PaySys Consultancy GmbH

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1. Regulatory IF reduction in Poland 2014 and the tourist test application

By Jakub Górka[1]

Poland is approaching the coming into force of the regulatory reduction of interchange fees in card-based payment transactions to 0.5% of the payment value (for all cards – business and consumer) on the 1st of July 2014. The Law from 30 August 2013 on Payment Services introducing the IF cap was unanimously passed by the Polish parliament ending discussions and quasi self-regulatory attempts to decrease the level of interchange fees in Poland which for many years, ranked among the highest in Europe (the weighted average IF level in 2011-2012 amounted to 1.55-1.60%). The Law will be binding in Poland until the Pan-European IF regulation starts to apply to all four-party card-based transactions.

On account of the coming interchange reduction we will take a closer look at a study on merchants' payment costs[2] which was carried out in Poland. The aim of the study was, inter alia:

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[2] In the joint research project three institutions were engaged:

- the Foundation For Development of Cashless Payments in Poland (FROB),
- the National Bank of Poland (NBP),
- the Faculty of Management, University of Warsaw (WZ UW).

Millward Brown conducted the survey of merchants. A comprehensive report written by the head of the research project is available on NBP and FROB websites: Górka J. (Dec. 2012), *Merchants' Costs of Accepting Cash and Cards in Poland* (in Polish):
http://www.nbp.pl/home.aspx?f=/systemplatniczy/obrot_bezgotowkowy/obrot_bezgotowkowy.html
http://frob.pl/baza-wiedzy/badania/
The analyses, opinions and conclusions presented in the report are of the author and cannot be treated as a position of any institution involved in the research project. The NBP was sceptical about

- to estimate costs of cash and card payments acceptance at physical points of sale in Poland, and
- to find a proper benchmark for the IF level by applying the merchant indifference test (MIT, also known as the tourist test or the avoided-cost test).

The results of the cost study were made public more than half a year before the decision of the Polish parliament. They did not serve as the official basis for setting the IF cap but were quoted by the Polish Ministry of Finance and other institutions as a benchmark. The study was indicated as the first comprehensive analysis of merchants' cash and card costs in Poland, based on theory and empirical research. It also was the first attempt to determine the optimal level of interchange fees in Poland in a scientific way. Therefore, the results of the cost study served as an important argument in discussions about the justified level of IFs.

Methodology

The calculations were based on data obtained from a survey of more than 1000 merchants of all sizes from different sectors active in retail trade (business-to-consumer domain). The sample, stratified according to company size (measured by the number of employees) and the sector of activity[3]. It is statistically representative at the national level with the exception of small rural areas.

For the purpose of the study 9 pecuniary cost items and 4 non-pecuniary costs of each payment instrument (cash and cards) were distinguished. According to the survey results not all cost items turned out to be equally important. Therefore some of them were not used in basic-scenario cost calculations but they were discussed in additional complementary analyses. Pecuniary cost items were costs associated with charges and tariffs paid, with costs of depreciation, with foregone interest (opportunity costs) and with financial losses as a result of fraud, counterfeiting or

the MIT approach as a best method of an IF assessment. During the legislative process the NBP was at first more attached to IF levels which were agreed as a market compromise by the IF Task Force operating under its auspices from November 2011 to March 2012. The so called Program of card charges reduction in Poland assumed gradual decreases of interchange fees in years 2013-2017 (the first decrease to 1.1-1.2%, the last decrease to the European average – at that time 0.70-0.84%). Eventually the NBP supported the legislative IF regulation and the single decrease to a uniform level of 0.5% of a card transaction value.

[3] Additional information is available upon request from the author.

theft. Non-pecuniary cost items related entirely to time costs associated with labour time of staff employed (front and back office labour costs). Non-pecuniary cost items required the conversion into monetary terms by multiplying the labour time with an average hourly gross wage rate of employees.

In the study credit and debit cards were treated jointly, because from the perspective of merchants (a) this division was not relevant in a cost context and (b) because it was hardly possible[4].

The following cost items appeared to be economically significant for merchants:

- for cash payments:
  - pecuniary cost items: cost of cash withdrawals and deposits, and, cost of armoured car services (Cash-In-Transit)
  - non-pecuniary cost items: cost of payment tender time (front office), cost of cash handling time (back office)[5], cost of cash reconciliation time (back office), time cost of travels to a bank and back (back office)[6],
- for card payments:
  - pecuniary cost items: Merchant Service Charge – MSC (including an interchange fee), cost of renting payment terminals and the cost of payment authorisations (telecommunication costs),
  - non-pecuniary cost items: cost of payment tender time (front office), time cost of payment terminal operations (back office)[7], time cost of

[4] The only cost differentiating item between credit and debit cards could be the level of the MSC and the corresponding IF. (Untypically, in Poland IFs for debit card-based transactions were often higher than for credit card-based transactions). It can also be argued that the duration of a payment transaction is important. However, it seems that for the duration of a card transaction other distinctions appear to be more significant (such as for example the distinction between contactless/PIN-based/signature-based cards, etc.).
[5] Counting, sorting, packing, preparing cash for cash deposits (open or closed), preparing denominations for cash registers, changing cash in other stores when there is a lack of particular denominations of notes and coins in a store, possibly time of supplying needed denominations to cash registers in other ways, other time costs.
[6] This is an alternative cost item to armoured cash transport (most of the firms in Poland, especially small and medium sized, deliver cash to banks on their own).
[7] Preparing, switching on and off, changing terminal paper rolls, etc.

contacts with an acquirer service and of disputes with clients (back office)[8]

Apart from distinguishing private/social, pecuniary/non-pecuniary, external/internal costs it was necessary to make other technical cost divisions. Therefore costs were split into fixed and variable, total and marginal costs.

Results – merchants' costs

After computing pecuniary costs of cash in several scenarios, it turned out that:

- on average cost of cash deposits and withdrawals varied between 0.007 to 0.015 EUR per one cash transaction with an average value of 6.89 EUR (0.1% to 0.21% of cash sales' value – with the lower limit being most representative for the merchant population in Poland[9]),
- costs of own money transport was cheaper than the use of an external service provider.

After computing pecuniary costs of cards in several scenarios, it turned out that:

- the average share of the MSC in all pecuniary costs of a merchant accounted for about 71% and an average blended MSC percentage level was about 1.82% of the payment transaction value,
- the average total costs per card transaction with a value of 20,24 EUR ranged between 0.43 to 0.53 EUR, corresponding to 2.15% - 2.63% of the card transaction value (with the upper limit being most representative for the merchant population in Poland).

With respect to costs of front office tender time, cash still ranked better than cards. In case of back office costs of cash and cards, the results of the study showed that more labour time was used for handling cash than for handling card transactions. However, due to the huge number of transactions cash was subject to stronger economies of scale.

[8] Calls to an acquirer due to malfunctioning of terminals (e.g. problems with authorisations), resolving disputes of clients executing chargebacks.

[9] 22% of companies declared that they did not bear any pecuniary costs of cash deposits and withdrawals, because they used the entire cash stock for paying to contractors and employees or simply kept it as a store of value (hoarding). The declared average share of cash deposited back to a bank was 53%.

The merchant survey revealed that, in 2011, at the physical POS, the average transaction value of a card transaction was almost 3 times higher than the average value of a cash transaction (20 vs 7 EUR). Therefore, even though the average total non-pecuniary (internal) cost per transaction for cash was lower than for cards, in per cent of turnover the opposite was true – a card was cheaper (table 1 – see record b). However, because of the high discrepancy in pecuniary (external) costs of cash vs cards, the average total (pecuniary + non-pecuniary) costs turned out to be lower for cash – when measured on a transaction basis and when measured in per cent of turnover. Finally, the difference of the share of internal costs to total costs is remarkable: 95% for cash and 35% for cards. This finding can be explained by the fact that fees paid by merchants for card payments were much higher and dominated the costs of cards.

Table 1: Summary of merchants' costs of cash and cards in 2011[10]

		cash	card
	average transaction value (EUR)	6.89	20.24
a	average total non-pecuniary (internal) cost per transaction (EUR)	0.22	0.29
b	average total non-pecuniary (internal) cost per euro of turnover	3.16%	1.41%
c	average total pecuniary (external) cost per transaction (EUR)	0.01	0.53
d	average total pecuniary (external) cost per euro of turnover	0.10%	2.63%
a+c	average total cost per transaction (EUR)	0.22	0.82
b+d	average total cost per euro of turnover	3.26%	4.04%
	share of non-pecuniary (internal, social) cost in total merchant's cost	96.94%	34.92%

Results – tourist test application

Following Rochet and Tirole (2007) the MIT (tourist test, avoided-cost test) requires an estimate of the cost tier at which card and cash costs (and possibly costs of alternative payment methods) level out.

For the purpose of applying the MIT it is necessary to identify the nature of cash and cards costs and decide whether particular cost items are fixed or variable (by value or by number of transactions). Calculations that are conforming to the tourist test

[10] The results were converted from zloty to euro at the 2011 NBP average EUR/PLN rate 4.12. Rounding to two decimals.

should focus on the comparison of variable (or "marginal") costs of card and cash payments. Fixed costs should be excluded from the analysis. The algorithm used in calculations takes the form:

$\alpha + \beta \times x$ (where α equals variable costs per one additional cash/card transaction in EUR, β equals variable cost per EUR of additional cash/card turnover, x equals the value of a cash/card transaction).

When deducting from the marginal costs of cash the marginal costs of cards we get the two-part interchange fee function ($y_{cash} - y_{card} = IF_{two\text{-}part} = \alpha + \beta \times x$).

In practice the division between fixed and variable costs is ambiguous. Therefore, three scenarios have been considered, in which the dividing line between fixed and variable costs has been set differently. In each scenario the same pecuniary costs for cards (0.27%)[11] and for cash (0.2%)[12] were used. However, scenarios differed according to the recognition of non-pecuniary cost items. In Scenario 1, some back office costs have been treated as fixed and some as variable, whereas in Scenario 3 all back office costs have been treated as variable costs. Scenario 2 is an intermediate case.

Table 2. MIT application results

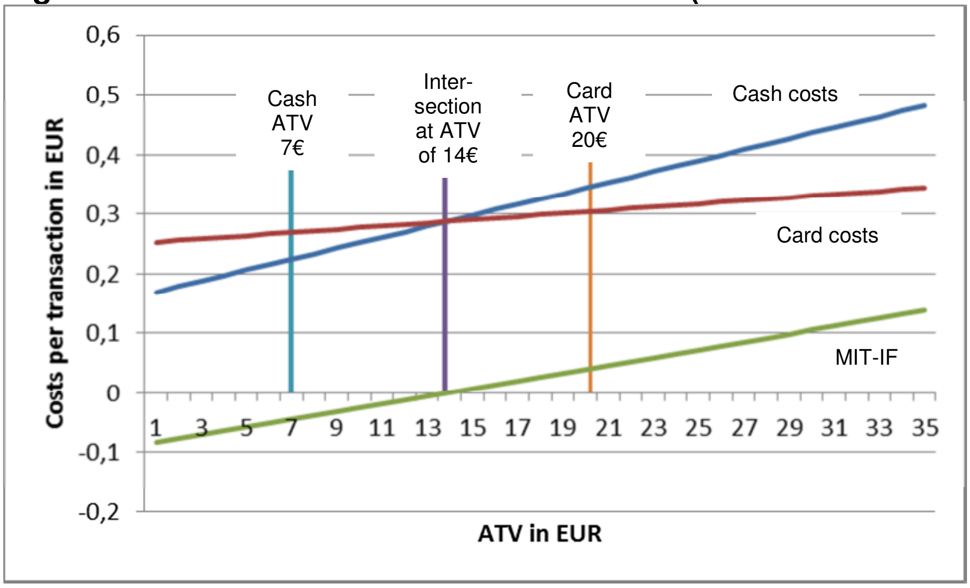
	Scenario 1	Scenario 2	Scenario 3
Cost functions ($\alpha + \beta \cdot x$) cost of one additional trx with a value of x	$y_{cash} = 0.15 + \underline{0.0058x}$ $y_{card} = 0.25 + 0.0027x$ $IF_{two\text{-}part} = -0.09 + 0.0031x$	$y_{cash} = 0.15 + \underline{0.0092x}$ $y_{card} = 0.25 + 0.0027x$ $IF_{two\text{-}part} = -0.09 + 0.0065x$	$y_{cash} = 0.15 + \underline{0.0108x}$ $y_{card} = \underline{0.29} + 0.0027x$ $IF_{two\text{-}part} = -0.13 + 0.0081x$
ATV where cash costs equal card costs	30 EUR[13]	14 EUR	16 EUR
IF for ATV card (20.24€)	–0.16%	0.18%	0.16%
IF for ATV cash (6.89€)	–1.07%	–0.73%	–1.09%
IF for mean of card and cash ATVs	–0.39%	–0.05%	–0.16%

Y = marginal costs, X = transaction value

[11] When applying the tourist test, only the acquirer fee (MSC minus average interchange fee) was included as external pecuniary merchant costs in the *ad valorem* formula. According to studies of the Polish central bank, the share of interchange fees in the MSC was approx. 85% in 2010. This value was also used for 2011. By taking the average blended MSC rate (1.82%) declared by companies in the survey, the acquiring margin along with other scheme fees which acquirers pay to card associations was estimated to be at the level of 0.0027 (0.0182 x 85%) or 0.27%.
[12] A variable cash withdrawal/deposit cost of 0.2% was adopted (market rate), which is twice as much as the average according to retailer responses in the survey.
[13] In 2011, the average EUR/PLN exchange rate was 4.12. The values given in the table are rounded.

Figure 1 provides a graphic exposition of the results based on Scenario 2. As can be seen, cash is cheaper to use for low value payments up to an ATV of 14 EUR. For higher ATVs cards are cheaper. The graph also shows that the size of the MIT-IF varies with the average transaction value. If regulators used a two-part IF they could take such variations into account. However, if they prefer to set IF in terms of a fixed percentage of the purchase value they have to make an assumption about the relevant ATV. On the basis of the card ATV, the optimal IF would be 0.18%. On the basis of the cash ATV, the optimal IF would be –0.73%. As the use of scenarios shows, these results depend significantly on the underlying assumptions.

Figure 1. Costs of Cash and Cards in Poland (based on Scenario 2)



Conclusions

Based on the outcomes of merchants' cost calculations and the tourist test application the conclusion can be drawn that tiers of interchange fees in Poland should be low – up to 0.2% of a transaction value or even nil. The survey results and subsequent cost calculations clearly show that merchants in Poland are not economically indifferent to the interchange fee level prevailing on the market. Moreover, it was evident from the survey that the level of internalisation of pecuniary and non-pecuniary costs is different. Front office and back office labour costs were not treated by merchants in the same way as fees. Fees paid (pecuniary external costs) were considered more important.

The Polish study was conducted and published more than one year prior to the publication of preliminary results of the European Commission's study on merchants' costs of processing cash and card payments. The studies bear resemblances but also differ in various aspects. Nevertheless it is notable that the results concerning the tourist test compliant level of interchange fees are fairly similar. The application of the MIT in Poland on the basis of primary data from the merchants' survey was probably the first such an attempt in the economic literature.

The results of the MIT application are sensitive to changes of the parameters (α and β), as well as to changes of the average card and cash transaction values. Cost calculations of cash and cards were based on the survey of Polish merchants. In addition, various assumptions had to be made. Therefore, the results need to be interpreted as indicative and illustrative but not definite numbers. Costs were computed in different scenarios. Some cost items (e.g. cost of cash and card fraud) turned out to be negligible in Poland but it must be remembered that in cases of particular companies those cost items may play a bigger role. In Poland, cash generated far greater economies of scale than cards - due to much higher numbers and turnover.

The Polish regulatory cap of IF level at 0.5% which effectively comes into force on 1 July 2014 is higher than the tourist test conformant IF level calculated in the study. But it should accelerate the growth of card acceptance networks in Poland and make merchants less sensitive to the choice of a payment method by consumers (cash vs card).

2. The Euro Retail Payments Board: start and outlook

By Simon Lelieveldt[14]

The ERPB was set up as a follow up to the work of the SEPA Council on the migration of SEPA. Whereas the SEPA Council was co-chaired by the ECB and the European Commission, the chair of the ERPB is Yves Mersch, Member of the Executive Board of the ECB.

The objective of the ERPB is to further stimulate the development of the European retail payments market by working together on topics that are related to payment products or to specific issues such as innovation, security or integration. The board will identify and address strategic issues and work priorities, including business practices, requirements and standards. Issues could include the development of a single e-mandate solution or the improvement of interoperability between national e-payment schemes.

The board consists of members representing both the demand side (consumers, merchants, corporates and public administrations) and the supply side (banks, payment institutions, e-money institutions). The ECB has strictly applied the criteria for membership in order to ensure that all participants have a similar background in terms of board member experience.

- First Meeting

The first meeting, held on Friday, the 16th of May, was dedicated to agree to the mandate, functioning and work plan of the ERPB. This included setting up a working group on post-migration issues relating to the SEPA credit transfer and SEPA direct debit schemes as well as one working group on pan-European electronic mandate solutions for SEPA direct debits. In addition ERPB members asked the Cards Stakeholder Group (CSG) to carry out a stock-taking exercise and devise a work plan.

The ERPB further discussed the expansion of the SEPA Direct Debit scheme (SDD) with a non-refundable one-off direct debit. It was agreed that the EU legislators would be asked to clarify legal refund-conditions when evaluating the Payment Services Directive and that a possible scheme would be launched only after this review was complete.

[14] Independent Payment and Banking Consultant and blogger on Retail Payments (http://moneyandpayments.simonl.org). Former banker, central banker and Head of team on Banking Supervision and Financial Markets at the Dutch Bankers Association.

In order to further investigate the future use of pan-European electronic mandates for SDD, the ERPB set up a separate working group. Finally, the EPC presented the latest update on the migration to SEPA. Whereas the migration to SEPA Credit-Transfers was very close to completion, there remained work done for direct debits. The ERPB called upon all stakeholders in the euro area to complete their migration to SEPA payment instruments as early as possible and before the deadline.

Comment

The start of this new institutional body may raise questions in the industry as to its exact objectives and what it will achieve in practice. However, Dutch history shows that there are clear benefits to having long-term standing committees in the retail payments sector.

- *Standing committees in payments: the Dutch case*

Originally, the Dutch market for retail payments consisted of privately owned commercial banks, savings banks and cooperative banks that competed with the government-operated Postal Cheque and Giro Services. The system design of these providers differed. The private players had set up the so-called Bankgiro system as opposed to the Postal Giro system of the State.

In the 1980s, the technology difference served as a barrier between the institutions, which remained in place until the State privatized its Giro-services in 1986. Subsequently the work started on the harmonization of technical standards by means of the work on the Dutch Payments Circuit (Nationaal Betalings Circuit). It took until 1998 for all the different types of payment mechanisms to be fully harmonized.

Although it did take quite some time to harmonize the technical standards in the Netherlands, the regular interaction between industry players improved the trust and willingness to cooperate on issues of common concerns. So when the need arose, in the 1990s, to drive down the costs of retail payments a dedicated task force was set up. The task force developed an array of measures and communication to steer the users to the most efficient payment mechanisms. The effects in changing the payment mix in the Netherlands were clearly visible.

- *National Forum on the Payment System*

At the end of its term, in 1995, the task force was converted into a standing committee on the efficiency of payments in which both the demand and supply side were represented.[15] *This standing committee was the precursor to the National Forum on the Payment System that was set up in 2002. This National Forum functions as the platform in which issues with respect to retail payments are discussed between representatives of suppliers and users of retail payments.*

Over time, the Forum has established working groups on the migration to EMV, on the migration to SEPA, on usability, security and efficiency. It has become the platform for discussion of market developments and collective decision making to improve payments in the Netherlands. For example, when the 1 and 2 eurocent coins created too much confusion for consumers and unnecessary costs for merchants, the members in the forum agreed to abolish the use of these cents and to implement a rounding procedure. This improved the efficiency of Dutch retail payments by approximately € 30 million per year.

- *Domestic SEPA/retail payment committees and the Euro Retail Payments Board*

To prepare for the changeover to SEPA, many European countries set up domestic standing committees on retail payments and SEPA. In a similar vein the SEPA Council was established at the European level. The history and size of the SEPA-project did however constrain the possibilities to coordinate its outcome with all stakeholders. Merchants, consumers and new entrants in the payments market may have felt that there was too little opportunity to influence the discussion on the future characteristics of European Payments.

The launch of the European Retail Payments Board can be viewed as a good and new starting point for discussing the future of European payments with all stakeholders involved. It is inevitable that, although payment usage in Europe is still influenced by the domestic habits, a further convergence will occur. At the same time, there may still be different views and opinions on standardization, innovation and consumer protection.

Some observers may cite the lack of legislative powers as a disadvantage of the ERPB. Others may wonder if it is possible to achieve results in a body that only meets twice a year. I would submit however that in ten years' time these sceptics will look back in surprise to see how the ERPB has positively shaped the outcome of public debate on payments. If we go by

[15] The so-called Working Group on Efficiency in Payments: 'Werkgroep Efficiency Betalingsverkeer, which was chaired by Mr. Klomp, a highly respected representative of Dutch retailers.

Dutch history, we can assume that there is a lot of unlocked potential that lies in the trust and bonds that will be formed and shaped by this collective effort.

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