IESE Business School
University of Navarra

Working Paper
WP-752
May 2008

THE USE OF PREPAID CARDS FOR BANKING THE POOR

COMPARATIVE STUDY ANALYZING THE DEVELOPMENT OF PREPAID SYSTEMS IN THE UNITED STATES AND EUROPE

Francesc Prior

Javier Santomá

IESE Business School – University of Navarra
Av. Pearson, 21 – 08034 Barcelona, Spain. Phone: (+34) 93 253 42 00 Fax: (+34) 93 253 43 43
Camino del Cerro del Águila, 3 (Ctra. de Castilla, km 5,180) – 28023 Madrid, Spain. Phone: (+34) 91 357 08 09 Fax: (+34) 91 357 29 13

THE USE OF PREPAID CARDS FOR BANKING THE POOR

COMPARATIVE STUDY ANALYZING THE DEVELOPMENT OF PREPAID SYSTEMS IN THE UNITED STATES AND EUROPE

Francesc Prior[1]

Javier Santomá[2]

Abstract

Prepaid products can become effective instruments for banking the poor since they can be used for collecting microdeposits and as a result operate as low cost accounts. Prepaid platforms have characteristics that make them especially useful for developing low cost microfinance business models. Indeed, customers using prepaid systems do not need bank accounts, debit or credit cards. Prepaid issuers do not need to develop or invest in new technologies since this mechanism can be used on a number of platforms such as PCs, mobile phones, hand-held and set-top boxes. Moreover, prepaid products are especially designed for offering services demanded by the poor such as micropayments, microdeposits or even microcredits. Finally, they allow users to control their cash flow by receiving statements (some providers offer this feature online, others provide physical statements) or accessing balances through PCs, mobile phones, hand-held and set-top boxes.

Other than collecting microdeposits, prepaid products (or SVCs as they are called in the United States) also offer other services that can be very valuable for serving the unbanked population. As presented in this document, prepaid products generally lack the identification and credit requirements that effectively bar millions of individuals from opening traditional bank accounts, especially in the United States. In addition, prepaid products can be purchased and reloaded at a growing number of locations other than bank branches, such as check cashers, convenience stores and other retailers. Prepaid instruments can also provide immediate availability of funds at costs that are, in some cases, lower than other alternatives for unbanked consumers; in addition, prepaid products are difficult to overdraw, reducing the likelihood of unexpected fees. Finally, many prepaid issuers offer some sort of bill pay option, especially branded cards that enable signature-based transactions and a significant number offer remittances.

[1] Researcher, IESE

[2] Professor Finance, IESE

Keywords: Prepaid card, microdeposits, mobile phone, stored value card, e-money, banking the poor.

THE USE OF PREPAID CARDS FOR BANKING THE POOR

COMPARATIVE STUDY ANALYZING THE DEVELOPMENT OF PREPAID SYSTEMS IN THE UNITED STATES AND EUROPE

1. Introduction: Review of Card Systems

The emergence of card systems is one of the major drivers that explain the development of electronic retail payment systems. Cards can be used for basic payments functions such as cash withdrawals at ATMs and EFTPOS (Electronic Funds Transfer Points of Sale), where cash-back is offered, and purchases at retailers with EFTPOS. EFTPOS can be physically located at a store where the payment is made, or located in a remote location (virtual EFTPOS). Virtual EFTPOS allow for additional payment functions such as bill payment, internet purchases or direct debits. However, depositing cash in a card (Cash in function) is limited to stored-value (prepaid) cards, and depends on the regulation of both stored-value cards and e-money.

The objective of this technical note is to analyze how stored-value cards could be the basic element of a payment architecture that would allow not only withdrawals (at ATMs and EFTPOS with cash-back function), and purchases at EFTPOS, but cash deposits as well. This payment architecture, coupled with the other elements of the general framework, (Santomá and Prior, 2007) and distributed using cellular technology, could form a model for the distribution of microfinance services aimed at banking the poor.

Card payment systems can be classified according to the way transactions are authorized and authenticated. First, whether the transaction is authorized using a line of credit, the actual value of deposits in the bank account (debit), or the amount of e-money in an internal account (prepaid). Second, whether the transaction is only authorized when the acceptance network is online or also when the system is offline. Third, whether the transaction is authenticated by inserting the personal identification number (PIN) or by signing the receipt (either physically or electronically).

Types of Card Products Based on Authorization and Authentication Mechanisms

	Credit	Bank account balance	Internal account	Online	Offline	PIN based	Signature based
Prepaid			Yes	Yes	Only if PIN based	If POS enabled, always in ATM's	If POS not enabled
Debit online		Yes		Yes	For very limited transaction amounts	If POS enabled, always in ATM's	If POS not enabled
Debit Offline	Yes				Yes	If POS enabled, always in ATM's	Yes
Credit	Yes				Yes	If POS enabled, always in ATM's	Yes

These three characteristics determine the types of cards currently available and their payment functions. Credit cards were the first type of cards issued in the United States. This product allows credit card holders to buy products or services at retailers with EFTPOS for an amount less than, or equal to, its credit limit. Additionally, this type of card can be used when the EFTPOS is offline, as long as the transaction does not exceed the value determined for this type of transaction (this maximum value or back-up parameter is usually large enough to allow for the necessary expenses when the customer has no access to an EFTPOS online). The authentication mechanism for credit card transactions at EFTPOS has traditionally been signature-based. However, in some countries such as France, and recently worldwide due to the EMV initiative, EFTPOS will require authentication using the PIN number. The authentication mechanism for credit card transactions at ATMs is PIN-based. Cash-back at EFTPOS is not currently available for credit cards in the United States.

Online debit cards were issued later by financial institutions mostly in Western Europe and other regions of the world. In the United States its deployment has been slower, due to the importance of offline debit, although this is changing progressively. Online debit cards were originally marketed as ATM cards to allow cardholders to withdraw money from their bank accounts. As a result, every debit card transaction has to be authorized by verifying online the monetary value of the bank account linked to the debit card. Transactions will be accepted if the amount of the transaction is not higher than the monetary value of the bank account (in some cases including its overdraft limit). Debit cards are also currently being used to buy products or services at retailers with EFTPOS, although for those transactions to be approved, the EFTPOS has to be connected online through its switch to the core banking platform of the issuer. If it is not online, issuers in some countries give some back-up parameters to allow micro-transactions while the EFTPOS is offline (less than €50[1]). In the United States, the authentication mechanism used for online debit is PIN-based, which allows the cash back function to be more widely developed. In other areas of the world, however, online debit authentication is signature-based, which does not support the development of the cash-back function.

[1] Amount defined by Porteous (2006) as the limit for micro-transactions.

Offline debit is a product mainly developed in the United States, and is still predominant in terms of debit cards in that country.[2] However, due to the legal process launched by Wal-Mart in 2003,[3] its importance has decreased considerably over the past years. Its main difference with online debit is that the types of EFTPOS that accept this product are not connected to the core banking system of the issuing bank, but instead to the credit payment networks of Visa and MasterCard. As a result, the authorization mechanism used verifies the credit limit that both payment networks have stored in their authorization databases. This credit limit is calculated every few days based on the information provided by the issuer in terms of the monetary value of the bank account of the cardholder linked to this debit card. However, is does not reflect the exact value online, and therefore generates an overdraft risk for the issuing institution if the cardholder spends more than the monetary value of the bank account. The rest of the offline debit features are similar to credit cards, since both products are marketed and accepted by the same payment networks. To summarize, offline debit cards are credit cards (they have credit card BINs[4]), but payable the following day by the cardholder (or the number of days that the system takes to settle the transactions).

Stored value cards or prepaid cards are the last type of cards that have been launched in the market by card issuers. This product allows cardholders the same payment functions as online debit, but the main difference is that the transactions are not authorized by verifying the monetary value of the bank account linked to the debit card, but instead the authorization process is based on the monetary value of the internal account that the prepaid card is linked to. This monetary value is stored in a database that manages this type of internal or prepaid accounts. The legal definition of prepaid accounts is one of the most important topics that this analysis will cover, as the additional functions that these types of accounts could have if the appropriate regulatory framework was applied. The ultimate goal of this study is to analyze how stored value cards could be used to collect deposits in a payment architecture where any EFTPOS, ATM or other terminal connected online to the payment systems could perform this function for any given issuer. However, a basic understanding of how prepaid systems currently work is required in order to achieve this goal, as onffined in the following brief description.

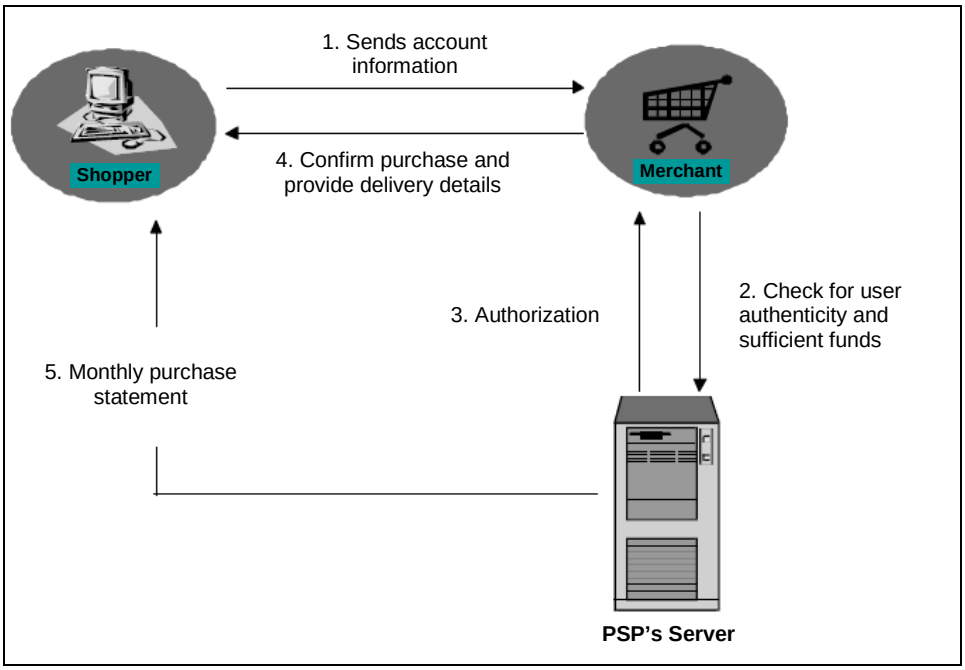
When a consumer buys a product or service using a prepaid card from a merchant, either at a physical store (physical EFTPOS) or from an online retailer (virtual EFTPOS), the customer swipes or inserts the card in a physical EFTPOS, or inserts the card number in a virtual EFTPOS online. The EFTPOS establishes a secure protected connection (Secure Sockets Layer- SSL) with the server of the prepaid service provider (PSP). The server authenticates the customer either by using a PIN or his or her signature - physical or electronic - and checks the amount of funds available in the prepaid account (value of the prepaid account) in order to approve the transaction. The PSP sends the information to the merchant regarding whether the transaction has been approved or declined; if it is approved, the PSP credits the account of the merchant (only for accounting purposes) and debits the account of the consumer. Once the transaction is approved, the merchant confirms the purchase and provides delivery details if the transaction is online.

At the end of the day, the merchant sends the PSP the total amount of transactions approved, and the PSP settles the payments the following day (or the number of days agreed upon in the contract) by crediting its bank account. The settlement account of the merchant cannot be its

[2] The Federal Reserve Payments Study, 2004.
[3] Barr, M., "Banking the Poor." The Brooking Institution. Washington D.C. 2004.
[4] Bank Identification Number – the first six digits of a credit card, which identify the issuing entity.

prepaid account since the regulator (when the regulator regulates e-money or prepaid accounts) establishes purse limits that are usually too small for merchants. The consumer can load its prepaid account using a variety of systems that depend on the local legislation of e-money. Usually, prepaid accounts can be loaded online or by phone at a participating retailer, or at the branches of the PSP, if it has any. Prepaid accounts allow also the consumer to withdraw cash at any ATM connected to the system, at POS connected to the system with cash-back function, or at any participating retailer or branch of the PSP.

Processing POS Payments Using the Prepaid System[5]



Prepaid platforms have characteristics that make them especially useful for developing low-cost payment systems:

1. Customers using prepaid systems do not need bank accounts, debit or credit cards.
2. Users do not need to develop or invest in new technologies.
3. This payment mechanism can be used on a number of platforms such as PCs, mobile phones, hand-held and set-top boxes.
4. It is a payment system especially designed for micropayments, microdeposits and even microcredits (Banco de Crédito del Perú, Tarjeta Solución Negocios).
5. It allows users to control their cash flow by receiving statements (some providers offer this feature online, others provide physical statements) or by accessing balances through PCs, mobile phones, hand-held and set-top boxes.

Prepaid or Stored value cards (SVC) use accounts to manage funds in real time through host computer systems. The accounts are held in a single concentrator account with different subaccounts for each card. Some are "pooled" accounts and some, for accounting purposes, are

[5] Chepe, 2003.

actual bank accounts held by the individual consumer, depending on how the issuing financial institution treats the accounts. These cards have similar POS and ATM functionality to regular debit or credit cards. However, SVC cards have the additional feature of being reloadable in a variety of ways at a range of locations. That is why SVCs' functionality closely resembles that of traditional bank accounts, and thus the basis of the model proposed.

2. Review of the Prepaid Industry in the United States

SVC systems in the United States operate in two ways. One is the "closed-loop" system, which can only be used for the issuers' products or for limited purposes, such as prepaid gift cards at retailers like Borders or Starbucks in a closed payment network.[6] The issuer and the merchant are therefore the same entity. The second one is the "open-loop" system that offers consumers the ability to utilize their cards for multiple purposes, such as making purchases at a variety of stores or paying bills. These cards are accepted in payment networks open to multiple issuers, where merchants and issuers are different institutions. This open payment infrastructure is the basis of bank card systems and therefore currently used for debit and credit cards.

Closed-loop SVCs were first introduced in the early 1990s and open-loop cards became available by the middle of that decade. Closed-loop SVCs were originally used as a payment instrument in retail stores (sometimes provided as gift cards), but are also extensively being used as a payment instrument in transport systems and mobile telecommunications. Originally, retailers and department stores developed this kind of system to avoid paying discount fees to merchant banks.[7] Closed-loop SVCs do not belong to payment networks[8] and as a result are also called "non-branded cards."

Open-loop cards offer consumers the ability to use their cards for multiple purposes in multiple locations. Open-loop cards are therefore the equivalent of online debit cards for unbanked customers. "Open-loop" cards are accepted in open branded networks such as Visa or MasterCard and therefore are called "branded cards." MasterCard, Visa, American Express or Discover branded cards use both signature- or PIN-based authentication mechanisms. MasterCard and Visa branded SVCs currently dominate the market, although Discover and American Express branded-SVCs are becoming widely available as well in the United States. Their competitive position might also strengthen in light of recent antitrust lawsuits brought against Visa and MasterCard. Discover, for example, purchased Pulse EFT Association, an electronic funds transfer (EFT) network with over 4,000 financial institution members. This could have further implications on future branding for SVCs.

Open-loop SVCs can be grouped into three categories: First, payroll-only cards, which can be used only for direct deposit of paychecks or, in some cases, for receiving other automated clearinghouse (ACH) deposits, such as Social Security payments; second, reloadable payroll cards, which serve primarily as direct deposit cards for payroll checks but offer consumers other ways to reload the cards; and third, general purpose reloadable debit cards, which consumers can reload in a variety of ways at a range of locations.

---

[6] These kinds of closed systems are also called private networks.
[7] Discount rates are paid to banks by retailers, when customers use bank-issued cards to pay for goods at a EFTPOS.
[8] Branded networks such as MasterCard and Visa.

Payroll-only cards were thought to be one of the most promising types of SVC products. However, they are generally used only for direct deposit of paychecks and other automated clearinghouse (ACH) deposits, such as Social Security or disability payments. Typically, SVC providers market payroll cards directly to employers, who then distribute the cards to their employees. Most SVCs do not currently work in a way that allows a single card to contain all levels of functionality-payroll, general spending, etc. Consumers who have payroll cards, for example, may not be able, or may be unaware, that they are able to load other deposits besides payroll deposits onto their cards.

Many payroll cards are only set up to accept streams of direct deposits; manual reloads might not be available. However, some providers offer reloadable payroll cards. Integrating different types of SVCs and adding functionality, such as ability to reload, payroll direct deposit, bill payment, and so on, are important innovations for the future of SVCs that would provide more benefits to consumers.

A few recent papers have examined the role of SVCs in serving unbanked and underbanked markets in the United States. Frumkin, Reeves and Wides of the Office of the Comptroller of the Currency (2003) identified payroll card SVCs that can be used for the direct deposit of paychecks, without a necessary link to a bank account, as an innovative product for reaching unbanked and underbanked markets, and conducted a survey of financial institutions in the payroll card market. However, banks have not taken an active role in the market. They are still studying and trying to understand how payroll cards can be sufficiently profitable by exploiting cross-selling opportunities with the unbanked.

The possibility of using SVCs for asset- and credit-building purposes was first raised by Seidman and Tescher (2003) in a paper discussing the convergence of the interests of the financial services sector and low-income consumers. Seidman and Tescher pointed out the growing prevalence of SVCs in low-income markets and the need for greater consumer protections and functionality for these cards in order for them to truly mimic bank accounts.

SVCs could be a valuable financial tool for the unbanked population in the United States for several reasons. First, SVCs generally lack the identification and credit requirements that effectively bar millions of individuals from opening traditional bank accounts (Bair, 2006). Second, SVCs can be purchased and reloaded at a growing number of locations other than bank branches, such as check cashers, convenience stores, and other retailers. The ability to load cards in multiple fashions at a variety of locations is the key to success for these products and therefore retail distributions are key to SVC providers (Barr, 2004). This is why they are pursuing partnerships with money-service businesses, convenience stores and other retail distribution channels to increase SVC users' reloading options. Third, SVCs can provide immediate availability of funds at a cost that is, in some cases, lower than other alternatives for unbanked consumers. Fourth, SVCs are prepaid and difficult to overdraw, reducing the likelihood of unexpected fees. Fifth, many SVCs offer some sort of bill pay option, especially branded cards that enable signature-based transactions. Since many SVC users are unbanked, the functionality of paying bills without using checking accounts or money orders is important. However, most bill pay options for SVC users are online or in-person. Additional physical options are required, such as self-service bill pay at kiosks in retail locations that could provide additional functionality for unbanked consumers (Intelecard News Online, 2004). Sixth, a significant number of SVCs offer remittances. This feature allows U.S. cardholders to transfer funds to authorized family members in other countries. SVC-based remittance features are structured in at least two ways. Sometimes, dual cards are issued to customers, and one of the cards is sent to family in another country to access funds from the sender's "account" via

ATMs. Other cards allow cardholders to designate "subaccount" holders in other countries for the purpose of transferring money. In these cases, the subaccount holder has access only to the money that the primary account holder designates to share.

2.1. The Development of the Stored Value Card Industry in the United States

It is difficult to estimate the current size of the SVC market. Closed-loop gift cards are by far the largest market segment. However, no publicly available data sources on SVCs exist. Two consulting companies have estimated both the dollar volume loaded onto prepaid instruments and the number of prepaid cards in the market. Mercator Advisory Group estimated that the dollar volume loaded onto "prepaid instruments," including non-card prepaid instruments such as prepaid wireless telephone services was $157 billion in 2003. According to Mercator, the gift card and government program card segments were the largest segments with each accounting for 25% of the total. The second most important segment in terms of dollar volume loaded were the payroll and other employee benefits cards, accounting for 17% of the total, while general spending products accounted for 15%.

On the other side, The Pelorus Group measured the market size based on the number of cards issued, counting card products only. In 2003, Pelorus estimated that the U.S. market of open-loop SVCs was 15 million "prepaid debit cards." This study estimated that general spending cards accounted for the largest share at 35%, followed by government benefit and child support cards at 29%, payroll cards at 25%, and other cards such as flexible spending account cards at 11%.[9]

An increasing number of companies are attempting to compete in the Stored Value Card industry in the United States. Currently, the market includes hundreds of marketers, distributors, processors and issuers. The number of cards and providers in the market has grown rapidly. MasterCard claims to have more than 200 SVC programs of different types with 100 issuers, and double-digit increases in relationships with third parties and SVC processors in the last few years (Martin, 2004).

Given the various functions involved in offering SVC issuance, transaction processing, funds management, customer service and recordkeeping, it can be complicated to define roles and responsibilities. For instance, several banks have their own SVC programs in which they use third-party transaction processors, but many of them also serve as issuers for other non-bank SVC programs, which may use different transaction processors. A few SVC providers are vertically integrated, handling nearly all of the functions internally, while others outsource everything except sales and marketing. The majority of SVC providers outsource the transaction processing to one of the many firms that have developed special software platforms for running SVCs.

The major players in the U.S. market today include bank providers/issuers such as BANKFIRST, Bank of America, Citibank and JP Morgan Chase; providers of reloadable prepaid debit cards such as Green Dot, NetSpend and Next Estate; SVC processors such as Metavante, StarSystems, WildCard and Galileo; providers of back-end services for SVCs, including ATM and POS processing; and payroll firms such as Paychex and Comdata. The distinction between products that are distributed by financial institutions and those distributed by non-bank firms is an important one. Products distributed by banks and credit unions are more likely to have

[9] Miezejeski, 2004.

additional consumer protections, lower pricing (because fewer actors are involved), and more obvious transitions into other financial products and services.

SVCs offer interesting opportunities for banks that see low-balance savings accounts as cost-prohibitive products. If the SVC industry can figure out a way to offer savings and other benefits to previously unbanked consumers, it would be a win-win proposition for customers and companies alike. As issuers, banks hold the funds underlying stored value cards in a variety of ways. Some banks hold the funds off-balance sheet, in fiduciary accounts. Others hold the funds on the balance sheet in pooled accounts, perhaps in the name of the card's distributor or, in the case of payroll cards, in the employer's name, while still others provide individual deposit accounts in the name of each cardholder.

For large banks, interest in SVC products may be partly due to their greater involvement in the payroll card market than in the general spending market. SVCs are therefore sold to employers, who offer the cards to employees and provide consumer protections similar to those enjoyed by traditional bank account holders. Payroll cards give banks data about customers that could then be used for opportunities in cross-selling other bank products.

On the other hand, certain small regional banks, such as Central Bank of Kansas City and University Bank in St. Paul, have created new SVC programs that are intended to serve as entry-level products for consumers that might access additional bank services in the future. In another recent development, New York Community Bank, the fourth largest thrift in the country, has begun to offer SVCs in its branches. The bank is marketing the cards as entry-level products, and is also marketing to customers who are denied checking accounts or who prefer prepaid instruments.

Non-bank firms are beginning to replace bank distributors as the protagonists in finding ways to add enhanced features to SVCs that could, as the marketplace matures, provide increased service to lower-income consumers. Perhaps because of regulatory uncertainty, to be discussed later, or a more conservative approach to entering new markets, banks are lagging behind in innovation of these products.

However, the most important remaining challenge for SVC issuers is to determine a business model that assures profitability. Issuers do not currently know what features make products successful. However, some facts are clear: first, a large scale is needed in order to be profitable. Second, in order to develop a profitable SVC business model, CRM (customer relationship management) strategies using data mining processes are required. These processes are already widely used in the credit card industry, and therefore the synergies between credit card issuers and SVC issuers need to be exploited. SVC providers need to take into account how many cards are active in their system, how much money is loaded onto each card, how frequently the cards are used, the number of transactions occurring each month, and how much unspent money is left on unused cards.

SVC's main income streams are fees paid by cardholders for activation, maintenance and debit transactions, as well as interchange fees from merchants and earnings from float on the funds held. The lack of consensus around the key profitability drivers might help explain the wide variety of pricing structures and fees levied by SVC providers. The business case has not been clearly defined and SVC issuers are unclear on what specifically attracts consumers to stored value products.

Although the increasing competition in the marketplace is driving down the price of SVCs, they are still higher than regular bank accounts. The fees that consumers might pay to sign up for

and use a general purpose SVC are estimated at $25.45 per month (source: Center for Financial Services Innovation, 2007). Costs of a regular bank account are lower. Bankrate.com conducted a survey of checking accounts in spring 2003 and discovered that the average monthly fee for a non-interest bearing checking account in the country's 25 largest markets was about $6 (Bruce, 2003). Therefore an SVC could be a highly expensive option, perhaps even more costly than using a check casher for basic transactions. In other cases, however, an SVC with a lower pricing structure, or a structure that is consistent with the holder's usage pattern, could be cheaper for certain consumers than using a check casher.

Prices could come down if additional income revenues were exploited. One potential feature that is currently lacking in most SVCs is the ability for cardholders to save and build assets. Families with relatively low incomes have assets that could be stored in a savings vehicle (Hogarth and Anguelov, 2003), but many of these families may not have access to traditional accounts at banks or credit unions. Therefore, demand for savings features in SVC products is potentially high.[10]

Research shows that lower-income consumers desire products that provide a safe, convenient and inexpensive way to pay bills, make purchases, save, and build credit. For example, a 2000 industry survey of check-cashing customers showed that 49% would use savings accounts if they were available from their regular check-cashing outlets (Eric Mower Associates, 2000). Market research in lower-income urban markets showed that an overwhelming majority of low and moderate-income consumers, given the opportunity to spend $10,000, would invest the money in some type of asset-building opportunity (MetroEdge, 2003). But in order to save, lower-income families need a) opportunity, or the ability to access a savings vehicle; b) incentive, or the ability to earn interest on funds; and c) motivation, such as direct deposit, which makes automatic saving much easier.

A few SVC companies have experimented with offering savings features with their cards. Directo included a savings component as part of the bundled services offered with its card program, but the company suspended it in part because few customers were using the feature. NetSpend, one of the largest SVC providers in the United States, launched an initiative to link a savings vehicle with its SVC. IndiGOCARD started a program linking savings accounts to its SVCs but has marketed it as an overdraft protection program. Linkages with savings accounts, tax refunds (such as the SVC programs offered by Jackson Hewitt and H&R Block), Individual Development Accounts (IDAs), or other savings vehicles through an issuing financial institution are possibilities for SVC growth.

However, SVC companies face important customer barriers to providing unbanked consumers with savings opportunities through SVCs. First, savings or credit-building features would require more stringent identification verification. This requirement would decrease the relative anonymity offered by SCVs, which is one of its most desired features. Second, SVC users may not want transaction history data to be reported for credit-building purposes. They may wrongly perceive that such data could negatively affect their credit scores, based on their previous banking experiences. Third, "saving" has different meanings for different people and therefore the product may need to be adapted according to the type of customer targeted. For

[10] The Federal Reserve Board's 1998 Survey of Consumer Finances estimated that 60 percent of households at or below the poverty level had positive assets, compared to 86 percent of households with incomes between 101-150 percent of poverty and 95 percent of those families with incomes between 151-200 percent of the poverty level.

some, a rebate or a flexible spending account may act as a savings feature. For others, "savings" vehicles must address accessibility, tangibility, anonymity, and other concerns.

However, one of the most important perceived customer barriers to providing unbanked consumers with savings opportunities through SVCs is the lack of consumer education in appropriate use of such features. Consumers already face difficulties in understanding how SVCs work, how fees are structured and how to manage their funds. To solve this problem, employees at current SVC distribution points (places of employment, check cashers, retail locations) should be more willing and able to explain products to consumers. As a result, adding new features such as savings and credit-building features may require a level of sophistication and education in consumers that does not currently exist.

A second potential revenue source for SVC issuers could include adding credit-building features to their products. Since cards are marketed primarily to unbanked customers, SVCs have the potential to be an effective personal financial management tool for some people. However, very few companies are attempting to provide credit-building features, such as "payday advance" or overdraft protection tied to an SVC.

These small extensions of credit, both formal (such as payday advances) and informal (such as paying overdrafts on a discretionary basis) could be an additional feature that would add value to the issuer's SVC value proposition. However, even if these products were marketed they would not currently help build a consumer's credit score. Existing credit models do not allow for the reporting of credit relationships lasting fewer than 30 days.[11] IndiGOCARD, Eufora Credit Builder, and NetSpend CredAbility programs tried to utilize the credit-building component as a marketing tool for the cards, extensively advertising this feature and using a variety of strategies to try to link SVCs with the credit bureaus.

The structure of the U.S. credit reporting system therefore presents important barriers for the development of credit features tied to SVCs. First, the credit bureaus currently do not accept Individual Tax Identification numbers (ITINs), although the U.S. Patriot[12] Act allows for the acceptance of ITINs as substitutes for Social Security numbers for credit reporting purposes. Second, credit bureaus currently can only collect credit data; debit and SVC data are not considered to be "credit." Some SVC companies have attempted to report monthly fees as "bill payments." However, laws in some states restrict the reporting of bill payment histories by utility companies, although the federal Gramm-Leach Bliley Act (GLBA) allows such reporting by financial institutions to credit reporting agencies. As a result, current credit-scoring models in the United States do not use SVC-related data.

International experiences in credit scoring models prove that SVC usage information should be used. In many European countries, the practice of collecting deposit data for scoring purposes is widespread, but the data is usually limited to the internal system of the financial institution (banks cannot view another institution's customer data). Some have argued that the Fair Credit Reporting Act (FCRA) has prevented financial institutions and other entities to report SVC transaction information due to privacy issues.[13] However, as long as institutions follow FCRA

---

[11] Fair Isaac Corporation recently announced the development of a new credit score for those with little or no credit histories; this credit score may use data on payday loan repayment, although it is unclear how such data would be used.

[12] An acronym: Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001.

[13] For example, how much money went into an account and how much came out, in addition to information on balances and length of card ownership.

guidelines, privacy issues should not stop banks and others from reporting SVC transaction data to the bureaus. Nevertheless, this is not presently occurring in the marketplace.

Adding credit features to SVCs can also generate other regulatory problems. It is unclear whether these services should be considered extensions of credit from a regulatory perspective and therefore subject to corresponding disclosures and regulations. Moreover, the ultimate benefit to the consumer is disputed since the costs of payday lending and overdraft protection are so high. Some argue that low-income consumers should be able to access small credit at reasonable costs, and that currently theses costs are prohibitive (Center for Responsible Lending, 2007).

2.2. The Regulatory Framework for Stored Value Cards in the United States

SVC issuers in the United States currently fall under the Money Services Business definition (MSB). Persons or entities (other than banks or persons regulated or examined by the Securities and Exchange Commission or the Commodity Futures Trading Commission) are required to register as Money Services Businesses if they conduct more than $1,000 in transactions with any one person on the same day in one or more of the following services: "stored value; money orders; traveler's checks; check cashing; and currency dealing or exchange. In addition, all such businesses that provide money transfer services must register, regardless of the amount of transactions" (Center for Financial Services Innovation, 2006).

The federal MSB registration requirement does not apply to a business that is an MSB agent (Financial Crimes Enforcement Network, 2003). However, issuers, sellers, and redeemers of SVCs are subject to certain reporting requirements, including reporting of cash transactions exceeding $10,000 ("Reports Relating", 2004). The rationale for the exemption for SVC issuers, sellers, and redeemers was that the SVC industry was in its infancy and should not be inhibited by premature regulation. As the industry matures, SVC providers should be aware of money-laundering concerns; those with well-developed back-office systems that enable them to keep track of transactions will be better prepared to handle BSA requirements, follow Office of Foreign Assets Control rules, create Customer Identification Programs and provide Suspicious Activity Reports.

Money Services Business (MSB) is mostly regulated by state laws. State laws regulating MSBs vary widely and have different requirements regarding licensing, making it difficult for some SVC providers to use non-bank retail distribution channels at a national scale. SVC providers will not achieve real scale in reaching the unbanked unless they utilize appropriate distribution channels, such as convenience stores and check-cashing outlets.

Questions around issues such as the definition of a "branch" and the definition of an "agent" of a financial institution are also problematic. The issue of whether distribution points (i.e., retail stores that sell SVCs) should register as MSBs under state laws is also unclear. Sometimes, large retail or other firms might register for MSB licenses. In other cases, individual franchises might have exclusive or non-exclusive agency contracts with SVC providers, further complicating the question of who should register as an MSB. In addition to the regulation of agents, some states may be considering whether to regulate the issuance of general spending and payroll cards as a branch-banking activity, thus requiring issuing institutions to have branches in states in which their cards are distributed (Kountz and Gould, 2004).

MSB laws are aimed primarily at ensuring the viability of companies that engage in money transfer transactions and protecting consumers' funds in case of failure of the MSB. However, state laws covering MSBs show that most do not explicitly cover SVCs. Only sixteen states have expanded their MSB laws to include prepaid cards; many of these exclude single-use gift cards (Kountz and Gould, 2004).

MSB laws are evolving with the changing marketplace in order to provide protections for consumers. However, the question is if and when these various state MSB laws apply to companies that solely issue SVCs. If this regulation applies, it should be adapted to the complexities and costs related to MSB compliance. In addition, the differences between MSB laws across states should be resolved, and MSB regulation applied to SVC issuers should keep pace as products and technologies change.

The fact that SVCs are not bank accounts is often an attractive feature for consumers who for various reasons do not desire to have bank accounts. However, SVCs do not have protection against loss of funds since they are not considered bank accounts. To solve this problem, the FDIC defined in 2004 the circumstances in which funds underlying stored value cards are "deposits." The rule defines a "stored value card" as "a device that enables the cardholder to transfer the underlying funds (the funds received by the issuer of the card in exchange for the issuance or reloading of the card) to a merchant at the merchant's point of sale terminal." The FDIC explicitly excludes closed-loop gift cards issued by retailers from the proposed rule's coverage. The proposed rule distinguishes between two types of SVCs: those issued by insured depository institutions and those issued by what the proposal calls "sponsoring companies."

A "sponsoring company" is an entity other than an insured depository institution that issues SVCs; employers that issue SVCs therefore fall into this category. The funds used to purchase SVCs issued by insured depository institutions would be considered deposits unless the depository institution keeps the funds in a pooled reserve account without subaccounts for individual cardholders or other records indicating the amounts owed to individual cardholders. Funds that qualify as deposits would be insured on a "pass-through basis"[14] to the individual cardholder (the cardholder would be the beneficiary of the insurance in the event of a bank failure).

The treatment of funds underlying SVCs that are issued by sponsoring companies is more complicated. Any funds that a sponsoring company places at an insured depository institution for the purpose of making payments on SVCs issued by that company (i.e., funds in reserve accounts) would be considered deposits. However, once the sponsoring company has withdrawn the funds from its account at the depository institution, the funds would cease to be deposits at the depository institution.

The deposit is either insurable to the cardholder on a pass-through basis or to the sponsoring company, depending on whether the FDIC treats the sponsoring company as an agent or custodian acting on behalf of the cardholder. In making this determination, the FDIC looks at three factors: first, the fiduciary relationship between the sponsoring company and the cardholder; second, the cardholder's interest in the funds either from the depository institution's account records, or from records maintained by the sponsoring company or its agent; and third whether the deposit belongs to the cardholder (i.e., whether the agency or custodial relationship

[14] The FDIC has not clarified whether it insures the pool account or individual accounts for $100,000. That is why they are insured on a "pass through basis." How a customer can prove "fiduciary relationship" or "interest in the funds" and therefore that the deposit belongs to the card holder is still a pending issue.

is genuine). If all three are answered affirmatively, the deposit is insurable to the cardholder. Otherwise, the deposit is insurable to the sponsoring company.

FDIC insurance protects consumer funds in cases of bank failures. However, it does not protect customer funds in the case that a non-bank SVC provider fails. A precedent occurred in the United States in 2004, when New York state suspended the license of CashPoint, a bill-payment company that signed hundreds of retailers as agents to offer bill payment services, but ultimately did not pay hundreds of billions of dollars in bills to utility companies. While the courts advised collectors against the practice, consumers who had handled their bill payment through CashPoint were ultimately responsible for the funds if collectors chose to seek repayment.

Regulation E, which implements the Electronic Fund Transfer Act (EFTA), provides protections to consumers using electronic fund transfer (EFT) systems. SVCs were originally not covered by Regulation E. However, the Board of Governors of the Federal Reserve System, which is responsible for implementing EFTA, revised Regulation E to cover payroll card accounts ("Electronic Fund Transfers," 2004). Banks that issue SVCs may voluntarily provide disclosures that describe consumer protections (Frumkin et al, 2003). The Board concluded that payroll cards were "designed, implemented, and marketed as substitutes for traditional checking accounts at a financial institution," and that "these cards shared some of the characteristics of Electronic Benefit Transfer (EBT) cards, which are covered by Regulation E."

The question, however, is whether SVCs outside of payroll cards do in fact bear these characteristics and could be included in the Regulation E definition. Some of the SVC providers, including both payroll and general spending SVC providers, are already providing at least some of the protections required by Regulation E, such as limitations on consumer liability for unauthorized transfers and procedures for error resolution. Very few, however, were providing periodic mailed statements. SVC providers stated that Regulation E's requirement that periodic paper statements be mailed to account holders may be a negative value proposition for SVC providers. As a result, permitting alternative ways to deliver statements, such as e-mail, would be much less expensive and perhaps more appropriate than periodic paper statements. Indeed, paper statements may not be the most effective way of keeping underbanked cardholders informed of their balances and transactions.

Regulation E coverage of SVCs should follow the model provided for Electronic Benefits Transfer (EBT) transactions and permit the use of alternative mechanisms for providing transaction and balance information to general purpose SVC cardholders. Innovations that may also become more prevalent in the near future include text messaging transaction and balance information via mobile phone and delivery of paper statements at ATMs.

After September 11, 2001, financial institutions came under more pressure to keep and report accurate records verifying their customers' identities. Section 326 of the U.S. Patriot Act requires financial institutions to be diligent in documenting customer identification. Most SVC providers currently require that customers provide Social Security numbers, since major brands such as Visa and MasterCard require Social Security numbers for signature-based cards, following the Patriot Act requirements. Considering that some underbanked consumers cite privacy as a primary concern, the identification requirements may discourage customer acceptance. Customer identification requirements is a problem especially relevant for illegal immigrants (Bair, 2006), that could however be resolved with pin-based solutions.

Another emerging issue around the Patriot Act is that some SVC products allow consumers to give second cards to family members in other countries as a way to transfer money, and it can

be difficult to verify the identity of individuals living outside the United States. The Bank Secrecy Act (BSA), administered by the Financial Crimes Enforcement Network (FinCEN), requires financial institutions, including banks and money services businesses (MSBs), to keep certain paper trails on their customers' transactions. Currently, although they fall under the MSB definition, issuers, sellers and redeemers of SVCs are not required to register with FinCEN or maintain a list of their agents ("Registration of," 2004).

Finally, many states' labor laws mandate that an employer cannot demand that workers receive their pay in a specific manner; payroll cards may be offered as an option but not a requirement (Wiley, 2004). Alternatively, employment laws in other states do permit employers to mandate worker participation in direct deposit programs as long as the worker can choose the financial institution to which the funds are electronically transmitted.

Most states also stipulate that employees must be able to access their pay without incurring any additional costs. Many payroll card products are structured to be offered nationwide and must therefore comply with varying state requirements. Apart from the state employment law issue, the OCC has also issued guidance on how national banks should deal with payroll cards. The OCC is specifically concerned with payroll cards being designed to facilitate payday lending programs or other services that the Comptroller deems "predatory" (Office of the Comptroller of the Currency, 2004).

In conclusion, e-money is not specifically defined in the United States as it is in Europe. However, MSBs, or specifically money-transmitting regulations, are very similar to those required in Europe for e-money issuers (ELMIs). Whether the values of SVCs are considered deposits in the United States depends on whether the FDIC insures it. Currently, only payroll cards are insured by the FDIC. However, the problem remains about general-purpose open SVCs where payrolls are deposited. The FDIC has not clarified whether it insures the pool account or individual accounts. For this reason they are insured on a "pass-through basis" until the regulation clarifies how a customer can prove a "fiduciary relationship" or "interest in the funds" and that the deposit therefore belongs to the card holder.

There is no need to be a regulated institution in the United States (nor an MSB) in order to issue SVCs; only to market them. In order to issue open loop cards, SVC issuers need to be a member of the branded card systems, thus SVC providers have normally regulated financial institutions that issue SVCs. MSB agents are in general not regulated, since no list of agents is required. However, MSB regulations are different depending on the state, which is a major obstacle for the development of national networks of distribution of SVCs.

Consumer protection issues pose relevant problems for the development of "open looped" SVCs as a low-cost alternative to current accounts. SVC funds are not protected by MSB laws in the event of an SVC issuer failure as the CashPoint case shows. Moreover, regulation E and the FDIC only protect payroll SVCs in an undefined manner, but does not insure the rest of SVCs. Customer identification issues are also a regulatory obstacle for the development of the SVC industry. SVC providers require customers to provide Social Security numbers (Patriot Act) for open loop cards, which makes "bankarization" difficult. As a result they cannot operate as they were "designed, implemented and marketed as substitutes for traditional checking accounts" (Federal Reserve Board, 2004).

3. Review of Prepaid Industry in Europe

Europe has made a very important legislative effort to provide electronic money and electronic money issuers with an adequate regulatory framework. E-money and e-money issuers are regulated by Directive 2000/46/EC of the European Parliament and of the Council (Directive 2000/46/EC of the European Parliament and of the Council of September 18, 2000 on the establishment and prudential supervision of the business of electronic money institutions). However, e-money issuers are also regulated, as we will see in the following analysis, by The Banking Directive (Directive 2000/12/EC of the European Parliament and of the Council of March 20, 2000 relating to the taking up and pursuit of the business of credit institutions), and the recently passed Payment Services Directive (Directive 2007/64/EC of the European Parliament and of the Council of November 13, 2007 on payment services in the internal market amending Directives 97/7/EC, 2002/65/EC, 2005/60/EC and 2006/48/EC and repealing Directive 97/5/EC Text with EEA relevance). This document has been produced analyzing these legal documents, as well as the Evaluation of the E-Money Directive prepared by The Evaluation Partnership for The DG Internal Market of The European Commission in February 2006. Due to the amount of information available, this document tries to summarize it and highlights the most important elements of these documents for the issue at hand.

However, the recently-passed Payments Services Directive does not resolve the regulatory loopholes highlighted in this report, since it clearly states that "This Directive should lay down rules on the execution of payment transactions where the funds are electronic money, as defined in Article 1(3b) of Directive 2000/46/EC. This Directive should, however, neither regulate issuance of electronic money nor amend the prudential regulation of electronic money institutions as provided for in Directive 2000/46/EC. Therefore, payment institutions should not be allowed to issue electronic money."

In Europe, the first prepaid electronic payments were launched in the early 1990s, by non-banks. However, banks soon reacted (Lelieveldt, 2001) and the European Central Bank started demanding measures to regulate the issuance of e-money. The European Commission was concerned about the proliferation of national e-money regulations thorough the EU (4- Krueger, 2002). The EC presented the first draft with the EC explanatory memorandum in July 1998, regarding the prudential supervision of the business of electronic money institutions. After two years of consultative process, the commission finally adopted the directive 2000/46/EC on September 18, 2000, and Directive 2000/28/EC amending the Codified Banking Directive institutions, where electronic money institutions were added to the category of credit institutions as defined in Directive 2000/12/EC.

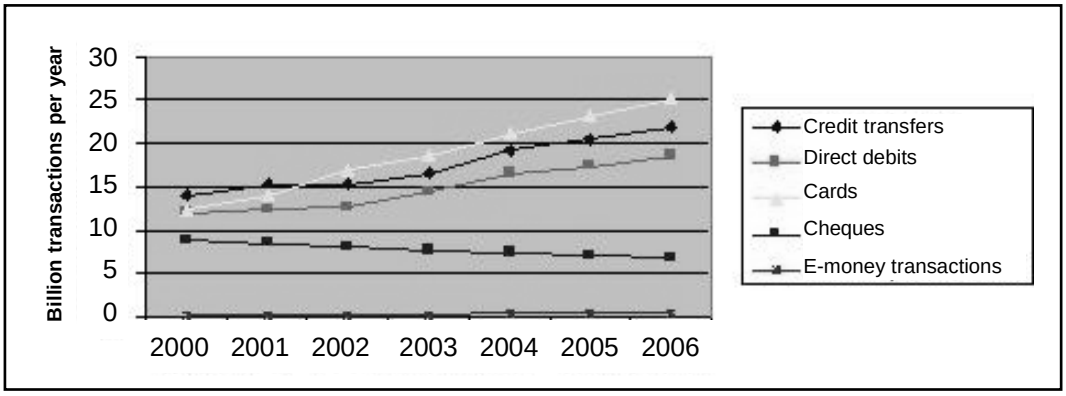
The long negotiation process resulted in the Commission establishing a separate regulatory framework for ELMIs (Electronic money issuers). This new legal framework strived to be lighter than the banking supervision, where e-money issuers were being considered deposit-taking institutions and modifying the previous positions of the EMI and ECB, although many of their proposals were also considered in the final version of the E-Money directive.

This previous strict regulation limited e-money issuance only to credit institutions (EMI, 1994), as argued by the European Monetary Institute when reporting to the Council on prepaid cards. Also the European Central Bank and other member states supported limiting electronic money issuance to credit institutions (ECB, 1998, Report on electronic money).

The use of e-money has remained very limited since the approval of the European Directive of e-money, although the use of cashless payment instruments has steadily increased over the past few years in the EU. The following table shows how, from 2000 to 2006, the number of cashless payment transactions (by non-banks) in the EU rose by 7% per year on average, while the value of such transactions rose by 5% per year. The number of e-money transactions has grown also very rapidly (at a rate of more than 20% per year), but these still account for only 0.6% of the total number of cashless transactions.

Chart 1

Use of Payment Instruments by Non-MFIs in the EU (2000 to 2006)



Source: ECB.

However, the analysis of the number of e-money transactions has to take into account that the ECB only requires data on card-based products and among these, only on traditional e-purses. More recent card based e-money developments such as transport smart cards, prepaid debit cards or electronic equivalents of travelers' checks are not included. Neither the ECB nor National Central Banks currently publish data on server-based e-money.

3.1. Development of the e-Money Industry in Europe

Certain markets in server-based e-money have developed, but not the in way the E-Money Directive was predicting. Most of the issuers are in the United Kingdom, Scandinavia, the Netherlands, Germany, Austria and the Czech Republic. The most successful experiences are among server-based electronic money, where PayPal is the most relevant case. However, disposable and virtual pre-funded cards and mobile-based payment solutions have not developed.

Prepaid debit cards and electronic travelers' checks are in many ways similar to more traditional payment products. Since they are prepaid, they are regulated by the e-money legislation. Prepaid cards are normally issued by traditional banking institutions and therefore can be distributed by their networks and used for banked customers in order to pay remotely. Commercialization and adoption would therefore not be a problem, although banked customers' demand for this has remained very low. Furthermore, the new security features of traditional debit and credit cards when paying through the Internet, such as Verified by Visa, makes them even less appealing for potential customers to be used when purchasing online.

Non-banked customers could, however, be interested in these products when they cannot access regular bank accounts. However, given the high level of banking access in Europe (extremely

high in Western Europe and increasing in Eastern Europe), demand is not expected to rise, even among immigrants.

The take-up of card-based money has remained even slower. The limited acceptance network and limited functionality are its main obstacles to growth. Regulation is not clear either, especially regarding transport systems and whether or not they should be regulated and therefore considered e-money.

However, there are two promising factors that can promote the future development of smart cards. First, widespread adoption of the EMV standard will resolve the acceptance problem by adapting all EFTPOS and ATMs to the new standard. Second, the development of contactless technology can help promote the use of cards not only in transport systems, but also in other environments, and help define and clarify the business case for a number of providers of card based e-money.

3.1.1. Server-based e-money

The use of server-based e-money based on cards has been the most prominent form of e-money both in Europe and in the United States. Unlike the case of the card-based e-purses (smart cards), the funds are not actually stored on these cards but on a server. These products typically imply the transfer of centrally stored anonymous claims that have been purchased in advance (ECB, 2004).

There are different types of server based e-money providers based on cards in Europe. First, disposable and virtual pre-funded cards designed for online shopping; prepaid cards that, with a PIN number or another form of identification, allow the customer to pay online. Examples include PaySafeCard (Austria/Germany), MicroMoney (Germany), SNAP Card (United Kingdom), and Splash Plastic (United Kingdom). An example of these issuers is SNAP Card, a British company currently on a waiver regime until it reaches the critical mass required to achieve ELMI status. It is reloadable in 5,000 resellers and allows payments in virtual POS (Internet). Its business model is based on appealing to merchants with lower discount fees and better security features.

Mobile phone based micro-payments are another solution launched in Europe for server-based e-money providers based on cards. Payments are made through the pre-payment system of the operator. Examples include Crandy (Germany) and Luup (Norway). However, their business model is clearly jeopardized by the fact that mobile operators can offer this service without an ELMI license.

Prepaid debit cards have been issued by most of the members of card schemes (banks). They have developed various types of prepaid debit cards that offer the same acceptance network as branded cards, but are considered electronic money since they are prepaid. They can also be offered by ELMIs such as Prepay Technologies Ltd. UK, as well as credit institutions such as MasterCard's Cashplus UK.

Electronic equivalents of travelers' checks (common in other parts of the world, new in Europe) are worth $20 billion a year. Prepaid as physical travelers' checks, they offer more security and convenience. They can be used in foreign ATM's to purchase foreign currency and in merchant POS. Leading companies in this business such as Amex and Travelex considered setting up an EMLI, but decided instead to issue travel cards through banks due to the unclear or inadequate regulatory framework discussed before. Structural and supervisory issues, and the limitation of investments, reduced the business opportunity for making money on the float.

Server-based electronic money was developed by taking advantage of the opportunities offered by the Internet. In addition, niche markets have also developed, such as person to person internet transactions, online gaming and payment instruments for persons without access to bank accounts or credit cards. The most successful are pre-funded personalized online payment schemes, involving the transfer of funds stored on a personalized online account (not including traditional bank deposits). Access to these systems is mostly carried out through the Internet and also sometimes by SMS.

PayPal has been the most successful. Launched in the United States in 1999, it currently has 86 million clients. In Europe, PayPal Ltd is an ELMI licensed by the FSA (United Kingdom) in 2004 and has since transferred to all EU member states. PayPal's "killer application" is **e-bay,** which purchased PayPal in 2002 and accounts for 70% of all its transactions.

Another example, although less successful, is Moneybrokers, also based in the United Kingdom and founded in 2001. Moneybrokers was the first institution to be granted an ELMI license by the FSA in 2002. It runs a similar business model to PayPal but without the killer application that has made PayPal so successful.

3.1.2. Card-based e-money

Card-based e-money are electronic purses in the form of smart cards, also referred to as hardware-based e-money, where the purchasing power resides in a contained hardware-based security, generally a chip which is embedded in a plastic card. Despite the fact that a large number of debit cards include electronic purse applications, the use of smartcards in Europe is very limited. The most important barrier to growth is that they need their own acceptance network. However, the upcoming EMV initiative could be the catalyst that will ultimately promote the development of these kind of products, since all EFTPOS and ATMs will accept smart cards.

Card based e-money schemes were launched in the second half of the 1990s by banks or with the involvement of banks, since they are embedded in debit cards. Usually, these schemes are operated by a subsidiary of a group of banks that include this feature in their debit cards. Card-based e-purses are intended for payments of limited amounts, such as vending, parking or ticketing machines. However, they do not allow any other payment functions such as cash in, cash out or EFTPOS purchasing.

E-purses have lower cost transactions for the issuer than credit or debit cards since they do not require online authorization (authorization is embedded in the chip), except for Moneo in France. However, merchant fees are usually higher, which has prevented its development and, as a result, a low success rate for these products.

Card based e-money increased from 0.4% to 0.7% of total cashless payments between 1999 and 2003 (Bluebook, 2005). Hardware-based e-money in circulation in the Euro Area (monthly), increased by 20% between 2002 and 2005, totaling €453 million in 2005. Software-based equivalents (not to be confused with server-based systems) of card-based electronic payments systems have been even less successful than chip card-based e-money (ECB, 2004).

The few successful cases of some e-purse initiatives require a "killer application," defined as a very specific use where the e-money card offers a clear competitive advantage or may even be necessary to make a payment in certain circumstances. As a result, consumers only start to use e-money when they are practically forced to. Once they have become used to e-money, they

use it for other situations. The mere availability of an e-money function on a debit card is usually not enough to convince most customers of its usefulness.

Some functioning card-based e-money schemes in Europe include Proton (Belgium), Chipknip (Netherlands), Geldkarte (Germany) and Moneo (France). Proton is operated by Banksys, a subsidiary of 34 Belgian banks who include the Proton application on their debit cards and issue the e-money. Proton has three dominant applications: first, canteens and vending machines in big companies; second, public telephones (initially Proton's main application); and third, general vending machines and parking meters.

Chipknip is issued by banks and integrated into around 80% of Dutch debit cards, as well as a disposable version called prepaid Chipknip that is reloadable. Dominant applications are its parking application, representing 90% of the transactions (and therefore a killer application), vending machines and catering.

Geldkarte has e-money chips embedded in debit cards (EC-Karten). However, it has very few active users due to its limited acceptance network. Its main uses are vending machines and parking meters.

Moneo is a system operated by SFPMEI, the credit institution in charge of issuing e-money on behalf of all participating French banks. Debit cards include the application. However, the limited acceptance network has prevented its widespread use.

Smart cards for public transport, where these cards are accepted as a means of payment by different transport companies, also potentially qualify as e-money. Whether they are considered as such depends on the organizational set-up, a direct or indirect credit relationship between the different accepting bodies and the customers, and the view of national regulators.

As previously discussed, Transport for London's smart card (Oyster) is not considered e-money by the FSA, despite the fact it is accepted by different transport providers. The smart card operated by the Helsinki transport authority requieres no ELMI authorization either. However, more than 20 transport providers operate under a waiver in the Czech Republic, United Kingdom, Ireland and the Netherlands, but they will eventually have to apply for an ELMI license. Currently they only offer transport services, but once they have the license they might offer other payment services. Transport for London is also exploring this area of expansion. In addition, the increasing use of contactless technology enables these smart cards, such as Octopus in Hong Kong, to enhance speed and convenience.

3.1.3. Others products that may constitute e-money

Electronic vouchers (gift vouchers) are the most important type of SVC (the equivalent of e-money) in the United States. In Europe issuers of paper-based vouchers (gifts or meal vouchers) would like to switch their products to an electronic format. Although in principle they meet the features compatible with the E-Money Directive, the ability to redeem poses serious problems for their business model. The European regime has prevented issuers such as Amex or the French Association of Voucher issuers (APETDS) to issue gift vouchers or meal vouchers. Accord is already issuing electronic meal vouchers in Asia and South America, but is unable to do it without a partner bank in Europe.

Mobile network operators also offer prepaid services. As discussed before, the applicability of the EMD to mobile operators when they allow customers using their prepaid accounts to buy

third party goods and services (digital content such as ring tones, logos, games, etc.) is one of the most controversial issues of the current regulation.

3.1.4. Assessment of the e-money Industry in Europe

The number of ELMIs in Europe is low (9 ELMIs were active in 2005 according to the Evaluation of the Directive). The highest number is in the United Kingdom, due to its adapted regulatory framework. A large number of entities are operating under a waiver (72 in 2005 according to the Evaluation of the Directive). The highest number is in the United Kingdom, although only half are active. The second country is the Czech Republic, since transport public providers whose travel cards are accepted by other transport providers have to be regulated under a waiver (this is not the case in the United Kingdom).

Credit institutions issue e-money in all EU states. Their products include e-purse schemes like Proton or Chipnik card, or server-based schemes offered by a single institution, and prepaid cards. Specialized banks also issue the electronic equivalent of travelers' checks. ELMIs and waived institutions predominate in the market for server-based e-money. Banks or ELMIs that have close ties to banks issue the vast majority of card-based e-money. The only exception is transport cards.

According to the Evaluation of the Directive, the estimated total value of e-money in 2005 was €670 million. The slow take-up of the e-money industry in Europe is mainly due to a lack of demand, as mentioned before. First, the lack of consumer and merchant interest due to the availability of other methods of secure payment ("Verified by VISA" and "Verified by MasterCard") for e-commerce, and the slow development of e-commerce, has not created the necessary killer application in internet payments. Moreover, due to the high level of banking access in most European countries, prepaid accounts are not even demanded by the recently arrived immigrants (the only segment of the European population that is not almost totally banked). As a result of the lack of demand, e-money has neither been used as a new payment method nor as a gateway to banking the unbanked.

Regulation has also played a role in the slow development of the e-money industry in Europe. An overly-restrictive regulatory and supervisory regime for ELMIs and a lack of legal certainty are the arguments usually employed when analyzing the regulatory impact of the EMD in the development of e-money. Furthermore, since the European experience is quite unique in developing a regulatory framework for e-money and e-money issuers, it is worth analyzing whether the EMD has met its objectives.

3.2. The Regulatory Framework for Prepaid Products and e-Money in Europe

The E-Money Directive (EMD) that defines and regulates e-money and e-money issuers has been implemented by all 25 member states. The EMD defines electronic money as "monetary value as represented by a claim on the issuer, which is stored on an electronic device, issued on receipt of funds of an amount not less in value than the monetary value issued, and accepted as a means of payment by undertakings other than the issuer."

National authorities have tried to differentiate e-money and deposits (or repayable funds), in terms of the immediacy of e-money (Porteous, 2006). However, as e-money deposits increase, this distinction might need to be reviewed. Some national authorities do not feel that the current distinction was clear enough and are calling for account-based e-money to be explicitly included into the scope of the Directive.

The implementation of the EMD by the different national governments has created variations in the definition of e-money that might create legal uncertainty for issuers. Rule number 2, stating that e-money has to be "issued on receipt of funds of an amount not less in value than the monetary value issued," was added during the negotiation process on the initiative of the ECB "in order to prevent e-money schemes from issuing e-money at a discount and thereby potentially expanding the monetary mass in an uncontrollable way." However, the inclusion of this criterion in the definition could create a loophole, and some states have made changes to this part of the definition, and this has created national differences. Schemes issuing e-money at a discount would fall outside of the definition of electronic money, and would therefore not be covered by the directive.

Some countries, such as Austria, Poland, Sweden and Finland, introduced changes that tried to clarify the definition and differentiate between e-money and other products. Finland added a reference in which account-based systems also qualify as e-money. These centralized account-based systems are very similar to the ones used for stored-value cards in the United States. The Finnish legislation specifies that "funds repayable on demand received from the public and paid into an account where the funds may be used to pay for goods and services being sold by one or more companies, and withdrawn in form of cash (customer account)" also constitute e-money. The Finnish finance ministry aimed at making this distinction to "ensure technological neutrality, making clear that both kinds of schemes would fall within the scope of the legislation."

Other member states have specified a general maximum amount (or purse limit) and time limit that can be stored on each electronic device/account. The maximum amount depends on the country and ranges from €300 (Greece, Denmark and Estonia) to €5,000 (Ireland). On the other hand, Hungary determined a maximum validity period of five years.

The difference between e-money issuance and deposit-taking is clearly determined in Article 2 (3) of the EMD that states that "a receipt of funds within the meaning of article1 (3) (b) (ii) will not constitute a deposit according to article 3 of Directive 2000/12/EC if the funds are immediately exchanged for electronic money." This provision is very relevant because special requirements are set for deposits. However, this provision should be more clearly defined (Kohlbach, 2004 and Porter, 2006).

In practice, all national authorities consider that e-money issuance is not deposit-taking, although the distinction can sometimes be difficult. In Belgium and France, e-money issuance is not considered deposit-taking but the funds received in exchange for e-money are covered within the framework of the deposit guarantee scheme, and are included in the assets used to calculate the premiums. However, e-money is assimilated to a deposit only for the purposes of the guarantee scheme.

In the United Kingdom, the FSA regards e-money as spending, not as a savings product, so when customers do not hold large amounts it is not considered deposit-taking (in the United Kingdom the basic limit is £1,000, however in the case of account-based schemes, where there is the possibility of a stolen or lost card/access key being replaced and the issuer can block the account, this limit does not apply). In Denmark e-money issuance up to the purse limit of €300 is not considered deposit-taking. Beyond that limit, e-money accounts are considered deposits.

Only criterion II of the definition of e-money has been widely modified at the national level in order to prevent financial institutions from taking advantage of the loophole. However, there is no evidence that it has made any difference in practice, as apparently no e-money issuer has tried to exploit it. In some countries, national authorities have tried to clarify the definition of

e-money, and in particular the differences with deposit-taking (United Kingdom, Denmark), and account-based products (Finland, Sweden).

3.2.1. Definition of an Electronic Money Institution

Article 1.3 (a) defines an ELMI as "an undertaking or any legal person other than a credit institution... which issues means of payment in the form of electronic money." Article 2.1 stipulates that references to credit institutions in Directives 91/308/EEC (1) and 2000/12/EC, except Title V, Chapter 2 thereof, shall apply to electronic money institutions.

When implementing the EMD directive, national authorities have taken two approaches. First, the majority of national authorities consider ELMIs a subcategory of credit institutions. However, differences exist in the way the rules applicable to traditional credit institutions are applied to ELMIs, since the EMD does not explicitly regulate ELMIs in terms of reserve requirements, money laundering rules, administrative and organizational set-up, senior management arrangements or control systems. For example, in countries such as Austria, Germany and France, ELMIS are classified as banks and have therefore the same requirements.

A second approach used by some national authorities when transposing the definition of an ELMI into national law is to consider it a separate category of organizations that issue a payment instrument in the form of e-money and have a license to do so. For example, the FSA in the United Kingdom has developed a "specialist sourcebook" based on a risk-based approach for e-money issuers that guides the rules that ELMIs have to comply with on a range of issues, including their sound and prudent operation. Overall, requirements are much lighter because the risks involved are limited, which has promoted the development of the industry. This "specialist sourcebook" is the result of the collaboration between national authorities and the industry. A new set of rules is also being developed in the Netherlands.

The EMD leaves no doubt as to the applicability of many provisions of the Banking Directive to ELMIs. However, there are national differences in terms of the requirements of "sound and prudent management, administrative and accounting procedures and adequate internal control mechanisms," the United Kingdom so far being the only country (with the Netherlands to follow) that has developed a specific set of rules for ELMIs. The more customized the rules, the more proportionate they are going to be to the risks involved in e-money issuance. A clear and specific set of rules that regulates the industry, such as in the United Kingdom, clearly promotes the development of e-money issuers and products.

- **The EMD sets the following requirements for ELMIs:**
    - **Capital requirements**: As a result of the long process of negotiations, the minimum capital requirement was raised to €1 million. Some industry operators and especially MNOs argue that the capital requirement of €1 million set by the EMD is too high for the risk they pose. However, some countries have raised minimum capital requirements: Hungary (€1.2 million); France (€2.2 million); and Greece (€3 million). In addition, the requirement of own funds being at least 2% of the higher of a) the current amount or b) the average of the preceding six months total amount of their financial liabilities related to outstanding electronic money, is another requirement that has clearly prevented the development of ELMIs.
    - **Limitation of investments**: All national countries have transposed the limitation of investments set by the EMD in its article 5. This article states that the investments have

to be of an amount of no less than their financial liabilities related to outstanding electronic money in highly-liquid and low-risk assets. However, there are some national differences regarding the definition of low-risk assets, which is defined by local regulators. For example, the United Kingdom defines liquid assets as investments that must have a residual maturity of no more than one year. Other countries, such as Germany, do not have the same definition of liquid assets.

- **Redeemability:** The EMD determines that e-money has to be redeemable at par value free of charges other than those strictly necessary to carry out that operation. This obligation is also the result of the long and complex negotiation where the ECB imposed its view, as in the case of initial capital requirements. In any case, the minimum fee for redemption should not exceed €10. However, in some countries this minimum fee has been lowered, creating competitive advantages such as in Denmark (€3.35); Hungary (€2); or Italy (€5). In Poland, national legislators have tried to facilitate the existence of e-money even when the funds are not redeemable (gift or service vouchers) as in the United States, and outside the EMD framework.

- **Restriction of activities:** The EMD limits ELMIs to activities such as only "issuing electronic money, and the storing of data on the electronic device on behalf of other undertakings or public institutions." Some industry operators also think these rules are too strict since the final version does not allow the provision of "non-financial services delivered through electronic devices." EU regulation has been transposed without changes except for national differences that vary depending on the days of settlement.

To summarize, very few changes have been made by national authorities regarding the definition of ELMIs. The vast majority of member states have transposed the four requirements proposed by the EMD to ELMIs. However, higher capital requirements, especially in the case of Greece, make the development of the e-money industry difficult. Another obstacle for the development of the industry is the lower-minimum redemption values, which makes their business models unsustainable.

Article 6 of the EMD directive states that competent authorities must verify, at least twice a year, that ELMIs comply with capital requirements and the limitation of investments. However, the frequency is different depending on the country, with Poland being the least strict (once a year) and Germany the most (monthly). The low number of ELMIs has meant that reporting is still not an issue.

Article 8 of the EMD stipulates that member states may allow their competent authorities to waive the application of some or all of the provisions of the EMD and the application of Directive 2000/12/EC to ELMIs in cases where at least one of the three criteria is met, and where the electronic storage device has a maximum value of €150. However, the conditions for granting a waiver were tightened during the negotiation process. The maximum amount of financial liabilities related to outstanding of electronic money was lowered to €5 million.

This article has only been used by some countries, however, and not transposed by all. Moreover, every country has set different conditions and a different process for granting waivers. There are also differences in terms of what provisions can be waived. The most widely-used waiver criterion is the float size limit [EMD, article 8.1 (a)]. The non-implementation of this criterion is likely to significantly reduce the usefulness of the waiver regime. As for the process, the automatic granting of the waiver would seem to lead to its more widespread use.

3.2.2. Problems with the Applicability of the EMD Directive to Issuers of Prepaid Accounts

The applicability of the EMD to issuers whose core business is not to offer electronic payment services but to complement their services, such as mobile network operators (MNOs), is one of the most controversial issues not yet resolved by the EMD. These operators offer their customers the possibility to pay for third party goods and services using their prepaid mobile telephone funds.

This debate led to a formal consultation that resulted in the issuance of the Guidance Note by the EC in early 2005. The result was that most of the national authorities argued that there was a need to at least broaden the definition, even perhaps to develop a new hybrid category. However, mobile operators argued that there was no need for a new expanded ELMI definition, and that the New Legal Framework for Payments that resulted in the recently-approved Payments Service Directive would be sufficient to cover the issue. However, as argued before, the Payment Service Directive does not solve the issue since it clearly states that "this directive should, however, neither regulate issuance of electronic money nor amend the prudential regulation of electronic money institutions as provided for in Directive 2000/46/EC."

Mobile network operators (MNOs) currently offer the possibility of purchasing goods or services (especially in the form of digital content, e.g. ring tones, logos, games, etc.) from third parties. While the EMD is not applied to these kinds of schemes at present, the regulations differ from one member state to another. Several member states (Czech Republic, Denmark, Estonia, Finland and the United Kingdom) have followed the EC Guidance Note that states that schemes where there is no direct debtor-creditor relationship between the third party merchant and the customer are not e-money. In practice, this means that MNOs are exempt from the EMD as long as this condition is met. In the United Kingdom the main points of the Guidance Note were incorporated into the FSA rulebook.

Other member states (France, Germany, the Netherlands, Poland and Portugal) have decided not to apply the EMD to MNOs for the time being, but are awaiting further guidance and clarification at the EU level. For a number of member states, the problem does not appear (Cyprus, Greece, Latvia, Malta, Slovakia) since MNOs are currently not issuing e-money in their respective countries. The Belgian authorities have interpreted that, even in prepaid schemes where there is allegedly no direct relationship between the customer and a third-party merchant, such products would have to be classified as e-money.

As an example of the impact of the current unclear legal situation of MNOs on new initiatives, we have the case of Simpay. Simpay was a joint venture by four mobile network operators (Orange, Telefónica, T-Mobile and Vodafone) to provide a single solution for small-value digital payments. In mid-2005, the participants decided to discontinue the project, mainly due to diverging views as to the concrete design of the product. However, dealing with the unclear legal and regulatory framework was one of the issues that was left for a later stage and remained unresolved.

Simpay participants had different impressions as to whether the EMD would be applicable to the joint venture in their respective countries. Depending on the business model agreed, setting up a new entity as an ELMI would have been required. This would have created additional problems and might have made the product less attractive, especially because mobile phone customers could not have used the Simpay product directly, but would have been required to register with the new entity.

Other cases where the national interpretation of what constitutes e-money varies, and creates unclear regulatory frameworks, are certain account-based schemes. PayPal, for example, is licensed as an ELMI in the United Kingdom, but the German authorities think that such schemes should operate under a full banking license.

Electronic service vouchers also pose serious problems for the applicability of the EMD. Issuers of service vouchers such as Accor, that wish to provide them in electronic format, face different national regulations that would make their development difficult. The British and Belgian regulators have stated that they would not consider such products e-money, but the authorities in most other countries were unsure whether they would have to apply the EMD rules to them.

Smartcards for public transport are another product where there are serious problems for the applicability of the EMD. Smartcards that are used exclusively to pay for public transport, but are accepted by several different transport providers, fall under the scope of the EMD. In Ireland and the Netherlands, such schemes need an ELMI license. In the United Kingdom, however, Transport for London is not considered to be issuing e-money at present, while a similar, smaller scheme has been granted a small e-money issuer certificate. In the Czech Republic, more than 20 public transport operators are operating under a waiver, whereas the Finnish authorities were approached by a transport operator, but considered no license or waiver was necessary.

In conclusion, applicability of the EMD to certain issuers of prepaid accounts is one the most controversial issues of the EMD. This controversy is especially relevant with regard to MNOs, where almost all member states have exempted these *de facto* from the application of the EMD for the time being. In some member states, the decision was based on the criteria outlined in the EC Guidance Note. In others the situation remains unclear from a legal point of view, and the *de facto* exemption is only seen as a temporary solution until further clarification is provided. A final group of member states report that MNOs currently do not offer their customers the possibility of paying for third party goods and services, or that the situation has not yet been discussed in depth.

However, regulation needs to be clarified in order to accommodate two competing industry groups. MNOs argue that the application of the EMD to their prepaid business would be disproportionate to the risks, and would fail to recognize that third party payments only account for a very small percentage of prepaid funds (and these are limited to micropayments for mostly telecoms-related goods and services). Besides, they argue, the provisions of the EMD are not appropriate for the kind of service they provide, since they are very costly to implement, difficult to explain to customers, and might ultimately mean that MNOs would have to completely stop offering the possibility of using prepaid funds to pay for third party goods and services.

On the other hand, a significant number of e-money firms argue that the non-application of the EMD to MNOs creates an uneven playing field and distorts competition. They emphasize that some form of proportionate regulation applicable to MNOs (and other hybrid issuers) is vital to ensuring fair competition among schemes that often offer similar payment products.

3.2.3. Anti-money Laundering Rules and Reserve Requirements Supervision

Anti-money laundering rules and reserve requirements are not explicitly dealt with in the EMD, so the rules applicable in the different national markets differ and have an impact on the

development of the market. The EMD refers to the rules contained in the relevant banking directives.

Regarding anti-money laundering rules, there are two general approaches. The majority of countries apply the same anti-money laundering rules to ELMIs, and waived institutions as they do to banks, since many countries do not have ELMIs or waived institutions. The general criterion applied is Directive 2005/60/EC, Article 10 that proposes a risk-based approach to money laundering. In practice it means that issuers will not be required to verify the identity of their customers until the total turnover of an e-money account exceeds €2,500. However, how these rules are applied to instruments such as anonymous cards is unclear.

Countries that do have ELMIs or waived institutions implement pragmatic approaches. Czech and Danish authorities determined that there was no need to identify the customers of e-money cards. In Germany, rules are negotiated with each ELMI applicant, which can make the process very difficult.

Other countries such as the United Kingdom have developed explicit rules that apply to e-money instruments, whether they are issued by ELMIs, waived institutions or banks. In the United Kingdom, the FSA has created a Joint Money Laundering Steering Group based on a proportionate risk-based approach. In practice, it means that the identity of the customer does not need to be verified upfront (when the e-money account is opened or the card bought). Verification is undertaken only when the amount withdrawn/redeemed or the total turnover exceeds £5,000. However, the identity of the merchant accepting e-money must always be verified.

In Belgium and France, the identity of the customer does not need to be verified if maximum storage is €150; and the limit or the individual transaction is €30 (France only). In Italy, the purse limit for anonymous e-money instruments was set at €500.

In terms of reserve requirements, some countries outside the Euro zone do not impose reserve requirements (Denmark, Estonia, and United Kingdom). In the Euro zone the ECB considers ELMIs a subcategory of credit institutions and therefore, according to article 19.1 of the statue of the ECB, it allows the ECB to require minimum reserves. However, in practice they are exempt due to the low volume of business.

To summarize, strict anti-money laundering rules are likely to have a negative impact on the development of the industry. However, until now it has not been a problem due to the low volume of business. The United Kingdom has the most flexible approach where issuers are exempted from strict "know your customer" approaches as long as the turnover does not exceed £5,000 or the e-money is redeemed. With the 3rd money laundering directive, this approach could be extended to all European countries. However, national differences will remain in terms of what forms of customer identification are accepted. This issue can therefore remain an issue as it currently is in the United States.

3.2.4. Evaluation of the Directives Results

According to the preface of the EMD, the main objectives of the directive were: First, to create legal certainty and contribute to the development of e-commerce. Second, avoid hampering technological innovation. Third, preserve a level a playing field. Fourth, ensure the stability and soundness of issuers. Fifth, facilitate access by ELMIS from one member state into other member state.

- **Create legal certainty and contribute to the development of e-commerce:**

The EMD provides a definition of "electronic money" (article 1.3) and it specifies the regulatory and supervisory framework. It also provides harmonization by mutual recognition of authorization (recital 4) "The approach adopted is appropriate to achieve only the essential harmonization necessary and sufficient to secure the mutual recognition of authorization and prudential supervision of electronic money institutions, making possible the granting of a single license recognized throughout the Community and designed to ensure bearer confidence and the application of the principle of home Member State prudential supervision."

However, although the EMD has successfully created a legal framework for e-money, some questions remain regarding the legal certainty required to apply the EMD to certain services such as account-based schemes (there is an important degree of disparity between national authorities regarding whether or not they should be considered e-money; Finland has resolved the problem by including an explicit mention of account-based systems); electronic vouchers; prepaid debit cards and electronic travelers' checks that also challenge the notion that e-money is to be used only for micropayments.

The EMD also has problems of applicability regarding issuers such as mobile network operators. The EC Note has not succeeded in eliminating uncertainty regarding the applicability to mobile network operators of the Directive. The EC Guidance Note argues that the EMD does not apply to systems where there is no direct debtor/creditor relationship, but this seems to be inconsistent with other payment systems.

Furthermore, the new European Payments Directive (2007/64/EC) does not resolve this legal uncertainty for MNOs since it clearly specifies in recital 6 that "The content of these goods or services may be produced either by a third party or by the operator, who may add intrinsic value to them in the form of access, distribution or search facilities. In the latter case, where the goods or services are distributed by one of those operators, or, for technical reasons, by a third party, and where they can be used only through digital devices, such as mobile phones or computers, that legal framework should not apply as the activity of the operator goes beyond a mere payment transaction. However, it is appropriate for that legal framework to apply to cases where the operator acts only as an intermediary who simply arranges for payment to be made to a third-party supplier."

Transport providers also pose problems, and some national regulators argue that an exemption should be created and not consider them e-money when they are accepted by different transport providers. As a result, we can conclude that the definition of e-money is not clear enough, and that this uncertainty should be resolved, whether through a revised definition, inclusion of specific exemptions, or especially adapted rules for certain issuers whose core business is not payment services (MNOs).

Legal uncertainty has therefore discouraged new market entrants and hampered innovation. Additionally, the discretion given to member states to waive some of the provisions based on certain criteria is another factor that is contributing to legal uncertainty by creating national differences

- **Avoid hampering technological innovation:**

The Directive introduces a technology-neutral approach (recital 5), since it does not enter into technical specifications. The definition of e-money clearly states that "it is stored on an

electronic device." The directive is therefore applicable to all types of technologies, so it does not promote any in particular and therefore tries not to hamper technological innovation, avoiding the risks that strict technological rules might have on innovation and competition.

Although technological neutrality has been achieved, the lack of adaptation in the definition of electronic money might have hampered the development of account-based systems. Therefore, despite the fact that the EMD has remained mostly technology-neutral, there are doubts over the applicability to certain business models generally that have to do not with the electronic device used but with the nature of the product and the issuer.

The beneficial treatment of MNOs has led to technological innovation being hampered. However, mobile operators see the application of the EMD to their business unnecessary since the risks involved are minimal. Besides EMD requirements such as capital and funding, limitation of investments, redeemability and anti-money laundering provisions will force mobile operators to create payment services that would only be developed in partnership with financial institutions.

On the other hand, the problems related with gift cards and vouchers have not allowed this market to become electronic. Moreover, differing national implementations might jeopardize the technology-neutral approach proposed by the EMD. This is the case with account-based systems, where the value is stored on a centralized server, and where the applicability of the EMD is not clear. One possible solution to this is adding a definition of "electronic device," including not only chip cards or computer memory, but also central servers, mobile telephones, PDAs, etc. However, the risk is that since it is impossible to foresee future technological developments it may jeopardize technological neutrality in the longer term.

In conclusion, there are no technological restrictions in the EMD that might have hampered innovation. However, overly strict requirements and burdens for ELMIs are excessive in view of the risks involved in e-money issuance, and may have offset the entry on new operators and therefore hampered innovation.

- **Preserve a level a playing field:**

The Directive aimed at creating "The highest degree possible of a level playing field between different types of institutions" that can issue e-money, whether they are traditional credit institutions or the electronic money institutions (recital 12). In order to ensure fair competition and adequate supervision of ELMIs, the explanatory memorandum states that the supervisory regime to which credit institutions are subject should also be applied in an appropriate manner to electronic money institutions (recital 11).

This appropriate manner aims at creating a lighter and more targeted regulatory and supervisory framework for ELMIs with reduced capital requirements, capital adequacy ratios, non-application of solvency ratios and large exposure risks (recital 12). On the other hand, the investment possibilities of ELMIS are also much more restricted than those of banks (recital 12).

The issue of competition and "creating a level playing field" is one of the most controversial issues of the EMD. Although there are no serious issues in terms of competition between ELMIs and traditional banks, the most important concern in this regard is the appropriate treatment of prepaid services of mobile network operators vs. ELMIs.

In order to solve these issues, MNOs propose the establishment of a clear distinction between issuers whose core businesses are payment services and those whose are not. The lack of a different

regulatory framework discourages mobile operators due to the regulatory risk, and imposes disproportionate obligations in terms of redeemability, guarantee schemes and accounting separation.

On the other hand, most ELMIs consider that the requirements are excessive. In particular the capital requirements seem to represent a significant barrier to market entry. Reducing initial capital requirements would solve the problems, and also the problem of becoming a fully licensed ELMI when operating under a waiver. Reducing capital requirements to 0.5 million is the solution proposed by the industry.

Finally, the waiver has the potential of facilitating the development of e-money issuers when implemented in a comprehensive and harmonized way, such as the Czech case shows. Raising the purse limit could be a way for strengthening this instrument without hampering competition with fully-licensed ELMIs. Moreover, national differences between member states should disappear in order to create a harmonized and unified regulatory framework.

- **Ensure the stability and soundness of issuers:**

The Directive emphasizes in its explanatory memorandum that the financial stability of ELMIs has to be secured with a regulatory framework that is light enough to ensure that electronic money institutions can compete on a level playing field with traditional credit institutions, but also strong enough to ensure stability and soundness of issuers.

Recital 12 of EMD states that regulatory framework must be "...achieved since the above mentioned less cumbersome features of the prudential supervisory regime applying to electronic money institutions are balanced by provisions that are more stringent than those applying to other credit institutions, notably as regards restrictions on the business activities which electronic money institutions may carry on and, particularly, prudent limitations of their investments aimed at ensuring that their financial liabilities related to outstanding electronic money are backed at all times by sufficiently liquid low risk assets." On the other hand, recital 13 also demands that ELMIs "have in place internal structures which should respond to the financial and non-financial risks to which are exposed." The most important provisions contained in the Directive that ensure the stability and soundness of issuers are the ones that limit their business activities, investments, and determine that electronic money must be redeemable at par value.

The EMD has indeed been successful in ensuring the stability and soundness of e-money issuers. However, the regime might be too strict, which explains partially the limited development of e-money issuance. A less restrictive regime might have been sufficient to ensure the stability and soundness of e-money issuers. There is room for adopting a more risk-based approach without endangering the stability of issuers or the adequate protection of consumers. A specialist sourcebook (such as in the United Kingdom), instead of the traditional one applied to credit institutions, would solve the problem.

Investment restrictions are perceived as the most important regulatory obstacle. That is why, under certain conditions, some issuers might even prefer the banking regime because it allows more flexibility on how to use and invest the float. Besides, accepting receivables as an allowed investment is of great importance for some issuers such as PayPal. When an e-money account is funded through a credit or a debit card, e-money is issued immediately and increases the float and thereby the required investments on liquid assets. However, since payments from cards are delayed by one to three business days, PayPal's parent company has had to inject

very significant amounts of cash in order to meet the requirements of the EMD directive. This problem would be resolved if card receivables were accepted as ELMIs allowed investments.

- **Facilitate access by ELMIS from one member state into other member state:**

The Directive aims at facilitating ELMIS from one member state to operate in another by allowing "mutual recognition of home supervision in the framework of harmonized prudential rules as are applied to credit institutions." To achieve this objective the Directive extends the concept of the "single license" also referred as "single passport" to e-money institutions. The passport regime of the provisions are appreciated but not widely used since the industry has not developed. However PayPal, the only ELMI that has been able to expand extensively in Europe, has found problems related to the fact that passport regimes for ELMIs are inferior to those applied by banks [2000/12/EC – article 2 (2)].

4. Conclusions

Prepaid products can become an effective instrument for banking the poor since they can be used for collecting microdeposits and, as a result, operate as a low cost account. Prepaid platforms have characteristics that make them especially useful for developing low-cost microfinance business models. Indeed, customers using prepaid systems do not need bank accounts, debit or credit cards. Prepaid issuers do not need to develop or invest in new technologies since this mechanism can be used on a number of platforms such as PCs, mobile phones, hand-held and set-top boxes. In addition, prepaid products are especially designed for offering services demanded by the poor, such as micropayments, microdeposits or even microcredits. Finally, they allow users to control their cash flow by receiving statements (some providers offer this feature online, others provide physical statements) or accessing balances through PCs, mobile phones, hand-held and set-top boxes.

Other than collecting microdeposits, prepaid products (or SVCs as they are called in the United States) also offer other services that can be very valuable for serving the unbanked population. As presented in this document, prepaid products generally lack the identification and credit requirements that effectively bar millions of individuals from opening traditional bank accounts, especially in the United States. In addition, prepaid products can be purchased and reloaded at a growing number of locations other than bank branches, such as check cashers, convenience stores, and other retailers. Prepaid instruments can also provide immediate availability of funds at a cost that is, in some cases, lower than some other alternatives for unbanked consumers. Additionally, prepaid products are difficult to overdraw, reducing the likelihood of unexpected fees. Finally, many prepaid issuers offer some sort of bill pay option, especially branded cards that enable signature-based transactions, and a significant number offer remittances.

Despite the potential presented above that prepaid instruments have for banking the poor, the development of these types of financial products in Europe and the United States has been very limited. In Europe, despite the legislative effort undertaken with the European Directive of e-money/prepaid products, its results have been very poor. The EMD aimed at promoting innovation and the development of the prepaid industry through the establishment of a new type of lightly regulated financial institution called e-money issuers. However, according to a

2006 evaluation study prepared for The DG Internal Market of the European Commission by The Evaluation Partnership Limited,[15] this new legislation has not promoted the development of new issuers of e-money. Indeed, as shown in this study, the EMD directive has serious problems of applicability regarding issuers such as Mobile Telecom Operators, Transport Companies and electronic vouchers.

In the United States, however, the stored value card market, especially "closed-loop" or gift products, has exploded in the last few years. While the overall number of cards in circulation remains relatively small, new cards are introduced into the market every week. However, "open-loop cards," the type of prepaid products more adapted for banking the poor, has enjoyed very limited growth. This study has analyzed the reasons that can explain the development of the industry in the United States and Europe in terms of its regulatory framework, market potential and the structure of the card industry (supply).

In terms of regulation, in the United States e-money issuers are not regulated at the federal level, but at the state level. U.S. regulators have not been so proactive in regulating e-money issuers, and preferred to use and sometimes adapt existing Money Services Business/Money Transmitting Regulations to allow innovation until the market matured. As a result, e-money is not specifically defined in the United States as it is in Europe. However, Money Service Businesses and specifically Money Transmitting requirements are only slightly lighter than those required in Europe for e-money issuers (ELMIs).[16] Moreover, this lighter regulation creates potential regulatory problems in the United States regarding consumer protection and customer identification issues. As a result, we can conclude that the different regulatory frameworks regarding issuers of prepaid products have had little impact on the differences in the development of the prepaid industry in the United States and Europe.

In terms of market potential, however, we see very relevant differences between the United States and Europe that, in our opinion, better explain the differences mentioned above. While in Europe almost 100% of the population has access to basic financial services, in the United States as many as 20 million U.S. households - disproportionately poor, minority, lower income and young - are unbanked. Additional households, estimated in the millions, conduct most of their financial transactions outside of banks even though they may have a savings or checking account. Yet having a relationship with the financial services system can minimize the cost of financial transactions and help turn income into savings, assets and wealth.

Prepaid cards or SVCs can be marketed to the unbanked populations, since they could be a valuable financial tool for these consumers. Indeed, some SVC providers are focusing their marketing efforts on immigrant populations, youth, and individuals with poor credit, since SVCs generally lack the identification and credit requirements that effectively bar millions of individuals from opening traditional bank accounts. In addition, SVCs can be purchased and reloaded at a growing number of locations other than bank branches, such as check cashers, convenience stores and other retailers. SVCs can also provide immediate availability of funds at a cost that is, in some cases, lower than some other alternatives for unbanked consumers. Finally, SVCs are prepaid and difficult to overdraw, reducing the likelihood of unexpected fees.

However, despite the market potential that SVC products have in the United States among the unbanked, its retail payments structure, and in particular, the importance of offline debit, has

---

[15] europa.eu.int/comm/internal_market/bank/docs/e-money/evaluation_en.pdf
[16] Evaluation of the e-money directive by the Evaluation Partnership Limited.

been an important obstacle to its development. Indeed, since SVC systems require online authorization acceptance networks, and these systems have only recently started to develop in the United States, most of the SCVs are "closed-loop" cards, issued by retailers in order to avoid paying discount rates. These products do not serve the needs of the unbanked population and, as a result, do not tap into the market potential described earlier. Only when this supply-related problem is solved, could SVCs be used as the basis of a value proposition to serve the unbanked.

Another supply-related problem that has prevented the take up of the prepaid industry in the United States is the lack of a clear business case. Indeed, the slow development of the prepaid industry and the lack of involvement of the bank industry are explained by the fact that the business case for prepaid products has not been clearly identified. The lack of consensus around the key profitability drivers might help explain why SVCs are such an expensive option, perhaps even more costly than using a check casher for basic transactions. Prices could come down if additional income revenues were exploited. Additional functions other than payments, such as savings and credit-building features, must be developed in order to better define the business case for prepaid products in the United States.

In terms of savings, extensive market research indicates that demand for savings features in SVC products is potentially very strong among unbanked customers.

Families with relatively low incomes have assets that could be stored in a savings vehicle, but some may not have access to traditional accounts at banks or credit unions. Also, in terms of credit building features, since cards are marketed primarily to unbanked customers, SVCs have the potential to be an effective personal financial management tool for some people. However, only a few SVC companies have experimented with offering savings and credit features with their cards and their experiences are limited in scope.

The lack of development of both credit and savings features is partially due to the customer barriers that SVC issuers must face when providing unbanked consumers with savings and credit opportunities through SVCs. Savings or credit-building features would require more stringent identification verification and this requirement would decrease the relative anonymity offered by SCVs, which is one of its most desired features. Furthermore, SVC users may not want transaction history data to be reported for credit-building purposes. They may wrongly perceive that such data could negatively affect their credit scores based on their previous banking experiences. Indeed, existing credit models do not allow for the reporting of credit relationships lasting fewer than 30 days. Furthermore, the structure of the U.S. credit reporting system and the U.S. regulatory system present important barriers for the development of credit features tied to SVCs. As a result, in our opinion, the most important perceived customer barrier to providing unbanked consumers with savings opportunities through SVCs is the lack of consumer education.