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E-Payment products and value-added services – moving towards an innovative European internal market

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Abstract
Central banks analyse issues concerning retail payments – or just payments – to be able to promote optimal means of payment. Over the years, electronic payments – i.e. payments initiated and settled electronically – have gradually replaced manual paper-based payments on the grounds of convenience, security and efficiency. Moreover, payments become more efficient when services are offered to customers both before and after payment. These so-called value-added services (VAS) are fully electronic services such as e-invoicing and e-reconciliation, which bring time and cost-savings for all participants, as paper-based services and manual work are replaced. In this paper we prove a clear-cut distinction between electronic payment products (e-payments) and VAS. We use the so-called Single Euro Payments Area (SEPA) project as a case study and discuss its current state of fatigue. Based on practical experience in Europe we conclude that the SEPA fatigue can be overcome by real-time settlement for payments and VAS supporting end-to-end (e2e) straight-through processing (STP).

Resumé (Danish summary)
Centralbanker analyserer løbende spørgsmål vedrørende detailbetalinger – eller blot betalinger – med henblik på at fremme brugen af de for samfundet mest hensigtsmæssige betalingsformer. I de seneste år har elektroniske betalinger, dvs. betalinger, der indledes og afvikles elektronisk, gradvist erstattet manuelle, papirbaserede betalinger. Det afspejler den højere grad af bekvemmelighed, sikkerhed og efficiens, som er knyttet til elektroniske betalinger. Derudover kan graden af efficiens øges ved hjælp af tillægsydelser, såkaldte value-added services, VAS. Eksempler på VAS er elektronisk fakturering og afstemning, som er tids- og omkostningsbesparende for alle parter. I dette arbejdspapir forklares begreberne elektroniske betalinger og VAS. Der tages udgangspunkt i SEPA-projektet (Single Euro Payments Area), hvor der i øjeblikket er bekymring over fremdriften. Det konkluderes, at de nødvendige fremskridt kan opnås ved øget udbredelse af realtidsafvikling af betalinger samt tillægsydelser, der understøtter fuld straight-through processing, STP.

Kopsavilkums (Latvian summary)
Centrālās bankas pēta klientu maksājumu – vai tikai maksājumu – jautājumus nolūkā veicināt optimālākos maksāšanas līdzekļus. Gadiem ritot, elektroniskie maksājumi – t.i. maksājumi, kas iniciēti un norēķināti elektroniskā veidā – ir pakāpeniski aizvietojuši manuālos papīra formātā iniciētos maksājumus, galvenokārt dēļ to ērtības, drošības un efektivitātes. Vēl vairāk, maksājumi ir kļuvuši vēl efektīvāki dēļ pakalpojumiem, kas tiek

piedāvāti klientiem pirms un pēc maksājuma. Šie, tā sauktie, pievienotās vērtības pakalpojumi (VAS) ir pilnībā elektroniski pakalpojumi kā, piemēram, e-rēķina un e-saskaņošanas pakalpojumi, kas visiem klientiem dod papildus laika un izmaksu ietaupījumus, jo tiek aizvietots manuālais darbs un papīra formātā esošie pakalpojumi. Šajā rakstā mēs pierādām pārliecinošu atšķirību starp elektroniskajiem maksājumu produktiem (e-maksājumiem) un VAS. Kā piemēru mēs lietojam vienotās eiro maksājumu telpas (SEPA) projektu un apspriežam tā pašreizējo attīstības brīdi. Balstoties Eiropas praksē, mēs secinām, ka SEPA var tikt vieglāk ieviesta, ja tiek virzīts norēķinu nepārtrauktības process maksājumos un VAS, kas atbalsta pilnīgi automātisku visa maksājuma apstrādi.

Note
We wrote this paper while we worked in the Directorate General Payment Systems and Market Infrastructure of the ECB. We are grateful for comments received from Ann Borestam, Monika Hartmann, Patrick Hess, Simon Scott-Kemball, Erik Mansson, Anders Mølgaard Pedersen, Johannes Priesemann, Heiko Schmeidel and anonymous referees. All remaining errors and omissions are the authors'. The views expressed in this paper are those of us and do not necessarily reflect those of the ECB or the Eurosystem.

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Executive summary

This paper aims at describing the European electronic retail payments area via a theoretical classification based on current market practices and to draw conclusions with regards to likely developments in the near future. To reflect current developments the Single Euro Payments Area (SEPA) project is used. With a single set of payments instruments for the European market, SEPA is expected to bring long-term advantages to the efficiency of the internal market.

Electronic payment products (e-payments) and value-added services (VAS) are both examples of electronic products (e-products) in the retail payments market. E-payments are widely used and mainly offered by financial intermediaries as they include settlement. VAS are less used, but are fast developing, as they can be offered by banks as well as non-banks. The expected trend in the future retail payments market is “real-time” settlement for e-payment and end-to-end (e2e) straight-through processing (STP) for VAS. In the Nordic and Baltic countries this is already the norm as intra-day settlement of retail payments and full electronic payment process is offered by most banks.

This paper finds that the scope of the SEPA project must be extended to include standardisation in the field of VAS as stakeholders expect simple and harmonised services ensuring end-to-end STP. Increased competition in the field of payment services can be expected in the years to come due to the implementation of the Payment Services Directive (PSD), which allows Payment Institutions as well as banks to provide payment services.

Introduction

Economic transactions usually involve a payment. But nowadays a payment is not only an exchange of goods or services against money. Payments also include surrounding services that improve convenience, speed and security of payments. The payment market is therefore becoming broader and new suppliers – non-banks such as IT, telecommunication and other service companies – are entering.

On the European arena efforts are made to establish a level-playing field for retail payments the so-called Single Euro Payments Area (SEPA). SEPA harmonises electronic payments denominated in euro but little effort is made to standardise the surrounding services. This may have an impact

on the adoption of the new payment instruments as most end-users especially in the Nordic and Baltic countries expect payments to include these services.

In the retail payment market electronic tools were first adopted with the establishment of automated clearing houses (ACH), where payments are processed without manual intervention via straight-through processing (STP). Electronic payment products (e-payments) have thus existed for decades, but over time it has become clear that some payment instruments are more efficient than others and that their potential is enlarged when they are used in the electronic environment. Surrounding services or value-added services (VAS) are services designed with the purpose of making the payment process before and after payment easier and more efficient for the customer. Combining e-payments and VAS creates large potential savings for the economy, as the whole value chain becomes paper- and cash-free.

Studies conducted by the European Central Bank [12] and the European Commission [10] supports this statement as they show that SEPA represents great potential benefits if the payment instruments are enriched with VAS, such as e-invoicing. If banks fail to provide these services other payment service providers may take over. The introduction of Payment Institutions in the newly adopted Payment Services Directive (PSD) has made this possible [4]. The PSD aims at increasing competition by harmonising the market access requirements for non-banks providing e-products. Until now, mainly providers holding a banking licence or e-money licence have been able to offer e-payments products. Empirical data used in this paper shows that institutions holding a licence often enrich their products with VAS. Payment Institution will in the future be able to compete with banks and other licence holders, such as electronic money institutions (ELMIs). Consequently, the role of non-banks in the financial market may increase over the years to come.

This paper aims at describing the European electronic retail payments area via a theoretical classification based on current market practices and to draw conclusions with regards to likely developments in the near future. Based on this classification and empirical data we will propose avenues how to overcome what we refer to as the "SEPA fatigue" and suggest how SEPA can move to the next level. The paper is organised as follows: first, it

gives an overview of the SEPA project and proposes how to move the project to the next level – eSEPA. Second, it offers a classification of the electronic part of the retail payments market. Third, it outlines the current market practices and shows how the value chain is extended when e-payment products are combined with VAS. Fourth, it discusses the future outlook of SEPA in the light of innovation and market integration.

The technical features of e-products and a classification of the providers (banking/non-banking) remains out of scope of the paper, as both factors bring no additional impact from an economical point of view.

1. The Single Euro Payments Area

Since the establishment of the European Economic Community in 1958, Europe has continuously moved towards a more integrated European financial market. The most visible event was undoubtedly the launch of the euro in 1999, and the cash change over in the euro area countries in 2002. These events marked the move towards the creation of the Single Market. Over the years the European integration increased, but a single market as such did not materialise. Cross-border retail payments continued to be expensive for banks to process, as only a few cross-border payment systems were in place and as the rules and procedures for retail payments differed between countries. This fragmentation in the retail payments market was seen as a barrier for the Single Market. In 2001, the European Parliament and the EU Council adopted a regulation on equality of charge for cross-border payments in euro – Regulation 2560/2001 [6]. The regulation eliminated the difference in prices for cross-border and national payments in euro – all euro payments became domestic. The regulation forced banks to charge the same for cross-border euro payments as for national euro payments. However, the cost of processing cross-border payments remained high for banks due to the fragmented infrastructure. In June 2002, the banking industry joined forces and established the European Payments Council (EPC). The objective was to overcome the fragmentation with cross-border payments by joining the European retail payments markets into one – The Single Euro Payments Area (SEPA).

The EPC focus was to align the interbank procedures so the payment instruments would be based on the same schemes which can be cleared

and settled by any clearing and settlement infrastructure. The focus was the bank-to-bank domain and thus only a part of the full value chain. Mild recommendations were made for VAS in the customer-to-bank/bank-to-customer domain, however, this was not sufficient for stakeholders that, especially in the Nordic and Baltic countries, are used to simple services that ensure end-to-end STP.

1.1. The SEPA fatigue?

28 January 2008, SEPA was launched but only slow take up was observed. Studies by the European Central Bank [12] and the European Commission [10] have shown that fast migration as well as continual development is essential for the success of SEPA. Running two parallel systems would be costly for the banks and to reap of full benefits of SEPA banks should move to a fully electronic environment where customers are offered e-payment enriched with VAS, such as e-invoicing.

Enterprises and public administrations have been encouraged strongly to migrate to SEPA and banks have been pushed to better communicate the benefits of SEPA to their customers. But as customers are used to a highly developed electronic environment the SEPA products must advance to mirror their needs [7]. Otherwise, fast migration is unlikely to happen. Some banks on the other hand are hesitant to invest more in SEPA before SEPA proves itself successful. Some banks may even say that the job is done. Is this the chicken and egg problem? Or, have we reached a "SEPA fatigue"?

In the following sections we will propose a classification of the electronic retail payments market. Based on the classification we will define eSEPA and propose solutions for the market to overcome the SEPA fatigue.

2. eSEPA classification

Customers in the retail payments market are offered a number of products that allows them to purchase good or services at the manned as well as unmanned point of sales. The market continuously grows with new products and new providers, and the borderline between who provides the payment and who provides the surrounding services blurs. In this section we try to classify the electronic retail payments market into two groups – e-payment products (e-payments) and value-added services (VAS) – to reach

a common understanding of who can provide what type of product. This will help set the basis for how eSEPA can evolve.

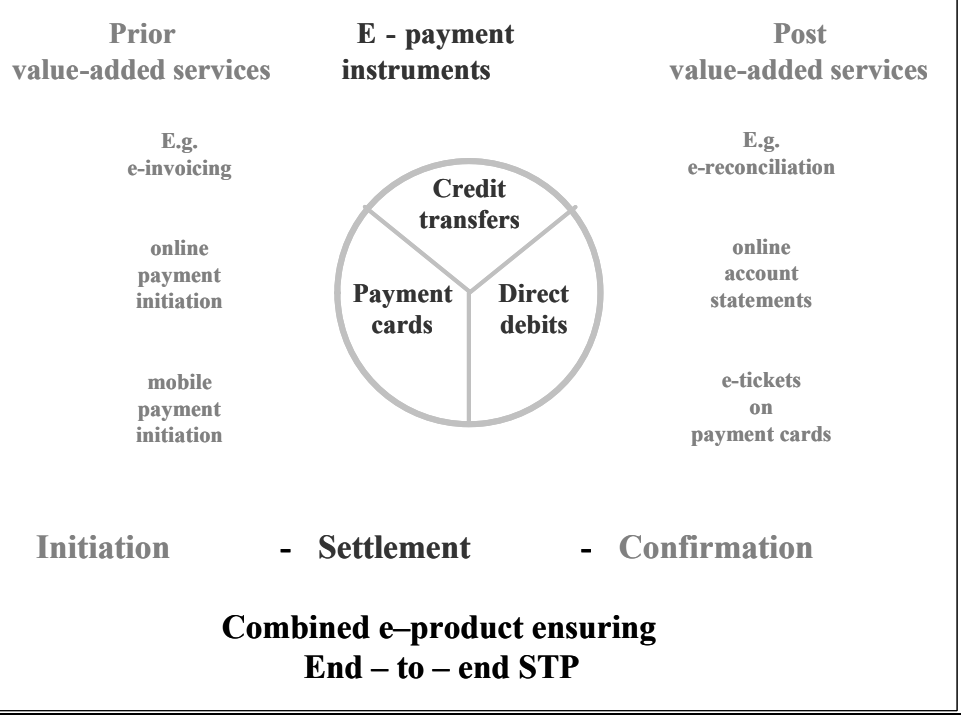
2.1. Classification of the electronic retail payments market

The electronic retail payments area encompasses any electronic tool which provides a mechanism for payment initiation, settlement, etc. This part of the market is changing and developing as fast as the technologies behind it, e.g. the internet, mobile telephones and computers. Given that information and communication technologies (ICT) are overloaded with technical details, we only review the retail payments area by payment instruments, which is the scale already accepted in ECB [5] and BIS publications [11]. E-payments are not a new payment instrument as such. E-payments use the same payment instruments as paper-based payments, but eliminate all paper elements in the initiation, transmission, acceptance and settlement process. For VAS there is no classification available and as a consequence a new scale is presented in this paper, based on their place in the value chain – before or after payment.

The first level of classification is the split between the two main groups of e-products: e-payments and VAS. The key difference between these two products is the settlement of funds. If the e-product includes settlement, it is an e-payment; if not, it is a VAS. E-payments always involve settlement, while VAS only offer auxiliary supporting services to e-payments.

The further classification levels are described in the next subsections: (i) the e-payments are classified according to the adopted instruments (credit transfers, card payments and direct debits), while (ii) the VAS are described according to the service they provide for the customers before and/or after payment.

E-PAYMENTS AND VAS CLASSIFICATION Figur 1



2.2. E-payments

Three e-payment instruments (credit transfers, card payments and direct debits) have proven themselves more cost-efficient [9] as they save the costs of time, paper, manual work, etc. In addition to these three standard payment instruments, the remaining retail payment instruments lie outside the scope of this paper, e.g. cheques which are not fully automated or STP as manual intervention is usually needed. In this paper e-money is not characterized as a payment instrument, but as a settlement mean. This is due to the fact that e-money payments are always done by using one of the three main payment instruments mentioned above. E-money can thus be seen as a mean of funds stored with an e-money institution, as other kind of overnight deposits stored with commercial banks. Based on market practice we provide the following overall description of these three main instruments:

e-card payment

is a retail payment which is done within the electronic environment based on the card number, e.g. internet shopping with payment cards. Card payments can also be fully electronic outside the virtual world – at point of sale, where they are used in combination with a PIN (personal identification number). PINs are usually combined with chip-card technology (EMV:

Europay-Mastercard-Visa standard). Card payments used in combination with a signature is not considered an e-card payment in this paper as the transaction is not paper-free. Contactless cards push the market further, as these chip cards are even easier to use. Payment is verified by touching the terminal and processed by RFID (radio frequency identification) technologies or other NFC (near field communications).

e-credit transfer

is a retail payment which is made within the electronic environment using the account number, e.g. the customer transfers money from his/her account to the merchant's account via an internet banking application.

e-direct debit

is a retail payment which authorises a debit on the payer's bank account initiated by the payee (electronic bill/invoice), on the basis of a pre-authorisation given by the payer. E-direct debit is performed within the electronic environment like the two instruments above.

The classic initiation tools for these electronic payments are the internet, mobile networks and other ICT. Settlement of these payment instruments are done from same-day, overnight and up to D+5 [3]. In the Nordic and Baltic countries the norm is same-day or overnight settlement. From 2012 D+1 will be mandatory in the EU as a result of the new PSD [4]. The expectation is that the market will evolve and reach best practice today – same-day settlement – and eventually "real-time" or more precise continual settlement.

2.3. Value-added services

This paper defines value-added services as electronic services around payments. VAS are not part of the actual payment, i.e. the processing and settlement of funds, but are services designed for customers with the purpose of making the payment process more efficient. VAS are often payment initiation and payment confirmation services.

A value-added service establishes a link between two parties where information is exchanged electronically. VAS are offered alone or in combination with e-payment products. When VAS and e-payments are combined and used in the electronic environment, the whole value chain becomes paper- and cash-free, creating larger potential savings for the economy.

Value-added services replace the flow of paper-based documents. Until now most customers have received a paper bill or companies a paper claim form confirming that a bill has been settled. This working paper only deals with non-paper-based document flows around payments.

The current market for value-added services can be divided into electronic services offered either before or after payment.

Prior VAS are services offered to customers before payment, and are intended to make the process prior to payment easier. On the business' side, this can take the form of electronic distribution of bills, i.e. e-invoicing, and on the customer's side, it is often payment initiation services such as an easy click and pay button on a merchant's online shop.

Post-VAS are services offered to customers after payment. These services often take the form of an electronic notification/approval sent to the customer verifying that the payment has been successfully settled. These post-VAS can help companies organise their internal accounting systems as no manual matching of bill and payment is needed. Post-VAS also provide customers with online account statements, e-tickets, credit advice (an SMS confirming settlement), etc.

The area of VAS is growing rapidly as these services can be offered by any providers as a banking licence is not required [4]. In the Nordic and Baltic countries customers expect that e-payment is combined with VAS as it saves them cost and time by eliminating paper. Non-banks providing VAS only, are not classified as Payment Institutions in the PSD, as VAS are services not including transfer, holding or settlement of funds. Consequently, it can be expected that a comprehensive number of new value-added services will develop in the coming years.

3. The EU electronic retail payments market – current market practices

The ECB conducts regular surveys [8] in close cooperation with other national central banks throughout Europe. The aim is to observe market initiatives in relation to payments innovation and the scope is all initiatives

of innovations related to retail payment instruments in the EU market. The latest surveys was launched in September 2006 and finalised at the end of 2006 and the results is published on www.e-pso.eu. 62 companies chose to participate and described a total of 95 e-products. This section uses the above classification to describe the e-product market based on the survey results.

3.1. Providers

The providers were from 18 different European countries. The number of described products per country ranged from one to 11.

3.1.1. Banking licence and ownership

The majority of the providers (45 providers or 73%) are related to the banking sector either by licence or by ownership, see Figure 2. This group includes providers that are partly or fully owned by banks as well as providers with a full banking licence, a limited banking licence, an ELMI licence[1] or providers in the process of applying for one of these licences.

That the majority of the providers are related to the banking sector could be due to the fact that consumers tend to trust financial institutions with payment related business. Another explanation could be that these providers have an advantage compared to non-banks as a licence is often required for providers to offer payment services that include settlement.

The introduction of Payment Institutions in the PSD may open up the payments market in the years to come as Payment Institution will be offered a single passport for Europe.

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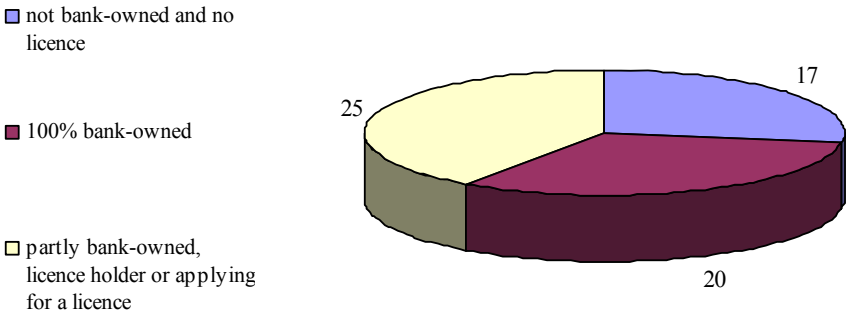
[1] The E-Money Directive (2000/46/EC) limits the issuance of e-money in the EU to traditional credit institutions and to a type of supervised undertaking called an ELMI (e-money institution).

OWNERSHIP AND BANKING LICENCE – NUMBER OF PROVIDES Figur 2

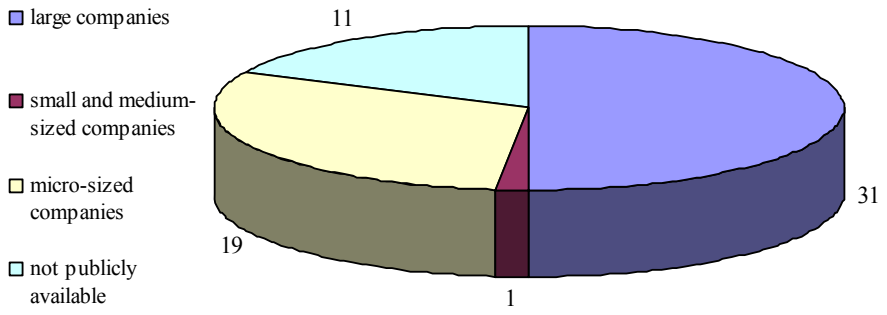


3.1.2 Company size

The size of the companies can also be used to characterise the providers. The companies have been divided into three groups: (i) large companies[2], (ii) small and medium-sized companies (SME) and (iii) micro-sized companies. 31 are large companies, one is a SME and 19 are micro-size companies (see Figure 3).

[2] According to the Eurostat classification, 0-49 employees are micro-sized companies, 50-249 are small and medium-sized companies and above 250 are large companies.

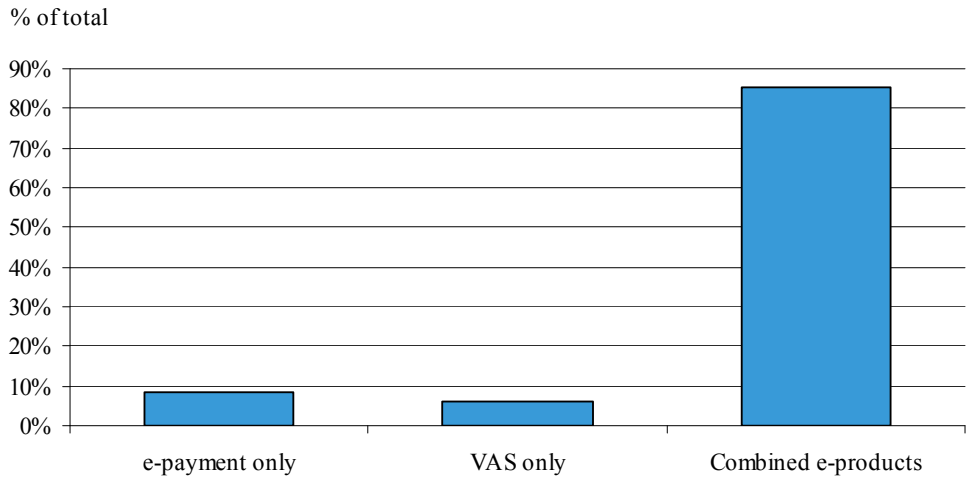
COMPANY SIZE – NUMBER OF PROVIDERS Figur 3



3.2. Products

This section elaborates on the e-products offered by the providers. Using the general grouping based on the classification above, we have distributed the described e-products to produce an EU market profile for 2006

EU E-PRODUCTS MARKET PROFILE 2006 Figur 4



The survey showed that in practice the type of e-products are not as clear-cut as described above; most overlap, as e-payment products use different instruments, VAS products sometimes offer services before as well as after payment, and most products offer value-added services in combination with

e-payments. To simplify the illustration the figure shows the products divided into the three groups: single e-payment products, single VAS (prior VAS/post-VAS or both) and bundled products (VAS + e-payment).

The data shows that 85% of the e-products were bundled products. This is 42% points more than in the 2005 survey [8]. Some of the combined e-products offer prior as well as post-VAS, but the majority offer at least prior VAS.

80% of the value-added services offered were e-invoicing and 53% e-reconciliation. These services were often offered by the banking sector and thus bundled with an e-payment. They are therefore included in the previously described figures for bundled products. Only 6 of the products were VAS only and mainly provided by companies from the non-banking sector.

Single e-payment products were only offered 8 times in the survey. As e-payments always include the settlement of funds all providers hold either a banking or ELMI licence. E-money card, which only function at real POS without providing any additional service is an example of a single e-payment. The low number of e-payment products indicates that when providers offer e-payments it is easy and convenient to bundle them with VAS, e.g. e-invoicing.

It does not make sense to split e-products which are bundled – VAS + e-payment – as it can be expected that these combined products will evolve rapidly in the near future. Based on this assumption, we have described e-products according to their two main types: (i) e-payment products and value-added services combined, and (ii) value-added services or e-payment products offered alone.

3.3. Combined e-products: E-payments and VAS

Combining e-payment products with electronic value-added services such as electronic bill presentation and bill acceptance offers obvious advantages for the financial sector [1], as paper handling is expensive and inefficient. Using internet and mobile banking applications, it has been fairly easy for banks to offer these services and thus made the payment process easier and more efficient for consumers, businesses and banks. It is current practice to offer continual settlement for in-house payments at most European banks. At the moment the best market practice is e2e STP,

whereby payments are identified by a reference number on the original bill [2]. This reference number follows the bill through the payment process. If the numbers match the settlement information is returned to the payee, who can update his/her records. We foresee that this becomes market practice within SEPA.

This subsection explains some typical combinations of e-payment products and value-added services which were observed in the 2006 survey:

3.3.1. Combinations of prior VAS and e-payments

1. **Payments initiated by e-invoice**. The payee will distribute all invoices via his/her internet bank. The e-invoice is sent via the payee's bank to the payer's bank and onwards to the payer's internet banking application or his/her mobile telephone. The payer can then accept or reject the payment. If he/she accepts, the e-invoice automatically creates a payment instruction containing all information about the payer and the payee. This makes the process from bill presentation to settlement paper-free.
2. **Payments initiated by a payment button**. On the merchant's website single-click payments are available using a so-called payment button. From this payment button the payment is routed to the consumer's internet banking application, where the consumer can accept the payment. In similar services the consumers receives and accepts an already filled-in payment form.
3. **Payments initiated in the consumer's internet banking application.** When the consumer is logged into the internet banking application, he/she can choose the merchant's website from a list of merchants. When a purchase is made, a filled-in payment form appears which the consumer then accepts.

3.3.2. Combinations of post-VAS and e-payments

4. **Payments and e-reconciliation** for businesses. When a payment is successfully settled, information is sent to the payee verifying that the consumer has settled the bill. The bill is matched with the payment and the payee's records are

automatically updated. This process is known as e-reconciliation.

5. **Payments and e-tickets on cards**. An airline ticket is for instance purchased with a card payment. When the payment is settled, information is stored in a database. The payment card can then be used instead of a paper-based ticket for authentication that the purchase has been made – e-ticket on cards. The consumer checks-in using the payment card in an unmanned machine.

3.4. Single e-products: VAS or e-payments

Service providers also offer prior and post-VAS alone, e.g. as easy ways for consumers to initiate a payment to a merchant; or an electronic verification of a successfully settled payment. Value-added services do not include settlement and they are often offered by routing companies without a banking licence. The survey revealed two main types of each, as follows.

3.4.1. Prior VAS

1. **E-invoicing,** as in Sec 3.3.1. The only difference is that it is a routing service that is often completed by companies from the non-banking sector. The consumer is notified by e-mail when a new invoice arrives and can then check the invoice and pay it via his/her internet banking application.
2. **Mobile payment initiation** are services designed for small retail payments such as parking, public transport tickets, premium SMS (ring tone services), etc. These services do not provide settlement as the payments and possible commissions are added to the consumer's mobile telephone bills. The bill is eventually settled via normal banking procedures. In most EU countries mobile operators do not hold any type of licence. According to the PSD they will not be classified as Payment Institution, as long as they do not solely act as an intermediary between the consumer and the merchant.

3.4.2. Post-VAS

3. **E-reconciliation** is as described in Sec 3.3.2 but only consists of the matching of the invoice and the payment. The services can thus be offered by routing companies from the non-banking sector.

4. **Confirmation of settled payments.** This group comprises a wide range of e-products: e-tickets by reference number; payment confirmation to the merchant; or credit advice – SMS confirming settlement, i.e. another form of account statement. These services are mainly designed for consumers who receive an email or an SMS verifying that the payment is settled. For airline e-tickets, this verification consists of a reference number which is used for check-in.

3.4.3. E-payments

Some e-products offer e-payments alone as they provide consumers with an electronic tool to initiate and settle a payment but do not offer any additional service. Providing single e-payments are becoming very rare in the market as most providers offer e-payments in combination with VAS.

The most typical examples of single e-payments are:

1. **Card payments** initiated by a payment card using a PIN: Consumers can make payments at point of sale or make cash withdrawals at ATMs by using their bank card with their PIN. These cards are currently using either magnetic-strip or chip technology.

2. **Card payments initiated by a prepaid card:** Consumers can make payments at merchants that accept the prepaid card e.g. canteen cards and telephone cards. Prepaid cards also use magnetic-strip technology. No authorisation is needed as prepaid cards are not personalised.

Based on the fact-finding results from the surveys [8] and the given examples from this empirical part of the paper, we conclude that in Europe the following e-products have the largest market share:

E-payments initiated by an e-invoice. This combination was offered by the majority of the e-product providers in the 2006 survey, and the paper-

free process from bill presentation to settlement is very popular among consumers as well as businesses, and is assessed to continue to grow in the near future.

The other important combined product is **e-reconciliation based on e-payment**. This combined e-product also optimises the current retail market as the manual matching and updating of accounting systems disappears.

We foresee that these three products – **e-invoice, e-payment and e-reconciliation** – will be combined and offered as a standard solution to businesses. This trend can already be observed in the Nordic and Baltic countries where most consumers and businesses use an internet banking application which has made it simple for banks to offer e-invoicing and e-reconciliation services to their customers.

4. SEPA – the next steps

Until now the focus of the SEPA project has been to ensure that the common practice to use STP within the banking sector for the final settlement of funds is continued SEPA-wide. As a result e-payments can be made in accordance with the SEPA payment schemes irrespective of borders via STP. However, the clearing and settlement of payments between banks only encompasses parts of the value chain. To ensure customer-to-bank-to-customer or e2e STP, any single entity must be offered the possibility to use prior VAS (e.g. to initiate payment or to access the payment area electronically) and post-VAS (e.g. receive confirmation of a settled payment or view account statements electronically).

As shown in the empirical analysis above national communities have started to adopt the e2e STP mechanism based on e-invoicing and e-reconciliation services. In Denmark the e-Government initiative requires that all suppliers use electronic invoicing if they do business with the Government [16]. Additionally, e-invoicing is becoming more and more common for private consumers in both Latvia and Denmark. If SEPA does not accommodate this practice customers are unlikely to migrate to the new products. So far only mild recommendations are in place for the customer-to-bank-to-customer domain [14]. Difficulties therefore emerge when providers wish to offer their services to the European market or if

customers want to use the same services across SEPA. The scope of the SEPA project must therefore be enlarged if SEPA is to be successful.

4.1. “Real-time” settlement and standards for VAS

In the current market "real-time payment guarantees" are often provided, assuring that the payment will take place in the future. This "real-time payment guarantee" means that funds are reserved for further execution, but the payee has not yet received the money – i.e. the funds are still on the payer's bank account. The final execution sometimes takes more than three days. For in-house payments, it is best practice for most Nordic and Baltic banks to offer their customers immediate settlement of electronic credit transfers.

For customers, real-time or more precise – continuously settled payments means that the time from the payment is initiated to when the money is actually withdrawn from the payer's account and transferred to the next receiver in the value chain is without holding the funds. “Real-time” or continual settlement of retail payments represents a continuous flow of money from customer to customer. The whole payment mechanism will then be without manual intervention (in other words – STP) and without any delay in the movement of funds.

As retail payments are not time-critical, there is no need for an RTGS mechanism. The infrastructure for these payments can still be based on the ACH mechanism with clearing cycles. The STP is the main precondition for any sender's or receiver's bank in the value chain. This ensures that the payment is settled in the payee's account immediately after the funds are debited the payer's bank account. No time-lag is thus present in the value chain and the payee receives information about the settled payment as soon as the final settlement between the two intermediaries is done in the infrastructure (ACH).

The SEPA payment schemes has defined the maximum settlement time to D+3, but as of 2012 the PSD will ensure that all e-payment as a minimum will be settled overnight – D+1. However, the goal should be continual settlement, where payments are settles virtually immediately after initiation which is already the case in some Baltic countries.

To support continual settlement, it is important that an e2e STP infrastructure is prepared. The first step in achieving consumer-to-

consumer STP is to ensure business-to-business STP, as businesses drive the market due to their extensive use of VAS. When business-to-business STP is ensured the expansion to consumer-to-consumer STP is the next step forward, as the similar standards can be used. The aim is thus to set a standard for identifying a bill through the payment process.

The basic standards of retail payments are IBAN and BIC, which identify the account and the bank of the payer and payee. These two standards were adopted for the SEPA schemes and fully satisfy banks needs, but are not sufficient when the broader market is to identify a payment. If customers are to migrate to SEPA payments their needs and requirements must be met. Empirical data has shown that e-payments already are enriched with VAS at community level. As long as no customer-to-bank-to-customer standards are defined for SEPA each community will develop community VAS and bundle them with the SEPA e-payments. E2E STP will only be ensured at community level and a new fragmentation of the European retail payments market will materialize.

The possibility of this new European fragmentation has become more apparent after SEPA was launched in January 2008. The EPC has decided to enlarge their scope and work has started on electronic ways to initiate SEPA credit transfers and SEPA direct debits. The European Commission has additionally launched an e-invoicing Expert Group which task is to identify regulatory and standardisation issues and to create a European e-invoicing Framework. The group will publish an interim report end of 2008 [15]. Other market initiatives aim at standardising the structured remittance field in the payment massage which will allow e-reconciliation.

Slow progress is seen but developments must accelerate as community initiatives especially in the Nordic and Baltic countries are evolving fast. If the regulatory differences for e-invoicing, e-archiving etc. can be harmonised across Europe and the market can agree on common standards for the initiation and confirmation fields of the payment message, the main stumbling blocks are overcome and SEPA-wide e2e STP can be reached.

Conclusions

The main conclusions from the paper are as follows:

- ✓ Two main categories of e-products can be classified: e-payment products and value-added services. The difference between the two is the settlement of funds. If the e-product involves settlement it is e-payment, and if it is an auxiliary service surrounding payment, it is a value-added service. Both e-product groups are further subdivided. Three main e-payment instruments are identified, while value-added services are split by their place in the value chain, i.e. before or after payment.
- ✓ There are two main e-product combinations: e-invoicing and e-payments, which allows consumers and businesses to electronically initiate (businesses) and pay (consumer) bills, and e-payments and e-reconciliation, which allows businesses to receive information directly in their accounting systems that a bill has been settled.
- ✓ The market has also developed e-products which are only VAS, i.e. e-products without settlement of funds. These services are mainly prior-VAS, e.g. routing of bills or sending e-mails to consumers notifying them of waiting e-bills. Growth can be expected for post-VAS, e.g. credit advice – an SMS confirming that a payment has been settled – as this group is now less represented in the market.
- ✓ Further developments are standards in the consumer-to-bank-to-consumer domain allowing e2e STP mechanisms with continual settlement. This will ensure that the settlement occurs without holding the funds and without the use of paper or manual intervention. These developments will be achieved when value-added services and e-payment products are combined and made available for any single entity.
- ✓ In terms of the likely future developments of the European retail payments area, as suggested in the goals of the Lisbon Agenda [13], increased use of e-payments in combination with value-added services should take place and is expected to yield large economical benefits for the economy.

- ✓ Empirical data has shown that institutions holding a licence often enrich their products with VAS. The introduction of Payment Institutions in the PSD may increase competition in the field of payment services.
- ✓ SEPA is already covering most e-payments. An enhanced SEPA layer including value-added services may be reached by structuring e.g. the remittance field and developing a framework for e-invoicing. This would be the first step in achieving e2e STP of all SEPA payments.

Abbreviations

ACH – automated clearing house

B2C – business-to-consumer

BIC – Bank Identification Code

BIS – Bank for International Settlements

D+1 – the working day after the payment is accepted

e2e – end-to-end

ECB – European Central Bank

EMV – Europay International, MasterCard International and Visa International joint specifications

IBAN – International Bank Account Number

ICT – information and communication technologies

NFC – near field communications

PI – payment institution

PIN – personal identification number

POS – point of sale

PSD – the Payment Services Directive approved by the European Parliament and of the Council on payment services in the internal market

RFID – radio frequency identification

SEPA – Single Euro Payments area

STP – straight-through processing

VAS – value-added services

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