



# DISCUSSION PAPER

## PAYMENT CARDS CENTER

### **The Cost Effectiveness of Stored-Value Products for Unbanked Consumers**

**James C. McGrath\***

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*Summary: On March 30, 2005, the Payment Cards Center hosted a workshop led by Sherrie L.W. Rhine and Sabrina Su of the Federal Reserve Bank of New York's Office of Regional and Community Affairs to discuss the relevance of stored-value cards to "unbanked" or underserved consumers. The authors framed the issue by first examining the characteristics of the unbanked before describing the particular card products that may be the most relevant for providing financial services to such consumers. While limitations remain, including an unsettled legal and regulatory landscape and the challenges associated with providing credit reporting and asset building features, the authors concluded that these products can offer a cost-effective means for unbanked customers to access financial services outside of a traditional banking relationship.*

\* The views expressed here are not necessarily those of this Reserve Bank or of the Federal Reserve System.

**FEDERAL RESERVE BANK OF PHILADELPHIA**

Ten Independence Mall, Philadelphia, PA 19106-1574 • (215) 574-7220 • [www.phil.frb.org](http://www.phil.frb.org)

## Introduction

On March 30, 2005, the Payment Cards Center (PCC) hosted a workshop led by Sherrie L.W. Rhine and Sabrina Su of the Federal Reserve Bank of New York's Office of Regional and Community Affairs to discuss the relevance of stored-value cards to "unbanked" and underserved consumers. As they noted, this research is an outgrowth of the Community Affairs group's mission to "address financial services issues affecting low-income and moderate-income persons and communities." The PCC seminar provided the authors and workshop participants an opportunity to informally address the applicability of these payment vehicles to the unique characteristics of this consumer segment—research that will be made available in more extensive form later in the year.<sup>1</sup>

Rhine and Su turned first to considering the defining characteristics of stored-value cards<sup>2</sup> and categorized the variety of available products. While acknowledging the broad scope of the market for these instruments, they restricted the discussion to two primary classes of stored value cards—payroll cards and reloadable general purpose cards—two applications that most closely resemble a conventional bank deposit account.

For the unbanked, stored-value cards provide an alternative means of performing many banking functions and may serve as a valuable step toward participation in the financial mainstream. But as Rhine and Su's research made clear, these products offer a spectrum of feature options and related fees, making their value proposition to consumers largely dependent on usage characteristics. The day's presentation provided general estimates of costs to consumers using common stored-value card products compared to those of a typical bank checking account

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<sup>1</sup> The authors and their collaborators gave a talk on April 8 that covered the empirical aspects of this work in more detail. These conference proceedings will be available in written form in August. See Katy Jacob, Sabrina Su, Sherrie L.W. Rhine, and Jennifer Tescher, "Stored Value Cards: Challenges and Opportunities for Reaching Emerging Markets," *Promises and Pitfalls: As Consumer Finance Options Multiply, Who Is Being Served and at What Cost?* A Federal Reserve System Research Conference, Washington, DC, April 8, 2005. (Publication forthcoming in August 2005.)

<sup>2</sup> Some industry observers use the term prepaid card rather than stored-value card when referring to these products. However, to be consistent throughout this paper, I use stored-value card to encompass this general class of products, i.e., all open- and closed-loop cards, as Rhine and Su have in their work.

and nonbank financial alternatives, such as check cashing outlets. The authors then addressed structural challenges that currently limit these cards' effectiveness for credit and asset building and concluded by identifying areas for further research.

### *Who Are the Unbanked?*

Rhine and Su defined the unbanked<sup>3</sup> as simply those consumers “who don't have a checking or savings account.” With the unbanked lacking traditional financial relationships, the authors pinpointed four relevant questions to inform discussion of these consumers' use of stored-value products: 1) How do the unbanked engage in financial transactions? 2) What products and services do they use? 3) How do the costs of these products compare? 4) What are the costs and benefits of their participating or not in the financial mainstream? The workshop focused on the first three issues; the fourth is an important topic for subsequent inquiry. These questions are especially relevant because reloadable general purpose cards are being structured to allow the unbanked to cash checks, pay bills, and make purchases—all activities otherwise made possible through a traditional deposit account relationship.

The existence of such common functionality begs the question of why consumers who are using stored-value cards don't turn instead to traditional banking products to achieve the same ends. The authors' research and observations by the workshop participants suggested several potential explanations. One, this market segment is accustomed to using reloadable products such as prepaid phones or phone cards and is comfortable and familiar with the retail institutions that make these available. The same comfort level often may not exist with banks. Two, some may lack sufficiently good credit to qualify for a conventional deposit account. Three, to the extent that affinity marketing has accompanied products like the Rush Card, the NetSpend All-Access

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<sup>3</sup> One recent study estimated 8.4 million families were unbanked, while another put the number at 13.5 million. See Michael S. Barr, “Banking the Poor: Policies to Bring Low-Income Americans into the Financial Mainstream,” *Research Brief*, The Brookings Institution, September 2004; and Nancy Feig, “Payroll Cards,” *Community Banker*, January 1, 2005.

Card, and so forth, consumers may be making decisions based on brand and marketing and not strictly on the basis of costs. Finally, customers who are provided payroll cards by their employers may find that the functionality already embedded in the card is sufficient to satisfy many of their banking needs, obviating the need for a depository account.

### **Stored-Value Card Products**

To effectively frame the consideration of these issues and to lay the groundwork for the discussion of their empirical results, Rhine and Su reviewed the key features of stored-value cards and described the market. The authors defined stored-value cards as “cards with a magnetic stripe on the back that hold information about monies prefunded into an account for the purpose of making financial transactions.” They made a point to distinguish between stored-value and “smart cards” – which are payment cards with an embedded memory chip that can provide significantly greater functionality but are far from being an important factor in the U.S. payments system. Stored-value cards operate very much like traditional debit cards, with a magnetic stripe that includes data that permit terminal-based authorization of transactions against pre-loaded dollars associated with the account.

As described, stored-value cards fall into two broad categories: closed loop and open loop. Closed-loop cards, such as retailer gift cards and prepaid phone cards, have limited functionality and limited acceptance, since they are intended to be used to make purchases from specific merchants or possibly small groups of affiliated merchants. Given these factors, Rhine and Su conclude that closed-loop products have only limited applicability in meeting the financial services needs of the unbanked and are not considered in their analysis.<sup>4</sup>

The authors see far greater potential in open-loop cards, which offer broader acceptance and increased flexibility, especially if, as most are, branded with a bank association’s logo such as

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<sup>4</sup> For a more extensive review of various stored-value card products, please see Mark Furletti, “Prepaid Card Markets & Regulation,” Federal Reserve Bank of Philadelphia Payment Cards Center Discussion Paper, February 2004, available at [http://www.philadelphiafed.org/pcc/discussion/feb\\_04\\_prepaid.pdf](http://www.philadelphiafed.org/pcc/discussion/feb_04_prepaid.pdf).

Visa or MasterCard. Such cards can be used anywhere a branded credit or debit product is accepted, and they function in much the same way as a traditional debit card. Branded open-loop cards are issued by banks, but unlike bank debit cards, they are often sponsored or provided by nonfinancial entities. Such cards include government-sponsored child support cards, co-pay sponsored flexible benefit account cards, payroll cards, and reloadable general spending cards, among others. In their analysis, Rhine and Su focus particularly on payroll and other reloadable cards, which offer features that come close to resembling a bank depository account. It is these two applications that many observers believe hold the greatest promise for providing more effective and efficient financial service capabilities for the unbanked populations.

#### *How Do These Products Work?*

Payroll cards are issued through financial institutions and offered by employers as an alternative to payroll checks for those who are unwilling or unable to have their pay directly deposited in a bank account. Instead of the employer arranging for direct deposit of wages to an employee's bank account, the direct deposit is, in a sense, posted to the card's "account." Payroll cards function like a debit card at the point of sale and may be used to pay bills and gain access to cash via ATMs. Employers benefit by reducing check processing costs; issuing banks benefit primarily from fee income associated with card usage. Cardholders, and especially unbanked cardholders, are seen to benefit from the increased convenience, broad functionality, and the safety associated with these cards relative to holding cash. As discussed later, there may also be important cost savings for consumers, depending on fee structures and usage patterns.

Branded reloadable general spending cards are also issued by banks, but they are normally promoted by a third-party distributor or marketer. Like payroll cards, they may be loaded via payroll electronic payments but also by cash, check, and account-to-account transfers. Unlike typical bank products, some reloadable general spending cards may also be activated and reloaded at designated retail businesses, such as convenience stores and check cashing outlets.

Generally, branded reloadable spending cards offer many of the same features as payroll cards; the primary difference is that bill payment capability and multiple options for reloading are often not available with payroll cards. However, there is some speculation that despite several obstacles, the two products will one day more completely merge in functionality.

### *The Current Market Landscape*

Rhine and Su provided an estimate on the relative number of prepaid products in the marketplace. Citing study data from the Pelorus Group, a consulting firm, they indicated that gift cards are projected to account for \$94.84 billion in 2005. By comparison, nongift-card stored-value products are expected to reach \$107 billion in 2005, or over 10 percent more than the very popular gift-card segment, spread across 34 million cards. Most observers expect this differential to increase, since gift cards are seen to be a more mature application. In terms of the number of nongift stored-value cards, Pelorus estimates that 35 percent would be reloadable general spending cards and remittance products, 30 percent government income support or electronic benefit transfer cards (EBT), 25 percent payroll cards,<sup>5</sup> and 10 percent other, which might include flexible spending accounts, or FSAs. Some audience members expressed surprise at these estimates for the relative size and distribution of the market in 2005, particularly the substantial 35 percent share for reloadable general spending cards. But different projections are to be expected, since this has been a fragmented and inconsistently documented industry witnessing rapid change. It is clear, however, that the market is sizable and interest is growing in many quarters.

### *The Impact of Regulation*

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<sup>5</sup> Twenty-five percent of the 2005 total is 8.35 million cards, representing nearly a 50 percent increase from the number of payroll cards in 2004. Another source has estimated that there were 2.2 million payroll cards in circulation in 2003, attesting to the sustained level of growth in this segment. See Katy Jacob, "Stored Value Cards: A Scan of Current Trends and Future Opportunities," The Center for Financial Services Innovation, July 2004.

As is the case with all new payments innovations, relevant laws and regulations have lagged product development in this area. Rhine and Su noted that some uncertainty exists with respect to the applicability of existing federal regulations and that there is substantial variation among state laws that pertain to this area.

Because the funds associated with a general purpose card or payroll card are currently not considered a deposit “account” as defined in existing federal banking regulation, dispute resolution is ultimately governed by contractual terms, not formal banking guidelines. However, one workshop participant observed that in the absence of explicit requirements, many employers have put in place safeguards for lost payroll cards and other potential problems, assuming at least some of the costs of such assurances themselves to encourage their employees’ use of a payroll card. Currently, the Federal Reserve’s Regulation E, which governs electronic funds transfers, does not explicitly address payroll cards.<sup>6</sup> As a result, compliance with certain provisions of this regulation is inconsistent. For instance, monthly paper statements are provided by some large sponsoring payroll processors, but other providers do not do so, arguing that there are more effective and cheaper ways to provide this account information to customers.

Rhine also noted that state labor laws that address how employees are paid have had important implications for payroll card products. Some states forbid employees to be charged in the process of receiving their paycheck (and the usage fees associated with payroll cards may conflict with this proscription), and at least one state forbids payroll cards altogether. Moreover, there is the potential for state money services business (MSB) laws to be applied to the stores and merchants that now make general purpose cards available. Another impending concern is a recent FDIC rule-making proposal that opined that the funds available through various open-loop stored-

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<sup>6</sup> While current regulation doesn’t address these products, *proposed* regulation does provide payroll card users with fraud and error protections very similar to those provided to debit card users. Please see “Proposed Amendments to Regulation E,” September 13, 2004, available at <http://www.federalreserve.gov/BoardDocs/Press/bcreg/2004/20040913/attachment.pdf>.

value cards, such as payroll cards, should be considered “deposits” for the purposes of providing insurance and oversight.<sup>7</sup>

In general, uncertainty exists because of divergent laws, the interplay of contract and regulation, and the rapid development of the industry, and attention to these issues will likely increase as markets grow. Some observers have expressed concerns that regulation will stifle product development, although, thus far, policymakers have taken a slower approach, allowing room for considerable innovation to occur. However, some analysts are concerned that the decision of one regulatory body, such as the FDIC, may pave the way for increased regulatory involvement from other quarters that could affect the direction, if not the viability, of these products. At present, neither the funds held in a payroll or general purpose card account nor the transactions made with these cards are covered by FDIC insurance or the Electronic Fund Transfer Act.

### **Costs of Alternative Financial Services for the Unbanked**

Su shifted the workshop discussion to bring to the fore the empirical findings regarding the costs and benefits inherent in the use of these products for certain consumers. The authors combined information concerning the fees embedded in different stored-value products and banking alternatives with three archetypical customer usage patterns, e.g., those of a “low” transactor, a “moderate” transactor, and a “high” transactor. From these inputs, the authors were able to use numerical simulations to tease out important implications for providing bank-like services to the unbanked via stored value cards rather than via conventional banking products.

To construct the test scenarios used in their analysis, Rhine and Su selected eight different financial services. Among the instruments considered were a low-cost checking account, two payroll cards, three reloadable general purpose cards, and two different check cashing outlets.

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<sup>7</sup> See *Federal Register*, April 16, 2004 (Volume 69, Number 74). Available at <http://a257.g.akamaitech.net/7/257/2422/14mar20010800/edocket.access.gpo.gov/2004/04-8613.htm>.

Multiple products were included within each class to capture the variation in fee arrangements, such as a general purpose card with a monthly fee only versus one with a monthly fee and a per transaction fee.

They found that the fees associated with providing different banking features varied widely in this heterogeneous group of products. For example, the entrance or activation fees observed ranged from \$0.00 to \$39.95; monthly maintenance fees ranged from \$0.00 to \$9.95, with annual maintenance fees falling between \$0.00 and \$99.95. Some cards may impose point-of-sale (POS) fees for debit use of \$0.00 to \$2.00 and domestic ATM fees of \$0.00 to \$2.50. This wide variation in fees is partially explained by the observation that general purpose cards that have relatively higher activation or monthly maintenance fees typically have zero or relatively lower debit or ATM usage fees.

As part of their empirical work, Rhine and Su conducted interviews with numerous banks, issuers, processors, and marketers/distributors of stored-value card products to gather statistics about how actual stored-value products are being used in the marketplace today. From these data, the authors could distill standardized usage patterns, allowing them to easily summarize the relative differences in the usage of services across characteristic groups of customers. For instance, they assumed that a high transactor who uses one of the stored-value card products (a payroll or general purpose card) would deposit payroll payments twice a month, make eight ATM withdrawals, engage in five signature debit and five pin-based debit transactions a month, and pay six bills electronically per month. By contrast, a low transactor (again using a payroll or general purpose card) was assumed to make two payroll deposits a month, to conduct two ATM transactions, and to pay six bills by money order per month.

For each product, Rhine and Su's analysis was concerned with the aggregate economic cost, not with the qualitative differences between how each product functions. This allowed them to objectively compare the costs of a card-based instrument to those of a check casher, for

instance, despite the substantial differences in how the consumer may actually use each of these solutions.

Their analysis yielded certain salient insights. First, the check casher alternative was the most expensive payments option, regardless of the frequency of usage, with costs totaling \$789.00 per year for a customer routinely cashing checks and paying bills. On the other hand, one of the payroll card alternatives proved to be the least expensive across all scenarios, with an annual cost of \$101.64 for the lightest transactors and \$130.56 for the heaviest users. By comparison, an average checking account imposes annual costs of \$115.54 on a low transactor and \$193.07 on a high transactor. In between the cost extremes, the results did not indicate a clear-cut superior alternative.<sup>8</sup> (See the Table for a summary of the ordinal rankings uncovered by Rhine and Su's research.)

The key takeaway from the work was twofold. First, the actual end-user cost structures for various prepaid card products depend critically on the customer's patterns and frequency of use. Second, certain prepaid card alternatives, such as certain payroll cards, may actually be cheaper than conventional banking products for some consumers, suggesting that the unbanked's use of such products can be justified on economic grounds.

### **Using Stored-Value Cards for Credit Building and Asset Building**

Su emphasized that despite the functional commonality that exists between general purpose cards and conventional banking products, these cards have thus far fallen short in two areas. There has been little evidence of development of formal mechanisms for credit building or asset building in stored-value cards, which are two areas seen by policy researchers as especially pressing needs within the unbanked segment. But there are signs of early experimentation among some issuers, and many agree that the potential exists for these products to play a more prominent

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<sup>8</sup> These particular cost estimates and their simulation methodology will be discussed in more detail in Rhine and Su's upcoming paper, "Stored Value Cards as a Method of Electronic Payment for the Unbanked" (location to be announced).

role in these areas. However, it was also noted that for any of these products to be truly effective for encouraging asset building or credit building, substantial work will be needed to improve financial literacy within the unbanked population.

### *Credit Building*

Simply put, because stored-value cards lack an associated line of credit, they will necessarily be an imperfect vehicle for building a credit history. But a comment from the audience suggested that certain statistics on stored-value card usage could be mined as a proxy to characterize credit behavior among unbanked cardholders. Potentially useful information could include balance statistics, timing of inflows and outflows, evidence of the timely payment of card fees, or use of the card to make regular payments for utilities and other periodic billers. However, it is not clear what type of incentives exist for card providers to voluntarily report these data to credit reporting agencies, although some have provided an option for cardholders to pay to have their information submitted.<sup>9</sup>

Su also noted that the current credit reporting system is not well equipped to effectively process or make sense of this type of information. In some cases, the identifying information available for general purpose card customers is not sufficient to adequately distinguish consumers for the purposes of credit reporting systems. However, as was suggested in remarks from the audience, while incentives and infrastructure may be lacking for issuers to provide stored-value card credit-related information to the rating agencies, these card issuers can and may use this information themselves to provide more recognizable credit functions to their own customers when appropriate.

An audience member mentioned that secured credit cards have features resembling both a stored-value card and a credit card. Importantly, these products do feature credit reporting, being

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<sup>9</sup> For more information regarding efforts to integrate statistics on stored-value card usage with the current credit reporting system, see Isabelle Lindenmayer, "Prepays Touted to Build History for Unbanked," *American Banker*, January 13, 2005.

well integrated with the major credit bureaus. Some analysts expect that a future payment product could combine the features of secured credit cards with those of a payroll card, providing an avenue for the unbanked to build a credit history more easily.

### *The Role of Banks and the Provision of Savings Features*

An audience member questioned why many of the larger, more visible banks have hesitated to become actively involved in the general purpose prepaid card market. The ensuing discussion suggested that the economics in these markets may not work for most banks; they have seen their efforts to become involved beset by poor economies of scale, high customer service costs, and high merchant processing costs. Banks simply cannot or prefer not to charge the high fees necessary to make such products a viable business.

As they brought the discussion to a close, the authors suggested that banks are not generally working to extend any sort of more formal banking relationship with payroll cardholders. Here, the structure of the relationship among customers, distributors, and banks likely plays a large role. Because issuance of payroll cards is driven and coordinated by third-party sponsors, such as employers, there is a level of disintermediation that separates banks from the end-user. However, many banks believe that a rudimentary debit and deposit account model, if marketed properly, would be a more appropriate and economically viable mechanism for them to provide banking services to the unbanked and underserved.

### **Remaining Questions and Opportunities for Further Research**

In closing, Rhine and Su raised other important questions for future investigation, including why consumers choose general purpose cards rather than conventional deposit accounts, whether consumers fully understand the varying cost structures that accompany these cards, whether users understand the consumer protections that go along with these products, and how the unbanked users of these cards will build credit or accumulate savings. To help address

some of these issues, the authors are designing questions that will be included in future consumer-survey research. This research is designed to better identify the demographic characteristics of the users of these stored-value cards; to quantify the actual usage of card-based banking functions such as bill payment, debit purchases, and transfers; to measure the extent to which users actually receive periodic statements; and to obtain information about cardholders' savings goals and understanding of different savings vehicles.

### **Conclusion**

During their presentation, Rhine and Su brought to the fore the diversity in the features and associated costs of various stored-value cards. For the unbanked or underserved who lack traditional depository accounts, stored-value cards can provide much of the functionality of banks, often at a lower cost than alternatives such as check cashing outlets or even banks themselves. However, limitations remain. Issuers and distributors have not driven much innovation in the areas of credit or asset building—regarded as two especially pressing needs among these consumers. The potential for additional regulatory involvement could limit further innovation, perhaps curtailing efforts to provide such features by banks or other industry participants. At the same time, customer adoption may be deterred by ambiguity regarding the extent of consumer protections associated with these products.

In conclusion, the authors suggested that more research regarding usage patterns and preferences may help to enable distributors, issuers, and regulators to offer products that advance public policy goals while better satisfying the practical financial services needs of a large number of traditionally underserved consumers.

**Table. Ranking of Options for Each Transactor Type**

<b>Cost Ranking</b>	<b>Low Transactor</b>	<b>Moderate Transactor</b>	<b>High Transactor</b>
1 (Lowest)	Payroll Card A	Payroll Card A	Payroll Card A
2	Checking Account	Checking Account	Checking Account
3	Payroll Card B	Payroll Card B	General Spending Card A
4	General Spending Card C	General Spending Card A	Payroll Card B
5	General Spending Card B	Check Cashier B	Check Cashier B
6	General Spending Card A	General Spending Card B	General Spending Card B
7	Check Cashier B	General Spending Card C	General Spending Card C
8 (Highest)	Check Cashier A	Check Cashier A	Check Cashier A