types of card payments when addressing some of the current challenges.
- For "card-present" transactions, the payment experience as regards cardholder verification (e.g. the request of PIN entry) should be the same across SEPA for similar transactions, irrespective of whether the payment is made at an attended or an unattended point of sale.

3.3 ACTORS INVOLVED IN CARD PAYMENTS

Card payments involve a number of actors or economic agents. The most obvious ones are the **cardholder (payer)**[15] and the **card payment acceptor** (**payee**).[16] The cardholder obtains a card from the **card issuer**,[17] often, but not necessarily, its bank. The payee, for example a merchant, enters into a contract with the **card acquirer**,[18] usually following a competitive selection process. These issuing and acquiring entities are usually credit institutions or another type of licensed payment service provider. It might be that a further actor intermediates between card payment acceptor and card acquirer; this seems particularly valid for innovative segments of the card payments market. The technical and commercial arrangement that is set up for the card to function is called a **card scheme**.[19] Every card scheme must have a **governance authority**, ensuring that all involved actors follow the card scheme's rules and apply the relevant standards.

The technical processing of card payments is usually performed by **processing entities**. An **issuing processor** opens and manages the cardholder's account on behalf of the card issuer, books card transactions on these accounts, authorises card transactions on behalf of the card issuer and provides

14 The capabilities of modern mobile telephones, or smartphones, also allow for the use of previous "remote payments", such as credit transfers at the physical point of sale. It also allows for making card-not-present payments at the physical point of sale. The latter raises specific concerns, as it circumvents the use of the chip on the physical card for card authentication.

15 Cardholder: the person or entity that enters into an agreement with an issuer in order to obtain a payment card. Through this agreement, the cardholder is authorised to use the card for its intended purposes (e.g. payment guarantee, cash withdrawal, cheque guarantee, identification, multi-applications etc.).

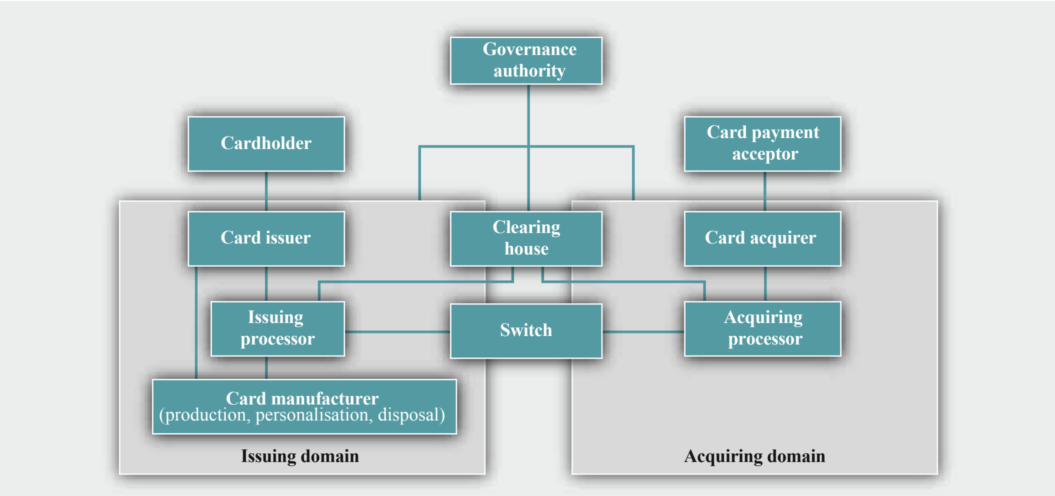
16 Card payment acceptor: a retailer or any other entity, firm or corporation that enters into an agreement with an acquirer to accept payment cards, when properly presented, as payment for goods and services (including cash withdrawals) and which will result in a transfer of funds in its favour.

17 Card issuer: the payment service provider that is a member of a card scheme and that enters into a contractual relationship with a cardholder resulting in the provision and use of a card of that card payment scheme by that cardholder.

18 Card acquirer: the payment service provider that enters into a contractual relationship with a card acceptor and the card issuer via the card payment scheme, for the purpose of accepting and processing card transactions. In some cases, the card acquirer may act as a card acceptor itself.

19 Card scheme: the set of functions, procedures, arrangements, rules and devices that enable a cardholder to effect a payment and/or cash withdrawal transaction with a third party other than the card issuer.

Chart 1 Role in card payments



Source: ECB.

statements for the cardholder. In some cases, it also arranges the clearing and settlement thereof, operates a cardholder call centre (for lost and stolen cards) and/or handles chargeback claims by cardholders. An **acquiring processor** opens and manages the card payment acceptor's account on behalf of the card acquirer, forwards authorisation requests to a **switch**[20] (or directly to the issuer or issuing processor), books transactions on the card payment acceptor's account, charges service fees to merchants, and produces statements for the merchant. Finally, for the clearing and settlement of funds between the card issuer and acquirer, the services of an **(automated) clearing house** are often used. Clearing houses are entities (or mechanisms) through which participants agree to exchange transfer instructions for funds, securities or other instruments. The standard card payments process ends with the settlement in either commercial bank or central bank money.

EUROSYSTEM POLICY LINE ON THE ACTORS INVOLVED IN CARD PAYMENTS

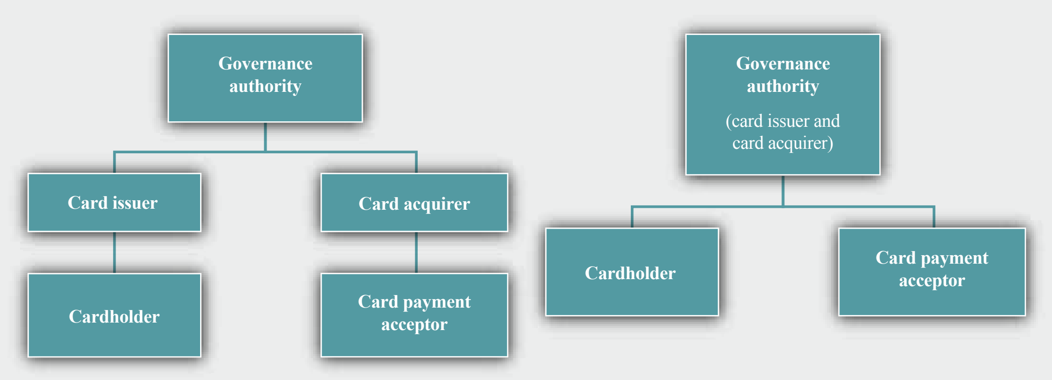
- The Eurosystem recognises the importance of taking an inclusive approach, including in self-regulatory initiatives, by involving all stakeholders.
- However, the Eurosystem considers the role of the card issuer, card acquirer, the cardholder, the card payment acceptor and the governance authority of the card scheme as the most relevant.

3.4 BASIC MODELS

The so-called four-party model ("four-party card scheme") is the model used by the vast majority of card schemes in Europe. In a classical four-party card scheme, the issuer has a contractual relationship with the cardholder and the acquirer has a contractual relationship with the card

20 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.

Chart 2 The basic models: four-party (left) and three-party (right) card schemes



Source: ECB.

payment acceptor. This is the fundamental difference to card schemes based on a so-called three-party model ("three-party card schemes"), in which the governance authority acts as issuer and acquirer and has a direct contractual relationship with both the cardholder and the card payment acceptor. In one variant of the three-party model, it (also) allows other payment service providers to obtain an issuing and/or acquiring licence (so-called "three-party card schemes with licensees"). Chart 2 compares the basic structures of a four-party card scheme and a three-party card scheme.

Three-party card schemes operating in the EU include, for example, American Express and Diners Club International, as well as some national credit card schemes, while four-party schemes include, for example, Visa Europe, MasterCard and the vast majority of national card schemes, such as Cartes Bancaires, Girocard, and Bancomat/PagoBancomat. It should be noted that the three-party card schemes are primarily credit card schemes, while the four-party card payment schemes are both debit and credit card schemes.

EUROSYSTEM POLICY LINE ON THE BASIC MODELS

- The Eurosystem takes a neutral stance on the model, however, in the interest of a level playing-field, it desists any preferential treatment. Therefore, the Eurosystem's position as regards the separation of scheme management from processing, business practices and rules and/or standardisation is applicable to all models alike.

- Nevertheless, the Eurosystem recognises the fact that a different set-up may, in exceptional cases, require a differentiated approach. Any governance authorities that might think that certain Eurosystem provisions are not applicable to their own model are required to substantiate this.

3.5 CHARGING MODELS

The card payments market is characterised by a **two-sided market structure**. Markets are two-sided if supply and demand on one side of the market are determined by supply and demand on the other side of that market. Other examples of this structure that are often quoted in literature are newspapers or magazines (which need 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 (card schemes), which enable interactions between end users (cardholders and card payment acceptors) and aim to bring the two sides “on board” by setting charges for each side at an appropriate level.[21] The pricing in two-sided markets should, therefore, take account of both sides of the market. If, for example, the pricing of card payments is attractive to the card payment acceptor, but not to the cardholder, the latter will be reluctant to apply for and/or regularly use a payment card.

Depending on the model, card schemes try to solve this challenge of finding an equilibrium in the fees charged in various different ways. In a three-party card scheme, the roles of issuing and acquiring are performed by one single entity, which, in addition, plays the role of the governance authority. This single entity can determine the price charged to the merchant and the cardholder, since it has a direct contractual relationship with both. By contrast, pricing in four-party card schemes is more complex. Four-party card schemes, therefore, usually apply a so-called **interchange fee.** The interchange fee is a transfer of funds from one side of the market to the other (usually from the card acquirer to the card issuer) every time a card payment is made. It is typically multilateral – i.e. not agreed between each card issuer and acquirer, but set by the governance authority for all card issuers and acquirers. This issue is further discussed in Box 3 below from an antitrust perspective and in Chapter 7 from a business practices and rules perspective.

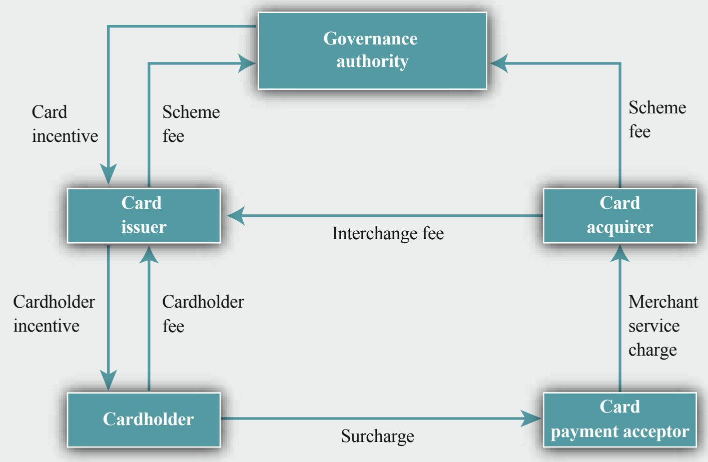
Besides interchange fees, typically, five **additional types of fees** are applied in a four-party card scheme (see Chart 3). First, the card acquirer charges the card payment acceptor a fee to receive compensation for all the services offered by him to the card payment acceptor and to recover the interchange fee to be paid to the card issuer (“**merchant service charge**”). Second, card issuers can charge **cardholder fees**, for example, fees for the issuance of the card, periodical fees, fees per transaction, and account statement and billing information fees. Of these, periodical fees are the main component of revenues from cardholders.[22] Third, governance authorities can charge various **scheme fees** to card issuers and to acquirers. These fees are for membership in the card scheme and are generally based on the number of cards issued and/or the number of transactions carried out on the acquiring side. It should also be mentioned that card issuers, and sometimes cardholders, receive **incentive payments** and card payment acceptors can (within the limits set by the card scheme and the relevant legal framework) require cardholders to pay a **surcharge** for the use of specific payment cards. As well as card scheme-related fees, the processing entities involved will also ask to be reimbursed for their services.

Over the past decade, there has been, on the one hand, increased downward pressure on the different fee elements in the card payments value chain. On the other, the total volume of card payments has been increasing (see Chapter 4), which enables service providers to decrease unit costs and

21 For more information on the two-sided market theory, see Evans, David S., “Essays on the Economics of two-sided Markets”, *Economics, Antitrust and Strategy*, 2010.

22 See the “Report on the retail banking sector inquiry”, European Commission, 2007.

Chart 3 Typical fees within a four-party card scheme



Source: ECB.

increase their total earnings from the card payments business despite decreasing fees per payment card issued and/or card payment transaction initiated.

In its "retail banking sector inquiry" conducted in 2007, the European Commission concluded that payment cards, and particularly credit cards, are a highly profitable business for the financial services industry. Based on figures for 2004, the European Commission estimated a weighted average profit-to-cost ratio of 65% for credit card issuers on a pan-EU scale and 47% for debit card issuers.

The interchange fee, in particular, has recently been the subject of heated debate and has triggered antitrust investigations and legislative activity. While determining whether the (multilateral) interchange fee restricts competition clearly falls within the competence of competition authorities, several central banks have also studied the issue in the context of the smooth functioning of payment systems.

EUROSYSTEM POLICY LINE ON THE CHARGING MODELS

- The Eurosystem favours transparency for the fees charged between the actors involved within the card payment industry and the components of these fees.
- Any fees charged should be differentiated based on objective criteria, but, within the EU, by no means on pure geographic criteria (see also Chapter 7).

Box 3

THE EUROPEAN COMMISSION'S ANTITRUST ACTIONS IN THE CARD PAYMENTS MARKET

The card payments market, and particularly certain fee charging models and business practices, have been scrutinised by antitrust authorities, at both the national and the European levels. The Commission has conducted antitrust investigations in the card payments market, targeting, in particular, **multilateral interchange fees** (MIFs). According to the Commission, the MIF appears to be a decision of an association of undertakings that may have the object and the effect of **restricting competition between acquiring banks**. The MIF is an important part of the total cost for card acceptance and, ultimately, contributes to the prices of goods and services for end consumers. As demonstrated by the existence of payment schemes that function without a MIF, MIFs are not indispensable for the viability of payment cards. Even though MIFs appear – at least in the cases investigated by the Commission thus far – to be in breach of the competition rules within the meaning of Article 101(1) of the Treaty on the Functioning of the European Union (TFEU), they **may be eligible for exemption** under Article 101(3) of the TFEU, if it can be shown that they have positive overall effects on innovation and efficiency and allow a fair share of these benefits to be passed on to consumers.

Visa[1]

The Commission decided in July 2002 (Case No COMP/29.373) that the Visa multilateral interchange fee arrangements fulfilled the conditions for exemption under Article 81(3) of the EC Treaty and thus granted individual exemption that remained in force until 31 December 2007. The decision was related to Visa's cross-border interchange fee scheme for consumer cards within the EEA countries.

On 3 April 2009, the Commission adopted a **Statement of Objection against Visa Europe**. In line with the MasterCard decision of 2007 (see below), the Commission's preliminary view was that **Visa MIFs harmed competition between merchants' banks, inflated merchants' costs for accepting payment cards and, ultimately, increased consumer prices**. Unlike in the MasterCard case, the Statement of Objections issued by the Commission in April 2009 covered all the consumer MIFs directly set by Visa Europe, which apply not only to cross-border transactions but also to domestic transactions in a number of EEA countries. Further, the Commission raised concerns against Visa Inc. and Visa International Services Association as regards the potential application of the inter-regional MIF by default. In response to the Commission's objections, Visa Europe committed to **reducing** the maximum weighted average **MIF for consumer debit cards** to 0.20% for cross-border transactions and national transactions in those EEA countries where it sets the MIF directly. The Commission was of the view that the MIF rate proposed by Visa Europe was consistent with the "merchant indifference" test. It was understood that the proposed maximum weighted average MIF may be modified if reliable new information on the cost of cards compared to the cost of cash were to become available.

1 For an overview, see: http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_39398

MasterCard[2]

In 2007, the Commission issued a decision against MasterCard's MIFs applicable to cross-border transactions with MasterCard and Maestro consumer debit and credit cards in the EEA. The decision found that MasterCard's MIFs were in breach of Article 101 in the TFEU in that they restricted competition between acquiring banks and **inflated the cost of card acceptance** by retailers without leading to proven efficiencies under Article 101(3) in the TFEU. MasterCard was given six months to conform to the Commission's demand to set its MIFs in compliance with the EU antitrust rules.

MasterCard appealed the decision before the General Court but pending the judgment, MasterCard undertook to reduce its cross-border MIFs to 0.30% of the transaction value for consumer credit cards and 0.20% of the transaction value for consumer debit cards. The General Court's judgment, upholding the Commission's decision, was issued on 24 May 2012. MasterCard filed an appeal at the Court of Justice of the European Union.

Groupement des cartes bancaires "CB"

Also in 2007, the Commission adopted a decision against the Groupement des cartes bancaires, or "CB". The decision was that the pricing measures, adopted by the CB in 2002, relating to the mechanism for regulating the acquiring function, the membership fee per card and the additional membership fee, as well as the dormant members wake-up mechanism were in breach of Article 81 of the EC Treaty. The Commission requested that the CB bring an end to this violation by withdrawing the notified pricing measures and refraining from adopting any measures or behaviour with an identical or similar purpose or effect. The decision did not involve any fines, as the measures were notified to the European Commission and the Statement of Objections did not foresee any fine.

The General Court's judgment, upholding the Commission's decision, was issued on 29 November 2012.

Opening of new proceedings against MasterCard

In April 2013, the Commission initiated new formal proceedings to investigate whether MasterCard could be restricting competition in the EEA with regard to payment cards in breach of EU antitrust rules. The Commission has concerns that some of MasterCard's interbank fees and related practices may be anti-competitive.

The Commission focused, in particular, on:

i) interbank fees in relation to **payments made by cardholders from non-EEA countries** as opposed to fees for cross-border transactions within the EEA that were already prohibited in 2007. Such fees apply, for example, when a US tourist uses his or her MasterCard credit card to make a payment at a point of sale in the EEA;

2 For an overview, see: http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_34579

ii) all rules on "**cross-border acquiring**" in the MasterCard scheme that limit the possibility for a merchant to benefit from better conditions offered by banks established elsewhere in the internal market; and

iii) **related business rules or practices** laid down by MasterCard which give the Commission cause for concern over competition (such as the "honour-all-cards rule", which obliges a merchant to accept all types of cards branded with MasterCard).

A detailed overview of the various cases in individual Member States can be found in the European Competition Network's "Information Paper on Competition Enforcement in the Payments Sector"[3] and the ECB report entitled "Interchange fees in card payments".[4]

3 Available at: http://ec.europa.eu/competition/sectors/financial_services/information_paper_payments_en.pdf
4 Available at: http://www.ecb.europa.eu/pub/pdf/scpops/ecbocp131.pdf

4 OVERVIEW OF CARD SCHEMES AND CARD PAYMENT TRENDS IN EUROPE

4.1 TRENDS IN PAYMENT BEHAVIOUR

With nearly 40 billion payments in 2012, cards have become the most widely used cashless payment instrument in the European Union.[23] As shown in Chart 4, in the period from 2000 to 2012, card payments considerably outperformed direct debits and credit transfers with a growth rate of more than 10% (compared to approximately 5% for credit transfers and/or direct debits).

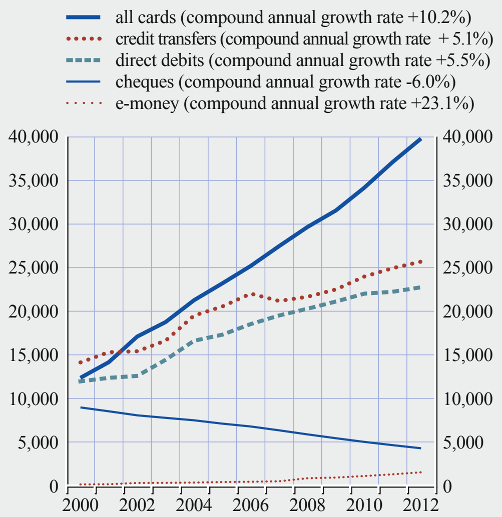
Although precise figures on the usage of cash are not readily available, studies show that cash dominates in terms of the number of payments at the physical point of sale in almost all countries of the EU. However, cards have been gaining ground and are becoming more and more important for day-to-day transactions. Notably, the number of payments with debit cards increasingly exceeds the number of payments with credit cards and/or delayed debit cards, as shown in Chart 5.

Although this general trend can be observed throughout the EU, the starting point differs very greatly from country to country, owing to diverging national market infrastructures, payment behaviours and customer preferences and much less to different currencies (i.e. the euro or other EU currencies).

For individual EU Member States, large variations with respect to card usage can be identified: the number of payments made per year and per inhabitant ranged from 4.5 (Bulgaria) to 230.1 (Sweden), while the corresponding annual transaction values ranged between €189 (Bulgaria) and €12,004 (Luxembourg). Even within the euro area, a large discrepancy can be observed, with cards most frequently used in Finland, Estonia, Luxembourg and the Netherlands. In Greece, Italy, Slovakia and Germany, card payments are

Chart 4 Use of payment instruments in the EU (2000-12)

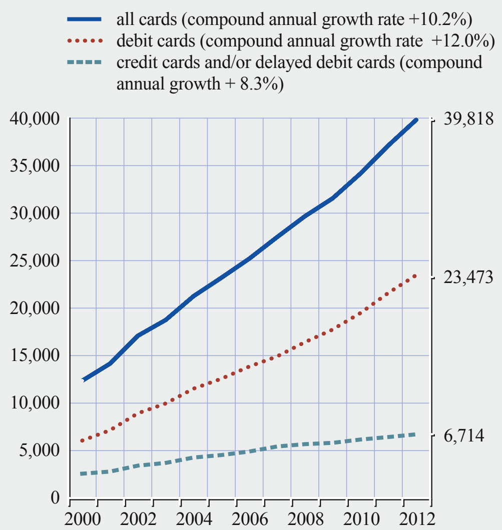
(transactions in millions)



Sources: ECB and the ECB's Statistical Data Warehouse.

Chart 5 Transactions using debit cards compared with credit cards and/or delayed debit cards in the EU (2000-12)[1)]

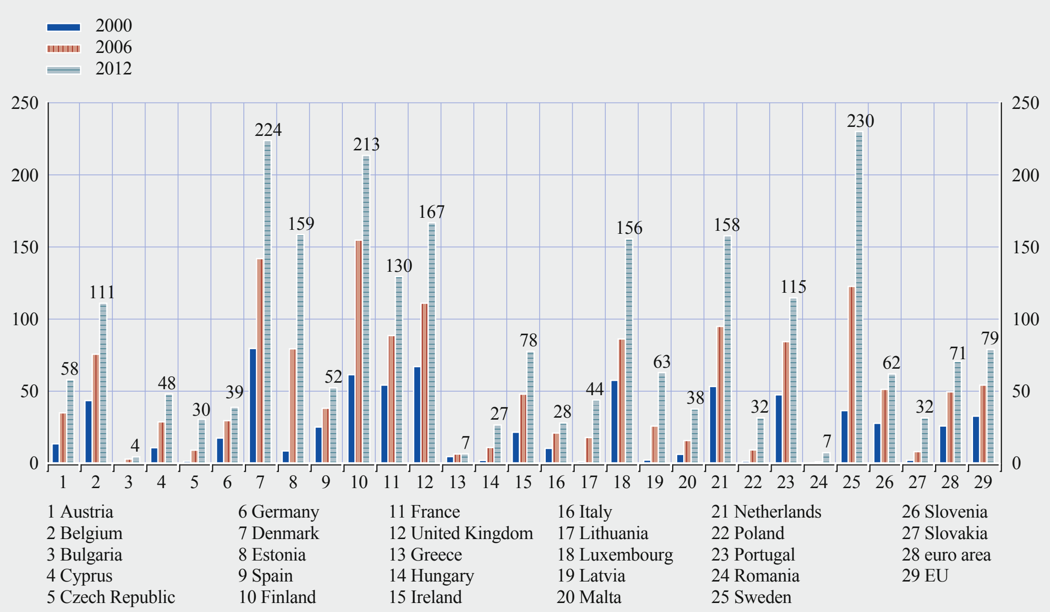
(millions)



Sources: ECB and the ECB's Statistical Data Warehouse.
1) The reason for the difference between the number of transactions for all cards and the sum of both sub-groups, i.e. debit cards and credit and/or delayed debit cards is that not all countries provide data on the sub-groups. The relatively large difference is due, primarily, to data from France, which does not provide a breakdown.

23 There were 39.8 billion card transactions in the EU in 2012. Croatia joined the EU on 1 July 2013 and is, therefore, not yet included.

Chart 6 Number of card payments per inhabitant and per year



Sources: ECB and the ECB's Statistical Data Warehouse.
Notes: Data for 2000 not available for Bulgaria, Luxembourg and Slovakia, 2001 data used instead; data for 2000 and 2001 not available for Spain, 2002 data used instead; changing composition in the case of EU and euro area figures.

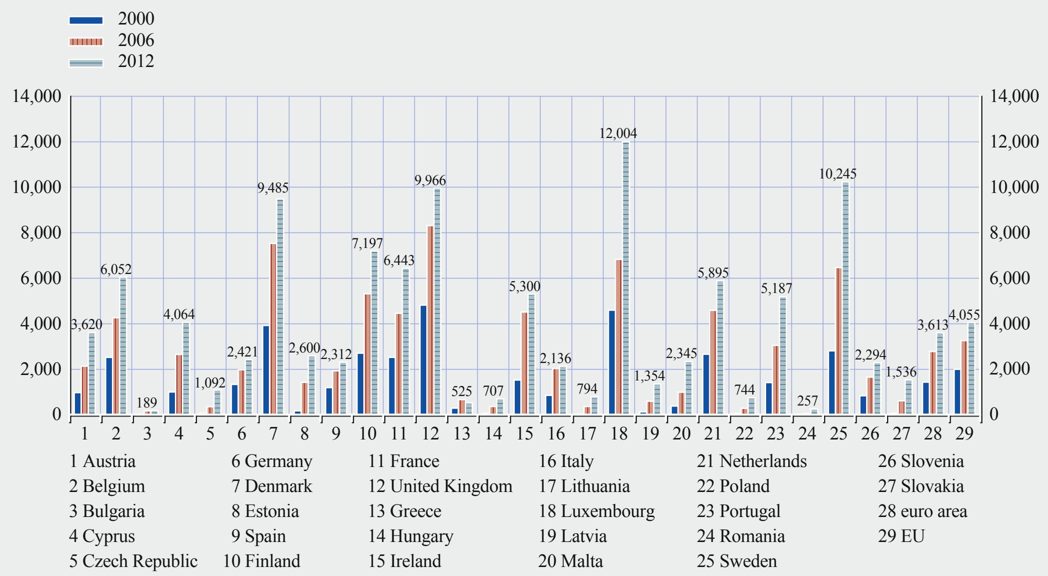
least popular, with growth rates for the number of card payments per capita over the period of 12 years (2000-12) being well below the euro area average of 273%. Some of the highest growth rates in the use of card payments have been recorded in countries that have adopted the euro more recently.

The differences in payment behaviour have economic effects for society as a whole. The ECB carried out a study of the costs of different payment instruments.[24] It shows that the costs to society of providing retail payment services amount to almost 1% of GDP.[25] The social costs of cash payments represent half of the total social costs. However, these costs vary from 1.20% to 0.80% of GDP for different clusters of countries. Some of the differences between the two clusters: the cluster with the lowest social costs recorded four times more credit transfers per capita, three times more card payments, and one-and-a-half times more direct debit payments. Calculated per transaction, cash payments recorded, on average, the lowest unit costs (€0.42), followed by debit card payments (€0.70); cheques recorded the highest unit costs (€3.55). As to be expected from theory, "economies of scale" seem to apply to all types of payment, including those with cash. This means that the average cost decreases when a certain type of payment is used more often. There is a "tipping point" at which (debit) card payments incur a lower cost per transaction than cash payments. In five countries – of the 13 countries included in the study – it is not cash that incurs the lowest unit costs, but debit card payments.

24 Schmiedel, H., Kostova, G., and Ruttenberg, W., "The social and private costs of retail payment instruments: a European Perspective", *Occasional Paper Series*, No 137, ECB, September 2012.

25 Social costs are the costs to society, reflecting the use of resources in the production of payment services; that is, the total cost of production excluding payments, e.g. fees, tariffs, etc., made to other participants in the payment chain. In this sense, social costs measure the sum of the pure costs of producing payment instruments incurred by the different stakeholders in the payments market. Private costs refer to all the costs incurred by the relevant individual parties in the payment chain.

Chart 7 Total value of card payments per inhabitant and per year in euro



Sources: ECB and the ECB's Statistical Data Warehouse.
Notes: Data for 2000 not available for Bulgaria, Luxembourg and Slovakia, 2001 data used instead; data for 2000 and 2001 not available for Spain, 2002 data used instead; changing composition in the case of EU and euro area figures.

The number of card payment transactions per capita in the euro area has been increasing considerably over the past decade, whereas cardholders' actual use of their cards when travelling abroad has not shown the same clear pattern. That use depends on three things: first, the technical capabilities of the card and the terminal; second, the merchant's acceptance of the card in question; and third, the extent to which people are indeed subject to a uniform "payments experience" across SEPA.

The Eurosystem compiles an indicator of the cross-border use of cards as part of its ongoing SEPA monitoring. This indicator is calculated as the number of POS transactions conducted using cards issued outside the country divided by the total number of POS transactions. The indicator is affected slightly (in a positive way) by transactions using cards issued outside the SEPA area. Moreover, a number of underlying fundamentals are considered as given, while in reality they are likely to be subject to changes in the course of time – in particular the number of people travelling and the time they spend abroad affects their ability to initiate a cross-border card payment.[26]

In order to compile the data for the indicator of the cross-border use of cards, the Eurosystem cooperates with acquiring processors[27] – i.e. entities that, acting on behalf of the acquirer, are responsible for the processing of card payment transactions from the moment of acceptance at the point of sale to their delivery at the routing centre ("switch"). The acquiring processors report biannually, but the results

26 Over the past four years, the number of holiday trips residents have made has remained more or less stable at just over one billion. In 2011, there was even a slight rise, by 0.5 %, compared with 2010. However, more than three out of four trips were to a destination within the Member State where the traveller lived, but long outbound trips accounted for half of all tourist expenditure in 2011. For business trips, both the number of trips as well as their length fell steadily. Europeans made fewer work-related trips than before the start of the crisis and the trips they did make were shorter. See Eurostat: "Tourism in Europe: Results for 2011".

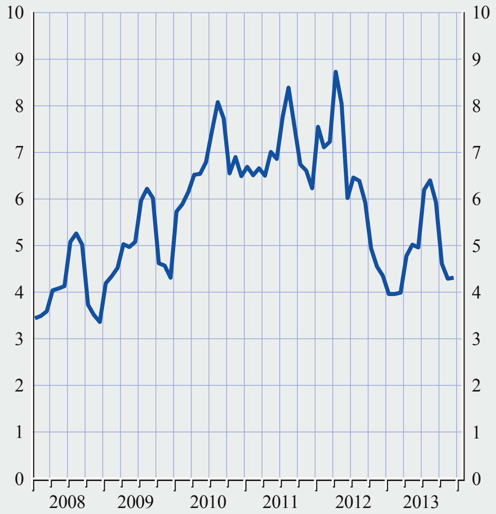
27 The following acquiring processors are currently participating in the exercise: Atos Worldline; Bankart; CECA; B+S Card Service; ConCardis; TeleCash; NETS Estonia; Deutsche BP; Easycash; Equens; First Data; Intercard; Intesa Sanpaolo Card; JCC Payment Systems; Montrada; WorldPay; Redsys Servicios de Procesamiento; SIBS; SIX Pay; UNICRE; VÖB-ZVD; CGD and BCP.

take the form of monthly figures. It was expected that relatively low levels (1-2%) would be seen at the outset in January 2008 and that marginal growth would be observed in the years that followed. A move to a significantly higher level would indicate that SEPA has been successful in changing the card industry, the card acceptance practices of merchants and/or the payment behaviour of cardholders.

Cross-border transactions accounted for around 3.5% of POS transactions in the euro area at the beginning of 2008. The indicator shows higher values during the period from July to September each year. This might be a result of summer holidays, as more people travel during the summer months. At the end of December 2012, there were around 4.4% cross-border POS transactions, while the same share was well above 6% from 2010 to early 2012. This development will be further investigated.

Chart 8 Cross-border transactions in the euro area

(as a percentage of total transactions at POS terminals)



Source: ECB.

EUROSYSTEM POLICY LINE ON THE TRENDS IN PAYMENT BEHAVIOUR

- The Eurosystem does not consider uniform payment behaviour within SEPA as an ultimate goal, but rather aims at harmonising the principles, business practices and rules, as well as technical standards.

- Impediments, such as the absence of the technical competencies of the card and the terminal to interoperate, the commercial limitations for merchants to accept certain cards, and finally cardholders being disconcerted by different "payment experiences" across Europe should be eliminated across SEPA.

4.2 THE EFFECT OF NEW TECHNOLOGICAL DEVELOPMENTS ON PAYMENT BEHAVIOUR

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 "card-present" transactions (i.e. at the physical point of sale) or card-not-present (CNP) transactions (particularly 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, for example contactless payments with the help of near-field communications technology and offering a basis for services over and above payments, for example merchants' reward programmes. However, the roll-out of contactless card payment solutions in Europe is still at an early stage, and it is now up to both the issuers and the acquirers to decide whether to put the necessary card base and terminal infrastructure into place.

Once such contactless POS terminal infrastructure is in place throughout Europe, the mobile telephone could increasingly substitute the plastic payment card. The oft-quoted observation that people are more likely to forget their wallet than their mobile telephone, together with the technological versatility of the device, have already led to the development of payment solutions based on the mobile telephone. By doing so, the chip simply moves from the plastic card to another carrier medium, i.e. the mobile telephone.

However, with a mobile telephone, and particularly with smartphones, previously "remote" payment instruments and solutions – such as credit transfers – can be now introduced into the "bricks-and-mortar" environment. In other words, in addition to the competition that card payments face from cash, and in some countries from cheques, credit transfers can now be used to make a payment at the physical point of sale.

Another recent development is that the mobile device not only plays a role as a different carrier medium for the chip or for a card payment application, it may also become a card payment acceptance terminal in its own right. Small add-on devices ("dongles") already allow anyone with a smartphone to technically accept card payments.

EUROSYSTEM POLICY LINE ON THE EFFECT OF NEW TECHNOLOGICAL DEVELOPMENTS ON PAYMENT BEHAVIOUR

- The Eurosystem monitors the new technological developments with great interest and welcomes any technological developments that support users in the adoption of efficient and secure payment solutions.

- While taking a neutral stance on these various developments, the Eurosystem favours those innovations that improve the efficiency of the market and/or lead to new and more useful services for the different actors or economic agents involved in card payments. In its role as a catalyst, the Eurosystem supports the industry's efforts in this sense, promoting dialogue and coordination among all stakeholders.

4.3 CARD SCHEMES ACTIVE IN ONE OR MORE MEMBER STATES AND AT THE EU LEVEL

The financial services industry in European countries typically introduced card schemes in the late 1970s and the 1980s offered by the domestic credit institutions and working in domestic currency only. Over time, most cards issued under these schemes became co-branded – that is to say, equipped with both a domestic and an international scheme – to allow for their usage abroad as well, whereas domestic payments were still made within the local scheme. In the 1990s, former eastern European countries often decided to adopt international card schemes immediately, instead of introducing domestic schemes – not least due to the strong relevance of international banks in those countries.

In those Member States with domestic schemes, particularly in smaller countries, a distinct trend can be observed: the local legacy schemes are gradually being replaced by card schemes with an EU-wide or even global reach. Once the local scheme is replaced, the new scheme functions as a quasi "national" scheme.[28] The financial services industry say that the reasons behind this

28 For example in Ireland, Greece, Netherlands, Austria and Finland.

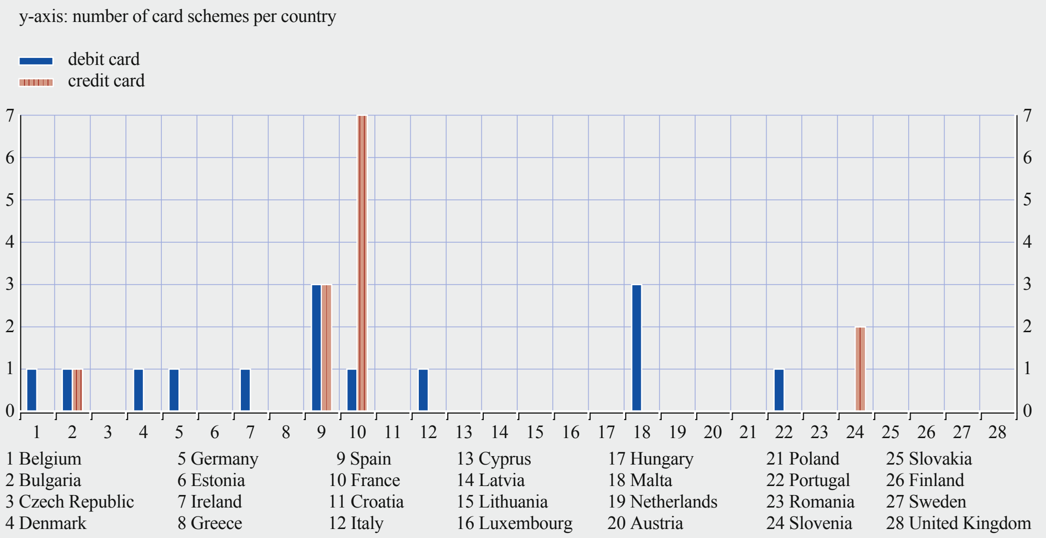
development were to avoid making any unnecessary new investments, so as to prepare local schemes for an integrated European payments market and so as to cope with new security challenges. However, a further reason might have been the incentive payments being offered by international card schemes to issuing entities with a view to establishing a strong international card presence in specific markets.

In the larger Member States, this trend has thus far not been demonstrated to quite the same extent and in most Member States, there is at least one domestic card scheme in place.[29] Chart 9 shows the number of domestic card schemes in place in the individual Member States (Annex 2 provides further details on these card schemes). As at the end of 2013, there were, in total, 14 domestic debit card schemes and 13 domestic credit card schemes in place within the EU (euro area: 12 debit schemes, 12 credit schemes). Three countries alone accounted for more than 75% of the domestic credit card schemes and 50% of all the domestic debit card schemes within the EU, which were France (one debit and seven credit card schemes), Spain (three debit and three credit card schemes) and Malta (three debit card schemes).

While, in absolute figures, the majority of card payments are made using a local scheme, the growth rates of schemes with an EU-wide focus are reported to be higher than those for domestic schemes.[30] More than 20 billion transactions are currently made in Europe using local schemes (at a 6.7% compound annual growth rate), compared to 12 billion transactions processed by EU-wide schemes (at 9%). This increase in relative importance, combined with the gradual phasing-out of local schemes, has already led to concerns about there being potentially reduced competition in the European card payments market in the mid to long term, while competition is, of course, considered beneficial for the efficiency of the European card payments market as a whole. Bolt and Schmiedel (2011) conclude that increased competition between card schemes pushes

Chart 9 Overview of local card schemes active in individual Member States

(end-2013)



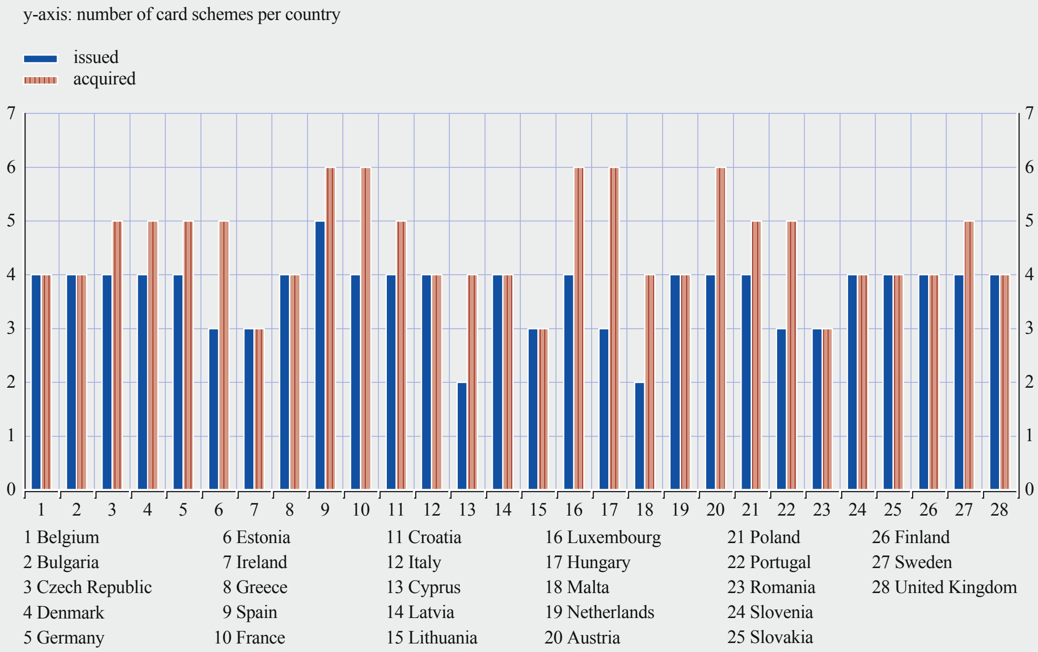
Source: ECB.

29 For example in Germany (girocard), France (Cartes Bancaires), Italy (PagoBANCOMAT) and Spain (ServiRed, Euro6000, and Sistema 4B).

30 See the article entitled "SEPA cards: success factors for sustainable card schemes in Europe", Steinbeis University, Berlin, May 2011.

Chart 10 Number of international card schemes issued or acquired in individual Member States

(end-2013)



Source: ECB.

down merchant service charges and increases card acceptance by merchants. Moreover, from a European perspective, consumers and merchants are likely to benefit from the creation of SEPA through sufficient competition in the card payments market to assuage the potentially monopolistic tendencies.[31] In addition, the provision of and access to consumer credit in the various card schemes also affects competition, acceptance and fees in the field of payment cards.[32]

Most card issuers of a local card scheme are also a member of one or more EU-wide, or even globally active, card schemes and their cards are often co-branded for usage abroad. Irrespective of whether or not a local card scheme is in place in individual Member States, the schemes of altogether six multinational governance authorities are issued and/or acquired in most EU countries, with a median value of four multinational card schemes offered per Member State. MasterCard (governance authority: MasterCard Inc.) and Visa (governance authority within the EU: Visa Europe[33]) are the leading card schemes in Europe and are offered in all Member States, followed by American Express and Diners. JCB and UnionPay are only issued and/or acquired in a few Member States (see Annex 2). Most local card schemes in Europe have a governance structure in which the members are also the "shareholders" of the governance authority, 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, only the bigger card issuers and/or card acquirers. Three of the

31 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.

32 See Bolt, W., Foote, E. and Schmiedel, H., "Consumer credit and payment cards", *Working Paper Series*, No 1387, ECB, October 2011.

33 Visa Europe is a wholly separate company to Visa Inc. and has a different corporate design. In October 2007, Visa Europe became independent of the new global Visa Inc., with an exclusive irrevocable licence in perpetuity to operate in Europe. It operates in 36 countries in Europe. Visa Europe Services Inc. is a company incorporated in Delaware USA, acting through its London branch. See: http://www.visaeurope.com/

main examples of publicly-listed card schemes are American Express Company, MasterCard Inc. and Visa Inc., which are all listed on the New York Stock Exchange.

EUROSYSTEM POLICY LINE ON CARD SCHEMES ACTIVE IN ONE OR MORE MEMBER STATES AND AT THE EU LEVEL

- The Eurosystem regards harmonisation of the legal framework, business practices and rules, technical standards, security requirements and evaluation and certification, as well as the geographical reach, as essential for a competitive European card payments market.

- The Eurosystem recognises that internationally active card schemes are an important element for SEPA for cards, as they provide the necessary geographical reach, and therefore domestic card schemes are encouraged to expand their issuing and/or acquiring activities beyond their country of affiliation.

4.4 INITIATIVES FOR THE ESTABLISHMENT OF A NEW EUROPEAN CARD SCHEME

In view of the gradual phasing-out of several domestic card schemes and the risk of a duopoly of card schemes with a similar business model, the Eurosystem has promoted the introduction of an additional European card scheme, as it would bring several economic and political benefits. It would increase competition, particularly if the new scheme were to follow an economic model different from the international (credit) card schemes. It would also provide an opportunity to substitute cash for cards, through wider acceptance, particularly if the new scheme were to follow a cost-efficient model. It would allow European stakeholders to maintain their strategic influence over the European cards market. Banks and other interested parties should have a say in the decision-making of the governance authority of the scheme and consequently in the cards market at a worldwide level. A European card scheme would, at the same time, help the relevant authorities to respond to a series of political challenges. This is necessary in order to be able to pursue European policies as a first priority, always, of course, in an international context.

Four different initiatives have, for some years now, been trying to establish new card schemes, which would offer their services at the pan-European level in competition with well-established multinational card schemes. While elsewhere, such as in China (UnionPay), Russia (Universal Electronic Card), India (RuPay) and Australia (EFTPOS), such initiatives have produced noticeable results, the Europe-based initiatives have, thus far, not begun large-scale roll-outs and one of the initiatives has already ceased to exist. These four cases of individual countries, even though comparable in the sense that some of these countries also started out with a fragmented internal market with several different card schemes, are not entirely comparable with the European single market, which has several different domestic schemes. The four initiatives are the following.

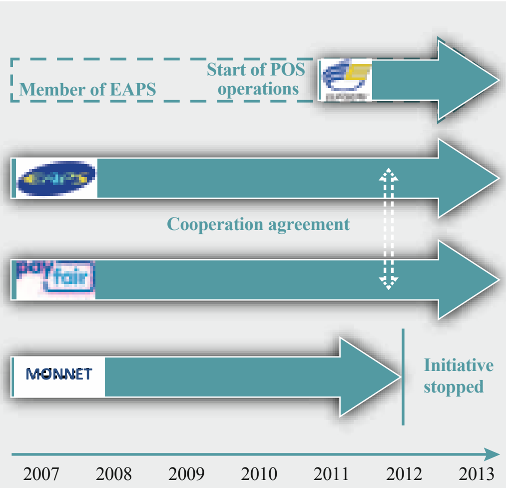
EAPS (Euro Alliance of Payment Schemes):[34] EAPS is organised as a not-for-profit organisation, but the number of card schemes participating in EAPS has decreased from six to three over the past few years.[35] The objective of EAPS is to interlink local card schemes with each other. Based on the concept of mutual acceptance, the interlinking would create EU-wide acceptance for local schemes.

34 For further information, see the initiative's website: http://www.card-alliance.eu/

35 Consorzio BANCOMAT (Italy), EUFISERV (Europe) and German Banking Industry Committee (GBIC)/girocard (Germany), while EURO 6000 (Spain), SIBS/MULTIBANCO (Portugal) and LINK (UK) have discontinued participation.

The aim is that, through EAPS, cardholders in one European country can use their debit cards for ATM and POS transactions in other European countries as well. EAPS has, thus far, made some progress in ATM transactions, while only a limited number of POS transactions have been effected at Italian POS terminals using German cards.

Chart 11 Overview of European card scheme projects



Source: ECB.

PayFair:[36] PayFair began in 2007 with the aim of becoming a bank and merchant-independent initiative. The project was further funded by an external investment partner, Janivo Holding (NL), in the summer of 2008. The current structure of the PayFair group is made up of a brand and licence company (PayFair International GmbH), a processing company (European Payment Solutions sa/nv) and a holding company (PayFair Holding B.V.). In addition to a number of innovative concepts and solutions announced by PayFair, it aims to introduce a new card scheme, which will allow for the decoupling of card issuing and account maintenance.

At the end of 2012, PayFair and EAPS signed an agreement to begin evaluating areas of cooperation between these two initiatives.

EUFISERV:[37] EUFISERV Payments scrl is a Brussels-based cooperative company with limited liability, owned by shareholders from the savings banking sector in Europe. The main focus of EUFISERV, one of the founding members of EAPS, used to be ATM transactions. In October 2011, EUFISERV announced the start of POS operations within the EUFISERV card scheme, by allowing cardholders from German savings banks to make payments at the 226,000 POS terminals managed by EURO 6000 in Spain.

Monnet: The initiative has its origins in spring 2007 and was revived in May 2010, when a group of 24 credit institutions from seven EU countries (Germany, France, Italy, Spain, UK, Portugal and Belgium) started to analyse the feasibility of a new European card scheme with the working title "Monnet". Monnet had the aim of issuing a homogeneous card in all European countries and of creating a consistent domestic market for card payments in Europe. In April 2012, the participating credit institutions announced their decision to bring the Monnet initiative to an end owing to the perceived absence of a viable business model.

36 For further information, see the initiative's website: http://www.payfair.eu
37 For further information, see the initiative's website: http://www.eufiserv.com. The shareholders are from Germany (Deutscher Sparkassenverlag GmbH, Landesbank Hessen-Thüringen, Finanz Informatik), Finland (Suomen Säästöpankkiliitto), Spain (CECABANK SA), Austria (PayLife Bank GmbH), Switzerland (PostFinance AG), Portugal (Caixa Geral de Depósitos, SA), Sweden (Swedbank Administration AB), Belgium (BNP Paribas Fortis), and the European Savings Banks Group.

EUROSYSTEM POLICY LINE ON INITIATIVES FOR THE ESTABLISHMENT OF A NEW EUROPEAN CARD SCHEME

- The Eurosystem promoted the introduction of an additional European card scheme, as it would bring economic and political benefits. It would increase competition and it would provide an opportunity to substitute cash for card payments, through wider acceptance, particularly if the new scheme followed a cost-efficient model. It would also allow European stakeholders to maintain their strategic influence over the European cards market through the governance of the card scheme. A European card scheme would, at the same time, help to pursue European policies as a first priority.

- According to general economic theory, competition in an oligopolistic market is greater than in a monopolistic or duopolistic one. This also holds true for the card payments market. The Eurosystem, therefore, welcomes the existence of several card schemes in competition with each other within and across the Member States.

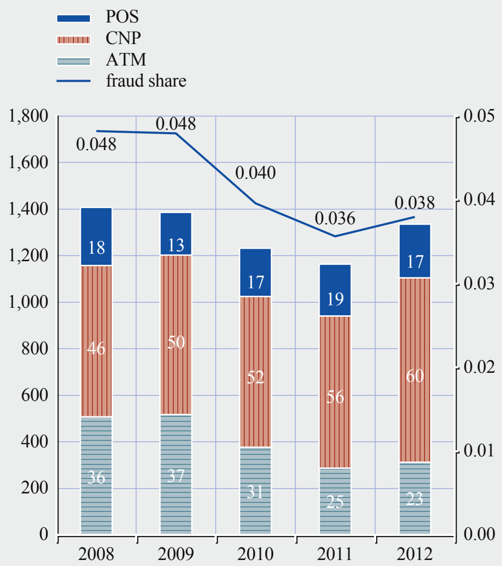
- Both domestic and international card schemes are expected to meet the requirements of an integrated, efficient, competitive and secure European card payments market. The lower the number of EU-wide active card schemes, the more important effective competition enforcement will become.

5 SECURITY OF CARD PAYMENTS

5.1 FRAUD WITHIN SEPA

Chart 12 Developments in card fraud using cards issued within SEPA

(percentages; EUR millions (left-hand scale); fraud as share of value of transactions (right-hand scale))



Source: "Third report on card fraud", ECB, February 2014.

Card fraud accounted for a total amount of €1.33 billion or 0.038% of the value of card transactions in 2012 for cards issued in SEPA countries.[38] Card-not-present (CNP) fraud (e.g. for e-commerce payments) accounts for the lion's share of the value of fraud, and more efforts are needed to ensure the security of card payments in this area. For payments at the point of sale (POS) and for cash withdrawals at automated teller machines (ATM), technological advances have made cards more difficult to copy and card transactions safer. In response, fraudsters seem to concentrate increasingly on countries where the technology used for card payments and cash withdrawals remains less developed. This, however, does not mean that there is no adverse effect on cards issued in Europe, since these cards or their data might be misused in such riskier regions. The application of a "liability shift" by all major card schemes means that the direct amount of fraud is reimbursed to the card issuer by the card transaction acquirer if the latter has not yet invested in the new technology. The costs of handling each fraud case remain with the card issuer nevertheless.

For credit and delayed debit cards, which are the cards that are more often used for CNP and cross-border transactions, €1 in every €1000 was spent in a fraudulent transaction in 2012. For debit cards, which are more commonly used for payments at the physical point of sale and for cash withdrawals, the proportion was €1 in every €5400.

5.2 CATEGORIES OF FRAUD

In 2012 some 60% of the value of fraud, or €794 million, resulted from CNP transactions – i.e. payments via mail and telephone order (MO/TO) or on the internet – while 23% resulted from POS terminals and 17% from ATMs.

For CNP transactions, criminals need the card number, cardholder name and card expiry date as well as the CVX2 code which is printed on the card. CNP fraud can be due to skimming[39], but can also be the result of stolen cards or stolen data (via hacking, phishing or misappropriation of data). CNP fraud has been on an upward trend over the past few years and is the largest category of fraud. The vast majority of CNP transactions (72%) were initiated over the internet. Nonetheless, some

38 See the "Third report on card fraud", ECB, 2014. The report, which was compiled by the ECB and the 18 national central banks of the euro area (with data from 23 card payment schemes, including the most well-known card brands, banks and other large national issuers), looks at fraud using different kinds of cards (e.g. debit and credit) and according to type of usage.

39 Skimming can be defined as the unauthorised copying of data contained in the magnetic stripe via a manipulated or fake terminal or with a handheld reading device (Source: 7th SEPA Progress Report). It should be noted that criminals may not only copy the magnetic stripe, but could make a copy of all data on the card, including the CVX2 code.

countries that have made significant efforts to increase internet payment security, for example the United Kingdom, by requiring 3-D Secure, in which a further, card-independent password is needed for authorising the transaction, have experienced a decrease in CNP fraud.

Improvements in the security of cards and in the underlying card payment infrastructure are the main reason for a slowdown in growth of ATM and POS fraud. The most significant improvement was the widespread adoption of EMV,[40] a chip-based communication standard that is much safer than the conventional magnetic stripe, which goes hand-in-hand with improvements to the infrastructure behind each transaction. However, it partially shifted the problem to countries where chip cards are not yet prevalent, mainly outside Europe. In 2012 some 81% of all fraud with counterfeited cards was carried out in non-SEPA countries. With regard to fraud involving ATMs, 94% of all counterfeited card fraud occurred outside SEPA.

Counterfeit fraud uses information on the magnetic stripe to make a copy of the card. Usually, fraudsters obtain the information by manipulating ATMs or POS terminals and reading the information on the magnetic stripe of the card ("skimming"). The data copied from the magnetic stripe can be used to create a counterfeit card for card-present payments or can be used in CNP transactions. If a counterfeit card is created, the criminals also need the PIN to use the card for cash withdrawals and/or for most of the POS transactions.[41] The PIN can be retrieved, among others, via cameras, shoulder surfing, or interception of mail. It should be noted that ATM or POS fraud does not necessarily consist of skimming-related fraud only, as, among others, the fraudulent use of stolen cards is also included.

5.3 MEASURES TO FIGHT FRAUD

In order to address security concerns in the field of CNP transactions via the internet, in January 2013 the ECB released a comprehensive set of "Recommendations for the security of internet payments".[42] The Recommendations were established by the European Forum on the Security of Retail Payments (SecuRe Pay), a voluntary cooperative initiative between relevant authorities from the EEA – supervisors of payment service providers and overseers in particular – formed with the objective of facilitating common knowledge and an understanding of issues related to the security of electronic retail payment services and instruments and, where necessary, issuing recommendations.

The core recommendation is that the initiation of internet payments as well as access to sensitive payment data should be protected by **strong customer authentication** to ensure that it is a rightful user, and not a fraudster, initiating a payment. Another important recommendation is that payment service providers should operate transaction monitoring mechanisms designed to prevent, detect and block fraudulent payment transactions. The recommendations, key considerations and best practices specified in the report for the security of internet payments are applicable to governance authorities of payment schemes (including card payment schemes) and all payment service providers (PSPs) that provide internet payment services, such as: (i) internet card payments, including virtual card payments[43], as well as the registration of card payment data for use in wallet

40 An analysis of the positive effect of the chip technology on the card present fraud rate is contained in Ardizzi (2013) "The impact of microchip on payment card frauds", and in a paper presented at the *Joint European Central Bank/Banque de France conference*, "Retail payments at a crossroads: economics, strategies, and future policies" *Journal of Financial Market Infrastructure*, Vol. 1, No 2, winter, 2012.

41 In some countries the use of a PIN is not required for certain POS card transactions, but the signature of the cardholder is required instead.

42 See "Recommendations for the security of internet payments – Final version after public consultation", ECB, January 2013.

43 Virtual cards are card-based payment solutions where an alternative, temporary card number with a reduced validity period, limited usage and a pre-defined spending limit is generated which can be used for internet purchases.

solutions[44]; (ii) the execution of credit transfers on the internet; (iii) the issuance and amendment of direct debit electronic mandates; and (iv) transfers of electronic money between two e-money accounts via the internet. Other market participants, such as e-merchants, are encouraged to adopt some of the best practices. The detailed recommendations will be integrated into existing oversight frameworks for payment schemes and supervisory frameworks for PSPs and are to be considered as common minimum requirements for internet payment services. The members of the Forum are committed to supporting the implementation of the recommendations in their respective jurisdictions and will strive to ensure effective and consistent implementation within the EEA. The recommendations should be implemented by PSPs and governance authorities of payment schemes by 1 February 2015. National authorities may wish to define a shorter transition period where appropriate.

When it comes to fraudulent attempts to obtain card details in a "card-present" situation, the security of the payment card itself and the payment terminal are of key relevance. As regards the security of payment cards, the Eurosystem and Europol, as well as PSPs, and retailer and consumer associations, have encouraged the market to abandon the magnetic stripe and to migrate to chip technology. In particular card issuers and acquirers, as well as ATM and POS operators, have made considerable efforts to promote EMV migration.

However, the vast majority of card issuers have not fully abandoned the magnetic stripe yet by issuing "chip-only" cards. Chip-only cards can so far not be used globally, and travellers to non-EMV countries need a second card. This is especially the case for the Asia-Pacific region and for the United States, while in the rest of the world 70% to 95% of terminals accept chip cards (see Table 1). It is difficult to estimate the share of cardholders who travel to regions of the world where chip cards are not widely accepted. However, if the number of trips of EU residents to non-EU countries is taken as an indicator, then it can be estimated that, on average, less than 15% of the population travels at least once a year to a country where, at the moment, the acceptance of chip cards is not as high as in the EU.[45] Beyond technical capabilities, the Belgian banking association Febelfin reported that as many as 98% of the cardholders in Belgium would not use their debit card outside Europe.

Table 1 EMV migration of cards and terminals (status Q4 2012)

(percentages)

	Cards	Terminals	ATMs
Canada, Latin America and the Caribbean	49.2	78.5	
Asia-Pacific	26.7	50.5	
Africa and the Middle East	26.6	76.7	
Euro area	90.4	93.0	96.3
EU-27	87.7	94.4	96.7
Europe Zone 1 (EEA, Israel, Turkey, et.al.)	80.7	94.5	
Europe Zone 2 (Russia and other CIS countries, Western Balkans)	15.5	73.2	
United States	N/A[1)]	N/A	

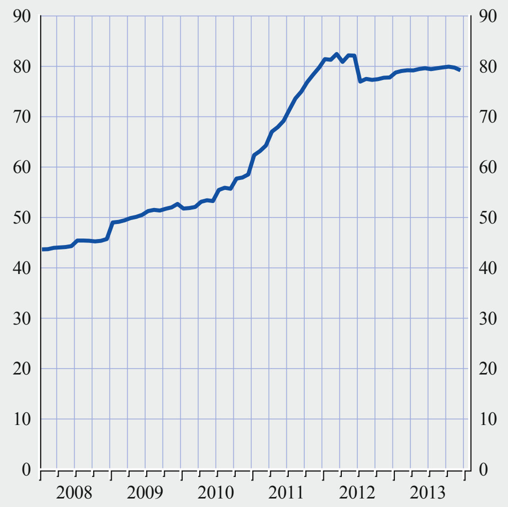
Sources: EMVCo for American Express, JCB, MasterCard and Visa (Q4 2012); ECB for the data on EU-27 and the euro area (Q4 2011).
1) Anecdotal evidence suggests that only very few banks have started issuing cards with EMV chips, while there are also hardly any EMV-compliant terminals, including ATMs in the United States.

44 Wallet solutions allow a customer to register data relating to one or more payment instruments in order to make payments with several e-merchants.

45 See Eurostat.Statistics on the number of trips by EU residents are available for 16 countries for the year 2009. If it is assumed that each trip is made by another person, then on average 13% of the population in these countries travelled to a non-EU country in 2009 (highest Austria: 28%; lowest Poland: 2%). Considering that in some cases the same person could have made different trips to non-EU countries in 2009, it is likely that less than 13% of the population in these 16 countries travelled to a non-EU country in 2009. However, as it may not be the same people travelling to non-EU countries each year, the share of the population that travels to non-EU countries over the lifetime of a card may be higher. It could be argued that 2009 was not a representative year after the financial crisis, but data for 2007, for example, are very similar.

Other reasons quoted by the industry are the use of the magnetic stripe as a fall-back solution in case of problems with the chip, its use for time-sensitive payment situations (e.g. toll roads) or for non-transaction purposes (such as access to banks' lobbies, ticketing and reward programmes). As already indicated in the 7th SEPA Progress Report, it may be decided to keep the magnetic stripe for practical reasons, but in that case the magnetic stripe should not contain any data enabling payment transactions. A magnetic stripe with no data on it enabling payment transactions would therefore limit the use of the magnetic stripe to only a very few non-transaction-related purposes.

Chart 13 EMV transactions in the euro area



Source: ECB.

At the start of 2012, there were few EU countries left where migration of POS terminals was below 90%. While statistics show that overall in the EU 94.4% of terminals accept chip cards, the infrastructure in some countries is still lagging behind. Full EMV migration of the infrastructure within the EU should therefore be the first priority. Otherwise it is difficult to explain to cardholders with chip-only cards that their card may not be used everywhere within the EU, and it is more difficult to urge non-EU countries to migrate. Liability shift provisions[46] might enforce this migration process.

The Eurosystem has developed a SEPA card indicator for migration to EMV at the transaction level.[47] An "EMV transaction" is understood to be a card payment transaction in which the following criteria are satisfied: an EMV-compliant card is used at an EMV-compliant terminal and EMV technology is used in the processing of the transaction. A necessary prerequisite for the EMV migration at the transaction level is the EMV migration of cards and terminals, as discussed previously.

The expectation is that this transaction-level indicator will continue to increase gradually, a trend which could be observed until the end of 2011. Since then, some fluctuations have been recorded.

46 EMV liability shifts are interbank scheme rules which put the financial responsibility, in the case of fraud, on the party which did not invest in the EMV chip card or terminal. Liability shifts may be introduced separately for ATMs and POS terminals, and they may apply domestically/intra-regionally (i.e. when issuer and acquirer are in the same country or region) or inter-regionally (i.e. when issuer and acquirer are not in the same region). Furthermore, liability shifts between issuer and acquirer need to be transferred to the merchant in order to be an incentive for the merchant to invest in an EMV terminal (where the terminal is not owned by the acquirer). It should, however, be noted that for smaller amounts of fraud, liability shifts provide no incentive, since the administration costs to claim back fraudulent transactions can be considerable. A large retail bank estimated the costs to be on average around €70 per fraudulent transaction.

47 The indicator is calculated as the number of EMV transactions at POS terminals divided by the total number of transactions at POS terminals (irrespective of the country of issuance of the card). The indicator is affected slightly by transactions conducted using cards issued outside the SEPA area. If the card is issued in a country outside SEPA that has already migrated to EMV then the figures are positively affected. On the other hand, if the card is issued in a country outside SEPA where EMV has not been implemented then the indicator is negatively affected. For this indicator, the Eurosystem cooperates with card-acquiring processors – i.e. entities that, acting on behalf of the acquirer, are responsible for the processing of card payment transactions, from their acceptance at the point of sale to their delivery at the routing centre ("switch"). The following processors are currently participating in the exercise: Atos Worldline; Bankart; CECA; B+S Card Service; ConCardis; TeleCash; NETS Estonia; Deutsche BP; Easycash; Equens; First Data; Intercard; Intesa Sanpaolo Card; JCC Payment Systems; Montrada; WorldPay; Redsys Servicios de Procesamiento; SIBS, SIX Pay; UNICRE; VÖB-ZVD; CGD and BCP. In the case of France, the absence of a French processor has been corrected for on the basis of figures provided by the Banque de France. The processors report twice a year, but the results take the form of monthly figures.

The observation period for 2012 is, however, too short to draw concrete conclusions about the reasons for these fluctuations and whether they are purely coincidental.

Since the migration to chip-only cards will take some more years, bridging measures have already been taken by various card issuers in Europe, e.g. blocking magnetic stripe transactions outside Europe. For example, in Belgium the deactivation of the authorisation based on the magnetic stripe on debit cards for use outside Europe has led to a decrease in fraud incidents with counterfeit debit cards of 96%. In fact, regional blocking has almost the same effect as removing the magnetic stripe, as in both cases authorisation of the magnetic stripe transaction will not be possible. Indeed, the magnetic stripe could then still be skimmed, but it could not be used in SEPA if all ATMs and POS terminals only accept chip transactions, and it could not be used outside SEPA (or only upon request for a limited period of time while the cardholder is abroad), because authorisation of the magnetic stripe would be blocked. Theoretically, criminals could use the counterfeited card when the cardholder is abroad, but this could also be possible with a second card that would be needed for transactions in non-EMV regions.

EUROSYSTEM POLICY LINE ON SECURITY OF CARD PAYMENTS

- **CNP transactions:** the Eurosystem endorses the recommendations of the European Forum on the Security of Retail Payments (SecuRe Pay) for stricter security measures for transactions made via the internet and their implementation by PSPs and the governance authorities of payment schemes no later than 1 February 2015.

- **"Card-present" transactions:** the Eurosystem considers full migration to EMV (as regards cards, terminals and transactions) to be essential.

- **Differentiation between SEPA and non-SEPA countries:** until all issued cards are chip-only, and as long as there are large parts of the world where EMV migration has not taken place in full, non-EMV transactions outside SEPA should be blocked by default, unless the consumer has expressed the wish to have them unblocked (i.e. a pro-active approach). Card schemes should not prevent card issuers from blocking non-EMV transactions initiated outside SEPA (within SEPA, the magnetic stripe would in any case not be used anymore due to the chip-only policy). Card issuers should differentiate their offer and very clearly communicate to the cardholder where the card can be used and how the card can be blocked and unblocked. In order to reconcile security and convenience for their customers, issuers might consider providing customers with options to manage their card security specifications individually (limits, white-listed and/ or black-listed countries, etc.), e.g. as an additional feature of their online banking services.

6 CARD SCHEMES AND PROCESSING

6.1 SEPARATION OF SCHEME MANAGEMENT FROM PROCESSING FUNCTIONS

Separating card scheme management from processing operations is one of the key requirements of the SEPA cards framework (SCF) and is considered an important element in the creation of a competitive card payments market in SEPA. The underlying assumption is that card issuers and acquirers should be free to choose their processors and clearing and settlement service providers. However, following the launch of SEPA for cards in January 2008, doubts were raised as to whether all card schemes had effectively separated processing activities from their scheme management functions. Some national banking communities and/or card schemes have put in place a form of separation which is the product of their own interpretation. This has also been the case for international card schemes. The way separation has been implemented in practice is often the subject of criticism from competing schemes and processors. Other national banking communities have sold their processing entities to larger companies.

The principle of the separation of scheme management from processing can apply at the corporate level, the operational level, the information level, the financial/accounting level, the commercial level and the legal level.

Operational separation

If the governance authority and the processing entities operate separately, both at the technical and at the personnel levels, there is operational separation. Technical separation means that the scheme and the processing entities do not share common technical infrastructures. Personnel separation means that the staff and managers working for the governance authority are not the same as those working for the processing entities. Staff and managerial separation, in particular, ensures that: (i) one entity does not have a say over the objectives and rules of the other; and (ii) there is no possibility of control or influence by one entity over the other. Operational separation does not exclude individual governance authorities from setting certain minimum requirements, particularly with regard to operational reliability and security management, or to processors that process transactions in the respective schemes. Moreover, a governance authority should be entitled to perform audits or receive reports from independent auditors to check that certified processors continue to comply with such requirements. Operational separation also means that governance authorities do not give preferential treatment to certain processing entities and vice versa. The services of the governance authority are offered in an indiscriminate manner to all approved processing entities without favouring a specific processing entity and vice versa.

Information separation and restrictive reporting requirements

Information separation means that there is no privileged information flow between the governance authority and the processing entities. This concerns, for example, imminent scheme rule changes (including applicable interchange fee rules), network-testing information or network certification systems which would place a specific processor in a privileged position. Reporting requirements should follow the principle that a processor is not required to provide information to a governance authority other than that strictly necessary for the scheme's security management as well as overall risk management in line with oversight and other reporting requirements imposed by regulators, supervisory authorities or central banks. This might, in some cases (e.g. fraud management), entail data on specific individual transactions, whereas for scheme-transaction volume accounting reasons, only aggregated data would be required. Card schemes should never ask for information pertaining to transactions executed with other card schemes (for example, in the case of co-branded cards).

Financial/accounting separation
Financial/accounting separation means that card schemes and processing entities have separate profit and loss accounts and balance sheets and no financial flows take place between them other than for paying such non-discriminatory fees as may exist between schemes and processors. Finances are run separately and at arm's length. This financial/accounting separation should ensure the financial independence of card schemes and (central) processing entities and should exclude any possibility of cross-subsidisation. Cross-subsidisation between the scheme layer and the processing layer could enable, for example, a specific processing entity to offer services at lower prices than those offered in the absence of cross-subsidisation. It could also enable a specific scheme to offer rebates based on revenues received from its processing entity that are (partly) generated from processing in market segments which are shielded by the scheme from processing competition.

Commercial separation
Commercial separation means that the services of card schemes and processing entities are neither offered as a combined service (e.g. no product bundling), nor made dependent on each other (e.g. where certain scheme rules for scheme participants are only applied in full if a particular (central) processor is used). Moreover no incentives are offered to combine the use of both.

Legal or organisational separation
Legal separation means that card schemes and processors operate as separate legal entities. However, it is not so much a goal in itself as a means to establishing separation and ensuring a clear basis for enforcement of the requirement. Legal separation helps to ensure that:

- any contractual obligation of the card scheme does not extend to the processing entity and vice versa;

- one entity may not be held liable for the acts of the other;

- any third party is able to enter into a contractual relationship with the card scheme and the processing entity separately, without being forced to be associated with both.

A requirement to implement legal separation can only come from the respective regulator.

The concrete requirements are being addressed by the proposed regulation on interchange fees for card-based payment transactions, which stipulates that an organisational separation should be in place between the schemes and the entities which process the transactions.

EUROSYSTEM POLICY LINE ON SEPARATION OF SCHEME MANAGEMENT FROM PROCESSING

- Separation of card schemes from card payment processing is a core element in increasing competition and efficiency in card payments.

- The principle of the separation of schemes from processing should apply at the corporate level, including, in particular, operational separation, information separation, financial/accounting separation, commercial separation and ideally also legal separation.

- The Eurosystem notes that the separation of scheme management from processing is being addressed in the proposed regulation on interchange fees for card-based payment transactions.

6.2 THE SEPA CARD PROCESSING FRAMEWORK

In the 6th SEPA Progress Report, the Eurosystem argued that efficiency in the processing of SCT/SDD, on the one hand, and card payments, on the other hand, could be enhanced by the use of the same message standards (ISO 20022 XML) and the same infrastructures. To bridge the gap that exists between the EPC's strategic vision for banks, card schemes and processors, as expressed in the SCF, and the reality of multiple card schemes, multiple banks and multiple processors, the Eurosystem called for the development of a framework for the processing of card payment transactions. In a second step, the relevant infrastructures were invited to develop a technical interoperability framework for SEPA-compliant card transaction processing. However, little progress on the card processing framework has been seen so far.

To obtain a better overview of the situation in card transaction processing, the Eurosystem investigated the matter in 2011-12. The general results and a brief overview of card processing in Europe are presented in Annex 5.

The purpose of a "Framework for the processing of card transactions" is to assist the materialisation of SEPA for cards, by translating the strategic vision into harmonised business rules for card transaction processing which is independent of card schemes, independent of scheme-proprietary processors and independent of (scheme-)proprietary specifications. It will thus guide the market towards more competition between processors. Moreover, when processing is organised to operate in a scheme-independent way, it will facilitate fairer competition between card schemes.

The following harmonised business rules for card transaction processing are to be incorporated in the SEPA Cards Framework or an equivalent EPC document:

(i) cardholders and merchants together decide on the means of payment to be used, including the choice of card scheme;

(ii) merchants choose the card schemes they wish to accept;

(iii) acquirers should compete to offer a broad range of card schemes to merchants, and merchants should be able to work with more than one acquirer (including through a single payment terminal);

(iv) card processors should offer processing for a broad range of card schemes to acquirers;

(v) card processors should declare their intent to comply with the SEPA Cards Framework and with the Framework for the processing of card transactions;

(vi) card processors should find ways to create reachability via interoperability links;

(vii) issuers and acquirers should engage in arranging for scheme-independent processing options.

In the same vein as what was needed for credit transfers, the relevant processing infrastructures were invited to develop a "technical interoperability framework for SEPA-compliant card payments processing".

EUROSYSTEM POLICY LINE ON THE SEPA CARD PROCESSING FRAMEWORK

- The Eurosystem reiterates its invitation to the industry to establish a SEPA card processing framework and a technical interoperability framework and strongly encourages all interested stakeholders to produce tangible results.

7 BUSINESS PRACTICES AND RULES

Business practices and rules have been considered an essential component for the proper functioning of the card payments market. While in other regions (e.g. Australia, Canada and the United States) business practices for and rules on card payments have been the focus of regulatory initiatives for some time now, this is a fairly new development at the European level, where the market was characterised by self-regulation and (especially in the field of interchange fees) occasional competition cases. However, despite several decisions by the European Commission under EU antitrust rules and in a number of national competition proceedings, the market has remained fragmented and the interchange fees in individual Member States vary widely, often at a higher level than the ones accepted for Visa and MasterCard cross-border transactions. Due to its nature, competition enforcement cannot address these obstacles to a level playing field comprehensively in the short term. This can be explained by the fact that competition enforcement works on a case-by-case basis and is typically a drawn-out process.

The publication of the Green Paper entitled "Towards an integrated European market for card, internet and mobile payments" by the Commission in January 2012 marked the start of greater involvement by the European legislative instances in card payments business practices and rules. The Eurosystem has officially responded to the Green Paper[48] and the ECB has provided an opinion on the proposal for a Regulation on interchange fees for card-based payment transactions. The following discussion of business rules and practices should be seen as the Eurosystem's views from a payment system policy perspective.

7.1 PRICING STRUCTURE AND FEE-RELATED ASPECTS

Interchange fees

The principle of interchange fees is still widely applied in card payments. In four-party schemes, an interchange fee can be, and usually is, explicitly provided for in the scheme rules. Three-party schemes also involve some kind of transfer of funds from the acquiring side to the issuing side, usually an implicit interchange fee. Every time a card payment is made, the issuer (on behalf of the cardholder) is instructed to pay the acquirer (on behalf of the merchant) for the value of the goods or services. The interchange fee typically flows in the opposite direction: it is paid by the acquirer to the issuer. In other words, interchange fees can be used as a balancing mechanism through which some of the costs on the one side are covered by the other side of the market.

In 2011 the ESCB carried out a fact-finding exercise and collected relevant information on interchange fees for card payments in Europe so as to increase its understanding of national practices, experience and developments in the field of interchange fees. The survey focused on the interchange fees applied to debit and credit card transactions. For this exercise, 26 of the then 27 EU Member States participated and all data reported referred to the year 2010. They showed that interchange fees are not set and applied in a harmonised way in the EU. The choice, structure, and level of interchange fees applied differ in many ways and depend on a number of options and dimensions. In many countries, interchange fees are set bilaterally or multilaterally by domestic card schemes. In cases where there is no domestic card scheme, national card markets are generally served by Visa Europe and/or MasterCard. In the card schemes operated by Visa Europe and MasterCard, the fees applied to domestic transactions are determined either by national banking associations or by Visa Europe and MasterCard. Visa Europe and MasterCard also set their cross-border

48 Available at: http://www.ecb.europa.eu

interchange fees. These fees generally also apply "by default" for domestic payments if no bilateral or multilateral agreements (in the case of transactions within EU countries) are in place. The level of fees on debit and credit card payments typically differ. Across European countries, the level of interchange fees varies significantly (from €0.01 to €0.30 for a €10 debit card transaction and from €0.01 to €1.55 for a €100 debit card transaction). Typically, interchange fees are reviewed periodically, on an annual or twice yearly basis.

As explained in Chapter 3, interchange fees are only one fee component in the card payments process, however, probably the most controversial one and subject to private-law litigation, antitrust intervention and regulatory activities – not only in Europe but globally.[49] The extensive debate sparked by this controversy and, to no lesser degree, public intervention have contributed to the decrease of interchange fee levels. This holds true for, for example, Belgium, Estonia, France, Italy, Portugal and Spain. The lack of clarity regarding the permitted level of (multilateral) interchange fees has often been cited by market participants as a challenge in their preparations for SEPA for cards, since it gives rise to uncertainty when planning their investment decisions. In countries like Australia or the United States, a maximum cap on MIFs has been fixed and, with the proposed interchange fee regulation, the EU is likely to follow suit shortly.

At this point, it is worthwhile reiterating the main thrust of the proposed regulation on interchange fees for card-based payment transactions. It would introduce maximum levels of interchange fees for transactions based on consumer debit and credit cards. The caps apply to cross-border transactions, i.e. when a cardholder uses his/her card in another country, or when a card payment acceptor uses an acquirer in another country. After a transitional period of 22 months, these caps also apply to domestic transactions. The caps are set at 0.20% of the value of the transaction for debit cards and at 0.30% for credit cards. For cards not subject to the caps (mainly commercial cards, and cards based on three-party schemes such as American Express or Diners when these do not use licences), retailers will be able to surcharge (see next paragraph) or to refuse to accept them. In this way, the costs imposed by expensive cards can be passed directly on to those who benefit from them, i.e. the cardholders, rather than being borne by all consumers.

EUROSYSTEM POLICY LINE ON INTERCHANGE FEES

- The Eurosystem's stance on interchange fees remains neutral, as this is an issue within the field of competence of competition authorities and/or the European legislative bodies.

- Interchange fees, if any, should not lead to negative price signals towards payers and payees, distracting them from using more efficient payment instruments. Therefore, interchange fees (if any) should be used primarily as a means of reflecting the costs which are directly related to the processing of the payment transaction (e.g. costs of acceptance, switching, authorisation and/or security measures). Costs that are not directly related to the processing of a payment transaction should be attributed to the relationship between the card issuer and the cardholder (e.g. cost of opening and maintaining a payment account, cost of providing credit facilities, cost of providing insurance cover, cost of reward programmes, etc.) or to the relationship between the card acquirer and the merchant (e.g. terminal rent).

49 For a detailed description of interchange fees and related aspects, see Börestam, A. and Schmiedel, H., "Interchange fees in card payments", *Occasional Paper Series*, No131, ECB, September 2011.

- The Eurosystem has always supported the call for increased clarity on a legally-sound charging model, which is in line with (national and European) competition rules, if necessary by means of regulation. Therefore, it welcomes the fact that the European Commission has proposed a regulation on interchange fees for card-based payment transactions.

Surcharging and rebating

Surcharging is a practice whereby the card payment acceptor (e.g. a merchant) requests a charge from the cardholder for using a specific payment instrument. Such pricing can be used as a steering instrument towards more efficient payment instruments. As it can also be misused, the PSD offers Member States the possibility of forbidding surcharging. 14 Member States representing about half of the EU population have banned surcharging altogether for the use of specific payment instruments. Denmark allows it for the usage of credit cards but not for the usage of debit cards. 12 Member States representing the other half, including Germany, the United Kingdom and Poland, impose no restrictions on surcharges.[50] Rebating is sometimes also referred to as "negative surcharging". In this case the payee offers a default price, but might decide to give the payer a discount if he/she chooses a payment instrument preferred by the payee.

One possible drawback of surcharging is that, if applied in a general and/or uniform way on all card transactions, it might discourage cardholders from using their cards, although cards are often a more efficient means of payment for society than other means, such as cash or cheques. The advantage of surcharging is the possibility it gives the payee of pricing cost differences between different payment instruments and/or different card schemes transparently and adequately. In addition the possibility of surcharging has often been cited as a means of bolstering the negotiating clout of the card payment acceptor vis-à-vis the acquirer when it comes to agreeing on the level of merchant service charge.

As a result of some payees applying excessive surcharges (very often in e-commerce) which were higher than the effective costs they faced in relation to the specific payment instrument in question, surcharging has become subject to increased criticism by the media and consumer associations. As a result, the Consumer Protection Directive[51] introduced a cap on surcharges at the level of the merchant service charge.

The proposed PSD2 would introduce a harmonised surcharging and rebating regime, by allowing the payee to steer the payer towards the use of a specific payment instrument. However, it stipulates that no charges should be requested by the payee for the use of payment instruments for which interchange fees are regulated within the scope of the proposed interchange fee regulation, as in such situations the advantages of surcharging become limited while creating complexity in the market.

50 Study on the impact of Directive 2007/64/EC on payment services in the internal market and on the application of Regulation (EC) No 924/2009 on cross-border payments in the Community.

51 Directive 2011/83/EU of the European Parliament and of the Council of 25 October 2011 on consumer rights.

EUROSYSTEM POLICY LINE ON SURCHARGING AND REBATING

- If allowed by law, surcharging and/or rebating could, within the range of cashless payment instruments offered, be an instrument to steer users towards more efficient payment instruments.

- In any case, surcharging should not be applied in an undifferentiated way and/or misused as an additional source of income to the disadvantage of the payer.

Transparency of fees

Transparency with respect to the costs and benefits of different payment instruments is indispensable for a well-functioning retail payments market. In order to contribute to this transparency from a macro-perspective the ECB, with the participation of 13 national central banks of the ESCB, carried out a study on the social and private costs of retail payment instruments in Europe,[52] with the aim of helping policy-makers, banks and retailers promote efficient payments. The payments considered in the study are with cash, cheques, debit and credit cards, direct debits and credit transfers up to €50,000, which account for at least 5% of all payments in terms of volume in each country. Furthermore, this study explored the costs of central banks, commercial banks and infrastructures, cash-in-transit companies and retailers.[53]

This and other such studies can provide market participants with the possibility to benchmark their own fees. However, sometimes payers and/or payees face difficulties in merely identifying the fees they are charged, let alone in "shopping around" to find better offers. The reason for this is that fees are often not made publicly available (e.g. via publication on the website) and/or presented in a user-friendly way (e.g. as a weighted average instead of the applicable fees per transaction type (e.g. payments at the point of sale versus e-commerce payments) or in the form of model calculations). If the fees published are the default fees, they could serve as a reference point without restricting the possibility for the supply side (i.e. the issuers and/or the acquirers) to negotiate more favourable rates bilaterally with the cardholder and/or the card payment acceptor.

As for transparency for consumers on the fees paid between issuers and acquirers (e.g. by providing information on the interchange fee), there does not appear to be any benefit which might justify the implementation of such a practice, especially since most of the payers might not be aware of the operational and commercial payment practices in the domain between payment service providers. However, when it comes to additional services offered by the issuer to the cardholder (e.g. reward programmes, insurance), transparency on the costs of these, non-payment related services aimed at the cardholder could lead to increased cardholder awareness as regards the full costs of making use of a specific card scheme.

52 Schmiedel, H., Kostova, G., and Ruttenberg, W., "The social and private costs of retail payment instruments: a European perspective", *Occasional Paper Series*, No 137, ECB, September 2012.
53 For end-user prices the "Study on the impact of Directive 2007/64/EC on payment services in the internal market and on the application of Regulation (EC) No 924/2009 on cross-border payments in the Community" gives an overview.

EUROSYSTEM POLICY LINE ON TRANSPARENCY OF FEES

- The more transparency there is on fees, the better it is for competition and efficiency in the European card payments market.
- Default fees and model calculations should be published at least on the websites of card schemes, issuers and acquirers.
- Differences in the fees of schemes, brands or products should be reflected in the rates offered by the acquirer, instead of hiding them in packages or blended prices.

Service bundling

The marketing practice of bundling means the offering of two or more goods or services as a package deal, usually for a discounted price. In the broader context of card payments, product or service bundling refers to a bundle of cards schemes/brands offered by the acquirer and/or the issuer. In the narrow sense, service bundling refers to the services offered within a single card scheme/brand. A differentiation between "core and basic" card payment services and, separately offered, "additional" services could be in the interest of the card payment acceptor and/or the cardholder. The core and basic function of a card is to offer an authorised and guaranteed card payment, in fact the cashless equivalent to banknotes and coins at the physical point of sale. Consumer debit cards currently offered in the EU often already meet this requirement.

Any additional service to the card payment acceptor (e.g. telecommunication services, reconciliation features, credit scoring) or to the cardholder (e.g. rewards, deferred debiting, credit, insurance) can either be offered as additional – separately priced – building blocks or as a bundle together with the core and basic card payment service. This does not mean that, during negotiations, acquirers and merchants cannot agree on core and basic services which are offered as a product bundle together with additional services.

EUROSYSTEM POLICY LINE ON SERVICE BUNDLING

- "Core and basic" card payment services are the cashless alternative to banknotes and coins and should be offered separately from non-payment related services. Consumer debit cards currently offered in the EU often already meet this requirement.

Issuing or acquiring licences subject to geographic restrictions

In order to achieve a genuine and fully integrated European card payments market, it is essential that cards can be issued under the same conditions throughout the EU as a whole, and not just within the euro area or an individual country. Moreover in an integrated European card payments market acquirers and issuers cannot be limited by geographic restrictions or even territory protection within the EU, and processors must be able to offer their services throughout the entire SEPA region. These are pre-conditions in order to allow payers to use their payment cards anywhere within SEPA to make euro payments without any geographical restrictions or differentiation (as they are used in their country of origin) and for payees to accept payments with these card payment schemes. Arrangements which differentiate based on geographic criteria within the EU, i.e. on individual Member States' national borders, are still common but are not easy to justify in an integrated card payments market and the concept of an integrated market. EU-wide licences for card issuing and/or acquiring would imply that a licence given to an issuer and/or acquirer within one Member State would entitle (but not oblige) that issuer and/or acquirer to be active in any other Member State too and by doing so compete with other issuers and/or acquirers of the same card scheme. Card schemes which do not offer such EU-wide licences contradict one of the basic tenets of SEPA and the concept of an integrated market.

EUROSYSTEM POLICY LINE ON ISSUING OR ACQUIRING LICENCES SUBJECT TO GEOGRAPHIC RESTRICTIONS

- Within the EU any country-specific differentiation for issuing and acquiring licences should be abolished.
- Card schemes should offer EU-wide issuing and/or acquiring licences by default and leave it up to the business decision of the issuers and/or acquirers in which Member States they offer their services.

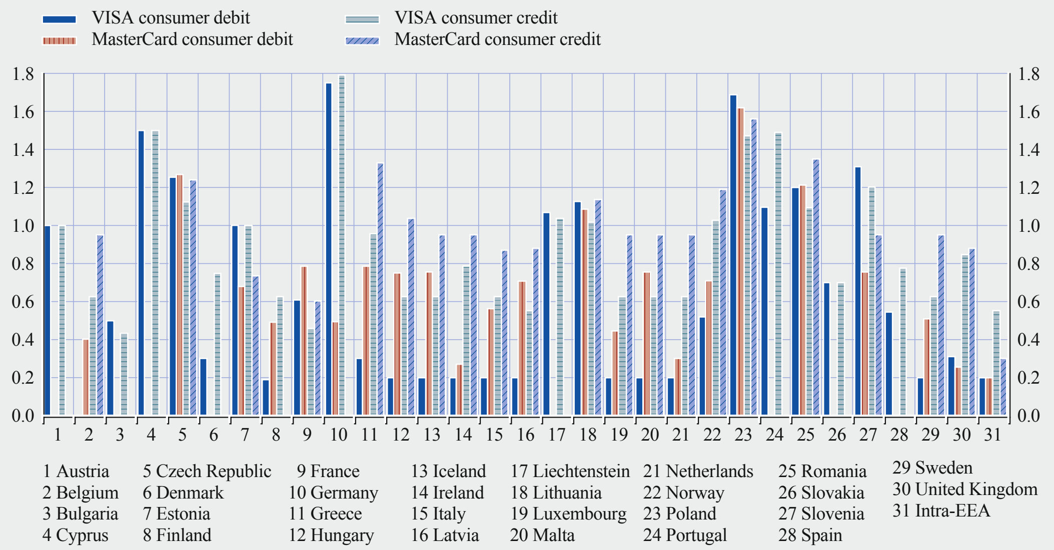
Fee differentiation based on geographic criteria

As regards fees, the European cards market remains fragmented, despite all the efforts made for a SEPA for cards. Interchange fees, in particular, vary widely, even for card schemes offered throughout the EU (e.g. those of Visa Europe and MasterCard).

Current scheme rules often prevent payees and payers from taking advantage of lower interchange fees (and as a consequence typically lower merchant service charges) and cardholder fees. Cardholders are often unable to obtain a card from an issuer outside their country of residence,

Chart 14 Weighted average domestic interchange fee for card schemes offered by Visa Europe and MasterCard, consumer cards, per country[1)]

(percentages)



Source: European Commission.
1) It should be noted that the European Commission's graph is not complete with respect to the figures for Germany.

while acquirers are obliged to pay the interchange fee applicable in the country where the payment is effected, rather than the one applicable in the country of the acquirer. If, for example, a German merchant enters into a contractual agreement with a Dutch acquirer for Visa consumer debit or credit cards, the Dutch acquirer will be subject to the German interchange fee rather than the Dutch one. In order to recover the Visa interchange fee applicable for Germany, which is higher than the one for the Netherlands, the acquirer will not be able to offer the German merchant the same level of merchant service charge as that which it could offer to a Dutch retailer. This considerably reduces the incentive for merchants to contract with an acquirer in another Member State which impedes competition among acquirers. Consequently, it protects card schemes from the pressure to adapt their interchange fees to the lower level of other Member States.

Due to its nature, competition enforcement cannot address the current imbalances and obstacles preventing a level playing field from emerging in a comprehensive and timely way, and the European Commission considers that regulatory intervention is therefore necessary.

EUROSYSTEM POLICY LINE ON FEE DIFFERENTIATION BASED ON GEOGRAPHIC CRITERIA

- Any scheme-internal fee differentiation based on geographic criteria for cross-border transactions within the EU should disappear over time in line with the convergence process of national markets induced by SEPA for cards and the regulatory provisions (currently in the making).

- As long as different interchange fee levels for domestic and cross-border payments within SEPA are in place, any card scheme operating within the EU should leave it up to its members to choose which of the two levels they would like to apply.

- Scheme rules should neither explicitly nor implicitly (via charging practices) prevent the issuing of cards to non-resident cardholders and/or the acquiring of non-resident merchants within SEPA.

7.2 STEERING PRACTICES

Co-branding

The arrangement whereby a product or service (e.g. a payment card) is associated with more than one card scheme or brand is called co-branding, also referred to as co-badging. Historically co-branding was mainly put in place for local and international card schemes, whereby all local transactions were made with the local card scheme and international transactions were made with an international card scheme. While governance authorities that are not willing or able to issue cards on their own (in the case of three-party models) or to find adequate issuers (in the case of four-party models) would see some benefits if co-branding were to become mandatory, the issuing of co-branded cards is currently a business decision for the issuer.

However, issuers cannot decide on their own about the combination of card schemes or brands that they would like to offer. International card schemes, in particular, often have rules in place which forbid card issuers from co-branding their scheme with another international scheme. If this practice is maintained, co-branding would prolong the current fragmentation along the lines of national borders and might affect innovative service offerings (e.g. wallet solutions which combine several card schemes in one mobile or online application).

EUROSYSTEM POLICY LINE ON CO-BRANDING

- Issuers should be free to decide which schemes/brands they want to issue on one and the same card (or in future within one mobile or online wallet). To allow for this, co-branding must not be forbidden by scheme rules.
- Co-branding can contribute to reach, but must not be used as an excuse to maintain national fragmentation.
- Issuers should neither be forced nor forbidden to co-brand.

Honour-all-products/cards

Honour-all-products/cards rules are card payment scheme practices which require merchants to accept all card brands of a specific scheme. While a broad definition of the honour-all-cards rule could mean that the merchant is required to accept all card schemes offered by a specific governance authority (e.g. the debit card scheme as well as the credit card scheme), a narrower definition requires the merchant to accept all cards of a specific card scheme (i.e. cards of a specific debit card scheme or credit card scheme), irrespective of whether they are consumer or commercial cards. Commercial cards typically bear higher interchange fees and consequently higher merchant service charges than consumer cards, even if they are offered within the same card payment scheme and the same brand.

Advocates of the honour-all-cards rule point out the importance of consistent user experience, while their critics are afraid that it could hamper competition and freedom of choice of card payment acceptors. If consumer and commercial cards of one scheme are offered under the same brand but trigger different merchant service charges, the merchant might wish to treat these cards differently (e.g. via surcharging or not accepting the more expensive commercial card at all). However, if consumer and commercial cards are offered under one and the same brand, the merchant will not necessarily be able to differentiate between the two of them but will only notice the different merchant service charge afterwards when being charged by the acquirer.

EUROSYSTEM POLICY LINE ON HONOUR-ALL-PRODUCTS/CARDS

- While the Eurosystem acknowledges the contractual freedom between acquirers and merchants to agree on a bundle of different schemes/brands, acquirers should provide merchants with the freedom to accept only those card schemes and/or brands best suited to the merchant’s need.
- If consumer and commercial cards are offered under one and the same brand, the card payment acceptor should have the possibility of differentiating commercial cards from consumer cards visually or technically and of declining to accept commercial cards if they involve different merchant service charges.

- Merchants may decide not to accept all cards or other payment instruments if they provide a low level of security and if the acquirer does not guarantee the full payment of authorised transactions.

Choice at the checkout
It is important to distinguish between the legal and the practical aspects of a transaction between buyer and seller. From a legal perspective, the conditions of payment form an integral part of the purchase agreement. In practice, payment solutions need to cater efficiently or even automatically for this. These practical solutions cannot, however, replace or override the legal principle. While in theory the decision to use a specific card scheme (or brand) for the settlement of a purchase and the conditions of this use are the result of a negotiation process between the payer and the payee, in reality such a negotiation is not feasible due to time constraints (especially at the physical point of sale). The payee has to have made a decision which card schemes or brands to accept and the payer has to have decided on which card or cards he/she would like to apply for and obtain. If the payer holds several payment cards and all of them are accepted by the payee, which may use surcharges or rebates, it is up to the payer to present his/her preferred one to the payee. This pre-selection possibility for the payer is not possible for co-branded cards. In such a situation the checkout is typically an automated process, during which the POS terminal tries to match its pre-set preferences (as defined by the acquirer) with the ones on the chip (as defined by the issuer). This practice might influence the freedom of choice for payer and payee, if there is no possibility to intervene and sometimes not even to have an effect on the sequencing in the terminal and/or the chip, when defined by the acquirer and/or the issuer.

The proposal for a regulation on interchange fees gives the payer the right to determine the brand to be used in the case of co-branded payment cards – a choice which must not be adversely affected by automated processes.[54]

The Eurosystem is, however, of the view that the choice of the payment application is to be agreed by the cardholder and merchant, and that the practical solution ("payment application selection") should execute this agreement.

EUROSYSTEM POLICY LINE ON CHOICE AT THE CHECKOUT

- Customer and merchant should agree jointly on the conditions of payment, including the payment instrument and card scheme or brand to be used.

- Cardholders should have a say in the ranking of brands on the chip on co-branded cards and card payment acceptors in the ranking of brands in the terminal.

54 Article on choice at the checkout: i) Where a payment device offers the choice between different brands of payment instruments, the brand applied to the payment transaction at issue shall be determined by the payer at the point of sale; ii) Payment card schemes, issuers, acquirers and payment card handling infrastructure providers shall not insert automatic mechanisms, software or devices on the payment instrument or at equipment applied at the point of sale which limit the choice of application by the payer when using a co-badged payment instrument.

8 STANDARDISATION

8.1 IMPLEMENTING THE OBJECTIVES

While harmonised principles, business practices and rules are essential for an integrated card payments market, they are not sufficient for achieving it. Progress in standardisation, i.e. the harmonisation of proprietary and non-interoperable requirements and implementation specifications, is equally important. The development and deployment of common "standards" are both crucial to ensure that, from a technical point of view, any card can be used at any terminal in Europe. It should be accompanied by harmonised testing/evaluation and certification processes for new cards and terminals, as this would lower the market entry barrier for their manufacturers. The development of implementation specifications is the responsibility of standardisation initiatives in the different domains of the card value chain (the card-to-terminal domain, the terminal-to-acquirer domain, the acquirer-to-issuer domain). Various standardisation initiatives are currently working on implementation specifications for these areas (for a detailed overview see Annex 5).

The core issue regarding standardisation in SEPA for cards is the fact that there are too many legacy implementation specifications ("standards") in use which are country or card-scheme-specific and therefore not interoperable. This situation has obvious implications for the development of a competitive European card payments market. Harmonising the landscape of non-interoperable requirements and implementation specifications represents a major challenge for the European cards market.

The European Payments Council feels responsible for the strategic vision in SEPA for cards. As mentioned previously, in this role it has published the SEPA Cards Framework (SCF), issues resolutions, and has begun formulating functional and security requirements in the SEPA Cards Standardisation Volume – Book of Requirements ("the Volume"). The requirements set out in the Volume cannot, however, be concrete and detailed enough to build solutions (cards, terminals, protocols) or to process card payments on this basis. For this reason, a number of market initiatives have been developing implementation specifications which cover the financial applications for the cards and terminals themselves as well as the messaging protocols for the different stages along the card payment transaction chain (card-to-terminal, terminal-to-acquirer, and acquirer-to-issuer). Broader adoption of these implementation specifications is crucial to ensure that, from a technical point of view, any card can be used at any terminal in Europe.

Market participants often indicate that security concerns are sometimes used to create "artificial" barriers to the entry of new competitors. Therefore, SEPA for cards is also seen as an opportunity to establish a trusted and harmonised SEPA security certification framework for cards and terminals. With a common set of security requirements and a common evaluation methodology for new types of cards and terminals, only one certificate should be necessary to achieve type approval by each card payment scheme active in SEPA; this is the ultimate goal of such a framework. Needless to say that for security requirements, and the security evaluation and certification processes for new types of cards and terminals, the Eurosystem expects these requirements to be not only harmonised, but also set at an appropriate level to reduce or prevent card fraud.

8.2 STANDARDISATION OF FUNCTIONAL AND SECURITY REQUIREMENTS

In its 6th SEPA Progress Report published in November 2008, the Eurosystem asked the European payment industry to ensure an adequate influence over the SEPA cards standards, stressing that such standards should preferably be non-proprietary (such as ISO standards). To address this key message, the EPC developed the SEPA cards standardisation programme and ecosystem, aiming to deliver consistent cardholder experience through harmonised "SEPA Standards", as explained above. Steps were also taken to provide additional clarity regarding the distribution of responsibilities in card standardisation and the involvement of relevant stakeholders, as shown by the creation of the Cards Stakeholders Group (CSG – a multi-stakeholder body representing retailers, vendors/manufacturers, processors, card schemes and the banking industry/EPC). Nevertheless, the Eurosystem's recommendations for integrating the newest developments in the context of ISO 20022 and, additionally, for more active involvement in the relevant global standardisation initiatives were not received with the same enthusiasm by the European card payment industry.

Against that backdrop, the Eurosystem's views on card standardisation were once again outlined in the 7th SEPA Progress Report (2010). In the 7th SEPA Progress Report, the Eurosystem encouraged the direct and coordinated involvement of the European payment industry, ideally represented by the EPC, in the work of global standardisation initiatives, e.g. EMVCo and PCI SSC, and recalled that efficiency in the processing of card payments could be enhanced by the use of ISO 20022.

In the context of standardisation, the Eurosystem also pointed out that the market would benefit from increased transparency regarding the implementation specifications currently in use or under development and presented expectations as regards a broader implementation of the work developed by European standardisation initiatives active in the different domains (e.g. CIR TWG, EPAS and the Berlin Group).

The fact that the card value chain comprises many different stakeholders such as issuers, acquirers, processors, retailers/merchants, vendors/manufacturers and card schemes (international and domestic) means that different and even conflicting interests need to be reconciled. Lack of clarity on what will be the future requirements in Europe makes standardisation in the European cards market a formidable challenge.[55] In terms of requirements – functional and security – the Volume has delivered an almost stable set. The Eurosystem is pleased that an approach has been chosen which acknowledges that, on the one hand, the world is larger than SEPA, but that, on the other hand, requirements in Europe can go beyond what is achievable in other parts of the world. For SEPA, the completed migration to EMV makes it possible to have requirements for a "chip-only" situation. As an example, a SEPA card payment terminal should not be required to be technically capable of continuing to accept magnetic stripe cards. The tradition in several European countries as regards stricter security requirements should also be upheld, for cards, terminals and transactions.

As regards the various stakeholders implicated in the standardisation process, staff members of governance authorities are among those more deeply involved and are well placed to drive standardisation. Despite the unbundling of card schemes and processing services, the influence of card schemes on standardisation is high. Effectively, they are leading the way in the development of standards and their decision to move from proprietary standards to common standards could help the elimination of barriers required to build SEPA for cards. Nonetheless, card schemes argue that competition among them is based on the cards' functionalities that are offered on "their" terminals thanks to proprietary developed standards; if all card schemes had to support the same functionalities, it would, in their view, impact competition and reduce market innovation.

55 On the same subject, see the EPC article entitled "SEPA for cards: From vision to reality – EPC takes forward its Cards Standardisation Programme", Francis Geets, *EPC Newsletter*, October 2010.

Playing the role of both issuers and acquirers, payment service providers are quite interested in card standardisation. In their view, a viable business case for ISO 20022 could help them to improve efficiency, volume and market profit. A broader implementation of such open standards would also facilitate entry to new markets. They participate in the standardisation process and have to implement products and services agreed, in some cases, by others. This shows the need for bringing them on board as influential decision-makers although they do not play a major role at the time being.

For retailers the development of pan-European card acceptance solutions that would enable them to lower their costs is of particular interest. Their influence in standardisation could be high as they can drive the market or stall it if the costs of standardisation are viewed by them as too high. Finally, card and terminal manufacturers and processors have an interest in card standardisation too, since they could broaden the span of their commercial action with limited investment into certification and customisation activities.

In terms of governance, the CSG, as a multi-stakeholder body, is a step in the right direction, but it still lacks strong guidance and seems sometimes powerless to deal with all the interests involved in the process of self-regulation of card standards. More than once, the Eurosystem has emphasised the importance of the card standardisation issue in the development of SEPA for cards; nevertheless, the establishment of standards by market players has always been seen as the preferred way forward. The market is progressing slowly, as the competent authorities have pointed out on several occasions, mainly due to the lack of a decision on future SEPA standards and a concrete migration plan.

The development of implementation specifications by the market was a first step, but a large-scale migration towards these standards is not occurring, as market participants maintain a wait-and-see approach. Lack of clarity on the standards currently in use and under development, their relationship to the Volume and, also, the unresolved question on what the future standards in Europe will be, account for current market behaviour.

In this context, a decision on the standards which are to be used in the future and the way to implement them is a highly urgent and sensitive issue. The lack of a decision on the implementation specifications which are to be used in the future, together with a realistic timeplan outlining the steps towards the implementation of the harmonised SEPA implementation specifications, is one of the main issues hampering progress in this area and the Eurosystem's expectations for standardisation and its stance on labelling (see below) should help to remove this barrier.

EUROSYSTEM POLICY LINE ON STANDARDISATION OF FUNCTIONAL AND SECURITY REQUIREMENTS

- The Eurosystem notes that one of the main issues hampering further harmonisation and migration to pan-European implementation specifications is the existence of many and sometimes conflicting interests in the field of cards.

- The Eurosystem welcomes the CSG's work on the Volume which is to reflect the expectations of stakeholders and to provide clarity regarding SEPA requirements for standardisation. In that sense, the CSG is encouraged to strengthen its efforts regarding the deliverance of a stable and complete version of the Volume. SEPA cards standardisation requirements, as laid down in the Volume, should be seen as the foundation stones on which market participants can continue to work on cooperative and competitive implementation specifications.

- In terms of requirements – functional and security – the Eurosystem is pleased that an approach has been chosen which acknowledges that the world is larger than SEPA, but that European requirements can go beyond, and be more ambitious, than in other parts of the world.

- The Eurosystem sees migration to implementation specifications, developed by industry-driven standardisation initiatives, based on open standards such as ISO 20022, and able to provide interoperable solutions to the European cards market, as representing the future of SEPA cards standardisation.

- The Eurosystem recognises the appropriateness of ISO 20022 for card messages in the terminal-to-acquirer domain and sees the work carried out to date as an undisputable basis for the development of non-proprietary specifications. Moreover, the Eurosystem welcomes ISO's efforts to deliver ISO 20022 for acquirer-to-issuer messages and will further analyse the potential adoption at the European level of the ISO 20022 standard for all steps of the card payment transaction chain after the final endorsement of ISO 20022 acquirer-to-issuer card messages.

8.3 CERTIFICATION AND LABELLING

With regard to the procedure to verify compliance with the standardisation requirements in the Volume, two processes have been defined by the CSG:

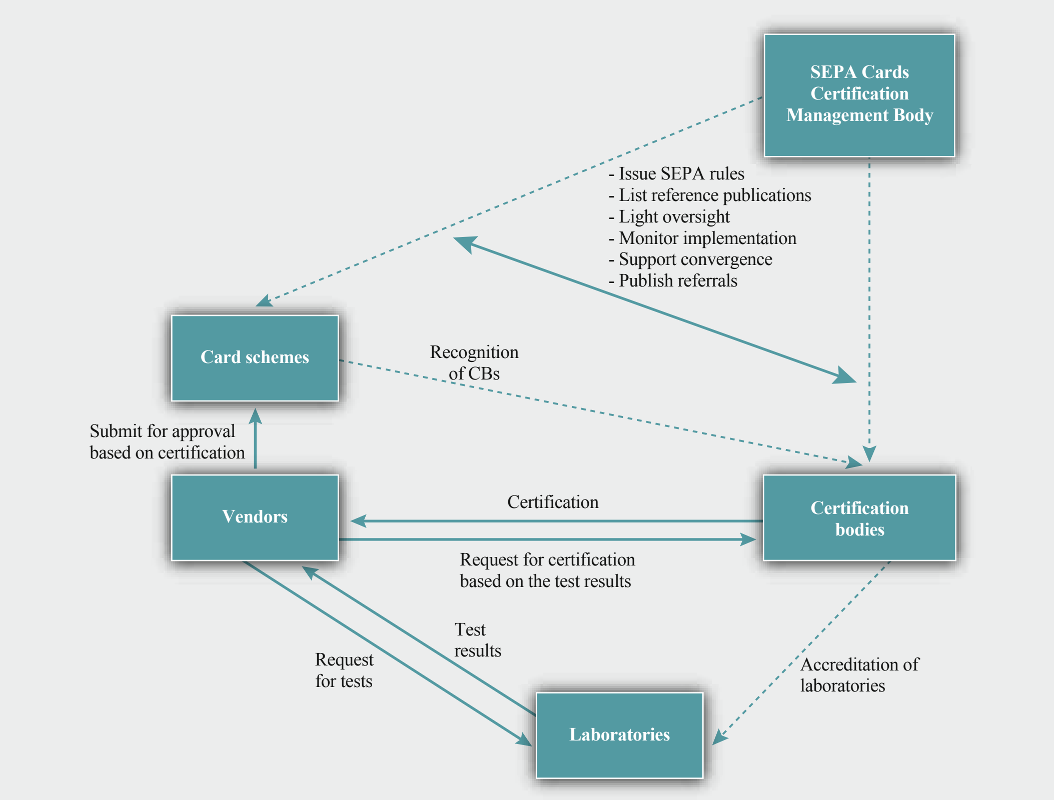
- compliance of an implementation specification with the requirements of the Volume, called the "labelling" process;

- compliance of a solution (e.g. card, terminal, message protocol) with the implementation specification, called the evaluation and certification process.

The entity responsible for imposing requirements on the market, should also take responsibility for organising a process by which market participants can have their deliverables checked against these requirements. As stressed in the Eurosystem's reaction to the Commission's Green paper "Towards an integrated European market for card, internet and mobile payments", a process for assessing the compliance of the specifications with the SEPA Cards Standardisation Volume – Book of Requirements needed to be developed (the "labelling" process). Therefore, both the newly developed implementation specifications as well as the existing ones should be labelled. In that sense, "technical interoperability" of specifications with other implementation specifications used in preceding and subsequent stages of the card value chain could be analysed as an additional criterion for obtaining a "label".

The certification process for new types of cards and terminals can be summarised as follows: on the basis of functional and security requirements, manufacturers produce new types of cards and terminals. These vendors ask accredited laboratories to test their products so as to assess if

Chart 15 Overview of the certification process



Source: SEPA Cards Standardisation Volume – Book of Requirements 6.0.

the functional or security requirements are fully met in practice ("functional testing"/"security evaluation"). These test results are then certified by certification bodies to guarantee that the tests have been properly conducted and are reliable. On the basis of this certificate, manufacturers can obtain type approval from the card or approval schemes and can sell their products (e.g. cards to card issuers and terminals to merchants).

Concerning security evaluation and certification, for the sake of facilitating a more focused discussion and achieving concrete commitments, the Eurosystem has asked for the discussions on functional certification and security certification to be separated.

To that end, in the 6th SEPA Progress Report three key conditions that need to be fulfilled in order to achieve a harmonised SEPA security certification framework have been identified. These conditions are:

- trust needs to be established in such a framework;
- an appropriate (i.e. sufficiently high) and equivalent (i.e. single) level of security for cards and terminals used in SEPA needs to be defined; and

- card and terminal manufacturers must be able to receive certificates from one of the certification authorities which would be valid with all card schemes in SEPA.[56]

Since the Eurosystem first requested the establishment of a SEPA security certification framework to achieve a harmonised European cards market, various actions have been undertaken by different stakeholders with the OSeC project[57] assuming the most pre-eminent position. The governance aspects of the SEPA security certification framework and the establishment of a SEPA Cards Certification Management Body (SCCMB) have been approved by the EPC, but concrete details are still under discussion, including on the role this body should have, if any, in the "labelling" process.

EUROSYSTEM POLICY LINE ON CERTIFICATION AND LABELLING

- A harmonised security evaluation and certification process for cards and terminals would lower the market entry barrier for manufacturers.

- The Eurosystem sees the "labelling" process as a step towards further harmonisation in the area of functional standardisation. The process and the role of a "labelling" entity should be properly defined in the Volume and applied to both newly developed implementation specifications and those currently in use.

- The Eurosystem encourages the CSG to define the "technical interoperability" (i.e. ability to communicate) of implementation specifications used in preceding and subsequent stages of the card payment transaction chain as an essential part of the "labelling" process.

56 As mentioned in the *Summary of the 3rd Forum on the SEPA Certification Framework*: "Furthermore, the Eurosystem is in favour of a convergence of the PCI and CC certification processes; in particular, it encourages PCI SSC to rely on CC evaluation reports for issuing own certificates".

57 Open standards for Security and Certification. OSeC is comprised of representatives of global and European Approval Bodies and it is currently responsible for the coordination of pilots for Common Criteria (CC) evaluations and certifications of terminals based on the JTEMS (Joint Interpretation Library Terminal Evaluation Methodology Subgroup) Protection Profiles. The following card schemes and approval bodies are participating in the project: American Express; Cartes Bancaires; Consorzio Bancomat; Currence; the UK Card Association; the PAN-Nordic Card Association; Visa Europe; MasterCard and the German Banking Industry Committee.

9 CONCLUSION

Whereas euro banknotes and coins were successfully introduced in 2002, the logical counterpart, that is a single payment area for cashless retail payments in euro, has not yet materialised in full. Card payments have become the most widely used payment instrument within the European Union. Debit cards, in particular, are increasingly substituting cash at the physical point of sale. Analyses of the European card payments market and the country-specific differences in the use of payment instruments and, specifically, payment cards, however, reveal that there is still vast potential for the increased use of payment cards in Europe.

As a result, economies of scale are still untapped and increased efficiency can be achieved if progress can be made in the field of effective separation of scheme management from processing, a card processing framework, harmonisation of business practices and rules, and harmonisation of functional and security requirements and the subsequent standardisation of cards, payment terminals and message protocols.

For both cash and cashless payments, it is essential that people have confidence in the security of the means of payment. As regards card payments, the European payments industry has already taken a major step towards improving security with the decision to migrate from magnetic stripe technology to chip technology for card authentication. For card-not-present payments, which represent the major share of card fraud with cards issued in SEPA, SecuRe Pay has recommended the use of strong customer authentication, the deadline for implementation being 1 February 2015.

Despite many promising developments, card payments, one of the main pillars of SEPA, have not yet reached the same level of harmonisation and integration as credit transfers and direct debits. Certainly, the complexity of the card payments market, with the number of parties involved, has contributed to this slow progress. However, if the main challenges, as outlined above, and described in more detail in this report, are successfully overcome, SEPA for cards can be achieved for the benefit of the supply side, the demand side, and the European economy as a whole. In addition to this, together with the SEPA credit transfer and the SEPA direct debit schemes, SEPA for cards can become the basis for payment innovation in Europe.

ANNEX 1 LAWS AFFECTING CARD PAYMENTS IN INDIVIDUAL MEMBER STATES

Country	Legal acts regulating the payment cards market under the respective jurisdiction
Austria	Zahlungsdienstegesetz (Federal Payment Services Act) Nationalbankgesetz (Federal Act on the OeNB) Bankwesengesetz (Federal Banking Act)
Belgium	Wet op het Statuut van en het toezicht op de kredietinstellingen/Loi relative au Statut et au contrôle des établissements de crédit (Banking supervision law for issuing and acquiring activities by banks) Wet van 21 december 2009 op het statuut van de betalingsinstellingen en van de instellingen voor elektronisch geld, de toegang tot het bedrijf van betalingsdienstaanbieder en tot de activiteit van uitgifte van elektronisch geld en de toegang tot betalingssystemen/Loi du 21 décembre 2009 relative au statut des établissements de paiement et des établissements de monnaie électronique, à l'accès à l'activité de prestataire de services de paiement, à l'activité d'émission de monnaie électronique et à l'accès aux systèmes de paiement (Laws transposing the PSD into Belgian laws for acquiring activities by payment institutions)
Cyprus	Payment Services Law of 2009 The Prevention and Suppression of Money Laundering and Terrorist Financing Activities Laws of 2007-2010 Processing of Personal Data Law Money Laundering Law CBoC Directive of Framework of Principles of Operation and Criteria Central Bank of Cyprus Oversight Policy Report
Estonia	Payment Institutions and E-money Institutions Act Law of Obligations Act
Finland	Maksupalvelulaki (Act on Payment Services) Maksulaitoslaki (Act on Payment Institutions)
France	Monetary and Financial Code for supervision and for oversight (Article 141-4) Banque de France recommendations (EMV, strong authentication)
Germany	Bundesbankgesetz (BBankG – Bundesbank Act) Zahlungsdiensteaufsichtsgesetz (ZAG) Gesetz zur Umsetzung der Zweiten E-Geld-Richtlinie (2. EGeldRLUG) Bürgerliches Gesetzbuch (BGB – German Civil Code)
Greece	Bank of Greece (pursuant to Article 55A of its Statute) Governor's Acts Greek Law (3862/2010)
Ireland	Statutory Instruments S.I. No 183 of 2011 European communities (electronic money) regulations 2011 Statutory Instruments S.I. No 383 of 2009 European communities (payment services) regulations 2009
Italy	Banking Law (Legislative Decree No 385 of 1993) and Legislative Decree No 11/2010 on the payment service activity licence regime, banking supervision, payment systems oversight, transparency and other special provisions compliant with the PSD and IMEL Directive Special legal provisions promoting card acceptance, transparency and consumer protection contained in Law No 214/2011 (so-called "SalvaItalia"); Law No 221/2012 (so-called "Crescita") and Legislative Decree No 206 of 2005 ("Codice del Consumo")
Latvia	Law on payment services and electronic money Law Oversight Law "On the Bank of Latvia"
Luxembourg	Law of 10 November 2009 on payment services, on the activity of electronic money institutions and settlement finality in payment and securities settlement systems Law of 5 April 1993 on the financial sector, as amended
Malta	Central Bank of Malta Directive No 1 on the provision and use of payment services
Netherlands	Oversight Framework for Card Payment Schemes
Portugal	Decree Law No 166/95 of 15 July – Approves the legal system governing the issue and management of credit cards (partially repealed) Organic Law of the Banco de Portugal (please see Article No 14) Legal Framework for Credit Institutions and Financial Companies, approved by Decree Law No 298/92 of 31 December, and amended subsequently, establishing the conditions for the taking-up and pursuit of the business of credit institutions and financial companies Decree Law No 95/2006 of 29 May, and amended subsequently, transposing into internal law Directive 2002/65/EC of the European Parliament and the Council of 23 September 2002 concerning the distance marketing of consumer financial services and amending Council Directive 90/619/EEC and Directives 97/7/EC and 98/27/EC Decree Law No 133/2009 of 2 June, transposing into internal law Directive 2008/48/EC of the European Parliament and the Council of 23 April on credit agreements for consumers and repealing Council Directive 87/102/EEC

Country	Legal acts regulating the payment cards market under the respective jurisdiction
Portugal	Decree Law No 317/2009 of 30 October, transposing into internal law the Directive 2007/64/EC of the European Parliament and the Council of 13 November 2007 on payment services in the internal market Regulation (EC) No 924/2009 of the European Parliament and of the Council of 16 September 2009 on cross-border payments in the Community and repealing Regulation (EC) No 2560/2001 Decree Law No 3/2010 of 5 January – Forbids charges on deposits, withdrawals and payments of services using cards on Automatic Teller Machines Notice No 11/2001 of 20 November – Defines credit and debit cards, as well as the conditions of use of these payment instruments Notice No 11/2005 of 21 July – Regulates the general conditions governing the opening of deposit accounts Notice No 10/2008 of 9 December – Defines the information and transparency obligations of credit institutions and financial companies in the presentation to the public of financial products and services, in particular with regard to advertising campaigns Notice No 8/2009 of 29 September – Defines rules concerning the information about commissions and prices of banking products and services Notice No 10/2009 of 23 November – Defines rules concerning supervision of payment institutions Notice No 1/2014 of 28 February
Slovakia	Act No 492/2009 Coll. on payment services and on amendments and supplements to certain laws (Zákon č. 492/2009 Z. z. o platobných službách) Act No 483/2001 Coll. on banks and on amendments and supplements to certain laws (Zákon č. 483/2001 Z. z. o bankách) Act No 747/2004 Coll. on supervision of the financial market and on amendments and supplements to certain laws (Zákon č. 747/2004 Z. z. o dohľade nad finančným trhom) Act No 129/2010 Coll. on consumer credits and other credits and loans for consumers and on amendments and supplements to certain laws (Zákon č. 129/2010 Z. z. o spotrebiteľských úveroch a o iných úveroch a pôžičkách pre spotrebiteľov)
Slovenia	Payment Services and Systems Act (Zakon o plačilnih storitvah in sistemih) Regulation on the content of the request for the granting of authorisation to provide payment services as a payment institution, a hybrid payment institution or an exempt payment institution (Sklep o vsebini zahteve za izdajo dovoljenja za opravljanje plačilnih storitev kot plačilna institucija, hibridna plačilna institucija ali plačilna institucija z opustitvijo) Regulation on Payment Systems (Sklep o plačilnih sistemih) Regulation on the content of the request for the granting of authorisation to provide payment system Operation Services as a Clearing House (Sklep o vsebini zahteve za izdajo dovoljenja za opravljanje storitev upravljanja plačilnega sistema kot klirinška družba)
Spain	Ley 16/2009, de 13 de noviembre, de servicios de pago Ley 3/2014, de 27 de marzo, por la que se modifica el texto refundido de la Ley General para la Defensa de los Consumidores y Usuarios y otras leyes complementarias, aprobado por el Real Decreto Legislativo 1/2007, de 16 de noviembre Orden EHA/2899/2011, de 28 de octubre, de transparencia y protección del cliente de servicios bancarios Ley orgánica 15/1999, de 13 de diciembre, de Protección de Datos de carácter personal
Bulgaria	Law on Payment Services and Payment Systems Ordinance No 3 of the BNB of 16 July 2009 on the Terms and Procedure for the Execution of Payment Transactions and Use of Payment Instruments Ordinance No 16 of the BNB of 16 July 2009 on Payment Institutions, Electronic Money Institutions and Payment System Operators Licensing
Croatia	Zakon o platnom prometu (Payment Systems Act) Zakon o izmjenama i dopunama Zakona o platnom prometu (Act on Amendments to the Payment Systems Act) Zakon o elektroničkom novcu (Electronic Money Act)
Czech Republic	Act No 284/2009 Coll. on Payment Systems Decree No 141/2001 Coll. on the pursuit of business of payment institutions, electronic money institutions, small-scale payment service providers and small-scale electronic money issuers Decree No 142/2011 Coll. on reporting by payment institutions, electronic money institutions, small-scale payment service providers and small-scale electronic money issuers to the CNB
Denmark	Payment services and electronic money Act
Hungary	Act CCXXXVII of 2003 on Credit Institutions and Financial Enterprises Act LXXXV of 2009 on the Pursuit of the Business of Payment Services Act CCXXXV of 2013 on some Payment Providers Decree No 18/2009 (VIII. 6.) MNB of the Governor of the National Bank of Hungary on Payment Services Activities Act CXVI of 2012 on Financial Transaction Duty

Country	Legal acts regulating the payment cards market under the respective jurisdiction
Lithuania	Lietuvos Respublikos mokėjimų įstatymas (Law on payments)
Poland	Act of 19 August 2011 on payment services Act of 12 September 2002 on electronic payment instruments
Romania	Regulation No 6/2006 regarding the issuance and use of electronic payment instruments and the relationships among the participants in transactions with these instruments Government Emergency Ordinance No 113/2009 regarding payment services
Sweden	Lag om betaltjänster (Payment Services Act) Lag om obehöriga transaktioner med betalningsinstrument (Act on Unauthorised Transactions with Payment Instruments)
United Kingdom	–

ANNEX 2 CARD SCHEMES ACTIVE IN INDIVIDUAL MEMBER STATES

Table 2 Overview of local card schemes in the EU (Status: mid-2013)

Scheme name	Corporate structure	Types of cards issued[1)]	Types of transactions[2)]	Carrier medium	Issuing countries	Acquiring countries	Co-branding[3)]
Bancontact-MisterCash	Private company (non-listed)	Consumer: DC	POS; ATM; EC; VM	Chip card	Belgium	Belgium	Yes
Girocard	Association/ cooperative	Consumer: DC	POS; ATM; VM	Chip card	Germany	Germany	Yes
Laser Card Services	Private company (non-listed)	Consumer: DC	POS; ATM; EC; VM	Chip card	Ireland	Ireland; abroad	Yes
GCB	Association/ cooperative	Consumer: DC; DDC Commercial: DC	POS; ATM; EC; VM	Chip card	France	France	Yes
Cofidis	Private company (non-listed)	Consumer: CC	POS; EC	Card without chip or magstripe	France	France	No
Cofinoga	Private company (non-listed)	Consumer: CC	POS; ATM; EC	Card with magstripe	France	France	No
CA CF	Private company (non-listed)	Consumer: CC	POS; ATM; EC	Card with magstripe	France	France	No
BNP PF	Private company (non-listed)	Consumer: CC	POS; ATM; EC	Card with magstripe	France	France	No
Fran-finance	Private company (non-listed)	Consumer: CC	POS; ATM; EC	Card with magstripe	France	France	No
Banque Accord	Private company (non-listed)	Consumer: CC	POS; ATM; EC	Card with magstripe	France	France	No
Cashlink	Private company (listed)	Consumer: DC	POS; ATM; EC	Card with magstripe	Malta	Malta	No
Quikcash	Private company (listed)	Consumer: DC	POS; ATM; EC	Card with magstripe	Malta	Malta	No
APS Premier	Private company (non-listed)	Consumer: DC	POS; ATM; EC	Card with magstripe	Malta	Malta	No
Multibanco	Private company (non-listed)	Consumer: DC	POS; ATM; EC; VM	Chip card; Card with magstripe	Portugal	Portugal	Yes
Activa	Private company (non-listed)	Consumer: DDC	POS; EC	Card with magstripe	Slovenia	Slovenia	Yes
Karanta	Private company (non-listed)	Consumer: DDC; CC	POS	Card with magstripe	Slovenia	Slovenia	No
Servired	Private company (non-listed)	Consumer: PC; DC; DDC; CC Commercial: DC; DDC; CC	POS; ATM; EC; VM	Chip card; Card with magstripe	Spain	Spain	Yes
Sistema4B	Private company (non-listed)	Consumer: PC; DC; DDC; CC Commercial: DC; DDC; CC	POS; ATM; EC	Chip card, Card with magstripe	Spain	Spain	Yes
EURO 6000	Private company (non-listed)	Consumer: PC; DC; DDC; CC Commercial: DC; DDC; CC	POS; ATM; EC	Chip card; Card with magstripe	Spain	Spain	Yes
BORICA	Private company (non-listed)	Consumer DC; CC	POS; ATM; Government	Chip card; Card with magstripe	Bulgaria	Bulgaria	Yes
Dankort	Private company (non-listed)	Consumer: DC Commercial: DC	POS; ATM; EC; VM	Chip card	Denmark	Denmark	Yes
Consorzio Bancomat	Association/ cooperative	Consumer: DC	POS; ATM	Chip card	Italy	Italy	Yes

Source: ECB.
1) DC = debit card; DDC = delayed/deferred debit card; CC = credit card: PC = prepaid card.
2) POS = point-of-sale payments; ATM = automatic teller machines; EC = e-commerce payments; VM = vending machine payments.
3) Co-branding = co-branding with an international card scheme.

Table 3 International card companies active in Member States

Country	Active in issuing	Active in acquiring
Belgium	American Express; Diners; MasterCard; Visa	American Express; Diners; MasterCard; Visa
Germany	American Express; Diners; MasterCard; Visa	American Express; Diners; JCB; MasterCard; Visa
Estonia	American Express; MasterCard; Visa	American Express; Diners; JCB; MasterCard; Visa
Ireland	American Express; MasterCard; Visa	American Express; MasterCard; Visa
Greece	American Express; Diners; MasterCard; Visa	American Express; Diners; MasterCard; Visa
Spain	American Express; Diners; JCB; MasterCard; Visa	American Express; UnionPay; Diners; JCB; MasterCard; Visa
France	American Express; Diners; MasterCard; Visa	American Express; UnionPay; Diners; JCB; MasterCard; Visa
Italy	American Express; Diners; MasterCard; Visa	American Express; Diners; MasterCard; Visa
Cyprus	MasterCard; Visa	American Express; Diners; MasterCard; Visa
Latvia	American Express; Diners; MasterCard; Visa	American Express; Diners; MasterCard; Visa
Luxembourg	American Express; Diners; MasterCard; Visa	American Express; UnionPay; Diners; JCB; MasterCard; Visa
Malta	MasterCard; Visa	American Express; Diners; MasterCard; Visa
Netherlands	American Express; Diners; MasterCard; Visa	American Express; Diners; MasterCard; Visa
Austria	American Express; Diners; MasterCard; Visa	American Express; UnionPay; Diners; JCB; MasterCard; Visa
Portugal	American Express; MasterCard; Visa	American Express; Diners; JCB; MasterCard; Visa
Slovenia	American Express; Diners; MasterCard; Visa	American Express; Diners; MasterCard; Visa
Slovakia	American Express; Diners; MasterCard; Visa	American Express; Diners; MasterCard; Visa
Finland	American Express; Diners; MasterCard; Visa	American Express; Diners; MasterCard; Visa
Bulgaria	American Express; Diners; MasterCard; Visa	American Express; Diners; MasterCard; Visa
Czech Republic	American Express; Diners; MasterCard; Visa	American Express; Diners; JCB; MasterCard; Visa
Denmark	American Express; Diners; MasterCard; Visa	American Express; Diners; JCB; MasterCard; Visa
Croatia	American Express; Diners; MasterCard; Visa	American Express; Diners; JCB; MasterCard; Visa
Lithuania	American Express; MasterCard; Visa	American Express; MasterCard; Visa
Hungary	American Express; MasterCard; Visa	American Express; Union Pay; Diners; JCB; MasterCard; Visa
Poland	American Express; Diners; MasterCard; Visa	American Express; Diners; JCB; MasterCard; Visa
Romania	American Express; MasterCard; Visa	American Express; MasterCard; Visa
Sweden	American Express; Diners; MasterCard; Visa	American Express; Diners; JCB; MasterCard; Visa
United Kingdom	American Express; Diners; MasterCard; Visa	American Express; Diners; MasterCard; Visa

Source: ECB.

ANNEX 3 CARD PROCESSING COMPANIES ACTIVE IN THE EU

Company name	Country of activity	Country of origin	Corporate structure
First Data	Austria	Austrian subsidiary (USA)	Private company (non-listed)
Hobex	Austria	Austria	Private company (non-listed)
Scientific Games	Austria	Austria	Private company (non-listed)
SIX Card Solutions	Austria	Austrian subsidiary (Switzerland)	–
Atos Worldline s.a.	Belgium	Belgian subsidiary (France)	Private company (non-listed)
BORICA – BANKSERVICE AD	Bulgaria	Bulgaria	Private company (non-listed)
DSK Bank EAD	Bulgaria	Bulgaria	Private company (non-listed)
Eurobank Bulgaria AD	Bulgaria	Bulgaria	Private company (non-listed)
First Investment Bank AD	Bulgaria	Bulgaria	Private company (listed)
United Bulgarian Bank AD	Bulgaria	Bulgaria	Private company (non-listed)
Česká spořitelna, a.s.	Czech Republic	Czech Republic	Private company (listed)
Československá obchodní banka, a.s.	Czech Republic	Czech Republic	Private company (listed)
Euronet Payments & Card Services Ltd.	Czech Republic	United Kingdom	Private company (non-listed)
First Data Europe Limited	Czech Republic	United Kingdom	Private company (non-listed)
Global Payments Europe, s.r.o.	Czech Republic	Czech Republic	Private company (non-listed)
Komerční banka, a.s.	Czech Republic	Czech Republic	Private company (listed)
Raiffeisenbank a.s.	Czech Republic	Czech Republic	Private company (listed)
SIX Payment Services (Europe) S.A.	Czech Republic	Luxembourg	Private company (listed)
UniCredit Bank Czech Republic and Slovakia, a.s.	Czech Republic	Czech Republic	Private company (listed)
FBME Card Services Ltd	Cyprus	Cyprus	Private company (non-listed)
JCC PAYMENT SYSTEMS LTD	Cyprus	Cyprus	Private company (non-listed)
Nets	Denmark	Denmark	–
Intesa Sanpaolo Card d.o.o.	Croatia	Croatia	Private company (non-listed)
Erste Group Card Processor d.o.o.	Croatia	Croatia	Private company (non-listed)
Nets Estonia AS	Estonia	Denmark	–
Nets Oy	Finland	Denmark	Private company (non-listed)
SER2S (e-rsb authorisation network manager)	France	France	Private company (non-listed)
Atos Worldline GmbH	Germany	Germany	Private company (non-listed)
B + S Kartenservice	Germany	Germany	Private company (non-listed)
Bayern Card-Service GmbH	Germany	Germany	Private company (non-listed)
Card Process	Germany	Germany	Private company (non-listed)
First Data Deutschland GmbH/First Data GmbH	Germany	Germany	Private company (non-listed)
Intercard AG	Germany	Germany	Private company (non-listed)
Lufthansa Airplus Servicekarten GmbH	Germany	Germany	Private company (non-listed)
EDPS	Greece	Greece	Private company (non-listed)
EURONET	Greece	–	Private company (non-listed)
FIRST DATA HELLAS PROCESSING SERVICES AND HOLDINGS SA	Greece	Austria	Private company (non-listed)
Euronet	Hungary	–	Private company (non-listed)
First Data	Hungary	–	Private company (non-listed)
SIA Central Europe	Hungary	–	Private company (non-listed)
SIA	Italy	Italy	Private company (non-listed)
Equens Italia	Italy	Italy	Private company (non-listed)
AIBMS	Ireland	–	–
Elavon	Ireland	–	–
Streamline	Ireland	–	–
First Data Latvia Ltd	Latvia	Latvia	Private company (non-listed)
First Data Lietuva	Lithuania	Lithuania	Private company (non-listed)
ATOS Worldline S.A.	Luxembourg	Belgium	Private company (listed)
SIX Payment Services (Europe) S.A.	Luxembourg	Luxembourg	Private company (listed)
BANK OF VALLETTA	Malta	Malta	Private company (listed)
HSBC BANK MALTA PLC	Malta	Malta	Private company (listed)
CCV	Netherlands	Netherlands	Private company (listed)
Equens	Netherlands	Netherlands	Private company (listed)
Bank BPH S.A. (GE Capital Group) in cooperation with Center of Electronic Payment Polskie ePłatności	Poland	Poland	Private company (listed) – Bank BPH S.A.; Polskie ePłatności (50/50, private company and state-owned company)

Company name	Country of activity	Country of origin	Corporate structure
Bank Polska Kasa Opieki S.A.	Poland	Poland	Private company (listed)
Elavon Financial Services Limited, branch in Poland	Poland	Ireland	Private company (non-listed)
eService S.A.	Poland	Poland	Private company (non-listed)
First Data Polska S.A.	Poland	Poland	Private company (non-listed)
SIX Payment Services	Poland	Switzerland	-
SIBS FORWARD PAYMENT SOLUTIONS	Portugal	Portugal	Private company (non-listed)
Banca Comerciala Romana S.A.	Romania	Romania	Private company (non-listed)
Banca Transilvania SA	Romania	Romania	Private company (non-listed)
Bancpost S.A.	Romania	Romania	Private company (non-listed)
Bank Millennium SA	Romania	Poland	Private company (listed)
Bank Handlowy w Warszawie SA (Citibank Poland)	Romania	Poland	Private company (listed)
CEB Romania SA	Romania	Romania	Private company (non-listed)
Citibank International PLC	Romania	United Kingdom	Private company (listed)
ERB RETAIL SERVICES IFN SA	Romania	Romania	Private company (non-listed)
Euronet Services SRL	Romania	Romania	Private company (non-listed)
First Data Hellas Processing Services & Holdings S.A.	Romania	Greece	Private company (non-listed)
ING Bank N.V. Amsterdam, Bucharest Branch	Romania	Netherlands	Private company (listed)
Piraeus Bank Greece	Romania	Greece	Private company (listed)
Quipu GmbH	Romania	Germany	Private company (non-listed)
ROMCARD SA	Romania	Romania	Private company (non-listed)
S.C. PROVUS SERVICE PROVIDER S.A.	Romania	Romania	Private company (non-listed)
SC Smart PayNetwork SA	Romania	Romania	Private company (non-listed)
UniCredit Tiriac Bank S.A.	Romania	Romania	Private company (non-listed)
Diners Club CS, s.r.o.	Slovakia	Slovakia	Private company (listed)
First Data Slovakia, s.r.o.	Slovakia	Slovakia	Private company (listed)
Bankart Ltd.	Slovenia	Slovenia	Private company (non-listed)
Intesa Sanpaolo Card Ltd.	Slovenia	Croatia	Private company (non-listed)
CECA	Spain	Spain	Private company (non-listed)
REDSYS	Spain	Spain	Private company (non-listed)
EVRY	Sweden	Norway	Private company (listed)
Nets Holding A/S	Sweden	Denmark	Private company (partly owned by Danmarks Nationalbank)
Swedbank card services	Sweden	Sweden	Private company (listed)

ANNEX 4 BRIEF OVERVIEW OF CARD PROCESSING IN EUROPE

The Eurosystem conducted a survey among card processors in Europe in 2011-12[1]. The main results are presented below.

SERVICES PROVIDED BY CARD PROCESSORS IN EUROPE

Processors typically offer, at the very least, authorisation and clearing services. Settlement is offered by the majority of European card processors but around a quarter of those processors to have responded do not offer settlement. On the other hand, value added services, such as the authentication of the card, fraud management, terminal management, dispute management or balance authorisation on behalf of the issuer are, at least partially, offered by all the respondents. These services seem to constitute an important basis for the processors' business models. This is also illustrated by the large number of processors who indicated that they offer other services that are not captured under "additional services". In this last case, the response was diverse, some processors offer all other services related to the card management chain, while others indicated they only offered one additional service, for example, card personalisation and distribution or card/PIN stock management. Most processors also run a scheme database, however, this does not hold true for all of them.

With regard to the processing of non-payment cards, for example, loyalty cards, we wanted to find out whether greater harmonisation of card processing in general would have any detrimental consequences for the processors. Further, we wanted to find out whether the market participants would experience specific or greater inefficiencies owing to the non-payment card infrastructure, which would have to remain in place for the purpose of processing these specific non-payment cards. Of the 14 entities that provided an answer to the question as to whether processing non-payment cards would create problems for harmonisation, eight said that this would not be the case. However, a considerable number indicated that they do not currently process non-payment cards and could, therefore, not comment. Furthermore, one respondent said that, in the past, some of the failed harmonisation attempts had derived from the fact that the focus had only centred on addressing certain features of specific payment card products, as opposed to adopting a broader approach, which would potentially lead to higher efficiency gains.

We also looked into the issue of whether it is possible to exploit economies of scale by using the same infrastructures for all three means of payment (assuming that the same standard, for example, ISO 20022 is used), or whether the processing of the different types of payment instrument would still require a specific procedure, which would therefore not allow the economies of scale to be (fully) exploited. The reason behind this question was the fact that the Eurosystem had requested that the economies of scale be exploited by using the same standards and infrastructures. Not all stakeholders were able to pass judgement on these questions, however 19 entities provided answers. 15 of them stated that it would not be possible to exploit economies of scale. One entity replied that it would be partially possible, while the remaining two indicated that it would be possible, but would entail high investment costs. Along these lines, one respondent claimed that the sharing of a common infrastructure for card payments, credit transfers, and direct debits in a group of European countries would increase – rather than reduce – overall costs.

In addition, some stakeholders highlighted the fact that the scale is not the only driving force behind achieving greater efficiency in the field of processing. In the opinion of these stakeholders, the

1 Information was available for Belgium, Bulgaria, Denmark, Germany, Estonia, Greece, Spain, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland and Sweden.

different means of payment would still require certain additional, specific services that would prevent costs from continuing to decrease with an increase in processed items. Particularly those processors who handled credit card transactions, followed by those that operated worldwide, rather than only domestically, indicated that only a global standard would help to achieve economies of scale and that a European solution would not be helpful in this sense.

RELATIONSHIP BETWEEN SCHEME AND PROCESSOR

The large majority of respondents claimed to comply largely with the principles on the separation of scheme from processor (28 out of 31 entities). Several of them mentioned certain caveats in relation to the areas of information, legal and ownership separation.

Virtually all processors cater for Visa, MasterCard, and their domestic card schemes. A few also offer processing services for the domestic card schemes of other (often neighbouring) countries. Other international card schemes such as Amex, Diners and JCB are often quoted in this respect as well. A few processors refer also to Eufiserv, EAPS and UnionPay.

Some respondents seem to acknowledge that the operational rules of some international card schemes require them to hand over certain information (e.g. operations that took place with a given international brand). In most cases, information flows across schemes (or to any party other than its legitimate owner) do not seem to occur as a rule.

CLEARING AND SETTLEMENT

Entities involved in the clearing and settlement of card transactions

With regard to the type of transaction, the processors usually differentiate between either:

- domestic and cross-border transactions (i.e. no differentiation according to “originating” scheme); or

- transactions of domestic schemes and transactions of international schemes (i.e. irrespective of whether the transaction itself is domestic or cross-border); or

- on-us transactions (i.e. acquirer and issuer are served by the same processor) and “not on-us” transactions (i.e. issuing and acquiring bank use different processors).

The difference between single and dual messaging plays a major role in the level of outsourcing (or “service separation”) in card processing. In the case of single messaging, by its very nature, the authorisation, clearing and submission for settlement are almost always carried out by the same processing entity, i.e. there is a strong vertical integration of the authorisation, clearing and settlement process. In dual messaging systems, it is often the same entity that handles the processing of an authorisation request and the clearing of the transaction, while there are a greater number of entities involved in the ensuing steps of the card processing chain, i.e. the submission for settlement and the settlement process itself (i.e. the final discharge of obligations). In many cases, the clearing processor does not always submit the cleared transactions *directly* to the settlement entity, but it sends the cleared transactions to the relevant issuers and acquirers, who then pass on the transactions for settlement.

The answers to the questionnaire indicate that the degree of outsourcing and specialisation in the card processing chain is rather high. In other words, specialisation and outsourcing appear to play an important role. While this should, in principle, be a good basis for competition in the market, competition seems to be hampered mainly by a lack of harmonised standards, the absence of which leads to (intentionally or unintentionally) certain markets being devoid of multiple competitors.

In terms of the different types of entities that provide card processing services, there is a great variety of them, that is to say, not only do the so-called card processors provide these services. Clearing services are also provided, for example, by card processors, domestic retail payment systems, bilateral arrangements (i.e. directly between acquirer and issuer), commercial banks, or by the clearing channel offered by international card schemes. There can be overlaps between some of the categories mentioned here. Settlement submission is carried out by card processors, domestic retail payment systems, or the issuer/acquirer directly.

The respondents indicated that card processors, the relevant central bank, a correspondent banking arrangement, or commercial banks acted as settlement entities. Apart from some exceptions, where domestic transactions are settled in commercial bank money, the prevailing pattern seems to be that domestic transactions using domestic schemes in euro area countries are settled in central bank money, while cross-border transactions and those of international card schemes are settled at commercial banks. Given that not every country has a domestic scheme, i.e. domestic card transactions are carried out using international schemes, there is still a significant number of cases where settlement takes place in commercial bank money.

In very few cases are the "classical" retail payment systems involved in providing clearing and submission for settlement services. This fact might support the views of the majority of card processors, namely that the processing of credit transfers and direct debits, on the one hand, and card transactions, on the other, are very different and that, therefore, there are few possibilities to generate economies of scale, i.e. at present there is no particular incentive for retail payment systems to venture into this field. Only in two Member States are the processors of credit transfers and direct debits involved in card processing. In addition, in many cases the issuing and acquiring banks have not outsourced card processing services, but still provide some or all of the services themselves.

Technical standards for the clearing of card transactions
The standards that are currently used in the field of clearing card transactions are the ISO 8583 standard (often in slightly "personalised" versions), the ISO 8583-based MasterCard standards, the BASE II-Visa standard, and various proprietary standards.

Many processors indicated that they do not only use one, but several standards. A typical split is made according to the type of processed transaction, i.e. proprietary standards are used for domestic transactions and an ISO 8583/MasterCard/Visa standard is used for international transactions. However, many processors also use the ISO 8583 standard for domestic transactions.

Overall, it can be said that there is still a clear preference for the ISO 8583 standard, although a significant number of the relevant entities also use their own proprietary standards.

Decision on the settlement entity
The answers to the question on the decision about the settlement entity were multi-fold. The international card schemes usually determine where the settlement takes place. In this case, the

acquirers and issuers have close to no influence. Some domestic card schemes likewise determine where the settlement takes place, whereas other domestic schemes leave the choice to issuers and acquirers.

In general, the decision is predominantly made by the card scheme itself. Only three entities indicated that the decision is either “up for negotiation” or “made by all stakeholders together”.

Formats and protocols currently used for card transactions
The formats and protocols for national credit transfers and direct debits are currently not widely used for cards.

At present, only very few processors use the national credit transfer or direct debit formats for the processing of card transactions. The majority of them use other formats.

The large majority of respondents indicated that major changes and investment would need to be made in order to bring the formats and protocols used for card processing in line with those used for SEPA credit transfers and SEPA direct debits. Some also highlighted the fact that efficiency gains from using the same formats and protocols were highly questionable. Furthermore, currently few processors plan to migrate to the SEPA formats.

The idea of exploiting economies of scale by using the same infrastructures as for credit transfers and direct debits is, in principle, valid, however in practice the reactions of the processors indicate that they do not see any real benefits from using the same formats that would justify the necessary (and very likely high) investment.

SWITCHING

Switching procedures
Apart from two exceptions, there are, apparently, no gateways between processors that switch domestic transactions. In the vast majority of countries, a single processor switches the transactions per domestic scheme (in some countries there are also in-house solutions from acquirers or bilateral relationships between acquirers and issuers). However, in all countries, there are gateways to the processors of international schemes, either via a domestic processor or directly between the processors of international schemes and the acquirers/issuers.

Use of single and/or dual messaging
Most processors use both procedures, for example, single messaging for ATM transactions for which the immediate clearing and submission for settlement is preferable, and dual messaging for domestic POS transactions, as well as the transactions in international card schemes. None of the processors indicated that the choice between single or dual messaging was made on the basis of efficiency or security, but rather said that this choice was made due to historical reasons and/or the preferred processing procedures (e.g. immediate clearing and settlement required, frequent differences between authorised and settled amounts).

Connection between terminal and acquiring processor – use of pre-hosts
Seven NCBs indicated that pre-hosts or other intermediaries are used by processors in their country. The existence of so-called pre-hosts can be one indicator of the level of outsourcing and specialisation in the field of card processing services.

Gateways
If the acquirer and issuer are not connected to the same processor, the authorisation request needs to be routed from the acquiring processor to the issuer via the issuing processor. Processors install so-called gateways (i.e. simply a connection or link) between each other for this purpose. If there is a business case, for example, strong requests from the merchants to be able to accept a certain card at their terminals, the acquiring processor will usually agree to set up the appropriate gateway. Gateways enable the conversion of a card transaction between different formats and protocols.

The answers to the questionnaire revealed that in the large majority of countries the processors have established gateways in order to be able to process transactions for which they do not function as both the issuing processor and the acquiring processor. Almost exclusively these gateways have been set up to connect to the networks of international card schemes. Based on the received answers, only in two Member States do domestic gateways also exist in order to connect the processors of different domestic schemes.

MAJOR OBSTACLES TO ACHIEVING FURTHER HARMONISATION IN CARD PROCESSING IN EUROPE – THE PROCESSOR'S VIEW

In general, it can be concluded that the processors see major obstacles in a number of issues, including the lack of common standards (including different variants of the ISO 8583 standard), the diverging requirements and business rules of each individual card scheme, the different certification requirements, licensing restrictions, financial and legislative uncertainty as far as the cards business is concerned, pressure on the margins, the prevalence of a nationally-focused cards business, the fear of having to make a high investment with uncertainty of the possible returns, the existence of too many players limiting the ability to generate economies of scale, the different fee levels, and the different business interests of the various market players (fear of smaller players being crowded out of the business by a few bigger players) as well as vendor lock-in.

CARD PROCESSING FRAMEWORK CONTENT – PROCESSOR'S VIEW

With regard to the most important issues that should be addressed in order to achieve greater integration of the card processing market, the views of the processors were rather divided. While some argued for the development of a detailed framework that would address switching, clearing, settlement, authorisation routing, data storage, rules for interchange fees, competition law, and the legal aspects of information transfer, other processors were in favour of having no detailed technical specifications and refraining from defining mandatory business rules, unless proven that the existing ones were not efficient. It was also pointed out that too much harmonisation could also be counterproductive, as it could hamper innovation. Again others preferred to focus on standardisation by, for example, addressing issues in the EPC's Cards Standardisation Volume that needed further clarification or amendments. Many processors underlined the fact that further harmonisation of the card processing market in Europe would only be useful if card schemes and processors in Europe were fully separate from one another, in particular for the international card schemes. The establishment of a common European Security Certification Framework was also highlighted by one processor as a crucial element in this context. There was general consensus that card schemes should not be allowed to mandate the use of specific processors.

PREFERABLE SOLUTION TO FOSTER INTEGRATION OF THE EUROPEAN CARDS MARKET AND ENABLE ACQUIRERS TO REACH ALL ISSUERS IN EUROPE WITH A REQUEST FOR AUTHORISATION – PROCESSOR'S VIEW

With regard to a preferable solution to foster integration of the European cards market and to enable acquirers to reach all issuers in Europe with a request for authorisation, 18 processors provided an answer.

Four processors preferred to set up a central switch, i.e. a single "routing engine" to all authorisation platforms in Europe.

The establishment of gateways, similar to what is already in place now, was favoured by 11 processors. The main argument in favour of this solution was that it had the lowest impact on existing processors, it limited the adaptation costs and used a technique (conversion of formats and protocols) already widely used in Europe. One processor signalled no preference, while two considered (or implied) that the services of the processors of the international card schemes were sufficient. In addition, one processor cautioned that the establishment of gateways between all processors in Europe would be substantially more difficult than the establishment of the gateways mainly to the networks of international card schemes currently in place, especially when taking into account the fact that, at present, in Europe too many different formats were being used, too many processors were involved, and that banks with in-house solutions would also need to be considered as processors. One processor suggested setting up regional processing centres, which could be interlinked. Again other processors proposed concentrating on the harmonisation of formats and protocols (i.e. on harmonising the "good" which is transported, i.e. the card transaction) instead of trying to define business models for the card processing industry. Some processors also stated that harmonisation and integration were already sufficient, such that it would be sufficient if stakeholders were not forced to use any specific solutions at all.

ANNEX 5 BRIEF OVERVIEW OF INITIATIVES FOR THE SEPA CARDS FUNCTIONAL STANDARDISATION

This annex provides an overview of the initiatives for the SEPA cards functional standardisation.[2] The various initiatives are generally described using information publicly disclosed by the entities involved in the various projects. In short, the following initiatives are described:

- **Card-to-terminal (C2T) domain:** EMVCo; CIR TWG
- **Terminal-to-acquirer (T2A) domain:** EPAS; OSCar; Acquiris
- **Acquirer-to-issuer (A2I) domain:** ATICA; Berlin Group

Initiative's name:
EMV – EMV Integrated Circuit Card Specifications for Payment Systems

Description of initiative:
EMVCo manages, maintains and enhances the EMV® Integrated Circuit Card Specifications for chip-based payment cards and acceptance devices, including POS terminals and ATMs.

Geographic coverage/region:
Worldwide

Participants:
American Express; Discover; JCB; MasterCard; UnionPay and Visa

Initiative's name:
CIR TWG – Common Implementation Recommendations Technical Working Group

Description of initiative:
The CIR TWG acts as the technical reference group for the EU EMV Users Group and the European EMVCo Advisors. CIR TWG's work aims to harmonise the technical specifications for EMV implementations for any card-based system. The results of the CIR TWG's work on the harmonisation of the technical specifications for EMV implementations on cards (Common Payment Application – CPA) were incorporated in later versions of the EMV specifications. The CIR TWG has also progressed with the development of the Common Contactless Application (CCA) specification by identifying the Card Requirements and the Terminal Requirements for an EMVCo CCA.[3]

The CIR TWG also supports the CSG by contributing with its work on the Card and Terminal Functional Requirements (Book 2) of the Volume.

2 It's not the intention of this annex to provide an overview of all initiatives at the European level, but only those initiatives that are developing general and functional card standards. Therefore, specific initiatives that are working on card standardisation solutions for a particular retail sector e.g. IFSF (International Forecourt Standards Forum) or on developing security standards, e.g. PCI-DSS and CAS/Osec, are not included. Finally, the overview goes beyond the work of European standardisation initiatives and also includes some international standardisation initiatives, such as EMVCo and ATICA, owing to their importance in delivering SEPA for cards.

3 CIR TWG's work in this domain was presented to EMVCo and is currently on hold, probably due to EMVCo's work on the EMV's next generation specification.

The CIR TWG is currently developing an open implementation standard: SEPA FAST, the Financial Application Specification for SCF-compliant EMV Terminals. In short, SEPA FAST involves:

- describing unambiguously the financial application to the SCF-compliant terminal;
- adding SEPA-specific aspects to the EMV specifications;
- supporting a uniform "look and feel" of transactions from the cardholder's perspective;
- reducing the risks of interoperability obstacles between applications;
- serving as the basis for "one-stop shopping" for terminal testing and mutual recognition of certification.

SEPA FAST Version 1.2 of SEPA FAST Part 1 (published in August 2011) serves as a technical basis for the OSCar Project and its implementation will be used in the OSCar pilot. The experience gained during the OSCar project and during the implementation and test case development exercise would serve to improve SEPA FAST through the CIR TWG change management process. Version 2.0 of SEPA FAST Part 1 was released in December 2012 and it covers the attended POS environment and several of the card services, while also integrating contact and contactless applications in one specification. Version 3.0 of SEPA FAST Part 1 was released in December 2013 and it also covers the unattended POS environment and the remaining card services.

Geographic coverage/region:
Europe

Participants:
ATOS Worldline; Equens SE; German Banking Industry Committee; Groupement des Cartes Bancaires; PAN Nordic Card Association; PayLife*; Poste Italiane; Redsys*; SIA-SSB*; SIX Card Solutions; The UK Cards Association; Amex*; MasterCard*; Visa Europe*; Cetrel*; SIBS* (*supporters/observers).

Initiative's name:
EPAS (Electronic Protocol Application Software)

Description of initiative:
EPASOrg, an international non-profit association founded by key industry players to foster interoperability in card payments, aims to design, develop and maintain common card payment protocols, namely in the T2A domain within SEPA. In particular, EPAS defines card payment protocols to be used by a payment terminal or integrated payment software (POI — point of interaction)[4] and the rest of its ecosystem. These include:

- EPAS Acquirer Protocol, a protocol interface between a card acceptor's POI and an acquirer (based on ISO 20022);

4 POI (point of interaction) is synonymous with POS (point of sale).

- EPAS Retailer Protocol, a protocol interface between a card acceptor's sale system and a payment system;

- Terminal Management System Protocol, a protocol interface to remotely manage and supervise POIs (based on ISO 20022).

The EPAS Acquirer Protocol is relied upon by the OSCar project (together with the CIR TWG SEPA FAST terminal application).

Geographic coverage/region:
Europe (Goal: worldwide)

Participants:
ATOS Worldline; Consorzio Bancomat; Equens SE; Groupement des Cartes Bancaires; Ingenico; PAN Nordic Card Association; Poste Italiane; The logic group; TOTAL; Quercia Software; Verifone; Wincor Nixdorf; Amadis*; Infomil*; Monext*; Redsys*; SIBS Forward Payment Solutions*; Lyra network*; Paylife*; Point group*; POSPartner*; Groupe Desjardins; Crédit Agricole Cards & Payments and ACCEO Solutions* (*associate members).

Initiative's name:
OSCar – Open Standards for Cards

Description of initiative:
The goal of the OSCar project is threefold: i) to develop SEPA-compliant terminal solutions as an alternative to domestic legacy specifications (the OSCar specification integrates CIR SEPA FAST and EPAS protocols); ii) to test the OSCar POI and acquirer solutions in field trials; and iii) to set up the associated functional certification infrastructure.

The initiative has delivered the first solution and has recently launched field trials. The initiative foresees launching a commercial OSCar solution starting in 2014.

Geographic coverage/region:
Europe

Participants:
American Express; Association of German Public Banks; Atos Worldline; Auchan; Barclaycard; Carrefour Banque; Groupement des Cartes Bancaires; Crédit Agricole Cards & Payments; Cetecom; Clear2pay; Consorzio Bancomat; Credit Mutuel; Die Deutche Kreditwirtschaft; Elitt; Equens; Fime; Galitt; Hypercom France (groupe VériFone); Ingenico; MasterCard Europe; Monext; Paycert; Point International; Poste Italiane; SCD Desjardins; SER2S; SRC; UL TS (formerly known as Collis); UnionPay International; Visa Europe; VOEB-ZVD and Wincor Nixdorf.

Initiative's name:
Acquiris

Description of initiative:
Acquiris was launched in 2012 as a non-profit organisation that intends to position itself at the multi-processor, multi-acquirer, multi-brand and multi-service level. This alternative standardisation initiative in the T2A domain is based on C-TAP specifications (Common Terminal Acquirer Protocol), which describe a set of functions of a POI and a T2A protocol.

Geographic coverage/region:
Belgium, Luxembourg and the Netherlands

Participants:
Alphacard; Atos Worldline; Alvira; B+S; BePax (KKB); BuyWay; CCV; Chess; Edenred; Elavon; EMS; PayFair; Equens; Europabank; CP; Loyaltek; Natixis; Paysquare; Six (Cetrel); Sodexo; Verifone (Hypercom); Bancontact/MisterCash Co*; The Dutch Payment Association* (*observers).

Initiative's name:
ATICA (Acquirer-to-Issuer card messages)

Description of initiative:
ATICA is an ISO 20022 standardisation project initiated by ISO TC68/SC7 (ISO Technical Committee 68 "Financial Services" and Sub-committee 7 "Core Banking") and is now under the leadership of TG1 "Cards standards"(ISO TC68/SC7/TG1). ATICA project intends to specify a common interface by which card-based messages could be interchanged in the A2I domain as detailed in ISO 8583. ISO TC68/SC7/TG1 workplan includes the development of the following messages: Authorisation, Presentment, Reversals, Network, Reconciliation and Chargeback. The messages will be designed and developed by ensuring functional compliance with existing CAPE messages developed in the "acceptor-to-acquirer" relationship in order to reduce the burden of a conversion process between the two categories of messages.

Geographic coverage/region:
Worldwide

Participants:
Currently, ISO TC68/SC7/TG1 includes the following members: France; Switzerland; China; Germany; the United Kingdom; the Netherlands; Brazil; Denmark; the United States; Liaisons – EPASOrg; VISA; and Observers – France: AFNOR (Association française de normalisation) and Germany: DIN (Deutsches Institut für Normung e.V.).

Initiative's name:
Berlin Group

Description of initiative:
The Berlin Group is a European standardisation initiative with the primary objective of enabling a true *unbundling* of card schemes and processing activities, as required for providing efficient SEPA card payment services to the market. To enable a card scheme-independent processing of transactions between issuer and acquirer, the development of scheme-independent message standards for this interface is required. For authorisation messages, the Berlin Group presents a standard based on ISO 8583:1993. As regards ISO 20022, the Berlin Group submitted a business justification for the development of new ISO 20022 Financial Repository Items Card Clearing Payment Messages (CCPAY). Nevertheless, this led to a procedure assessed by the Berlin Group as too long and the initiative changed its strategy. The Berlin Group concluded that SEPA for cards also needed a SEPA-based standardised solution in order to benefit from SEPA CSM (Clearing and Settlement Mechanisms) for clearing and settling card transactions. Therefore, the initiative developed a SEPA Card Clearing Framework (SCC) based on existing ISO 20022 direct debit formats. SCC Version 2.0., published in December 2012, uses the new ISO 20022 message extension mechanism for payment messages for the definition of additional card-originated data.[5] In July 2013, the Berlin Group issued the Release Note 2013 for Version 2.0 of the SCC. The SCC provides the first implementation of the XML extension approach of ISO 20022 to mass payment services. The new release contains some errata detected in the first implementations of the SCC, as well as changes to adapt to the new ISO 20022 payment messages release 2013 and it further includes, as a new feature, the "IBAN only" approach as an option for the submitter interface. Furthermore, the new release includes a full set of XML Schema Definitions (XSD) for all SCC messages, based on the ISO 20022 payment message XSDs release 2013.

Geographic coverage/region:
Europe

Participants:
Atos Worldline; TRIONIS; BORICA; MBU; e-rsb; Die Deutsche Kreditwirtschaft; Euro Kartensysteme GmbH; DIAS Interbanking Systems S.A.; Giro Bankcard cPlc (GBC); Laser Card Services Ltd.; Consorzio Bancomat; SIA; Equens Italia; Cetrel; Equens SE; SIBS – Forward Payment Solutions; National Payment Card Centre (NPCC) of National Bank of Serbia (NBS); CECA; Sistema 4B; ServiRed; BKM; VocaLink; Euro Alliance of Payment Schemes; First Data International; PayFair; Visa Europe and PAN Nordic Card Association.

5 In the summer of 2010, ISO 20022 RMG approved ISO 20022 XML message extension mechanism (enabling supplementary data fields) for use within already existing payment messages. The following article, published in the ISO 20022 Newsletter, provides more details about this built-in "container" able to transport additional data without risking the approved message format, "Message extensions for supplementary data", Shay, Jamie, *ISO 20022 Newsletter* - winter 2010. The Berlin Group has successfully applied for a card-related supplementary data field to be used within the SCC.