



PAYSYS REPORT

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EU Commission publishes final report on cash- and card-costs

About a year ago, the EU Commission published preliminary results of its study of merchants' costs of accepting cash and cards.¹ The final report had been expected to be published in the summer of 2014. In the end, it took until March 2015 to finalise it.² The aim of the study is to get a better understanding of the costs of different means of payment and to assist the EU Commission in setting interchange fees (IF). The EU Commission does not simply look at the costs of card acceptance because it endorses the so-called "Merchant Indifference Test" (MIT) methodology (or "Tourist test" methodology). The application of this methodology

requires regulators to compare the costs of card acceptance with the costs of a generally used alternative. At the POS, the alternative means of payment is cash. Therefore, the EU Commission has studied both, the costs of cash and the costs of cards.

The results published in the final report are fairly similar to the results published a year ago. The main results are summarised in Table 1 below.

	debit cards		credit cards	
	retail sales as weights	card sales as weights	retail sales as weights	card sales as weights
Short-term perspective	-0.07%	+0.06%	-0.21%	+0.02%
Medium-term perspective	+0.06%	+0.16%	-0.04%	+0.13%
Long-term perspective	+0.19% to +0.47%			

Table 1: Estimated benchmark interchange fees
(See: European Commission, Final results, 2015, p. 99)

The study is based on the results of a survey of large merchants carried out by Deloitte Consulting. 254 merchants from 10 countries participated in the survey (between 15 and 50 merchants per country). Total sales' value of these merchants was over EUR 420 billion – almost 15% of retail trade in the 10 countries.

When analysing the survey results, the EU Commission had to make a number of crucial assumptions:

- how to define marginal costs
- how to deal with economies of scale
- how to deal with country-specific factors
- how to deal with missing data for small merchants

The estimated cost functions have the following structure

$$TC = N + V - V^* + F + FO + AM$$

(Total costs = transaction-dependent costs plus value-dependent costs minus scale factor plus fixed costs plus front office costs³ plus acquirer margin of 0.06%⁴)

Due to the different choices, the estimated parameter values display substantial variations. But some generalisations can be made.

1. Transaction-dependent costs are a little higher for cash than for cards (cash: 2-6 cents; cards: 1-3 cents).
2. Value-dependent costs are substantially higher for cash than for cards (cash: 0.21%-1.14%; cards: 0.01%-0.16%⁵).
3. Scale effects are more important for cash payments than for card payments.
4. Fixed costs are more important for cash payments than for card payments.

Since the determination of the benchmark interchange fees depend on marginal costs – not total costs – marginal costs have to be estimated as well. One approach is to simply ask merchants what an extra transaction costs.⁶ Another approach consists in the use of regression technique.

Given the variety of cost-estimates it is not surprising that the resulting benchmark IFs exhibit quite some variation. It is noteworthy, however, that all estimates are below 0.5% and that some estimates are even negative.

Our Comment:

It needs to be emphasised right from the start that estimating merchants' payment related costs is not an easy task. This will be confirmed by anyone who has ever accepted this challenge. Given the extra difficulty of conducting a multi-country study, the results of the study are impressive. It complements studies such as the ECB study of the costs of retail payment instruments⁷, providing further insights into the payment costs of merchants.

However, since the investigation has not been carried out merely out of academic curiosity but as a basis for the regulation of interchange fees, a few critical points need to be mentioned.

A. It is unfortunate, to put it very cautiously, that the results of the final report are published at the very moment in which the Interchange Fee Regulation has passed the final hurdles in the legislative process.

B. Time, i.e. the time-span that is used to delimitate fixed and variable costs, is an important factor that influences the results. Lengthening the time-span under consideration implies that there are less and less fixed costs and almost all costs enter into the marginal cost calculus. Since fixed costs are particularly important in the case of cash, the time horizon effects the relative marginal costs of cash and cards. The EU Commission estimates costs for different time horizons and expresses a preference for a medium horizon. This choice seems to be mainly pragmatic.⁸ Given the significance of this factor, a more thorough theoretical treatment of this question would be appropriate.

C. Time is not the only factor that may substantially impact relative costs of cash and cards. When considering what an extra card transaction looks like, the Commission has to become less abstract. An additional card transaction may

- a. involve somebody who owns a card already and who uses it at a merchant terminal that has existed already
- b. involve somebody who has, so far, not owned a card who uses it at an existing terminal
- c. involve a card holder who uses a card with a merchant who needs to install a new terminal
- d. involve somebody who has, so far, not owned a

card and uses a new card with a merchant who needs to install a new terminal

The survey is likely to capture only the first case when considering the costs of an extra card transaction. Maybe when asked about an extra 10% of transactions some merchants are also calculating costs of extra terminals (case c). (In fact, it would be nice to know what merchants have been taking into account when answering the survey questions.) But cases b. and d. are unlikely to be covered by the survey because only card-accepting merchants have been covered. Therefore, the costs of extra card transactions are likely to be under-estimated at least when a substantial substitution of cash payments by card payments is considered.

In the case of debit cards, card-holder coverage is fairly high but significantly below 100%. In most countries, coverage of merchants is likely to be far below 100%.⁹ In the case of credit card payments, both merchant acceptance and card ownership are still far away from 100%.

The tourist test interchange fees are a kind of minimum fee that prevents abuse of issuer market power. Depending on the circumstances, the socially optimal fee may be higher.

D. The EU Commission repeatedly acknowledges the problem of not having a proper estimate of the acquiring margin. 0.06% is too low and the Commission knows this.¹⁰ But for want of a better estimate it sticks to this value. Well, given the MIT methodology, any increase of the estimated acquirer margin would lead one-to-one to a lowering of the MIT IF. In all likelihood, a “realistic” estimate is bound to reduce the MIT IF to zero - or below.

E. The results support the general assumption that accepting cash involves scale economies. Therefore, the results of the Commission underpin critical remarks of some economists who have pointed out that a decline in the use of cash will increase costs per cash transaction and thus allow for higher interchange fees.¹¹ Is this acceptable or desired? The EU Commission needs to address this issue.

F. To get a better understanding of the estimates, it would be important to have not just the theoretical and methodological “bones” but also a bit of “meat”, i.e. some examples of what merchants consider to be “fixed costs”, “variable costs dependent on the value of transactions”, “variable costs dependent on the number of transactions”. What type of costs are included when considering a replacement of 10% of cash payments by card payments that are not considered when only looking at one additional card transaction? Without such extra information the whole exercise remains somewhat abstract and the quality of the results is hard to fathom.

G. Finally, given the fairly low estimates of benchmark interchange fees it seems warranted to underline the fact, that the tourist test interchange fees are a kind of minimum fee that prevents abuse of issuer market

power. Depending on the circumstances, the socially optimal fee may be higher.¹²

Overall, the results are somewhat lower than the values of 0.2% for debit cards and 0.3% for credit cards that have been fixed in the proposed IF Regulation. The results also provide little basis for a higher IF for credit cards. Furthermore, a more realistic estimate of the acquirer margin would lead to lower, possibly negative, interchange fees. But the inclusion of small merchants might have the opposite effect.

Any increase of the estimated acquirer margin would lead one-to-one to a lowering of the MIT IF. In all likelihood, a “realistic” estimate is bound to reduce the MIT IF to zero - or below.

ECB card payment statistics: The missing 792 billions Euro

The ECB Statistical Data Warehouse is the main and often exclusively used source of data on payments in the EU. It is widely used for analysing the European payment card market. For instance, Deloitte is using ECB figures in its recently published Survey on merchants' costs of processing cash and card payments (see chapter 1 of this report) and the annually published World Payments Report (WPR) of Capgemini is based on ECB figures. European Country reports of Euromonitor, Datamonitor, Timetric etc., are all based on the figures published by the ECB. The former "Blue Book" statistics is the bible of card market researchers. The main reason for this fundamental position is the lack of other comprehensive figures of the EU card market.

The input of the card-related data in the ECB Statistical Data Warehouse comes from national central banks, which are

usually obtaining the data from the financial institutions issuing or acquiring card payments. However, until the year 2013 not all payment service providers were obliged to report. The ECB statistics are covering the whole EU, although outside the Eurozone financial institutions or national central banks are not obliged to report payments data to the ECB.

At the time being, the latest data available are the card payments data of 2013. The total volume of card payments (sales without cash) is about **2,155.39 bn €** (EU total), thereof 59% by cards issued in the Eurozone (debit, delayed debit and credit cards). Card issued by three-party schemes are included (e.g. Amex, Diners Club). E-purses and retailer cards are excluded. This figure covers all the purchases at the POS generated worldwide by cards issued in the EU.

Our Comment:

The German Bundesbank has changed its methodology for its card payment statistics in 2007. After this date the Bundesbank collects its data from the issuing banks instead of using the overall data of the payment card schemes. As a consequence, there was a sharp decline of reported payment cards volume (minus 14.7%) for the **German market** in the ECB statistics from 163.16 bn € (2006) to 139.74 bn € (2007). This decline is not related to actual developments in the market. In this pre-crisis period the German card market continued its strong growth (2006: 12.2%; 2007: 9.1%). Since 2007 card issuing banks have probably improved their reporting to the Bundesbank, but the

gap caused by the methodological change is still there:

Volume of card payments 2013 Germany:

ECB (Bundesbank):	223.79 bn €
PaySys card market statistics ¹³ :	281.19 bn €

So for Germany the ECB data warehouse is missing approx. 57bn €, which is 20% of the market.

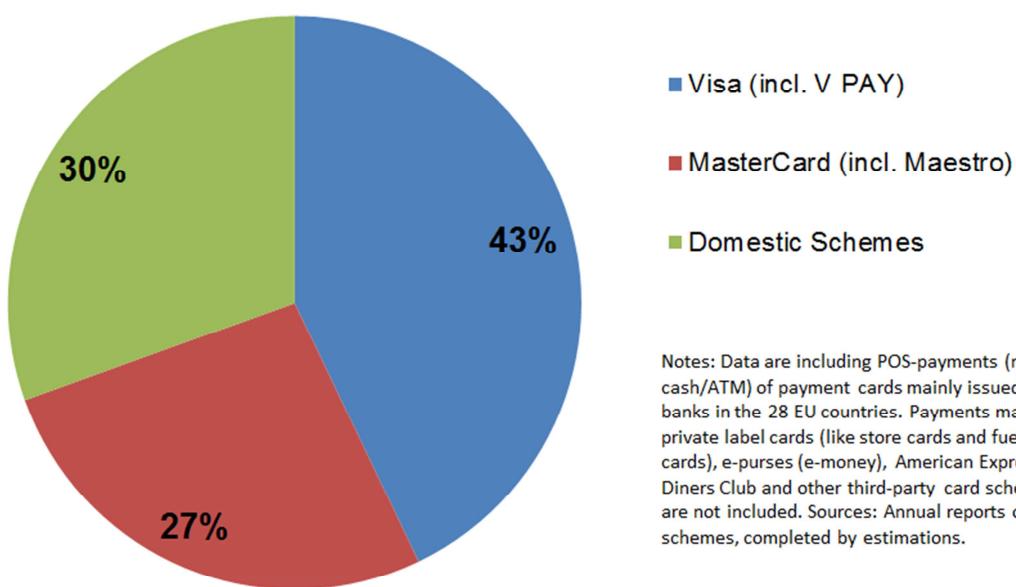
Let us have a look to the **Italian card market**. On the issuing side of the market the Italian Central Bank is reporting 129.63 bn € as volume of card payments of

Italian cards in 2013. In the same table (Table 8 of the country tables) the sales volume on the acquiring side generated by Italian cards at terminals located in the country and outside the country is 167.68 bn €. Both figures should be – from a logical point of view – identical.¹⁴ The difference of at least 38 bn € is due to the methodology of reporting from the issuing and from the acquiring side, obviously without checking the consistency of the result. However, for most of the EU countries (except Hungary and Malta which have the same inconsistency) the reporting of both market sides is showing the same results except for minor differences). If the acquiring figure for Italy is the better one, the ECB statistics are missing 23% of the total payment volume on the issuing side.

So the question arises, how sound are the data of the ECB card statistics? What is the quality of the reporting by the market players? Is the input checked on plausibility and consistency?

Based on our experiences in card market research we have more confidence in the statistical data of the schemes (often checked by auditors). For the year 2013 we analyzed the relevant scheme data as an alternative approach to find the card payments volume in the EU. The result of our research is a total volume of card payments in the EU of **2,861 bn €** (see details for the calculation methodology in the box below).

Total Card Payments in the EU 2013: 2,861 billions EUR



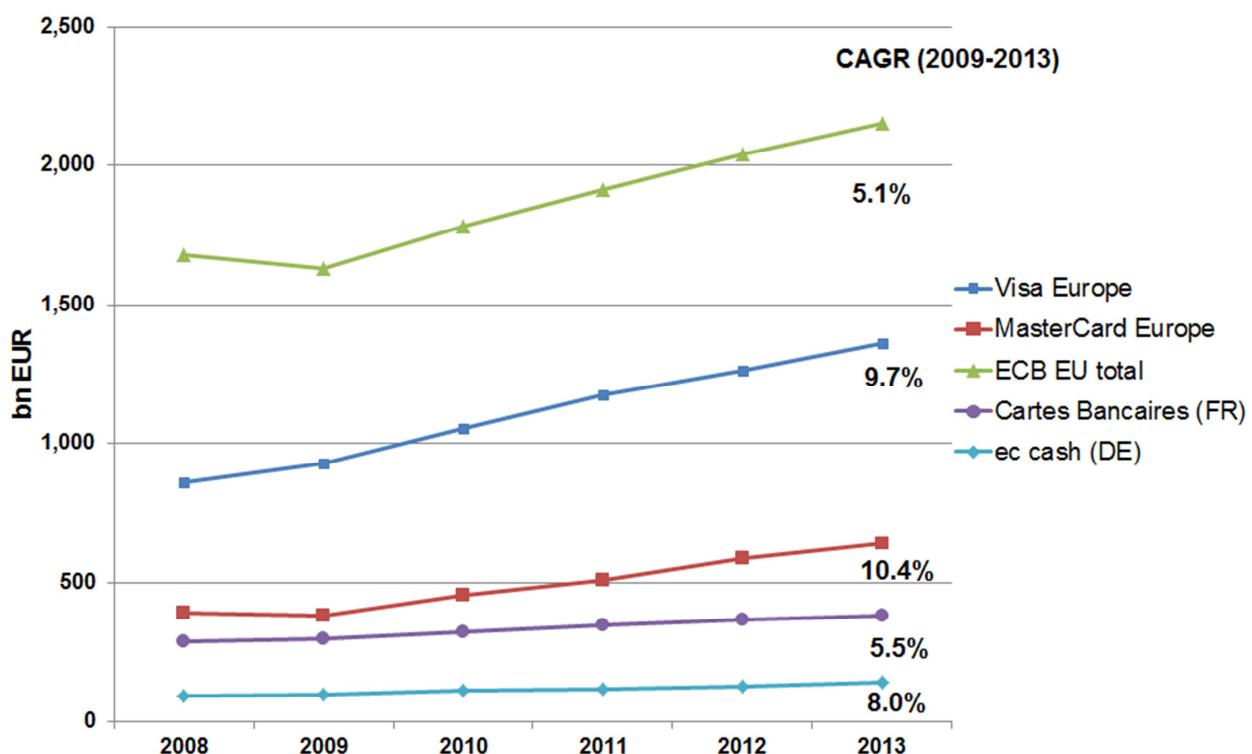
Notes: Data are including POS-payments (no cash/ATM) of payment cards mainly issued by banks in the 28 EU countries. Payments made by private label cards (like store cards and fuel cards), e-purses (e-money), American Express, Diners Club and other third-party card schemes are not included. Sources: Annual reports of the schemes, completed by estimations.

Methodology

The international card schemes Visa and MasterCard are publishing their regional figures for Europe (issuing side of the market). The total sales volume is almost 2,000 bn € (2013). Visa Europe is including all brands, while MasterCard is excluding Maestro. The geographical demarcation "Europe" of the schemes is not identical with the EU (28 member states) and even the schemes do not practice the same country list. Important card markets outside the EU, like Turkey, Norway, Switzerland, Israel and Ukraine are included in the figures of Visa and/or MasterCard. After deduction of the scheme relevant payment volumes within the non-EU-countries, the EU-volume of MasterCard and Visa amounts to an estimated 1,758 bn € (2013).

However, the Maestro-volume is still excluded. After terminating the domestic schemes, Maestro-branded cards are the main player in Austria, Switzerland and the Netherlands. Besides the domestic volumes we have to consider the cross-border volumes. The total volume of Maestro is extrapolated to 230 bn € in the EU (2013). The calculation of the volumes made within the domestic card schemes (excluding the cross-border volumes initiated by the co-badged brands) of Germany, France, Belgium, Denmark, Spain, Italy, Portugal and Slovenia is based on the published scheme figures. Other minor domestic schemes in other EU countries are neglected. The total volume of the domestic card schemes within the EU is approx. 872 bn € (2013). If scheme volumes are reported in non-Euro currency the conversion is based on the average yearly exchange rates.

Card Payments Volume 2008 - 2013



The ECB Statistical Data Warehouse is missing approx. 792 bn € card sales turnover – equal to 27% of the total estimated volume.

International third-party schemes (like Amex and Diners Club) are not included. The Nilson Report estimated a European volume of these schemes of approx. 75 bn € for the year 2010. If we accept this figure and apply a below-average growth rate of 5% for these schemes, the total volume would be approx. 2,948 bn €. If this calculation is correct and the estimates are realistic, the ECB Statistical Data Warehouse is missing approx. 792 bn € card sales turnover – equal to 27% of the total estimated volume.

In contrast to the market players and researchers, the ECB is aware of the poor quality of its card-related data as consequence of the practiced methodology. From the year 2014 onwards the reporting will be based on the Regulation ECB/2013/43. As consequence, all payment service providers in the Eurozone

will be obliged to deliver data input. It is expected that the quality and the comparability of the ECB-statistics will be improved.

The market share of the international schemes Visa and MasterCard within the EU is 70%. The domestic schemes share the remaining 30%. We made this comprehensive alternative calculation based on 2013 data. The years before 2013 were not analyzed. A few years ago we made another snapshot of the market share of the International Card Schemes (ICS incl. Amex & DC) and the remaining domestic schemes for the year 2011. The market share of the domestic schemes was estimated at that time at 38%.¹⁵ However, this analysis was based on (obviously wrong) ECB-figures. Therefore, these two snapshots cannot be used to derive conclusions regarding the often-heard hypothesis that the ICSs are winning market share Europe.

However, taking a direct look at scheme figures seems to support this view. Comparing the scheme figures in the period 2008-2013, MasterCard Europe and Visa Europe are slightly gaining market shares with a CAGR of 10.4% and 9.7%, respectively, while the two largest domestic schemes in Europe (France/Cartes Bancaires and Germany/ec cash) are growing less (see diagram). Since it might be the case that MasterCard and Visa exhibit a disproportionately high growth rate outside the EU, a definitive conclusion may be premature.

However, one thing is certain, the ICSs do not seem to be the losers in the European card market. Let us wait and see what impact the IF-regulation will have on the competition between the ICSs and the domestic schemes.

Notes

- 1 We reported on the preliminary report in the February 2014 edition 5 of this newsletter (<http://www.paysys.de/download/SepaFeb14.pdf>).
- 2 European Commission. Directorate - General for Competition: Survey on merchants' costs of processing cash and card payments Final results, Brussels, March 2015. http://ec.europa.eu/competition/sectors/financial_services/deloitte_final_report_en.pdf
- 3 Front-office costs were estimated independently.
- 4 The acquirer margin applies only to card payments. It excludes interchange fees.
- 5 Excluding interchange fees, acquirer margin and front-office costs.
- 6 They were also asked about the changes in costs if, over the next 3-4 years, 10% of cash transactions should be replaced by card transactions.
- 7 Heiko Schmiedel, Gergana Kostova and Wiebe Ruttenberg (2012): The social and private costs of retail payment instruments: a European perspective, ECB Occasional Paper 137, October.

- 8 European Commission, Final results, 2015, p. 36.
- 9 Children and teenagers usually do not own cards and for older people use of PIN debit may be challenge.
- 10 See also our comment in the February 2014 edition of this newsletter.
- 11 Wilko Bolt, Nicole Jonker and Mirjam Plooij (2013): Tourist Test or Tourist Trap? Unintended consequences of debit card interchange fee regulation. De Nederlandsche Bank Working Paper 405, December. See also our comment in the February 2014 edition of this newsletter.
- 12 See Verdier, Marianne (2011): Interchange Fees in Payment Card Systems: A Survey of the Literature. Journal of Economic Surveys, 25:2, p. 289.
- 13 See PaySys Card Market Statistics 2004-2013 of December 2014.
- 14 In Italy payment transactions with e-money-cards could be included in the statistics of the acquiring side, but the volume would be too small in order to explain the huge difference.
- 15 See our Newsletter of November 2012 (www.paysys.de).

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