



EUROPEAN CENTRAL BANK

EUROSYSTEM

Fourth report on card fraud

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Contents

Executive summary	2
1 Introduction	5
2 Total level of card fraud	7
3 Card fraud according to different card functions	9
4 CNP fraud	10
Box 1 Fraud migration towards card-not-present fraud	11
5 Fraud categories at ATMs and POS terminals	13
Box 2 ATM and POS fraud prevention performance	14
6 Domestic and cross-border fraud	17
7 A country perspective on card fraud	20
8 Conclusions	27

Executive summary

This fourth oversight report on card fraud analyses developments in fraud related to card payment schemes (CPSs) in the Single Euro Payments Area (SEPA) and covers almost the entire card market.¹

The total value of fraudulent transactions conducted using cards issued within SEPA and acquired worldwide amounted to €1.44 billion in 2013, which represented an increase of 8% from 2012. In relative terms, i.e. as a share of the total value of transactions, fraud rose by 0.001 percentage point to 0.039% in 2013, up from 0.038% in 2012. It should be noted that card fraud had reached a five-year low in absolute terms in 2011 and that the level reported in 2013 is the highest in the previous five years. However, in relative terms, i.e. as a share of total transactions, fraud is still below the level observed in 2009. In 2013, 66% of the value of fraud resulted from card-not-present (CNP) payments, i.e. payments via the internet, post or telephone, 20% from transactions at point-of-sale (POS) terminals and 14% from transactions at automated teller machines (ATMs).²

With €958 million in fraud losses in 2013, CNP fraud was not only the largest category of fraud in absolute value but, unlike ATM and POS fraud, also the only one recording an increase compared with the previous year, with growth of 20.6% from 2012. Data on regular, i.e. non-fraudulent, CNP transactions, which are only partially available, suggest that there was also considerable growth in CNP transactions. However, based on this partial information, CNP fraud grew faster than CNP transactions. The largest drop in the level of fraud was experienced by card fraud committed at ATMs, with 13.7% less fraud in 2013 than in 2012, the first time in four years that ATM fraud fell, while fraud committed at POS terminals went down by 7.9%. The lower level of ATM fraud was due mainly to a substantial decrease in card-not-received and counterfeit fraud for this category. Counterfeit fraud accounted for 45% of the value of fraud at ATMs and POS terminals, while fraud using lost or stolen cards made up 43%. As observed in previous years, counterfeit fraud was predominant for transactions acquired in countries outside SEPA (see below). This trend continued in 2013, although the category has seen a decrease in counterfeit fraud compared with 2012.

For delayed debit and credit cards, CNP fraud was the most common type of fraud, accounting for 75% of the total value, followed by fraud occurring at POS terminals (19%) and ATMs (6%). For debit cards, CNP fraud was also the most common type, making up 61%, followed by ATM and POS fraud, which accounted for 22% and 17% respectively.

¹ This report focuses mainly on data analysis and key messages. General information on card usage, data collection methodology and classification provided in the first report on card fraud is not repeated in this version.

² The same trends were observed with respect to fraud volumes, although ATM fraud was less prevalent and CNP fraud was more common.

From a geographical perspective, domestic transactions accounted for 92% of all transactions, but only 49% of fraudulent transactions. Cross-border transactions within SEPA made up 6% of all transactions, but 29% of fraudulent transactions. Finally, although only 2% of all transactions were acquired from outside SEPA, they accounted for 22% of all fraud. It is likely that the disproportionately high share of cross-border fraud committed outside SEPA is mainly a result of the preference among fraudsters to exploit low security standards, such as magnetic stripe technology in the case of counterfeit fraud. The euro area experienced slightly lower fraud levels from an issuing and acquiring perspective than SEPA as a whole.

Compared with SEPA as a whole, fraudsters in the euro area focused more on ATM and POS fraud (fraud committed at ATMs and POS terminals accounted for 39% of the total value of fraud in the euro area, compared with 34% in SEPA). The difference can be attributed mainly to the influence of the United Kingdom, which had a relatively high share of CNP fraud and, with its total level of fraud, accounted for 36% of total fraud losses on cards issued within SEPA.

This report also covers data on transactions conducted using cards issued outside SEPA, but acquired inside SEPA. These data show that there are higher fraud losses on non-SEPA-issued cards used inside SEPA (€566 million) than there are on SEPA-issued cards used outside SEPA (€320 million). This also holds true in relation to the value of transactions: 0.57% of the value of transactions acquired inside SEPA using non-SEPA issued cards was fraudulent, compared with 0.45% of the value of transactions acquired outside SEPA using cards issued inside SEPA. The finding suggests that European cardholders also benefit from high European security standards for transactions conducted outside SEPA.

For individual European Union (EU) Member States, large variations with respect to card usage were identified, as in the previous report: the number of cards per inhabitant ranged from 0.7 to 3.7³, the number of payments made per year per inhabitant ranged from 21 to 256, while the corresponding transaction values ranged between almost €1,500 and more than €15,000 per year and inhabitant. Fraud shares, i.e. the fraud-related share of the transaction value or volume, ranged from 0.004% for cards issued in Hungary to 0.07% for cards issued in France in terms of value, and from 0.002% in Lithuania to 0.034% for cards issued in France in terms of volume. There were also huge differences with respect to the transaction channels used by fraudsters. Broken down by country of card issue, fraud committed at ATMs ranged from 1% to 43% of the total, the share of CNP fraud ranged from 41% to 85%, and the share of POS fraud ranged from 7% to 44%. Broken down by country of acquirer, these variations were even larger; ATM fraud ranged from 0% to 35%, CNP fraud from 29% to 91% and POS fraud from 9% to 68%.

Most of the countries with mature card markets (defined as countries with high volumes and values of card transactions per inhabitant) experienced high rates of fraud. CNP fraud was typically the most common type of fraud experienced on cards

³ The 3.7 cards issued per inhabitant relates to Luxembourg, where a portion of cards are issued to cardholders not living in Luxembourg.

issued in these markets. By contrast, countries with limited card usage experience relatively low levels of fraud. Owing to limited use, the potential financial gains are lower and, since EMV migration is almost complete, it is much easier to target non-EMV countries outside SEPA.

In summary, in 2013 the value of fraud on cards issued inside SEPA increased for CNP transactions and decreased across the other transaction channels. In 2013 CNP fraud accounted for 66% of total fraud losses on cards issued inside SEPA, compared with 60% in 2012. Furthermore, and unlike in 2012, fraud at ATMs and POS terminals decreased following the near completion of migration to the EMV standard within SEPA. In the case of ATMs, this was the first decline in four years. The drop in card-present fraud could be supported by the near completion of migration to the EMV standard within SEPA, but also an increasingly high adoption rate of EMV for terminals outside Europe⁴. A wider usage of geo-blocking,⁵ as well as increased physical security measures at the terminal (e.g. lids to protect PIN entry, skimming device detectors, etc.) and the deactivation of the option to fall back to magstripe usage for cards, are examples of what might also have contributed to this reduction. While ATM and POS fraud may diminish further as more countries outside SEPA migrate to EMV, CNP fraud is likely to grow further unless appropriate mitigation measures are adopted, such as those required by the European Banking Authority in guidelines for the security of internet payments and the Eurosystem's "Guide for the assessment of card payment schemes against the oversight standards".

⁴ EMVco global adoption statistics.

⁵ Geoblocking refers to blocking overseas transactions using EU-issued cards unless they have been activated in advance.

1 Introduction

In January 2008 the ECB's Governing Council approved an oversight framework for card payment schemes (CPSs). As part of the harmonised implementation of this framework, statistical information is gathered on card schemes. Each scheme is asked to supply general business data and state the number and value of fraudulent and total transactions for each EU Member State, as well as for Switzerland, Iceland, Liechtenstein and Norway (which are also Single Euro Payments Area (SEPA) countries). For automatic teller machines (ATMs) and point-of-sale (POS) terminals, fraud figures are broken down into "lost and stolen", "card not received", "counterfeit" and "other", while for total card-not-present (CNP) transactions, there is an option to provide a breakdown of the figures according to "online" and "mail or phone" fraud. Data collection is based on common templates and definitions. Please note that fraud is defined independently of whether the loss is borne finally by the customer, issuer, acquirer or merchant.

This report summarises the information received from the following 23 CPSs: 4B, American Express, Bancontact/MisterCash, Banque Accord, BNP Paribas Personal Finance, Carrefour Banque, Cartes Bancaires, Cashlink, Cofidis, Cofinoga, COGEBAN/PagoBANCOMAT, Crédit Agricole Consumer Finance, Diners Club International, EURO 6000, Franfinance, girocard, JCB International, Laser Card Services, MasterCard Europe, Quikcash, ServiRed, SIBS' Multibanco and Visa Europe.

A comparison of the transaction data gathered from CPSs with data held in the ECB's Statistical Data Warehouse (SDW) suggests that the data available for 2013 represent 100% of the total value of transactions within the European Union (EU). However, this figure must be treated with caution, as it may reflect both gaps in SDW data and double counting in data reported for oversight purposes. Unfortunately, for three countries, the coverage is below 80% of the value of transactions owing to the fact that oversight requirements were waived for some CPSs or as a result of incomplete data reporting.

For Luxembourg⁶, a further comparison of data available from other sources with the data provided for oversight purposes showed discrepancies in transaction and fraud levels. Such discrepancies, as well as those mentioned earlier, have been tolerated for the purpose of the present report.

Please note that data used for the analysis across the report for two CPSs are only included from 2011 onwards, variation that leads to some comparisons across time invalid. Moreover, an assumption had to be made in order to avoid overlaps between figures reported by international and national CPSs. Two remaining data issues that have been tolerated so far relate firstly to the allocation of cards issued across

⁶ The main discrepancies came from the way CPSs have split their card data per country, as explained in Footnote 8. The fact that Luxembourg has a large amount of cards being issued for areas of use other than its own greatly affects the statistics.

borders to countries by area of use – a measure for the location of the cardholder – vs. the location of the institution issuing the card, and, secondly, to the allocation of CNP transactions acquired across borders according to the location of the acquirer instead of that of the merchant.

The national central banks and the ECB have checked and processed the data with due care. Nevertheless, errors related to data provision, transmission or processing may remain. Therefore, all results presented in this report should be read and interpreted with caution.

Results from an issuing perspective refer to payments made with cards issued within SEPA and acquired worldwide. Results from an acquiring perspective therefore refer to transactions conducted using cards issued worldwide and acquired inside SEPA. Payments made with cards issued outside SEPA and acquired within SEPA have been included in this report. Results are generally derived from an issuing perspective⁷, except in Chapter 6, where the acquiring perspective is adopted for some results. In these cases, the change of perspective is highlighted.

The report is structured as follows: the first chapter presents findings on the total level of card fraud. The second chapter looks at card fraud for different card functions and is followed by a chapter on CNP fraud. Next is an analysis of different categories of card fraud at ATMs and POS terminals. Chapter 5 compares domestic transactions and fraud figures with cross-border figures both within and outside SEPA. Chapter 6, which is based on EU Member States only, looks at absolute and relative fraud levels, as well as other information about individual EU Member States. Finally, Chapter 7 concludes.

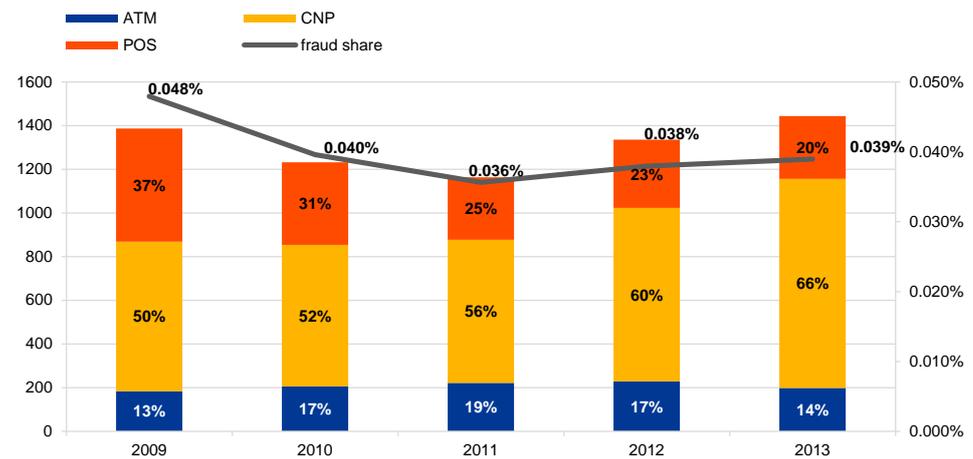
⁷ From an issuing perspective, some CPSs have split their card data according to the area of use of a card, i.e. the main country of use defined by the issuer upon issuance of a card, while other CPSs have reported data according to the country in which the card issuer is domiciled. This may lead to discrepancies for some countries (e.g. Luxembourg) if card issuers issue cards for areas of use other than their own country.

2 Total level of card fraud

Chart 1a

Evolution of the total value of card fraud using cards issued within SEPA⁸

(EUR millions; value of fraud as share of value of transaction)



Source: All reporting CPSs.

- The total value of card fraud using cards issued in SEPA amounted to €1.44 billion⁹ in 2013.
 - This represented an increase of 8.1% compared with 2012, and an increase of 3.9% compared with 2009. However, since the value of all card transactions grew by 5.4% in 2013 compared with the previous year, fraud as a share of the total value of transactions increased by only 0.001 percentage point, i.e. from 0.038% in 2012 to 0.039% in 2013.
- Compared with 2012, CNP has become an even more important channel for fraud, whereas ATMs and POS terminals have become less important.
 - CNP accounted for 66%, POS for 20% and ATM for only 14% of the total value of fraud.

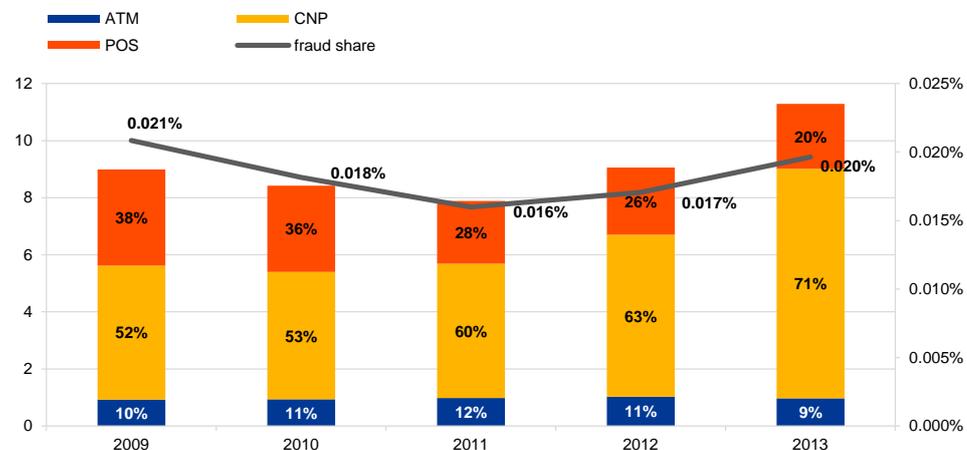
⁸ Note that, as outlined in the introduction, data from 2011 onwards include data from additional CPSs, which increases the total fraud value compared with a situation with no additional data providers.

⁹ The €1.44 billion figure reflects the losses of all reporting CPSs, whereas growth rates in this section are calculated on the basis of the data for those CPSs which have provided data for the two years to be compared. The growth rates are thus not influenced by variations in data provision.

Chart 1b

Evolution of the total volume of card fraud using cards issued within SEPA¹⁰

(million transactions; volume of fraud as share of volume of transaction)



Source: All reporting CPSs.

- The total number of cases of card fraud using cards issued in SEPA amounted to 11.29 million in 2013.
 - This represented an increase of 24.7% compared with 2012, and an increase of 25.5% compared with 2009. In comparison, the total number of transactions increased by 8.3% in 2013 compared with the previous year. Therefore, fraud as a share of the total number of transactions increased to 0.020% in 2013 (i.e. by 0.003 percentage point).
- In line with the trends observed for the value of fraud, the relevance of ATMs and POS terminals as channels for fraud has also decreased when looking at fraud volumes.
- The share of ATM fraud in terms of volume was lower than that in terms of value owing to the high average values for fraudulent ATM transactions.

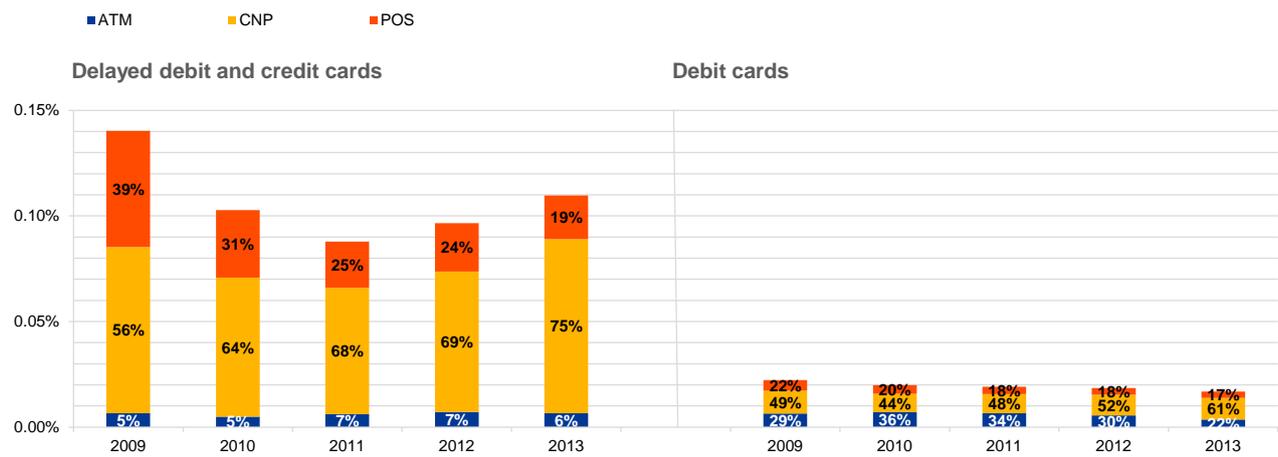
¹⁰ Note that, as outlined in the introduction, total levels of fraud in 2011 increased, partly owing to the inclusion of data from additional CPSs.

3 Card fraud according to different card functions

Chart 2

Fraud shares and the composition of fraud for different card functions¹¹

(value of fraud as share of value of transaction)



Source: All reporting CPSs excluding cards issued in France and Spain.

- The total share of fraud in overall transactions declined slightly for debit card fraud, but increased for delayed debit and credit card fraud.
- The share of delayed debit and credit card fraud in overall transactions remained at a higher level than that of debit card fraud.
- For delayed debit and credit cards:
 - in absolute terms, fraud increased for the CNP channel, but decreased for ATMs and POS terminals (not displayed);
 - in relative terms (as a percentage of total delayed debit and credit card fraud), CNP fraud increased, while POS and, to a lesser extent, ATM fraud decreased.
- For debit cards:
 - in absolute terms (not displayed), CNP fraud increased, while ATM and, to a lesser degree, POS fraud decreased;
 - in relative terms, the total fraud share in overall transactions decreased slightly owing to the strong growth in non-fraudulent transactions as opposed to the fall in fraudulent transactions.

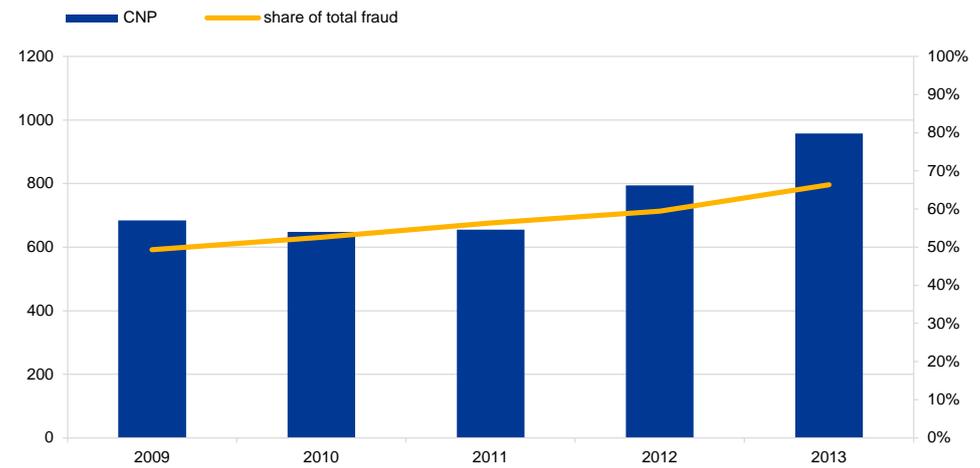
¹¹ Please note that, as outlined in the introduction, the increases in total levels of fraud in 2011 were partly due to the inclusion of data from additional CPSs.

4 CNP fraud

Chart 3

Evolution of the value of CNP fraud and its share of the total value of fraud¹²

(EUR millions; share of total card fraud)



Source: All reporting CPSs.

- In 2013 the total value of CNP fraud increased by 21% to €958 million.
- CNP fraud accounted for 66% of the total value of card fraud in 2013;
 - this share has been growing steadily since 2010.
- An increase in CNP fraud of 40% over a period of five years was the main driver for the 4% increase in overall fraud.

¹² Please note that, as outlined in the introduction, the increases in total levels of fraud in 2009 and 2011 were partly due to the inclusion of data from additional CPSs.

Box 1

Fraud migration towards card-not-present fraud

CNP fraud has experienced significant increases in absolute terms, especially over the last two years. While card-present fraud decreased in 2013 both compared with the previous year and with the levels registered in 2008, CNP fraud has increased in both cases.

Chart A

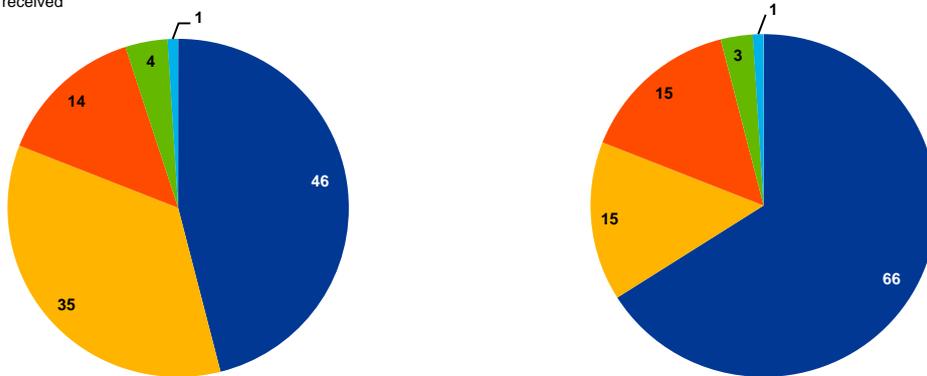
Total fraud composition

(percentage)

2008

2013

■ card not present ■ counterfeit
 ■ lost and stolen ■ other
 ■ card not received



Source: All reporting CPSs

Table A

Percentage of total card fraud in terms of value

Percentage of total card fraud in terms of value	Europe	Australia ¹	Canada ²	United States ³
Card not present	66	72	61	40
Card present (ATM + POS)	34	28	39	60
Counterfeit/skimming	15	12	29	
Lost/stolen	15	11	5	
Card not received	1	3	1	Not available
Fraudulent application		1	2	
Other	3	1	2	
Year	2013	2013	2013	2012

¹ Australian Payments Clearing Association

² Canadian Bankers Association

³ Federal Reserve Payments Study, July 2014

While card-present fraud is expected to diminish even more owing to increased EMV migration of cards and terminals, both within SEPA and worldwide, CNP fraud remains the most frequent type of fraud and the one generating the largest losses, particularly for countries with high EMV migration rates.

Compared with levels in 2008, five countries have managed to reduce absolute levels of CNP fraud¹³ with cards issued in SEPA. For most of these countries, CNP fraud has followed a constant decreasing trend across the whole period.

While data on CNP transactions are only partially available and no firm conclusions can be drawn, the figures that are available suggest that this type of fraud has grown in the last two years at a higher rate than the respective transactions. Taking into account data for only those schemes reporting a split of CNP fraud into internet and mail or phone fraud, CNP fraud over the internet grew slightly more than the respective transactions, accounting for between 60% and 86% of the value of CNP fraud for those schemes.

From an acquiring point of view, growth in CNP fraud was higher than in 2012, when fraudulent payments were made at merchants that were legally incorporated in countries outside SEPA rather than in SEPA. With partial data available, growth in CNP transactions followed the opposite path, i.e. growth in CNP transactions performed at merchants incorporated in countries outside SEPA was lower than that for countries inside SEPA.

In order to increase the security of internet payments, the European Banking Authority (EBA) in December 2014 published guidelines for the security of internet payments. These are meant to impose a minimum set of security requirements to be implemented by the PSPs in the EU by 1 August 2015. The guidelines are based on the previous recommendations issued by the European Forum for the Security of Retail Payments (SecuRe Pay) and require, among other things, the issuing PSPs to support strong customer authentication¹⁴ for the initiation of payments and access to sensitive payment data, as well as requiring the PSPs offering acquiring services to support the issuer PSP for this purpose and the e-merchant to do the same for card transactions over the internet. Card payment schemes have to observe the oversight standards, and requirements for internet payments form part of the ECB's guide for the assessment of card payment schemes against oversight standards. Should the revised Payment Services Directive, currently under review, bring stronger security requirements for card-not-present transactions, a further decrease in this type of fraud could be expected.

¹³ Greece, Cyprus, Sweden, Romania and the United Kingdom.

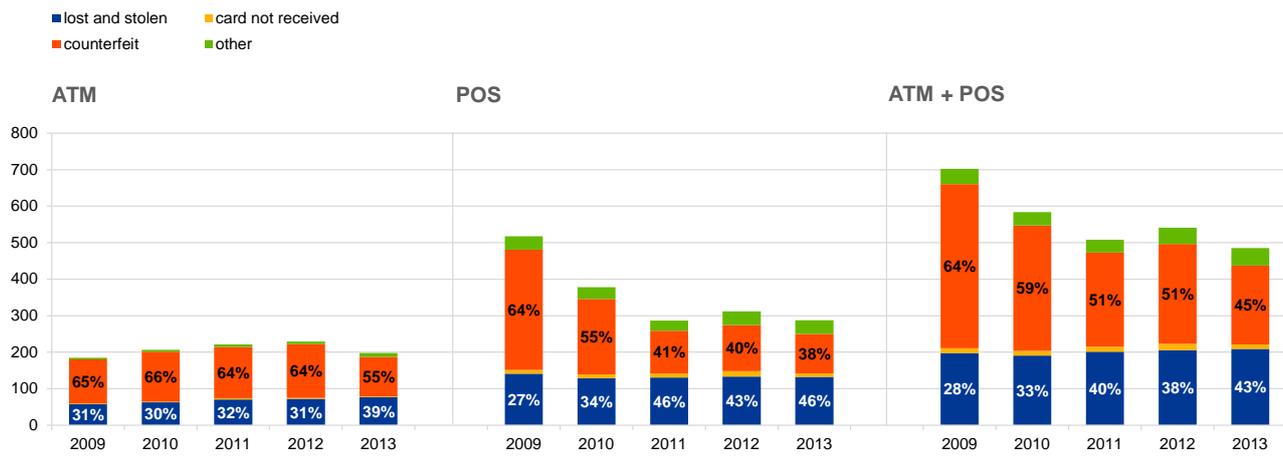
¹⁴ A method consisting of two independent authentication factors, one being dynamic.

5 Fraud categories at ATMs and POS terminals

Chart 4

Evolution of the value of fraud by category at ATMs and POS terminals¹⁵

(EUR millions)



Source: All reporting CPSs.

- The combined value of ATM and POS fraud decreased by 10.3% in 2013.
- The values of both ATM and POS fraud also decreased individually.
- At ATMs, the decrease in 2013 was more pronounced and driven by lower losses on counterfeit or card-not-received fraud.
- At POS terminals, a 33.9% decrease in card-not-received fraud losses and a 14.5% decrease in counterfeit fraud losses in 2013 made the largest contribution to the overall decrease of 7.9%.
- Fraud using counterfeit cards continued to be the most common type of ATM fraud, followed by fraud using lost and stolen cards. At POS terminals, lost and stolen cards was the most relevant category, followed by counterfeit fraud.
- Over the last five years the absolute value of counterfeit fraud at ATMs and POS terminals combined decreased by 51.9%, while card-not-received fraud decreased by 11.2% (albeit from a comparatively low level) and lost and stolen fraud increased by 5.8%.

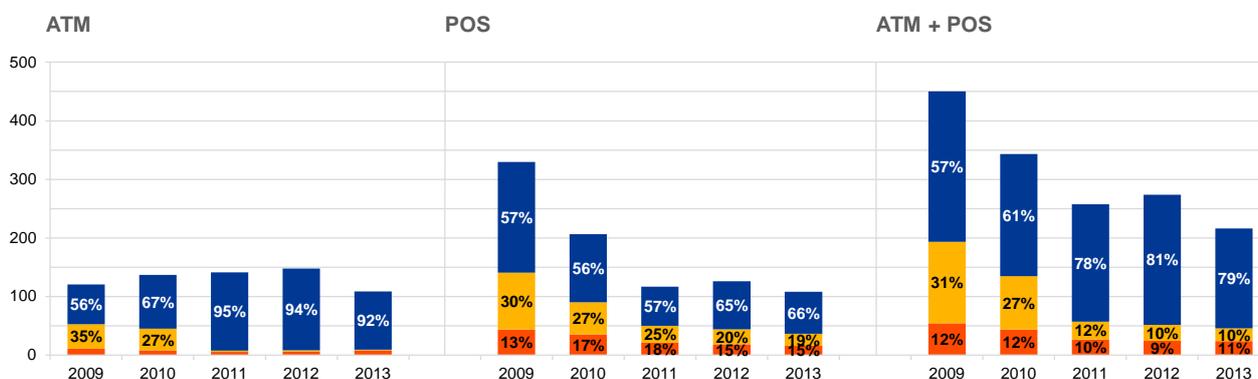
¹⁵ Please note that, as outlined in the introduction, the increases in the total levels of fraud in 2011 were partly due to the inclusion of data from additional CPSs.

Chart 5

Evolution of the value of counterfeit fraud at ATMs and POS terminals¹⁶

(EUR millions)

■ cross-border, acquired outside SEPA ■ cross-border, acquired within SEPA
 ■ domestic



Source: All reporting CPSs.

- As in previous years, counterfeit fraud in 2013 mostly involved transactions acquired outside SEPA.
- 92% of ATM counterfeit fraud and 66% of POS counterfeit fraud concerned transactions acquired outside SEPA.
- The total value of counterfeit fraud decreased by 21% in 2013.
- All three geographical categories have seen decreases in counterfeit fraud compared with the previous year, the largest being in cross-border fraud acquired outside SEPA (23%), probably as a result of the progressing migration to the EMV security standard in countries outside SEPA.

Box 2

ATM and POS fraud prevention performance

While more than half of the total fraud losses in 2008 (54%) were due to ATM and POS fraud, this category has seen considerable decreases over the last six years, with the result that it now accounts for only one third of total fraud. Although the transactions increased by 27% and the fraud by 2.5% in terms of value over this period, the values for these two card-present types of fraud decreased by 36% altogether.

The reduction in this category came mostly from a considerable decrease (56%) in the value of counterfeit fraud since 2008. Taking into account the fact that 98% of the transactions with cards issued in SEPA are made inside SEPA, the decrease in counterfeit fraud is closely linked to the migration of terminals and cards issued in Europe to EMV standards. On top of this, the fact that

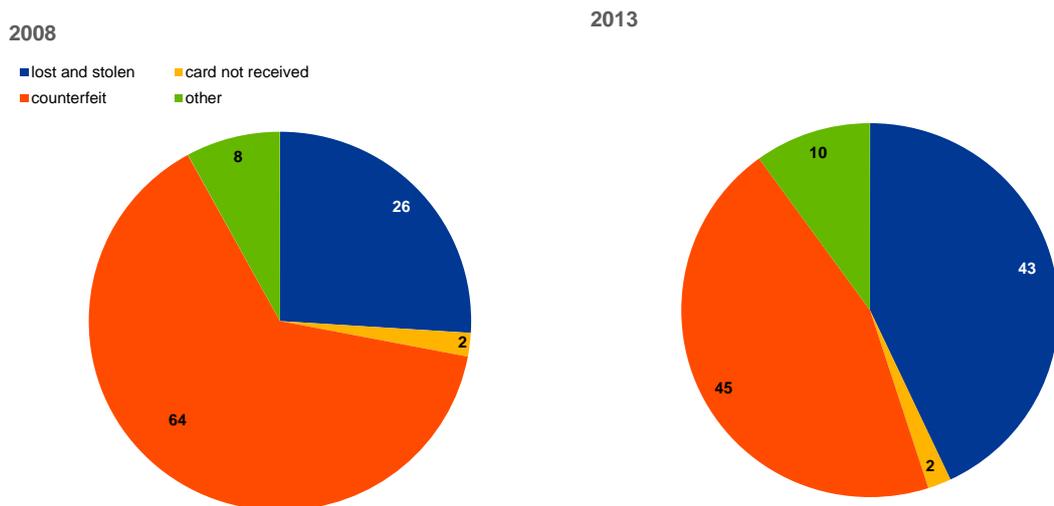
¹⁶ Please note that, as outlined in the introduction, the increases in the total levels of fraud in 2011 were partly due to the inclusion of data from additional CPSs.

chip and PIN has also been increasingly adopted worldwide has discouraged fraudsters from copying the magnetic stripe on European cards and using the counterfeits outside Europe. This is proved by the larger decrease in counterfeit fraud in relation to the overall reduction in fraud for cross-border transactions overseas over the last six years.

Chart A

Card-present fraud composition

(percentage)



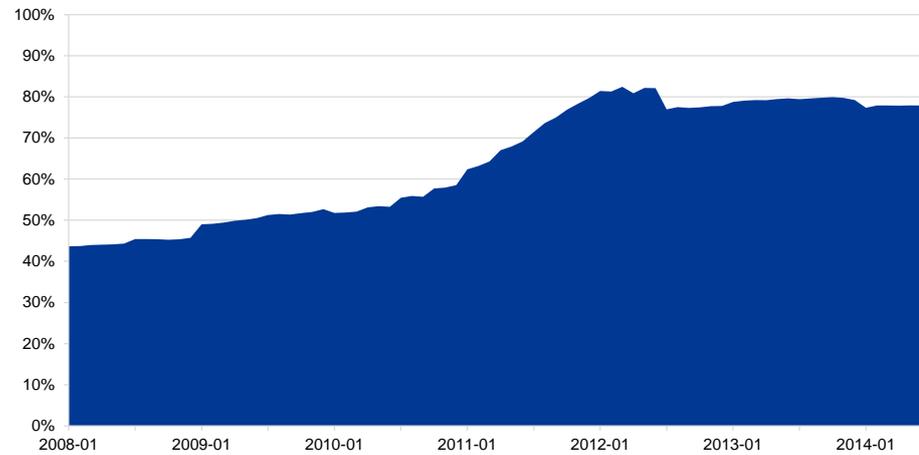
Source: All reporting CPSs

However, other measures meant to prevent fraudsters from being able to obtain the information on the magnetic stripe of the card might have made a significant contribution to reducing counterfeit fraud (skimming device detectors, improvements on the design of ATM card slots, etc.)

Increased use of sophisticated fraud prevention back-end software, geo-blocking and more effective cooperation between the banking industry and retailers regarding card fraud prevention, together with increased customer awareness of the possibilities of being victims of fraud attempts, have also contributed to the good performance of this fraud category over time.

Chart 6

EMV transactions¹⁷ in the euro area as a percentage of total transactions at POS terminals



Source: ECB, SEPA migration indicators.

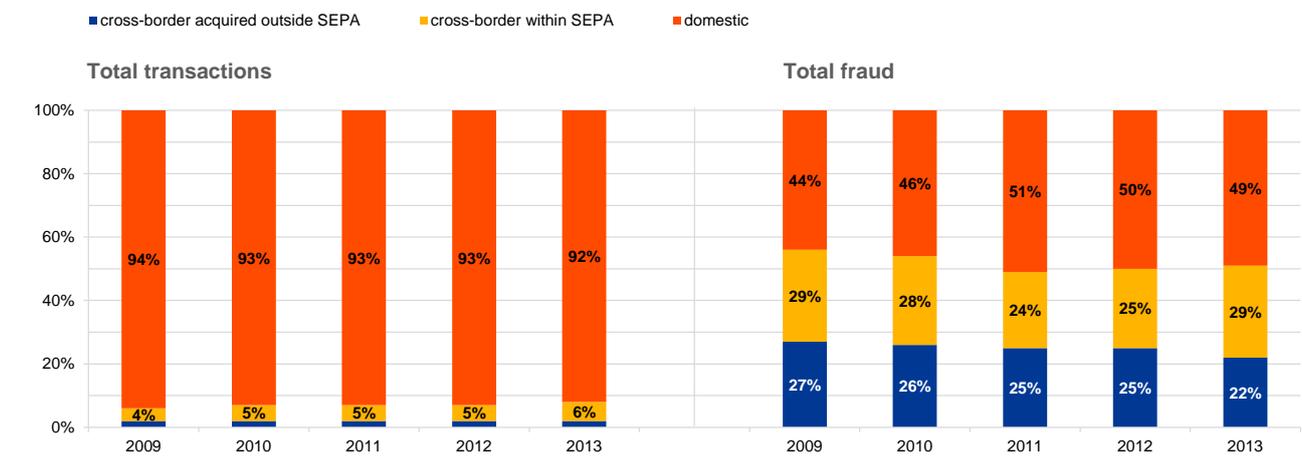
- For transactions carried out at POS terminals in the euro area irrespective of the country in which the card was issued, EMV transactions as a percentage of POS transactions increased steadily from about 44% in 2008 to 78% in 2013.
- Since the end of 2011, the share of EMV transactions at POS terminals has levelled out at around 78%.
- Please note that the figures relate only to the euro area.

¹⁷ 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.

6 Domestic and cross-border fraud

Chart 7

Evolution of the value of domestic and cross-border transactions and fraud

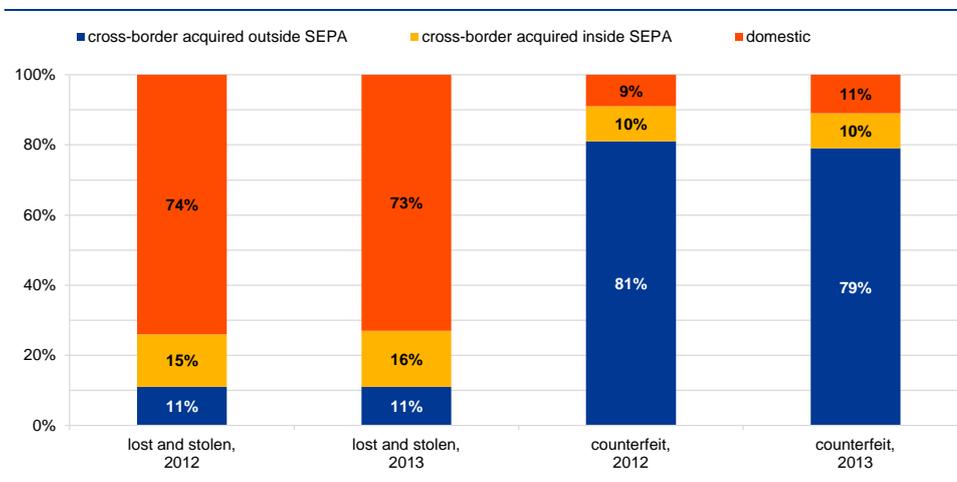


Source: All reporting CPSs.

- The geographical composition of the value of all transactions remained fairly stable in 2013.
 - Domestic transactions accounted for 92% of all transactions, decreasing slightly, to the benefit of cross-border transactions within SEPA (6%).
- Domestic transactions also accounted for the largest share of fraudulent transactions in 2013 (49%), followed by cross-border fraud within SEPA (29%) and outside SEPA (22%).
 - The share of cross-border fraud within SEPA increased slightly, to the benefit of the other two categories.

Chart 8

Geographical composition of lost and stolen and counterfeit fraud at ATMs and POS terminals according to fraud value

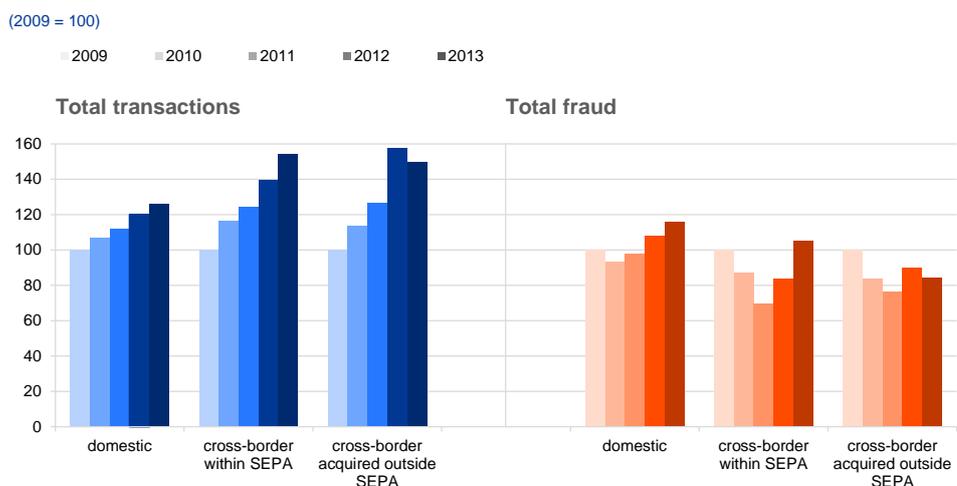


Source: All CPSs, 2012 and 2013.

- The geographical composition of fraud largely depends on the type of fraud:
 - lost and stolen fraud typically takes place at the domestic level; counterfeit fraud is typically committed outside SEPA;
 - for counterfeit fraud, the proportion of fraud committed outside SEPA decreased in 2013;
 - for lost and stolen fraud, there was a slow decrease in domestic fraud to the benefit of cross-border fraud acquired inside SEPA.

Chart 9

Evolution of the total value of domestic and cross-border transactions and fraud¹⁸



Source: All reporting CPSs.

¹⁸ Please note that, as outlined in the introduction, the increases in the total levels of fraud in 2011 were partly due to the inclusion of data from additional CPSs.

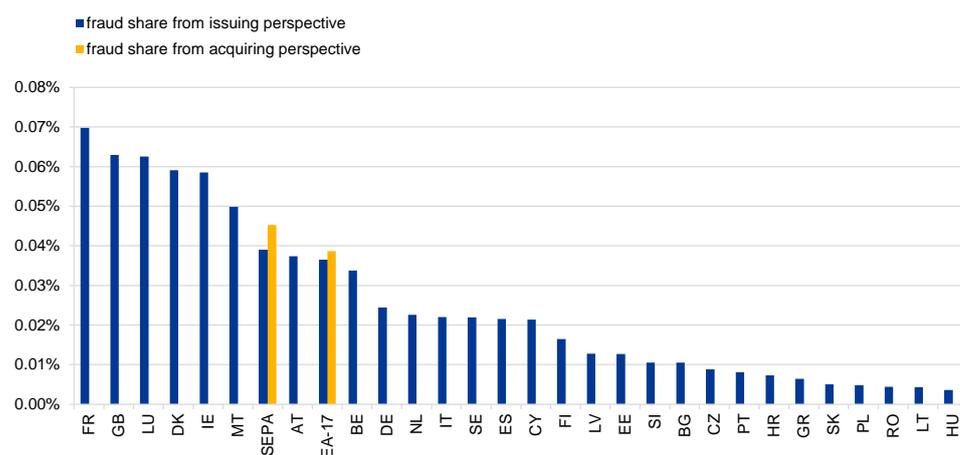
- In the first two geographical categories, i.e. domestic and cross-border acquired within SEPA, both transactions and fraud rose in 2013.
- For cross-border transactions acquired outside SEPA, both transactions and fraud levels decreased, although transactions fell at a higher rate than fraud.
- The number of cross-border transactions within SEPA that were fraudulent rose faster than that of those that were not fraudulent.
- Cross-border fraud within SEPA and domestic fraud exceeded their 2009 levels, whereas cross-border fraud acquired outside SEPA remained below its 2009 level.
- For all three geographical categories, regular transactions went up at a faster pace than fraud from 2009 to 2013.

7 A country perspective on card fraud¹⁹

Chart 10

Value of fraud as a percentage of the total value of transactions for cards issued in a specific country or area (blue) and as a percentage of the total value of transactions acquired within this area (yellow)

(value of fraud as share of value of transactions)



Source: All CPSs, 2013.

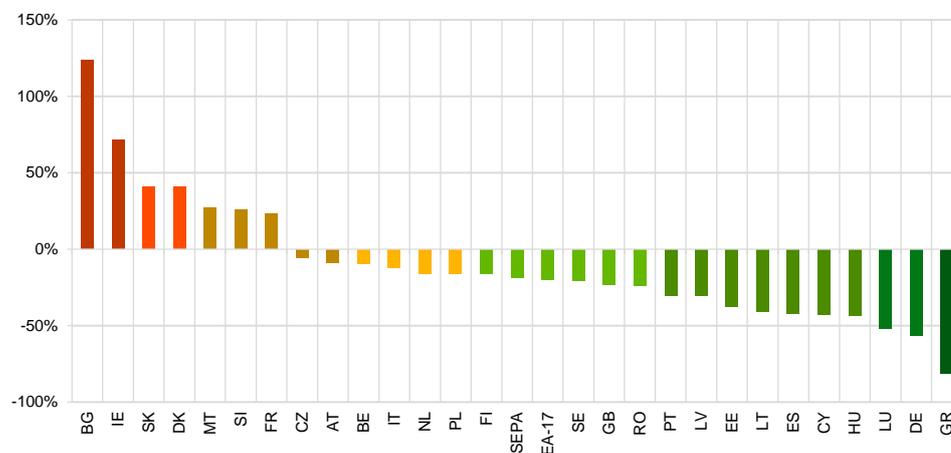
- Fraud shares varied considerably between different EU Member States in 2013.
 - From an issuing perspective, the rates of fraud were highest in France, the United Kingdom and Luxembourg and more than ten times higher than those in Hungary, Lithuania, Romania and Poland, which had the lowest rates.
- The euro area in particular experienced lower fraud rates than SEPA as a whole (both from an issuing and an acquiring perspective).
 - Compared with 2012, the share of fraud increased from an issuing perspective and decreased from an acquiring perspective, leading to almost equal shares of fraud for both.
- Fraud rates for SEPA (and the euro area) were lower from an issuing perspective than from an acquiring perspective. This indicates that cards issued inside SEPA experienced lower fraud rates for transactions acquired outside SEPA than cards issued outside SEPA for transactions acquired inside SEPA.

¹⁹ From an issuing perspective, some CPSs have split their card data according to the area of use of a card, i.e. the main country of use defined by the issuer upon issuance of a card, while other CPSs have reported data according to the country in which the card issuer is domiciled. This may lead to discrepancies for some countries (e.g. Luxembourg) if card issuers issue cards for areas of use other than their own country.

Chart 11

Growth rate of the value of fraud as a percentage of the total value of transactions for cards issued in a specific country²⁰ or area over a five-year timeline (2009-2013)

(growth rate of fraud as a share of transactions, 2009 - 2013)



Source: All CPSs, 2009 - 2013.

- Compared with 2009, fraud as a share of the total value of transactions from an issuing perspective has diminished for the majority of EU Member States. 13 countries have performed better than the average decrease for the euro area and SEPA, which stood at around 18%.
- Even though growth rate of fraud as a share of transactions was highest in Bulgaria, this was due to the comparatively low level of its respective fraud share in 2009.
- Countries where the migration of cards and terminals to EMV was performed earlier mostly benefited from this before 2009, whereas countries where the migration to EMV was performed later mostly benefited from that after 2009.²¹

Table 1

Percentage of the value of all transactions taking place domestically or across borders from an issuing perspective

Country	PT	GR	PL	IT	HU	FR	ES	RO	CZ	HR	DE	FI	LT	GB	SK	BG	SI	SE	EE	NL	IE	BE	DK	LV	AT	CY	MT	LU
Domestic	97	97	97	96	96	95	95	94	94	94	94	93	93	92	92	92	91	90	90	89	89	87	86	81	79	79	79	64
Cross-border	3	3	3	4	4	5	5	6	6	6	6	7	7	8	8	8	9	10	10	11	11	13	14	19	21	21	21	36

Source: All CPSs, 2013.

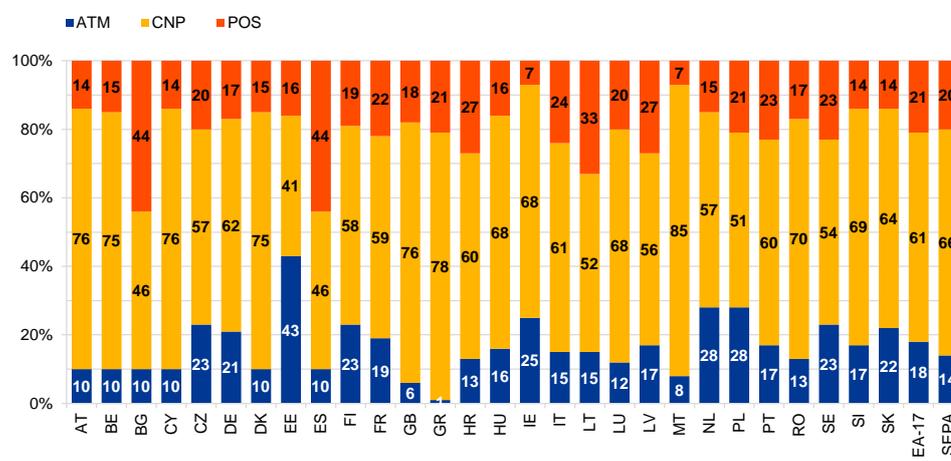
- In general, smaller countries had much higher shares of all cross-border transactions, i.e. fraudulent and non-fraudulent, than larger countries.

²⁰ Croatia is not included in this particular chart, since it joined the European Union in 2013.

²¹ In France and Ireland, for example, fraud as a share of the total value of transactions had decreased up to 2007 thanks to the migration to EMV. In the same manner, this happened within SEPA (see Chart 1a) up to 2011, before starting to increase owing to the growing importance of CNP fraud, as observed within SEPA since 2011.

Chart 12

Geographical distribution of the value of card fraud by transaction channel from an issuing perspective

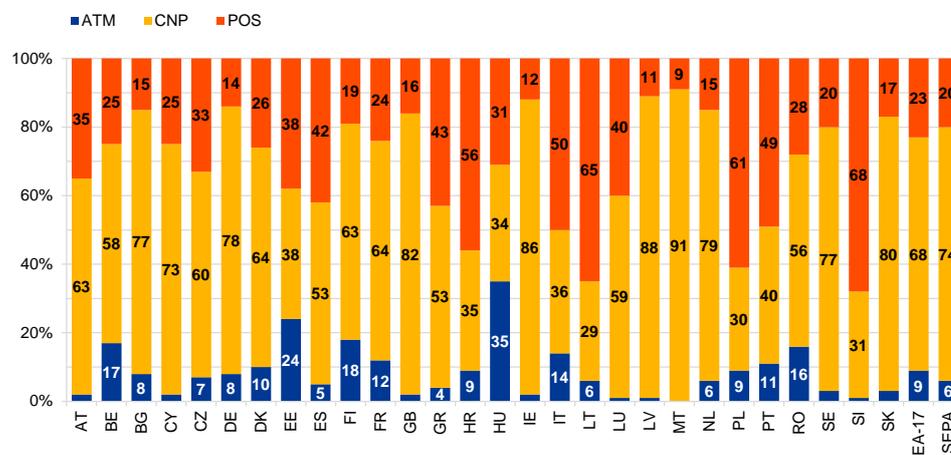


Source: All CPSs, 2013.

- CNP was the main channel for committing fraud using cards issued in all but one country.
- Main fraud channel by country of issue:
 - CNP fraud: AT, BE, BG, CY, CZ, DE, DK, ES, FI, FR, GB, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK
 - ATM fraud: EE
- There was a large variation in the fraudulent use of each channel for cards issued in different EU Member States:
 - ATM fraud accounted for between 1% and 43%, with a median share of 16%;
 - CNP fraud accounted for between 41% and 85%, with a median share of 62%;
 - POS fraud accounted for between 7% and 44%, with a median share of 19%.

Chart 13

Geographical distribution of the value of fraud using cards issued worldwide by transaction channel from an acquiring perspective



Source: All CPSs, 2013.

- There was a large variation in the transaction channel used to commit fraud in different EU Member States:
 - ATM fraud accounted for between 0% and 35%, with a median share of 7%;
 - CNP fraud accounted for between 29% and 91%, with a median share of 60%;
 - POS fraud accounted for between 9% and 68%, with a median share of 27%.
- Variations in the fraudulent use of each channel were more pronounced from an acquiring perspective than from an issuing perspective.

Table 2

Card, transaction and fraud levels from an issuing perspective

Country	Cards per inhabitant	Transactions per card		Transactions per inhabitant		Fraud per transaction		Fraud per 1000 cards		Fraud per 1000 inhabitants	
		value	volume	value	volume	value	volume	value	volume	value	volume
FR	1.3	6706	129	8387	161	0.070%	0.034%	4553	42.3	5695	52.9
GB	2.5	5633	92	13830	226	0.063%	0.032%	3312	27.5	8132	67.5
LU	3.7	4094	43	15094	157	0.063%	0.024%	2167	10.2	7990	37.7
DK	1.5	6524	161	9824	243	0.059%	0.016%	3800	22.2	5721	33.4
IE	1.4	7737	95	10488	129	0.059%	0.025%	4855	28.3	6581	38.4
MT	1.9	3292	40	6307	77	0.050%	0.023%	1305	7.1	2501	13.5
AT	1.4	4463	60	6240	84	0.037%	0.016%	1649	9.1	2306	12.8
BE	1.8	6329	88	11422	159	0.034%	0.012%	1608	9.1	2901	16.4
DE	1.6	4315	44	7039	71	0.024%	0.014%	1112	5.9	1813	9.7
NL	1.8	4977	108	9022	195	0.023%	0.005%	1129	5.4	2046	9.8
IT	1.2	4387	43	5158	51	0.022%	0.012%	1104	5.9	1298	7.0
SE	2.3	4562	112	10438	256	0.022%	0.006%	1121	6.8	2565	15.6
ES	1.5	2877	45	4370	69	0.022%	0.020%	661	9.4	1004	14.3
CY	1.3	4798	50	6198	65	0.021%	0.013%	1004	6.2	1297	8.0
FI	1.4	6562	166	9397	238	0.016%	0.003%	1176	6.0	1684	8.6
LV	1.2	3270	75	3886	89	0.013%	0.004%	431	3.0	512	3.6
EE	1.3	4098	149	5478	199	0.013%	0.002%	532	3.5	711	4.7
SI	1.6	3161	58	5013	92	0.011%	0.004%	255	2.0	404	3.1
BG	1.1	1397	21	1486	22	0.010%	0.006%	135	1.1	144	1.2
CZ	1.0	3569	53	3529	53	0.009%	0.005%	308	2.9	305	2.8
PT	1.9	4344	85	8196	161	0.008%	0.003%	362	2.4	682	4.5
HR	2.0	1632	33	3334	67	0.007%	0.003%	91	0.7	185	1.5
GR	1.2	3112	18	3821	22	0.006%	0.010%	203	1.8	249	2.3
SK	0.9	3509	52	3100	46	0.005%	0.003%	182	1.8	161	1.6
PL	0.9	2940	64	2646	58	0.005%	0.002%	139	1.2	125	1.1
RO	0.7	2290	29	1621	21	0.004%	0.003%	103	0.9	73	0.6
LT	1.2	2911	61	3478	73	0.004%	0.002%	126	1.0	150	1.1
HU	0.9	3185	49	2875	44	0.004%	0.002%	112	1.1	101	1.0
EA-17	1.4	4684	69	6760	100	0.034%	0.019%	1648	12.8	2378	18.5
SEPA	1.4	4660	74	6376	101	0.039%	0.020%	1899	14.9	2599	20.3

Sources: Data on cards, inhabitants, transactions per card and transactions per inhabitant were drawn from the ECB's SDW; data on fraud and fraud per transaction were collected for oversight purposes by all CPSs for 2013.
Note: Values are in euro.

- There were large variations in card use and fraud levels across EU Member States.
- Most of the mature card markets, which are characterised by high transaction values per inhabitant (for example France and the United Kingdom) experienced high fraud rates. Fraud in these markets was predominantly CNP fraud (see Chart 12).
- In countries where card use was rather low, e.g. Bulgaria, Croatia, Romania and Lithuania, fraud shares were typically also low.
- Countries are listed according to fraud as a share of the total value of transactions.

- The cell colour helps with the interpretation of the associated values:
 - green is associated with high card usage or low levels of fraud;
 - red is associated with low card usage or high levels of fraud;
 - darker colours indicate more extreme values;
 - each column in Table 2 is formatted independently.

Table 3

Relative fraud levels and trends per channel and category from an issuing perspective

Issuing country - region			ATM				POS				CNP	
	Value of fraud as a share of the value of transactions	Change from previous year	Value of lost+stolen fraud as a share of all transactions	Change from previous year	Value of counterfeit fraud as a share of all transactions	Change from previous year	Value of lost+stolen fraud as a share of all transactions	Change from previous year	Value of counterfeit fraud as a share of all transactions	Change from previous year	Value of CNP fraud as a share of all transactions	Change from previous year
FR	0.00070	8%	0.000075	10%	0.000052	10%	0.000114	0%	0.000033	-31%	0.000415	16%
GB	0.00063	2%	0.000007	-12%	0.000024	-1%	0.000049	-9%	0.000030	-20%	0.000477	8%
LU	0.00063	9%	0.000012	-23%	0.000060	-9%	0.000005	-10%	0.000121	31%	0.000426	9%
DK	0.00059	15%	0.000009	6%	0.000049	-26%	0.000014	-20%	0.000073	-14%	0.000444	32%
IE	0.00059	23%	0.000010	62%	0.000059	71%	0.000014	55%	0.000024	-29%	0.000400	3%
MT	0.00050	-12%	0.000006	-36%	0.000032	-50%	0.000006	-14%	0.000022	-15%	0.000426	-5%
AT	0.00037	2%	0.000002	-6%	0.000033	-48%	0.000021	-21%	0.000031	-32%	0.000283	26%
BE	0.00034	29%	0.000016	-28%	0.000015	-14%	0.000009	-30%	0.000037	-19%	0.000255	62%
DE	0.00024	-6%	0.000023	-1%	0.000026	-61%	0.000011	-14%	0.000029	3%	0.000152	23%
NL	0.00023	-33%	0.000016	-21%	0.000042	-72%	0.000009	-33%	0.000022	-23%	0.000129	12%
IT	0.00022	38%	0.000013	42%	0.000020	83%	0.000016	-9%	0.000031	-1%	0.000134	58%
SE	0.00022	6%	0.000013	12%	0.000036	-4%	0.000018	8%	0.000027	-27%	0.000118	22%
ES	0.00022	-5%	0.000008	-10%	0.000013	25%	0.000027	-18%	0.000037	-24%	0.000098	6%
CY	0.00021	-15%	0.000001	-76%	0.000019	-63%	0.000007	-44%	0.000019	-51%	0.000163	18%
FI	0.00016	7%	0.000013	-1%	0.000025	-13%	0.000011	106%	0.000017	-32%	0.000095	20%
LV	0.00013	-12%	0.000000	1467%	0.000021	-61%	0.000010	727%	0.000025	30%	0.000071	2%
EE	0.00013	2%	0.000000	-100%	0.000055	7%	0.000001	-72%	0.000020	40%	0.000051	-2%
SI	0.00011	9%	0.000001	-35%	0.000017	-21%	0.000001	-52%	0.000013	-30%	0.000073	42%
BG	0.00010	2%	0.000002	-34%	0.000009	-53%	0.000002	156%	0.000037	119%	0.000048	-11%
CZ	0.00009	-1%	0.000003	37%	0.000017	-30%	0.000003	78%	0.000014	2%	0.000050	11%
PT	0.00008	-33%	0.000002	-45%	0.000011	-23%	0.000010	12%	0.000008	-5%	0.000049	-42%
HR	0.00007	NA	0.000005	NA	0.000004	NA	0.000010	NA	0.000004	NA	0.000044	NA
GR	0.00006	-26%	0.000000	-33%	0.000001	-55%	0.000007	3%	0.000005	-46%	0.000050	-23%
SK	0.00005	-3%	0.000000	-45%	0.000011	17%	0.000001	6%	0.000006	-30%	0.000032	0%
PL	0.00005	-7%	0.000001	-34%	0.000012	-30%	0.000002	14%	0.000007	-10%	0.000024	15%
RO	0.00004	17%	0.000000	16%	0.000005	11%	0.000001	-14%	0.000006	-6%	0.000030	29%
LT	0.00004	-13%	0.000000	-56%	0.000006	-58%	0.000001	166%	0.000002	-47%	0.000022	11%
HU	0.00004	-17%	0.000003	-5%	0.000003	-65%	0.000001	-58%	0.000005	-39%	0.000024	12%
EA-17	0.00034	3%	0.000029	5%	0.000030	-34%	0.000037	-5%	0.000029	-17%	0.000209	19%
SEPA	0.00039	3%	0.000021	2%	0.000029	-30%	0.000036	-6%	0.000029	-19%	0.000259	15%

Source: All reporting CPSs, 2012 and 2013.

- Table 3 reports fraud levels and changes in fraud levels in 2013 at a country level in total and for selected types of fraud.

- Developments in, and levels of, fraud differed significantly across different countries;
- Although issuers and card schemes managed to reduce fraud in some countries with relatively high fraud rates, such as Malta and the Netherlands, they experienced further growth in other markets, such as the United Kingdom and Denmark;
- Similarly, among countries with low fraud shares, some experienced a further reduction in fraud, such as Hungary and Lithuania, while others experienced major growth, such as Romania and Slovenia.
- The cell colour helps with the interpretation of the associated values:
 - green is associated with low fraud shares or reductions in fraud shares;
 - red is associated with high fraud shares or increases in fraud shares;
 - darker colours indicate more extreme values.
- Fraud shares and growth rates for individual fraud categories are jointly formatted in Table 3 to allow the comparison of different types of fraud.

8 Conclusions

This fourth report on card fraud shows that the total value of fraud decreased for the ATM and POS transaction channels, but increased for that of CNP in 2013. CNP fraud went up by 21%, accounting for 66% of all fraud losses on cards issued inside SEPA. Data on total CNP transactions, which unfortunately are only partially available, suggest that the fraud growth rate was above that of transactions. As further growth in CNP transactions can be expected, as well as a potential migration of fraud to this environment owing to higher security measures in the card-present environment, there is a strong case for the swift adoption of more effective security measures to protect this type of transaction.

The lower ATM and POS fraud was mainly a result of a decrease in counterfeit fraud levels and, from a geographical point of view, due to decreases in cross-border fraudulent transactions acquired within SEPA. This situation should improve further as more countries outside SEPA migrate to the EMV security standard. However, as magnetic stripe usage in such countries cannot be completely avoided, card schemes and issuers are encouraged to adopt further measures to prevent counterfeit fraud and to improve the protection of their customers.

As in previous years, this report shows that levels of fraud were lower in the euro area than in SEPA as a whole. Data on fraud and transactions using cards issued inside and outside SEPA show that fraud losses incurred outside SEPA on cards issued inside SEPA were lower than losses incurred inside SEPA on cards issued outside SEPA. The finding suggests that SEPA residents benefit from the high security standards of their cards, even though only a small proportion of ATMs and POS terminals outside SEPA make use of the enhanced security features. However, the drop in counterfeit fraud levels for cross-border transactions performed at terminals in non-SEPA countries compared with 2012 is in line with the increasing migration of terminals to EMV standards at a worldwide level.

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Postal address 60640 Frankfurt am Main, Germany
Telephone +49 69 1344 0
Internet www.ecb.europa.eu

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