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# Wallets are all the rage: But what is a wallet?

(mk) Currently, we are witnessing the second mobile payment wave. The first wave coincided roughly with the dot-com boom. The dotcom crash in the year 2000 also marked the end of many m-payment initiatives. Subsequently, it took more than ten years for m-payments to recover.[1] Today, m-payments are once again grabbing the headlines and attracting a lot of investment. The renewed focus on mobile payments is driven by three developments:

- the rise of NFC (near field communication),
- the spread of smart phones,
- the rise of the mobile Internet.

The rise of NFC has given attempts to use the mobile phone as a payment instrument in physical stores a boost. This topic has gained traction with the success of Apple Pay. Its launch in the US and subsequent expansion to other countries have attracted enormous attention. Moreover, competitors like Google and Samsung have followed suit introducing their own "Pays".

Since, in principle, there is no limit to the means of payments that can be used via mobile phone, it has become fashionable to refer to most of the solutions as "wallets". The number of such wallets is proliferating and wallets are one of the prime topics in the payments news. In fact, wallets are seen as the future of payments. For the year 2017, Juniper Research predicts an increase of mobile wallet spend by more than 30%, reaching $1.35 trillion.[2]

Given the number of different wallets and the potential significance of wallets, it is not surprising that frequently "Wars of the wallet" have been identified. While it is not clear who will be the winner of such a war, commentators are sure that wallets will "redefine the competitive landscape".[3]

## Our Comment:

In spite of the enormous amount of articles and reports written about wallets, it is still not entirely clear what a wallet is. Ron van Wezel (Aite Group) defines a "digital wallet" as *"an application with the following basic functionality:*

- *Secure user enrolment …*
- *The ability to securely provision and store customers' identity information…, payment information …, and shipping address…*
- *Payment funding…"* [4]

This definition is fairly broad. In fact it is so broad that it almost encompasses payment applications sitting in the chip of a standard payment card with two payment applications (only the shipping address is missing). Even if the definition is narrowed to apps that are loaded onto a smart phone, this definition is still fairly broad, encompassing very different things.

In a leaflet providing information for consumers, the German financial regulator BaFin has defined "electronic wallet" as an account offered by a PSP that has to be funded from a bank account, credit card or other source.[5] Thus BaFin uses a much narrower definition. As a consequence, there are two types of wallets. On the one hand, there are "wallets" like PayPal, Skrill or M-Pesa. Such wallets consist of customer accounts that can be funded from various sources. These accounts can be seen as a kind of limited bank account. In the EU, such accounts are treated as e-money accounts.[6]

On the other hand, there are "containers" like Apple Pay or MasterPass that allow users to store data, including payment credentials. These containers have a lot in common with the wallets of the physical world that contain payments cards, cash, loyalty cards, an ID card, etc. Since payment flows do not pass through accounts of the providers of such containers, they may get by without regulation. In Europe, the implementation of the PSD2 may change this, however.

The two models – container and account – are different and this matters for a number of reasons:

- Regulation
- Branding
- Effects on issuers and acquirers.

Below, we will look at each of these three issues.

Regulation: From the point of view of regulation it makes a big difference whether a container or an account is offered. If it is an account, value stored in this account is treated as e-money by EU regulators. As a consequence, the provider of such an account must have at least an e-money license. [7] If additional services are to be provided, such as merchant credits, it is even necessary to get a banking license.

**It makes a big difference whether a container or an account is offered.**

In the past, a pure container would not have been regulated in the EU. But the new PSD2 has introduced "payment initiation" as a service that will be regulated in the future.[8] When drawing up the PSD2 draft version, regulators had services in mind that allow payers to initiate a credit transfer from a bank account and immediately send a confirmation to the merchant – so-called "online banking based e-payment" solutions (OBeP). However, solutions like Apple Pay provide a very similar service. Apple Pay helps card holders to access their card account and initiate a payment transaction. Card issuers even rely on Apple to authenticate the owner of the card account. However, payment service providers like Apple (as provider of Apple Pay) are delivering technical services on behalf of the card issuer and not acting as a PSP on behalf of the payer or payee. Such services will probably not require a licence as Payment Institution after implementation of the PSD2.

Branding: All wallet providers try to establish their brands in the market. This is also true for those players providing a container. For instance, POS merchants can obtain "Apple Pay" stickers and online merchants announce that they are accepting "MasterPass". It remains to be seen how successful these branding attempts will be. After all the idea is that customers can decide to have various payment instruments in their wallets. For instance, a MasterPass wallet can contain Visa or Amex cards. But what happens if a customer wants to pay by MasterPass, selects Amex and finds that Amex is not accepted by a merchant? If there are other cards in his wallets he may simple choose another one. But if he only owns an Amex card, he will not be able to pay. Thus, these branding attempts are likely to create some confusion. Basically, the problem exists because the decisions on the acquiring side - which payments systems does a merchant want to accept?– are made independently of decisions on the issuing side – which payment systems do customers want to use?

In the case of payment systems like PayPal, things are different. A merchant who accepts PayPal does not need a contract with those systems that can be used for funding. Accepting PayPal is enough. Thus, whatever systems are used for funding, a PayPal merchant accepts the payment. There is a hitch, though. To some extent, there can also be incompatibilities between the acquiring and the issuing side in systems like PayPal. For instance, PayPal accepts direct debits as a funding method for German customers. However, for certain goods or services (for instance gaming) PayPal often does not allow users to fund a payment via direct debit. However, apart from such risk management based restrictions, PayPal users can be sure that they can use PayPal whenever a merchant displays the PayPal brand on his/her website. So, overall, the account model provides a much more consistent user experience than the container model.

| | Types of wallets | |
|---|---|---|
| | Container | Account |
| Payment scheme with own R & R | no | yes |
| Regulation | not yet | yes |
| Examples | MasterPass, Apple Pay, Visa Checkout | PayPal, Skrill, Amazon Pay |

(R&R: Rules and Regulations)

Issuers and acquirers: In the container model ("Apple Pay") there is not much of a change for acquirers. Whether a customer swipes his/her card or mobile phone does not make much of a difference for an acquirer. But for issuers it may make a big difference because Apple demands a fee. Google does not demand a fee for Android Pay transactions. But Google's market share in the market for smart phone operating systems is impressive and the question is whether issuers can take it for granted that this will always be the case.

In the account model ("PayPal"), there is not much change for issuers. Funding by card implies that issuers receive interchange fee from PayPal. However, on the acquiring side, the contract with a merchant is likely to be made directly between the merchant and PayPal. Thus acquirers stand to lose business.

But in the long run both issuers and acquirers may lose. As PayPal acceptance spreads, an increasing number of PayPal transactions will be funded from existing PayPal deposits. For all of these transactions there would be no need for card-based funding and thus there would be no interchange income for issuers. Moreover, if a payment system like PayPal were to gain market penetration at the physical POS comparable to its market share on the internet, it would gain substantial bargaining power vis-à-vis issuers.

# The inconsistency of card-related ECB-statistics

(hg) As a consequence of SEPA, the ESCB (European System of Central Banks) changed the content and the methodology of the payment statistics from 2014 onwards. Until 2013, the data were related to the location of the payer or the terminal, assuming that most of the payments were carried out by domestic Payment Service Providers (PSPs). In the card business, SEPA should intensify competition by increasing cross-border issuing and acquiring activities of the PSP. Cross-border issuing of cards is still a rare phenomenon, however on the acquiring side XB business is relevant, probably more driven by the interim period of regulated Interchange Fee for cross-border transactions before all IF were limited by the IF Regulation (December 2015) than by SEPA.

The new statistical approach of the ECB is based on the residency of the PSP (issuer or acquirer), which could be licensed as credit institution, payment institution or e-money institution. In the card acquiring business you will find for instance for Italy all the card transactions at all the POS terminals (both within and without Italy) provided by PSPs resident in Italy.

A second amendment of the ECB payment statistics is the remarkable extension of the data on e-money related transactions. Almost 70 (!) statistical positions now refer to e-money (including not very exciting card-loading and unloading transactions).

Due to the changes of methodology, there are two breakpoints in the statistics: 2007 and 2014. Therefore the new data for many card-related statistics (especially on the acquiring side) from 2014 onwards is not comparable with the data before 2014.

Depending on its residency, a PSP in the Eurozone is obliged to report the statistical information to the National Central Bank (NCB) of the relevant member state. The new extended payment statistics are required by EU Regulation No 1409/2013 of the ECB of 28 November 2013 on payments statistics, which is supposed to harmonize the statistical input and its methodology and therefore make the country data comparable. The deadline for the reporting agent for its year-related data is usually the end of Q1 of the next year. The data collecting NCB has to transmit the input to the ECB at the end of May. In this relatively short period, the NCB has to verify the input, to check the accuracy and compliance with the concept, to make plausibility checks and to aggregate the micro-data of the PSPs to a national macro level. The final check should be done by the ECB before publication. The statistical input for non-Euro member states is not mandatory, but strongly recommended by the ECB, especially for member states that are potential new members of the Euro club.

## Our Comment:

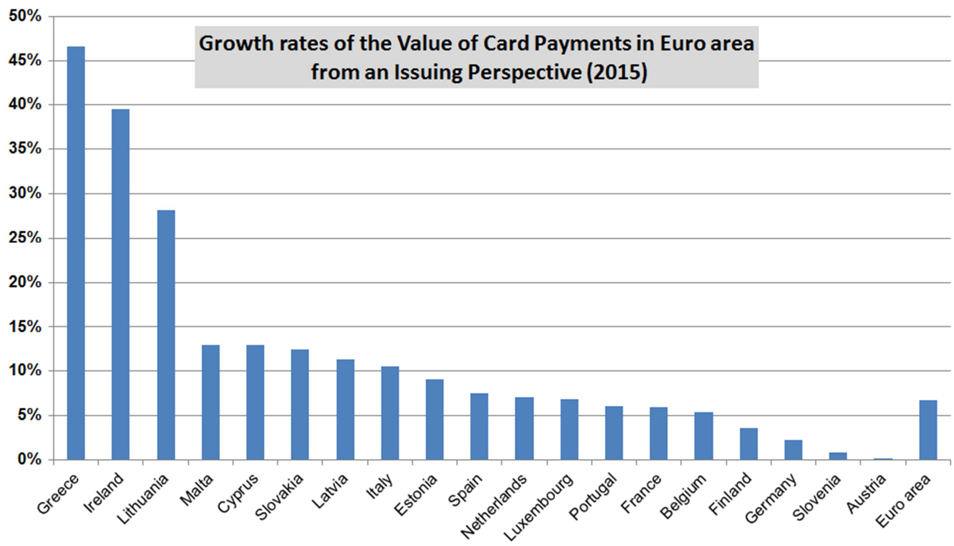
The result of the first launch of the new methodology was not very robust. For the NCB and its reporting agents, the new and extended requirements caused some headaches. Several figures were estimated or missing. In the second round, by editing the payment statistics for 2015 in September 2016, much data from 2014 was corrected. As an aside, most of the external users of the statistical warehouse would not have been aware of the essential breakpoint of 2014, at best explained in footnotes. However, after 2 years the statistics based on the new methodology should be reliable, consistent and robust.

Let us take a closer look at the card related statistics for the Euro area. On the issuing side the card payments, issued by resident PSPs (except cards with an e-money function) are reported in total and additionally divided into domestic and cross-border respectively and into payments initiated at physical POS and remotely (card not present). The summation of each sub-category should be identical with the total, which is not the case for Slovakia (2015), France (2014/2015), Estonia (2015) and Belgium (2014). These statistics were clearly overlooked during the double-check by the NCBs and the ECB.

As a consequence of the new residency methodology, transactions of cards issued by a German bank to Austrian inhabitants will be counted in Germany. However, cross-border issuance is – despite SEPA – probably still a rare phenomenon in Europe. The ECB country tables, giving an overview of a member state, still seem to show the card payments of domestic consumers on the issuing side. In the future, this may change, however. Therefore a new subcategory (card issuance to domestic inhabitants resp. to inhabitants of other countries) would improve the statistical credibility from a territorial perspective.

As a result we see for 2015 strongly diverging growth rates for the value of card payments (excluding cards with an e-money function only) for member states in the Euro area, from 0% in Austria to 47% in Greece. The growth rate for the total Euro area is 6.7%. See table.

- On average, 10.5% of all card payments are initiated outside the country, with Luxembourg on top (47%) and (surprisingly) Italy at the bottom (3.5%).
- The average percentage of remote transactions is 12.5%, although this average is questionable in view of the inconsistent figures from France, Slovakia and Estonia.



**It seems like the reporting institutions were overwhelmed by delivering data after the introduction of the new methodology.**

# Don´t trust the ECB figures!

- Belgian cardholders clearly show the lowest level of CNP transactions (4.2%) compared to Irish cardholders, who spent 31.6% of the card value as remote transactions.

Are these figures reliable? Let us check **Ireland** with its extremely high growth rate of 39% (!) for 2015 according to ECB statistics. Such growth rates might be realistic in an economy with an emerging card business. However, Ireland with a mature card business is, after Luxembourg, Denmark, Sweden and UK, number 5 in the ranking of the highest value of card transactions per capita in the EU. Ireland seems to be the new Mecca for card business. We see in every subsegment extravagant growth rates: volume of card usage cross-border +78%, CNP payments +54% etc. At the same time, the number of payment cards grew slightly (+1%) and the number of POS terminals decreased by minus 8%. A real Irish wonderland. It seems like the reporting institutions were overwhelmed by delivering data after the introduction of the new methodology. In contrast to the card market figures of the Banking & Payments Federation Ireland, the ECB failed to include about 5.2 b. EUR card turnover in its 2014 figure. With this correction, the growth on the issuing side is 15%, which takes the magic out of the fantasy figures of the ECB.

Another example of extreme growth rates in 2015, based on false statistics for 2014, is **France**. According to ECB statistics, the volume of card-based remote payments in France grew from 41.5 to 66.1 b € (+59%). The figure of 2015 for all cards issued in France may be correct compared to the figures of Cartes Bancaires (2015: 60.9 b. €), if you consider cards issued without the CB brand, like Amex. However, the remote card volume of 2014 (41.5 b €) reported by ECB is definitely wrong, because CB´s part is already 55.2 b. €. The majority of CNP payments are made with CB-branded cards in France. The figures of CB show a much more realistic growth of 10.3% in 2015, compared to the fanciful ECB figure of 59%.

In French neighborhoods we also see dramatic changes in e-commerce payment habits. For **Germany** the ECB shows a decline of 21% (!) for the volume of CNP card transactions (2015) in a context of growing e-commerce and MoTo (+8%). In all other market statistics regarding card usage in German e-commerce you will find a growth in the share of card payments (e.g. ECC-Koeln[9], EHI[10]); only the BEVH-statistics indicated a slight decline of minus 3.4% (BEVH[11]). Don´t trust the ECB figure!

On the **acquiring side**, the new ECB statistics show card data of card transactions at physical POS terminals (excluding CNP transactions) in 3 sub-categories:

- Transactions at terminals provided by resident PSPs with cards issued by resident PSPs
- Transactions at terminals provided by resident PSPs with cards issued by non-resident PSPs
- Transactions at terminals provided by non-resident PSPs with cards issued by resident PSPs.

In each sub-category you will find the figures for terminals located in the reporting country and for terminals located outside the country, which are quite uninteresting for a country report (e.g. transactions at terminals of a French acquirer outside of France generated by foreign cardholders). Taking into account the relevance of cross-border acquiring, figures of transactions at terminals provided by resident PSPs only may not show card activity at domestic terminals anymore. If a big merchant shifted its acquiring contract to a non-resident acquirer, the transactions would no longer be included in the country statistic, which makes the suggested territorial focus of each country obsolete. Therefore, the ECB statistics are trying to complete the data of the resident PSP with the third sub-category of transactions at terminals of non-resident PSPs, however this data is generated by the resident issuers.

So if you want to find the relevant card activity at the domestic terminals in a country, which is probably of most interest to the reader of the statistics, you have to add up the figures in each of the three sub-categories. By the way, it would be a real improvement if the statistics showed this total to help the puzzled reader. However, what is still missing are the transactions of foreign cardholders at domestic terminals provided by non-resident PSPs! So it is not possible to find all card transactions at the terminals, located in a specific country. Be careful, don´t use the comparison tables, because here all terminals are listed (including the terminals outside of the country)!

Most of the reporting agents and/or NCB in the Euro area (19 member states) are probably overwhelmed by the new methodology requirements for the acquiring side. Six member states (Finland, Portugal, Malta, Lithuania, Cyprus and Ireland) are still not able to deliver data for the three sub-categories.

Even if the data are collected from different resident agents (issuers & acquirers) in a country the result should be consistent with both sides of the market. Otherwise one or both sides report wrong data. The value of card transactions at POS (within and outside the country) with cards issued by resident PSP (issuing side) should be logically higher than the POS transactions made by cards issued by resident PSP at local terminals on the acquiring side (the difference is the volume of card payments by domestic cardholders at terminals outside the country). This is not the case in France, Spain, Greece and Estonia with a mathematical negative sales volume of its cardholders outside the country. Another four Euro-countries with no usable data.

Two other countries (Germany and Italy) show extreme contradictions between in growth rates on the issuing and acquiring side for transactions of domestic cards:

- Issuing POS (in/outside the country):
  Germany (+7%); Italy (+11%)
- Acquiring POS (inside the country):
  Germany (-16%); Italy (-47%)

In both countries the ratio between domestic and XB transactions remained stable in 2015 compared to 2014. Therefore the ECB figures are an insoluble mathematical riddle. Again, two further countries have fallen through the plausibility grid.

In the Netherlands the turnover of domestic cards at domestic POS terminals (acquiring side) is higher than the total domestic card sales volume reported on the issuing side (including CNP business). Logically impossible.

Lastly Slovenia: The ECB reports a low growth of card volume (+1%) on the issuing side. However, the card payment customs changed dramatically within one year. Domestic card usage grew by 75% substituting XB payments (-70%). I guess we missed the exciting news of the introduction of a new Slovenian domestic card scheme not co-badged with international card brands…

Of 19 member states in the Euro area, only 3 NCB were able to present the required data on card business, which passed our plausibility check. The winners are: Austria, Latvia and Luxembourg!

**Data published late is more welcome than early inconsistent data.**

Besides the new residency concept, the second "enhancement" of the ECB statistics since 2014 is the huge extension for data related to e-money, considering the three types of e-money:

- Cards on which e-money can be stored directly (e.g. e-purses like the GeldKarte)
- Cards which give access to e-money stored in e-money accounts (e.g. prepaid Mastercard)
- Account-based e-money (with no access through a card (e.g. PayPal).

These sub-categories make sense and on the issuing side it delivers more information. However, the new residency principle (based on PSP residency) alone hinders the knowledge of the importance of e-money in the member states, because XB issuing is quite usual in this market segment. PayPal and Amazon, both with bases in Luxembourg, are issuing the majority of e-money outside the country.

A second handicap is the still strong position of XB e-money issuance from e-money institutions (EMI) in the UK, where about 40% of all authorized European EMIs are located. In the ECB statistics you will not find any e-money related figures in the country table of the UK. So a large part of e-money transactions are missing in the ECB statistics (Brexit could alleviate this statistical black hole).

On the acquiring side we see a huge granularity for card-based e-money transactions (36 statistical positions), but in most of the member state tables without any figure. One reason for this lack of data is the fact that acquirers cannot identify (and therefore no reporting) prepaid cards with an international brand (Visa and Mastercard) as being e-money.

From a statistical point of view e-money is still mainly an unidentified object. It is still remarkable that this market is intensively regulated, however without knowledge of its regulators regarding its market importance and development in Europe in total and for each member state.

Based on the initial results for 2014 and 2015, we doubt the statement of the ECB that the new payment statistics are an “enhancement”, as declared by the ECB in its press release on the new methodology (October 2015).

On its website, the ECB states: *“Payment statistics provide information on the number and value of payment transactions for each type of payment instrument and service in Europe. They can be used to identify trends in payments and are essential in helping ECB policymakers take well-informed decisions.”* Well, this is an ambitious task for the next few years. For the card payments part of the statistics we suggest making some more effort with plausibility checks before publishing the data. Data published late is more welcome than early inconsistent data. Also fewer but more reliable data would be better than the current situation.

P.S. Dear friends of Lafferty, Capgemini, Timetrics, etc. please don´t base your country card-market analyses too much on ECB figures!

Notes

1 See Malte Krueger: Mobile Payments: The Second Wave, in: Górka, Jakub (ed.): Transforming Payment Systems in Europe, Palgrave Macmillan Studies in Banking and Financial Institutions, 2016, p. 214-235.
2 https://www.juniperresearch.com/press/press-releases/mobile-wallet-spend-to-rise-by-more-than-30-this
3 Robin Arnfield, Strategies for success in the European digital wallet market, Cards International, October 2016, pp. 7-9.
4 Ron van Wezel (Aite Group), quoted in: Robin Arnfield, Strategies for success in the European digital wallet market, Cards International, October 2016, p. 7.
5 Bundesanstalt für Finanzdienstleistungsaufsicht, Alternative Bezahlverfahren, 13.02.2017 https://www.bafin.de/DE/Verbraucher/Finanzwissen/Fintech/AlternativeBezahlverfahren/alternative_bezahlverfahren_node.html
6 In Europe, PayPal initially held an e-money license and subsequently acquired a banking license.
7 In the U.S., PayPal holds licenses to operate as a money transmitter.
8 "Payment initiation service means a service to initiate a payment order at the request of the payment service user with respect to a payment account held at another payment service;" according Art 4 (15) (PSD2 of 25 November 2015). See also PaySys Consultancy (2015): "Who are the new kids on the regulatory PSD II-block?", PaySys Report 01/2015, (http://paysys.de//index.php?option=com_content&task=view&id=42&Itemid=73).
9 EEC Köln: www.ifhkoeln.de/en/ecc-koeln/
10 EHI Retail Institute: www.ehi.org
11 BEVH: www.bevh.org

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