

EUROPEAN FINANCIAL INTEGRATION IN THE AREA OF CARD PAYMENTS

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Abstract

Payment cards are very successful electronic payment instruments. The use of cards has steadily increased over the past few years. From 2000 to 2006 the number of cards transactions in the European Union (EU) rose more rapidly (at a rate of 15% per annum) than the use of other instruments such as credit transfers or direct debits. The relative importance of cards as cashless instruments in the EU27 (2006 data), expressed as percentages of total volume of transactions is 35 % on average (cards are on second place after credit transfers /with 41%/).

Cards have substantial importance for the success of the Single Euro Payment Area, SEPA. The contribution of the cards to the European financial integration improves the allocation of capital, makes financial services cheaper and more easily accessible to the European citizens.

The achievement of the Euro area integration in the field of cards requires that a few conditions are met, among which: the standardization of card payments, the level of the offered card services and the fight against fraud. This paper *focuses on the problems, related to card fraud and the necessity of their EU-wide harmonized prevention.*

In recent years card fraud become a crucial problem for the future of the cards as electronic payment instruments. Card fraud is a growing phenomenon for all EU Member States. EU-wide statistics of payments frauds are not available. Estimates on card fraud in the EU are situated above 1 billion Euros per year. The adoption of EMV, the internationally-agreed standards for chip payment cards has the level of national fraud for card-present transactions reduced in most euro area countries. Today the most important types of fraud relate to online fraud and identity theft. Another problem is also the seriously increased level of fraud in cross border card payments over the last years.

The indicated directions in the field of card payments fraud show that there is an urgent need to have harmonized and coherent policies across SEPA to effectively combat fraud.

JEL Classification: C82, F36, G21

Key words: card fraud, chip cards, identity theft, prevention.

1. Introduction

The European financial integration consists of three basic elements: singleness of the market; equal access of the market players to the market; uniform behavior of the market players on the market. It is among the main goals of the "Lisbon strategy". Payment cards play a considerable role in the attainment of this integration: they ensure the expansion of capital distribution, they make the financial services cheaper and more easily accessible to the European citizens. Payment cards are very successful electronic payment instruments. At the end of 2006 there were more than 350 million cards in circulation in the Euro area, which were used to make more than 12 billion payment transactions and 6 billion cash withdrawal transactions per year (European Central Bank, 2006, p.1). The use of cards has steadily increased over the past few years. From 2000 to 2006 the number of cards transactions in the EU rose more rapidly (at a rate of 15% per annum) than the use of other instruments such as credit transfers or direct debits. The relative importance of cards as cashless instruments in the

EU27 (2006 data), expressed as percentages of total volume of transactions is 35 % on average (cards are on second place after credit transfers /with 41%/).

Accounting for the three component parts of the financial integration, we have still to point out that there are still some unsettled problems, related to cards as payment instruments. The aim is that the Euro area becomes an area where the cardholders can use *any card on any terminal* (point-of-sale /POS/ or Automated Teller Machine /ATM/) or to make remote payments under the same conditions that apply on a national level with the national cards. This aim was set in the "SEPA for Cards" concept, announced by the European Central Bank (ECB) and the European System of Central Banks (ESCB /Eurosystem/) in September 2005.

The achievement of the Euro area integration in the field of cards requires the presence of definite conditions, among which are: the standardization of card payments, the level of the offered card services and the fight against frauds. This paper *focuses on the problems, related to card frauds and the necessity of their EU-wide harmonized prevention.*

The purpose of the paper is to consider the issues, related to card fraud from a European prospective, to summarize the current state of fraud and the fraud prevention measures that have been taken or that are forthcoming in the EU.

2. Scale of occurrence of card fraud

In recent years card fraud is a crucial problem for the future of the cards as electronic payment instruments (EPIs). Card fraud is a growing phenomenon for all EU Member States. No EU-wide statistics of payments frauds are available. Estimates on card fraud in the EU are situated above 1 billion Euros per year, resulting from approximately 10 million fraudulent transactions, affecting 500 000 traders.

According to the results of a 2006 survey carried out by the leading international organization ESTA¹ (Table 1) in eight European countries - Belgium, United Kingdom, Germany, France, Italy, Holland, Spain, Sweden, the British are most affected by credit and debit card fraud with approximately 20% of them being victims of such encroachments (Ravez, 2006). In the other 7 countries the share is in the region of 8-10%, while the average number of Europeans, who have fallen victims to card fraud, is 11%. The highest level of card fraud was registered in the United Kingdom in 2004 (£504.8 million), followed by a decrease of the total amount of losses (by 13% and 2.6% respectively in 2005 and 2006 on a chain basis) (Source: APACS²).

Table 1. Proportion of population that has been a victim of electronic card fraud

	UK	Belgium	France	Germany	Italy	Holland	Spain	Sweden	All
Yes	19%	9%	10%	9%	8%	9%	10%	8%	11%
No	78%	90%	88%	90%	90%	89%	89%	90%	87%
Don't know	3%	1%	2%	1%	2%	1%	1%	2%	2%

Source: European Security Transport Association

The data from a 2005 survey carried out by Eurobarometer show that in 32% of card fraud the victims of such frauds are not reimbursed with the lost money. This is most likely the main

¹ ESTA - European Security Transport Association

² APACS is the UK trade association for payments and for those institutions that deliver payment services to customers.

reason why 33% of people affected by card fraud consequently prefer to pay in cash. The above survey showed also that 25% of fraud victims have lost less than €150, 33% have lost between €150 and €500, while the remaining 33% have been robbed of over €500 (Ravez, 2006).

In spite of the lack of summarized data for the whole of the EU we can conclude that card fraud is a very serious problem that threatens cardholders' and merchants' confidence in EPIs. The latter fact determines the topicality of *fraud combat*.

With the advance of technologies the methods of card fraud also change. Of the four know fraud categories: mail-non-receipt fraud, lost-and-stolen card fraud, counterfeit card fraud, and card-not-present fraud, only the latter two are currently being used. The card counterfeit includes most often acquiring card data through skimming; card-not-present fraud is most closely related to e-commerce (internet transactions), as well as with remote payments such as phone or mail orders.

3. Card fraud prevention on the part of the card industry

As concerns the *card-present frauds* the European card industry is tackling these threats in particular by the introduction of chip and PIN technology, based on the EMV standard. EMV comprises internationally-agreed standards for chip payment cards, originally agreed by Europay, MasterCard and Visa as the standard for chip implementation.

The "SEPA Card Framework" expresses the agreement that has been achieved for the mandatory implementation of the EMV security standard in all countries in the zone and a deadline is set for completing the EMV migration until the end of 2010.

In compliance with the above requirement the implementation of the new standard in Europe is gradually expanding. According to the European Payment Council (EPC)³ statistics in the end of September 2006 a EMV standardization of 50.0% of payment cards, 47.1% of the POS terminals and 56.6% of the ATM (see Diagram 1) is reported in EU25 (Sarazin, 2006b). The data from the different countries shows certain variations: in the United Kingdom, France, Finland, Denmark, Estonia the ATMs migration is 100% complete, in Hungary and Cyprus it has not yet started, while in some other countries it is still symbolic: Italy – 1.8%, Latvia – 3%, Germany – 4%, etc.

According to forecasts, cards' EMV Migration in EU 25 is predicted to be completed in mid 2010; in the end of 2008 it is expected to reach 80%. The share of the migrated POS terminals is lagging behind, but according to forecasts their migration shall reach 100% ahead of the cards – in April – May 2010. The ATMs migration is also scheduled to be completed in the first quarter of 2010.

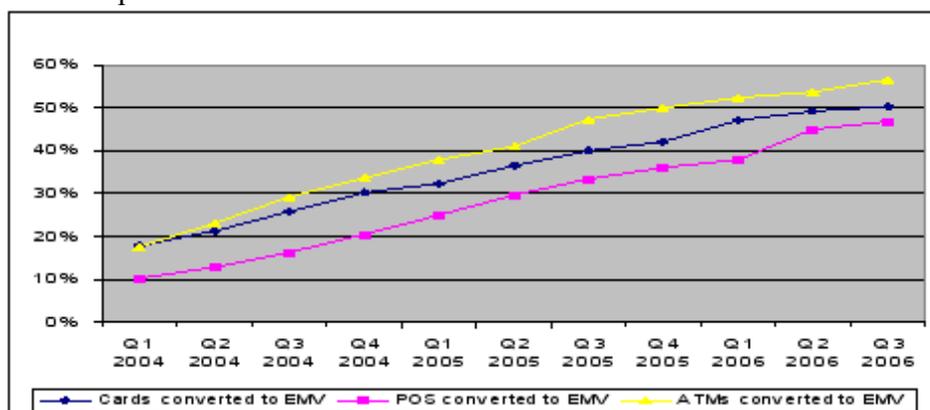


Diagram 1. EMV migration in SEPA

Source: Sarazin, 2006b

³ The institution that was set up to implement SEPA.

For the time being the effect of the adoption of EMV is expressed mainly in decreasing the level of national fraud for card-present transactions in most Euro area countries. Furthermore, EMV also contributes for the establishment of common security standards within the whole EU and in other countries and for achieving interoperability of standards across national borders.

Currently, the main problem is represented by *cross border fraud* that has marked a considerable increase. The reason for this increase is in the shift to other countries that are still unprotected because of the uncompleted migration. This causality imposes the conclusion of the dependence of the migration's success on its scope, respectively, the necessity to accelerate migration in non-protected countries.

In the case of *card-not-present payments* the cards are not physically present – instead, only card information is used: card number, expiry date, etc., that can be acquired illegally through technologies like skimming or through phishing. For these payments it is not possible to check the card's physical security and therefore other methods of checking are used to verify the cardholder's identity. Such methods include the *card security code checking systems*, developed by the two main card organizations, i.e. for Visa - Card Verification Code2 (CVC2), and for MasterCard - Card Verification Value2 (CVV2). The 3D Secure security protocol also offers effective possibilities for protection. The protocol is being applied by the two major card schemes under the brand names “Verified by Visa” and “MasterCard SecureCode”. The latest research, initiated by the European Commission (EC) and published in November 2007 show that SSL based systems only are used in the EU, with no other authentication than the card information and the related CvX numbers (European Commission, 2007). The protection, based on the 3D Secure standard is at an early stage of development. Belgium, France and the United Kingdom are ahead of all other countries in its implementation. (Sarazin, 2006a). In the above-named countries the cards, allowing this technology, are 95%, 100% and 39% respectively. At the same time, only in Belgium about a third of such cards are with a registered and activated service, while in the other two countries this share is less than 3%. In order for online buyers to be able to benefit from the protection, the index for registered/equipped merchants with 3D Secure is essential, and its share is 35.70% only in France (there are no data for the United Kingdom, while for Belgium the percentage is symbolic - 1%). Therefore, the share of the 3D Secure transactions remains rather limited with the traders in comparison with all Internet transactions: about 10% for France and the United Kingdom. The results from a research, commissioned by the European Commission show that the smaller-scale traders do not always use the most appropriate protection technologies due to the higher costs involved. The data for the state of protection of the card-not-present transactions give reason to believe that the security level of the e-trade remains low.

4. European Commission's and ECB/Eurosystem's position

The European institutions regard the card fraud combat as a decisive step for the development of SEPA and for the achievement of financial integration. According to the ECB evaluations frauds bring about an increase of fees for card payments and can threaten the use of bank cards as payment instruments (European Central Bank, 2006, p.13).

The EC has undertaken different initiatives and activities for preventing card fraud. A “EU Fraud Prevention Action Plan 2001-2003 on non-cash means of payment” has been developed and its measures have been successfully implemented. A new Action Plan has been adopted for the 2004-2007 period. In accordance with this Action Plan a Fraud Prevention Expert Group has been set up, which holds annual meetings in order to discuss these problems. A Subgroup on Identity Theft/Fraud) and Subgroup of Security Evaluation and Certification have been set up within the group in accordance with the plan. The cooperation

between the public institutions and the private sector is considered vital for the effective combat against card fraud.

Data is provided and discussions on topical issues are held at conferences and seminars that are organized every year. One of the latest events was the conference on “Maintaining the integrity of identities and payments: Two challenges for fraud prevention”, organized by the EC in November 2006. On this occasion Franco Frattini, Commissioner responsible for Justice, Freedom and Security, remarked that “increasing awareness through initiatives such as this Conference is essential to improve crime prevention and promote public-private cooperation to successfully fight fraud and counterfeiting”.

The community of European central banks, represented by Eurosystem is giving exclusive priority to the issues of the security of payments with EPIs. The emphasis is on achieving interoperability of security standards beyond national borders on a European level. The achieved agreement for migration towards EMV within the EU complies with Eurosystem’s basic requirement for the development of market security standards that can be used on a Pan-European or even on a global level.

ECB is a catalyst in the processes of migration to the EMV standard. It encourages the bank industry to accelerate the transition and expects that some existing problems with the interoperability between certain countries find their solution. On the basis of the available data the bank reports that the cases of fraud are naturally shifting and concentrating in the countries and merchants, which are still not protected by the new standard (Tumpel-Gugerell, 2004). The above mentioned causality determines the priority of the requirement for a quick implementation of the standard in all countries with a view of achieving a full scope of application.

The ECB representatives are aware of the considerable financial burden that the banks and their clients have to suffer in connection with the migration, but they state that in the longer term “fraud combat offers more than its immediate quantifiable returns” (Tumpel-Gugerell, 2004).

5. Expected measures and forthcoming activities in the fraud combat under conditions of uncompleted transition to EMV

One of the main immediate goals that EPC is facing as an institution, responsible for the SEPA success, is defining a *straightforward strategy of fraud combat*. A significant aspect of this combat is the necessity that differences in the level of fraud in and between the countries in the Euro area are abolished, i.e. to reduce the level of cross border fraud to that of the national level.

It has been foreseen to clarify *the legal requirements for personal data protection* both within the European community and on a national level, so that an effective information exchange is possible on a EU level in connection with the early detection and notification of fraud attempts. It is necessary to harmonize the rules of data protection with a view of the exchange of information about high-risk and fraudulent merchants.

An important role for preventing card fraud is played by notification of lost or stolen cards on a EU level, which has to be optimized through the initiative of setting up a *unified phone number for reporting* such occurrences. Work is being done for establishing a common *EU card fraud database*. EPC has assumed the responsibility of developing its methodology. The support of the ECB is counted on for the data gathering, especially in the cases where some of the players on the market do not provide information due to competition considerations (Tumpel-Gugerell, 2004). Currently only in some countries (e.g. Belgium) the banks are obliged to inform their supervising organisation about the cases of card fraud. It is recommended to consider taking steps on a European level to introduce a requirement for

mandatory notifying of the respective national institution with a view of a subsequent enlargement on a EU level.

In the period until the migration towards the EMV standard is completed, it is topical to consider that ECB introduce a requirement for a uniform application in the EU of a set of prevention measures mandatory for the European banking industry. Part of these measures could be the requirement for installing *anti-skimming devices* at the ATMs with a view of preventing the copying of data from the cards' magnetic stripes. It is also recommended for banks to use *fraud monitoring and risk management solutions*. The above systems work in real time and help banks proactively identify and combat potential fraud. Examples of such systems are Falcon™ Fraud Manager developed by Fair Isaac Corp., Fractals (developed by the UK company Alaric), Aristion (developed by MasterCard), etc.

As we have already pointed out, thanks to the EMV standard a unity has been established on a EU level concerning the security and fraud prevention in case of card-present payments. At the same time, the measures concerning the *card-not-present transactions* are in a process of preparation and coordination. It is necessary that in the near future EPC announce measures for preventing this type of card fraud to be applied in a centrally-coordinated method within the EU.

One of the main problems in case of card-not-present transactions in e-trade, namely the secure verification of the card-holder's identity, is solved through the use of enhanced authentication techniques. In this sense it is worth expanding the application of the 3D Secure technology and card security codes on the part of banks and e-merchants. In the context of these difficulties undertaking common steps for introducing a mandatory two-factor authentication of clients would contribute for reducing identity thefts and card fraud.

Within the whole EU it is imperative that action is taken for harmonizing the criteria for evaluating the security of card payments.

It is necessary to actively involve all parties in the prevention process – not only the financial industry, but also the merchants and the consumers. Creating customer awareness of the dangers, related to card payments, the risk of becoming a victim of fraud or identity theft, as well as the protection measures that have been taken, are of primary importance in the fraud combat.

According to the common European understanding raising the awareness of citizens of the risks is considered a “very powerful tool” for fraud prevention (International Conference on “Identity Fraud&Theft: The Logistics for Organised Crime”, 2007). Consumers play an important role in fraud prevention and therefore they have to be motivated to facilitate the security of card payments. The consumers' responsibility is accounted for in the Payment Services Directive /PSD/⁴, which foresees, as follows: in case of losses from unauthorized transactions that occur in the period before notification to the provider, the consumer shall bear the financial burden up to a maximum of €150, provided he has not acted with acute disregard. The financial institutions should provide for the consumers educational tools, security recommendations and alertness tips, and to demand that these are complied with. No effort in this direction should be spared, all the more that such efforts are in the interest of all parties, relevant to the EPIs. The belief that the public dissemination of these problems poses a threat to the financial institutions' reputation is not well-grounded and it could result in consumers' refrain from using card instruments due to attempts to hide significant threats. Actually, consumers should be very well informed about the level of the security of the card-payment systems they used in order to build up their confidence.

⁴ The Directive was adopted in the EU in 2007. It is foreseen to be transposed in the law of the member-countries by 01.11. 2009 r.

In this aspect the cooperation between public authorities and the financial services industry is highly recommended with a view of creating customers' awareness and education both on a national and on a European level. A positive example in this respect could be the experience of the United Kingdom, where a Home Office Identity Fraud Steering Committee was set up to lead a cross public/private sector work programme to tackle identity theft and identity fraud (Fraud Prevention Expert Group, 2007, p. 32). The programme coordinates a collaboration between UK financial bodies, government and the police to combat the threat of identity theft. The Committee has initiated the creation of a website (www.identity-theft.org.uk), containing information on how to protect one's identity and prevent criminals from committing fraud in one's name; on what to do in case of becoming a victim; on who can help, etc.

6. Conclusions

Initiating SEPA Cards Framework since 1 January 2008 is an extremely important stage in realizing the European financial integration. The transition from the national e-payment instruments to the new SEPA instruments will continue in the following years. Among these new SEPA instruments card payments have a leading role. From the point of view of ECB and the Eurosystem it is of primary importance for SEPA's success and realizing the SEPA vision that people make payments throughout the euro area as quickly, safely and easily as they make national payments.

An important aspect of the full adoption of the SEPA Cards Framework is the continued intensive work on the EU-wide harmonisation of policies on prevention of card fraud and fraud fight. This is a prerequisite for maintaining cardholders' confidence in the reliability and security of card-payments and, therefore, for preserving cards' important role in cashless payments, including as a main payment method on the Internet. Finally, this would be instrumental also in the SEPA success and the European financial integration. The main challenges are related to the online card fraud, cross border fraud and identity theft and this is where the EU should focus its efforts.

References

- European Central Bank, 2006, The Eurosystem's view on a "SEPA for cards".
- European Commission - DG Internal Market, 2007, Study on user identification methods in card payments, e-payments and mobile payments. Executive Summary.
- Fraud Prevention Expert Group, 2007, Report On Identity Theft/Fraud. Brussels.
- International Conference on "Identity Fraud&Theft: The Logistics for Organised Crime". Conclusions & Recommendations. Tomar, Portugal, 2007.
- Ravez, Fr., 2006, Over half a million Belgian adults have fallen victim to card fraudsters – new research. Belgium.
- Sarazin, C., 2006a, EMV Migration – Presentation on State of Play. Brussels.
- Sarazin, C., 2006b, Implementing the SEPA Cards Framework: Towards greater security for card payments. EC Fraud Prevention Expert Group. Brussels.
- Tumpel-Gugerell, G., 2007, The new SEPA landscape from vision to reality (and back), EPCA Payments Conference, Frankfurt am Main.
- Tumpel-Gugerell, G., 2006, A SEPA for cards: a contribution to a cashless society? *EFMA Cards and Payments Conference*, Paris.
- Tumpel-Gugerell, G., 2005, Global Financial Markets 2015: looking ahead. Ten theses. Liechtenstein Dialogue Conference.
- Tumpel-Gugerell, G., 2004, Card payments and the European financial integration. *EFMA Cards and Payments Conference*, Paris.
- Tumpel-Gugerell, G., 2003, Payments and confidence - the views of the Eurosystem. Opening remarks at the conference "Payments and Confidence – How to boost security and fight risk" Security of Payments in the Internal Market, Brussels.
- <http://www.apacs.org.uk/>
- <http://www.identity-theft.org.uk>