PAYSYS REPORT

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The ECB has published its Sixth Report on Card Fraud. The report shows that the fraud rate has been fairly stable over the past 5 years. The share of card-not-present (CNP) fraud has been rising over time. Today, CNP fraud is by far the largest component of card fraud. However, a close inspection of the data shows that, even for CNP transactions, the fraud rate has been declining over the past four years. Unfortunately, this finding has been obscured by the strange way in which the ECB presents the data in its fraud report.

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What to make of the ECB's Sixth Report on Card Fraud

(mk/hg) The ECB has published its Sixth Report on Card Fraud (the "Report"). The Report contains a lot of interesting information regarding the evolution of card fraud and its major components. In 2018, total card fraud in SEPA amounted to EUR 1.8 b. By far the largest component is CNP fraud, totalling EUR 1.43 b. As the Report shows, the card fraud rate has been slightly rising from 0.035% to 0.037%. But when looking at the past 5 years there is no discernable upward or downward trend. The fraud rate has been hovering around 0.04%. Even though the fraud rate has been fairly stable, the sectoral composition has been changing. Card-not-present (CNP) fraud has been rising from 69% (2014) to 79% (2018). The share of POS fraud has been declining from 19% to 15% and the share of ATM fraud from 12% to 6%.

Not surprisingly, x-border transactions are riskier than domestic transactions. This is also true for x-border within SEPA transactions (foreign merchant, domestic issuer) which account for 9% of the value of transactions but 49% of the fraud value. For x-border outside SEPA the corresponding figures are 2% and 15%. So, x-border transactions are about 14 to 19 times as risky as domestic transactions.

The fraud rate has been fairly stable.

As in the past, fraud rates differ substantially between countries. Patterns that have been observed over the past years, are proving to be stable. Countries with high card usage figures are also the prime targets for fraud. France and Great Britain, both heavy card users, remain at the top of the list with fraud rates of 0.069% (France) and 0.062% (UK). Denmark, the leader in the last report is now in the 5th position with a fraud rate of 0.047%[1]. At the bottom of the list, there are Poland and Romania with a fraud rate of 0.005%

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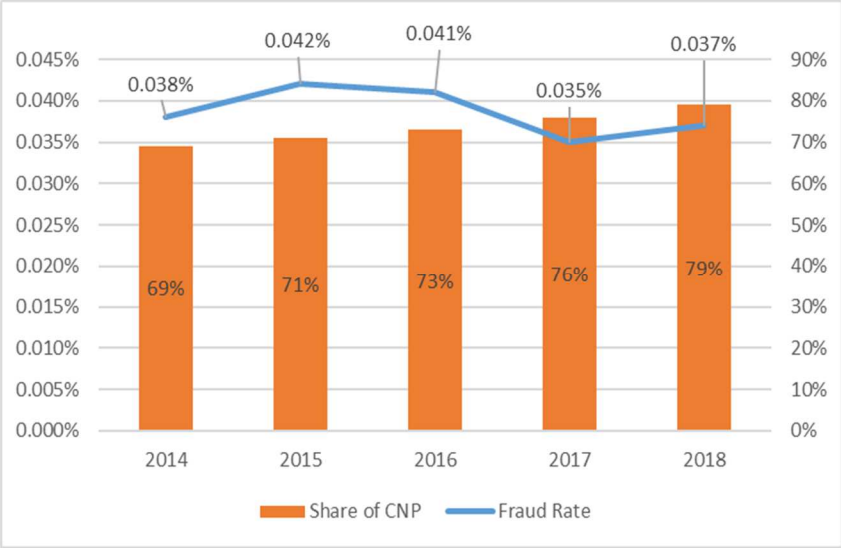


Figure 1 Total card fraud within SEPA (issuing perspective)
Share of CNP: right-hand scale, Fraud rate: value of fraud as a share of value of transactions
Source: ECB Sixth Report on card fraud, p. 8.

Our Comment:

Before we will take a closer look, a few things need to be stressed right at the outset:

- The Report looks at data up to 2018. In this period strong customer authentication (SCA) has been little used. It will be implemented mostly in the current year (2020). So, whatever we can inver from the data, it cannot explained by the passing of PSD2 with its SCA requirements.
- Absolute fraud figures are surely impressive. But they have to be interpreted against the background of an expanding market. Card payments as a whole are increasing and CNP card payments are exhibiting particularly high growth rates. So, when it comes to evaluating fraud and its evolution over time, we have to look at fraud rates.
- Fraud rates in CNP transactions are much higher than fraud rates at the POS. So, any shift between POS and e-commerce is bound to affect the average fraud rate for the market as a whole. In particular, everything else the same ("ceteris paribus"), a shift towards CNP transactions is bound to raise the fraud rate for the market as a whole (more on this later).

As informative as the Report is, it is highly unfortunate that fraud rates are mostly of the type "fraud in sector X divided by the total value of card transactions" (for instance: CNP fraud/total value of card transactions). That makes it difficult to interpret changes in fraud rates. For instance, a decline in the POS "fraud rate" could be due to POS transactions becoming safer, but it could also be due to a falling share of POS transactions (or a mixture of both causes).

Given the very different nature of the three segments POS, CNP and ATM, it is equally difficult to interpret changes of the total fraud rate. In fact, it could happen that fraud becomes less of a problem in each segment while the overall fraud rate goes up. Such a thing would be observed, if the market share of the relatively risky segment went up.

A numerical example may make this clear (see box).

Interpreting average fraud rates when the share of CNP transactions rises

In order to keep things simply, there are only two segments in this example "POS" and "CNP". Assume the CNP is 20 times as risky as POS and initially the market shares are 86% POS and 14% CNP. In such a case, with fraud rates remaining constant, a rising market share of CNP will lead to a higher overall fraud rate (scenario 1). If fraud rates go down somewhat while the share of CNP rises, the overall fraud rate could also stay constant (scenario 2). Finally, if fraud rates mildly decline, the may be still be a higher overall fraud rate (scenario 3).

Initial situation

	Fraud rate	Share of trx-value
POS	0.01%	86%
CNP	0.20%	14%
Market	0.037%	100%

Scenario 1: Constant fraud rates and rising share of CNP

	Fraud rate	Share of trx-value
POS	0.01%	82%
CNP	0.20%	18%
Market	0.044%	100%

Scenario 2: Falling fraud rates and rising share of CNP: Total fraud unchanged

	Fraud rate	Share of trx-value
POS	0.008%	82%
CNP	0.166%	18%
Market	0.037%	100%

Scenario 3: Falling fraud rates and rising share of CNP: Total fraud rate falling

	Fraud rate	Share of trx-value
POS	0.008%	82%
CNP	0.180%	18%
Market	0.039%	100%

In the euro zone, the overall fraud rate has been relatively stable. At the same time, the share of CNP has been slowly rising and fraud rates of CNP and POS (as well as ATM) have been falling (corresponding to scenario 2 in the accompanying box). This can be verified by combining the card payment statistics of the ECB´s Statistical Data Warehouse (SDW) with the card fraud data provided in the Report.

The question is justified why the ECB in the report refers the fraud rate per segment to **all** card transactions and not to the volumes of the respective segments. This is unusual and - as explained above - also not very meaningful. One reason is probably tradition. Since the 2nd Fraud Report (July 2013) this presentation has become established. At that time, no data on CNP transactions were collected in the ECB payment transaction statistics. But since 2014, the ECB has reported the volumes of the three segments for the euro zone (more or less without gaps).

Central banks outside the euro area are not required to report statistical payment data to the ECB. Here, many data are often missing in ECB statistics, such as CNP data for the UK and Poland. For the EU as a whole, it is therefore not possible to present the usual fraud rate. Nevertheless, the fraud rate, as it is properly understood, should have been presented for the euro area, at least[2].

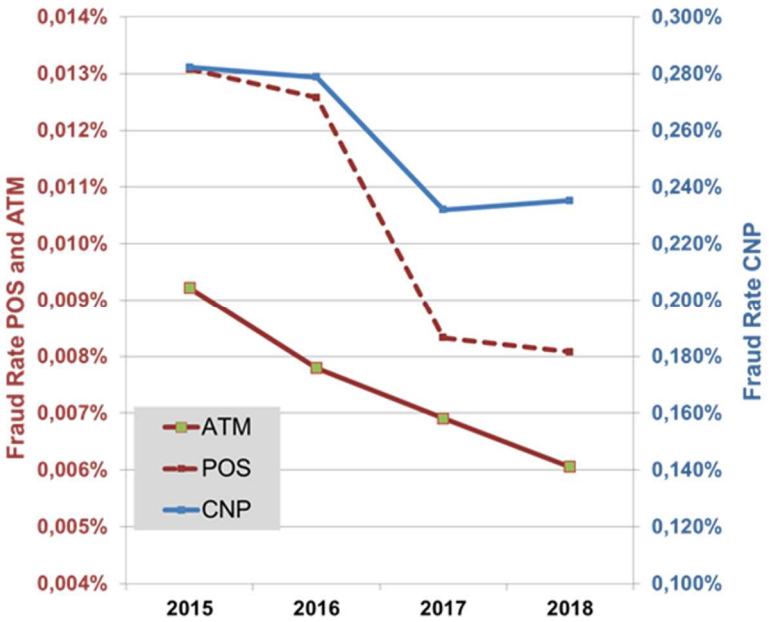


Fig. 2 Fraud rates for each segment (ATM, POS, CNP) in the eurozone (issuing perspective)
Sources: ECB Sixth Report on card fraud, ECB´s Statistical Data Warehouse (SDW) and own calculations

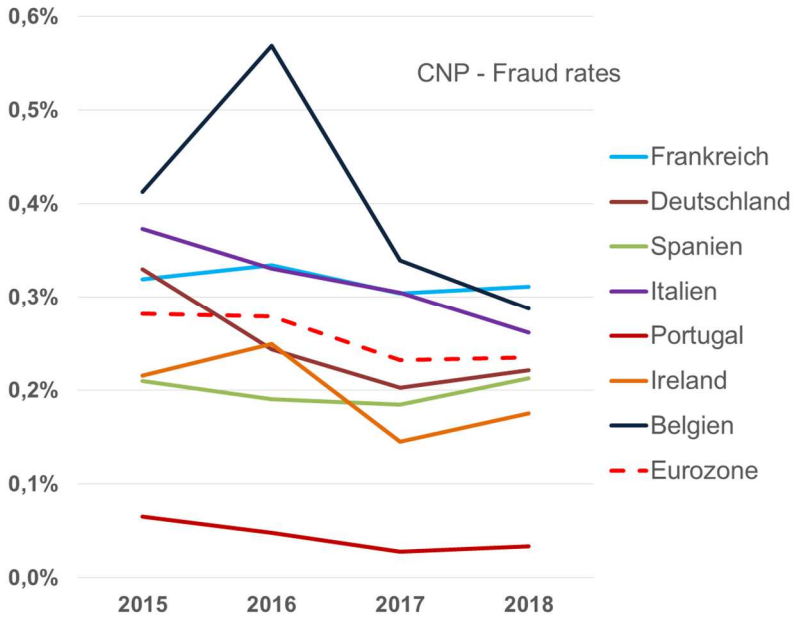


Fig. 3 Fraud rates for each segment (ATM, POS, CNP) in the eurozone (issuing perspective)
Sources: ECB Sixth Report on card fraud, ECB´s Statistical Data Warehouse (SDW) and own calculations

For the euro countries with high CNP volumes, we have combined the respective fraud figures from the 6th Fraud Report and the payment data of the ECB's SDW to calculate the fraud rates for CNP[3]. See Fig. 3. These seven Member States cover 91% of the volume of CNP in the euro area.

If we step back from the year-on-year comparisons and take a medium term view, it becomes apparent that the CNP fraud-rate has been declining. The average rate for 2017/18 is well below the average of 2015/16.

There is a downward trend of fraud rates, even for CNP transactions.

Unfortunately, the presentation of the ECB easily may lead readers to a different conclusion. The frequent use of absolute figures or CNP fraud in percent of total transactions creates the impression that CNP fraud becomes an ever more serious problem. Thus, a well-known journal covering the German card market reports on the Fraud Report under the following headline

"ECB: Card fraud in ecommerce strongly increased"[4].

Technically speaking, this statement is correct. Still, it gives a misleading impression. The ECB could definitely do more to provide market participants, commentators and regulators with a better presentation and interpretation of the data.

Looking at the past few years, there is a downward trend of fraud rates, even for CNP transactions. We do not know how to explain this downward movement. But a look at French data suggests that it may have to do with the implementation of 3D-Secure, version 1 (3DS1)[5].

According to the data provided by the Banque de France, the proportion of total online payments authenticated by 3DS1 rose from 32% in 2015 to 43.5% in 2018[6]. This raises the question why European policy makers could not wait for the completion of 3DS1 implementation. Based on misleading interpretations of fraud data they have chosen to push the card industry into implementing SCA, a costly and complex venture that may well be yet another example for the working of the law of unintended consequences.

CMSPI, a retail payments consultancy, estimates that EUR 108 b. worth of ecommerce sales are at risk

(Europe excluding the UK) in 2021[7]. This is more than total B2C ecommerce in Germany. The figure of EUR 108 b. is an estimate and the value of lost sales may well be lower. But the estimate shows that SCA may have substantial costs, not just costs of implementation but also in terms of lost sales. Moreover, the possibility to be exempted from SCA under certain conditions is likely to benefit larger merchants relative to small merchants. Thus, there is also a cost in terms of reduced competition.

Appendix: Divergent fraud figures for CNP in France

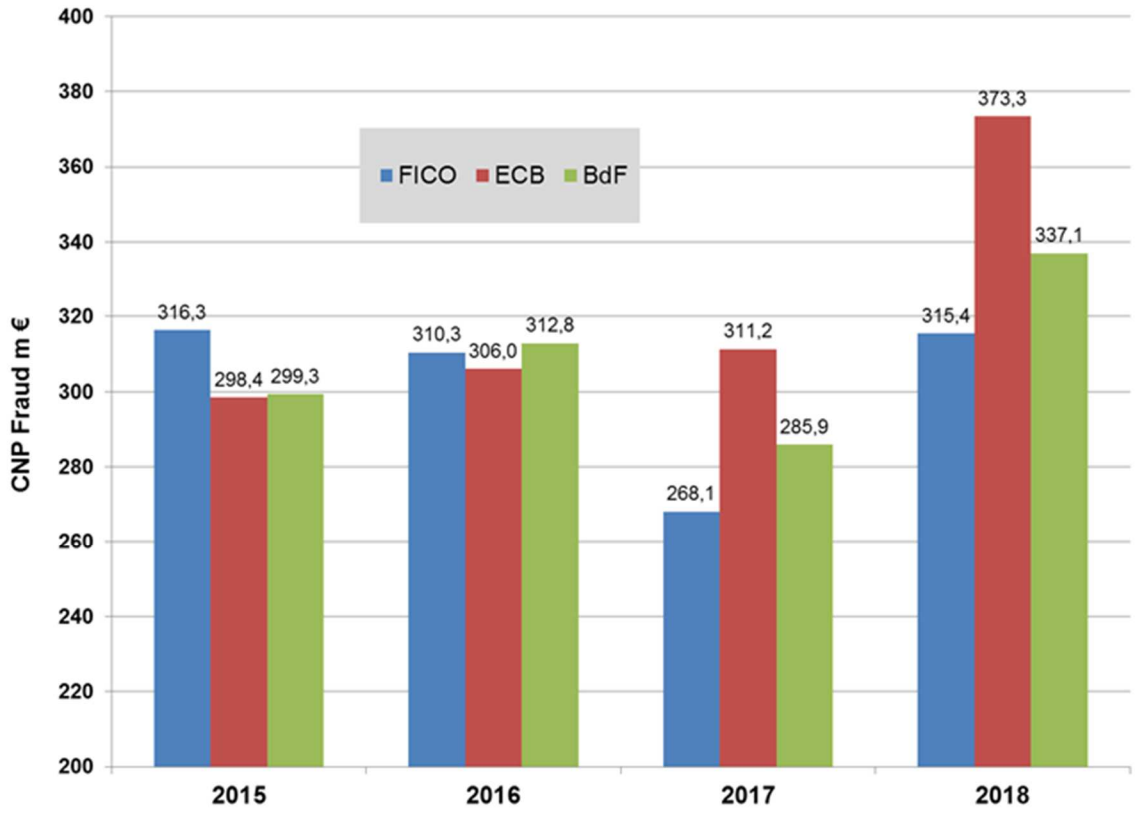
According to the data of the ECB Fraud Report, CNP fraud in France amounts to approximately €373m (2018). This puts France in the lead in the euro area with 52% of total CNP fraud. The ECB sees a slight increase in the fraud rate from 0.304% (2017) to 0.312% (2018).

In France, the Banque de France (BdF) publishes a detailed annual report on fraud data using the same methodology as the ECB (data input from the respective card schemes). However, it comes to completely different results. According to the report, the CNP fraud in 2018 would be "only" €337m, i.e. €36m less. The BdF also uses CNP volumes that differ from the ones reported by the ECB. As a consequence, the fraud rate for CNP 2018 has not increased but decreased (from 0.283% to 0.271%).

If we add the data of the Fair Isaac Corporation (FICO), the CNP in France again suffers a different amount of fraud damage: €315m.

Both, the BdF and Fico (but not the ECB) also report a substantial decline of CNP fraud in 2017 which has been reversed in 2018. Such a decline is surprising and one would like to know more about potential explanations.

Overall, it makes you wonder, whose fraud rates can be trusted most?



Notes

1 As pointed out in the Fifth Report on card fraud (p. 19), small countries like Denmark may also exhibit high fraud rates because of a high share of x-border transactions.
2 The report is based on fraud and transaction value data received from 23 card payment schemes. Apparently, only the fraud data are related to the respective segments, but not the transaction value data. Otherwise, the usual presentation of fraud rates per segment would be possible on the basis of the same source.
3 We also did this job for ATM and POS transactions in these euro countries. The results are available upon request. Please send us an email: paysys-report@paysys.de
4 EZB: Kartenbetrug im E-Commerce stark gestiegen, Source, no. 9, 15 Spetember 2020, p. 7.
5 In France, 3DS1 is based on the use of a one-time passwords (OTP) received via SMS. This system has been deemed not to comply with the provisions of the PSD2. See Banque de France: Annual Report of the Observatory for the Security of Payment Means — 2018, p. 32-33.
6 For each year, the average of the April and the October value has been calculated. Source: Observatory, p. 31.
7 CMSPI: SCA Economic Impact Assessment, September 2020 (https://cmspi.com/eur/resources/exclusive-sca-impact-report/).

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