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Potential Effects of an Increase in Debit Card Fees

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Abstract:
Recent changes to debit card interchange fees could lead to an increase in the cost of debit cards to consumers. This brief analyzes the potential effects of an increase in debit card fees or in bank account fees by using the results of the 2008 and 2009 *Survey of Consumer Payment Choice* (SCPC). The main findings are that: 1) consumers with the least amount of education (less than a high school diploma), the lowest annual income (below $25,000), and the youngest age (under 25 years) consider cost to be the most important payment characteristic. It is probable that these consumers would be most affected by an increase in debit card fees, and most likely to change their payment behavior in response; 2) the cost of debit seems to be an important factor affecting consumer payment decisions: consumers who rated the cost of debit cards as low relative to the cost of other payment methods were significantly more likely to adopt and to use debit cards; 3) credit cards were viewed as the closest substitute for debit cards. If the cost of using debit cards rises, consumers are more likely to substitute credit cards for some of their debit card transactions; 4) consumer reaction depends on the type of fee increases: an increase in the cost of debit cards specifically is expected to have a greater effect on debit card use than a broader increase in the cost of maintaining bank accounts; and 5) an increase in the one-time cost of debit card setup could lead to a substantial decrease in the rate of debit adoption.

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Debit card use has been growing rapidly, and debit cards have become the most common noncash payment method in the United States. However, recent changes to debit card interchange fees could lead to an increase in consumers' cost of using debit cards. This brief analyzes the potential effects of an increase in debit card fees using the results of the Federal Reserve Bank of Boston's 2008 and 2009 Survey of Consumer Payment Choice (SCPC).

The brief is organized as follows. Section 1 gives an overview of the recent reforms affecting debit cards. Section 2 describes survey results on the adoption and use of debit cards. Section 3 analyzes consumers' perceptions of the cost of debit cards, focusing on the differences among various demographic and income groups. Section 4 summarizes debit card adoption and uses regression results based on the findings from the 2008 and 2009 SCPC. Section 5 estimates the potential effects of an increase in the cost of debit cards. Section 6 adds a brief analysis of the effect of overdraft fees on debit card use.

1. Recent Regulation affecting Debit Cards

Following the Dodd-Frank Wall Street Reform and Consumer Protection Act,[1] the new rule on debit card interchange fees, effective on October 1, 2011, limits the interchange fees charged on debit card transactions to approximately 24 cents per transaction for banks with assets over $10 billion, down from the current rate of about 44 cents per transaction. Because banks stand to lose revenues when the interchange fee rule becomes effective, they may raise fees—either on consumer bank accounts more broadly, or specifically on debit cards—to recover their losses.[2] In addition, the elimination of automatic overdraft protection in July 2010 might lead to lower revenues from overdraft fees in the future if fewer debit cardholders opt in to the overdraft service. Any price changes may take the form of reduced rewards on debit cards or increased fees, either in a form of fixed term fees or as variable per-transaction fees. Fixed one-time fees are more likely to affect the adoption of a payment method, while per-transaction fees are more likely to affect the use of payment methods.

[1] http://www.federalreserve.gov/newsevents/press/bcreg/20110629a.htm.
[2] Large banks expect to lose hundreds of millions of dollars in interchange fee revenues as a result of the reform. See Hayes, David and Katherine Lee. 2011. "Diminished Durbin still bites big banks," http://www.snl.com/interactivex/article.aspx?id=13067268&KPLT=6.

Several large U.S. banks responded to the interchange fee regulation by announcing debit card fees, including Bank of America, Wells Fargo, and Chase. However, strong negative reaction to those announcements forced the bank to retract their planned fees on debit cards. Instead, banks have been lowering their costs using other means. Chase, PNC Bank, and Wells Fargo ended or reduced their debit rewards programs. The availability of free checking accounts also declined in 2010 for the first time since 2003. Chase, for example, tested a $15 monthly fee on basic checking accounts in Atlanta.[3] Any fee changes resulting from the interchange fee reform are likely to be spread out over time. Therefore it will be difficult to assess the full impact of the reform. Nevertheless, we analyze the effect that potential changes in fees may have on consumers: which ones are likely to be affected, and how are they likely to react?

2. Adoption and Use of Debit Cards: Summary Statistics

Approximately 80 percent of U.S. consumers had a debit card in both 2008 and 2009, based on the SCPC.[4] Table 1 shows the average rates of adoption and use of debit cards for each demographic and income cohort. Adoption equals 1 when a consumer has a debit card and is 0 otherwise, so adoption is measured as the fraction of consumers who had a debit card. Use is measured as a share of all transactions that are conducted with a debit card. Older consumers are less apt to adopt a debit card, and adoption is lowest for those over 65 years of age. Although adoption was lowest for those respondents who had less than high school education, there was no apparent pattern among the other education levels. The same pattern was found for income: even though the consumers in the lowest income cohort (annual household income below $25,000) had the lowest rate of debit adoption, the differences in adoption rates among the other income groups were not statistically significant.

Just like adoption, the use of debit cards (measured as a share of all payment transactions) also declined with age, but there was no apparent pattern of variation in use across the education or income cohorts.

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[3] Choi, Candice, "AP-GfK Poll: Debit card fees might change behavior," found at http://xfinity.comcast.net/articles/finance/20110714/US.AP.Poll.Debit. .Credit/.

[4] http://www.bostonfed.org/economic/cprc/scpc/index.htm. Preliminary 2010 SCPC results also indicate the rate of debit card adoption to be approximately 80 percent.

3. Consumers' Assessment of the Cost of Debit Cards

SCPC respondents were asked to rate various characteristics of different payment methods. Consumers rated each characteristic for each payment method on a scale from 1 (worst) to 5 (best). One of the characteristics was cost, which could include any type of fees (positive cost) or rewards (negative cost) that consumers associate with debit cards. All respondents were asked to rate each payment method, regardless of whether or not they held and/or used a given payment method. Table 2 shows the adoption and use of debit cards by how the cost of using this method was rated in 2008 and 2009. The table shows that the perceived cost of debit cards is correlated with consumers' adoption and use of debit. In the 2008 survey, only 54.7 percent of consumers who rated the cost of debit as "very high" (the worst rating of 1) adopted debit cards, compared to 90.4 percent of those who rated the cost of debit cards as "very low" (the best rating of 5). In the 2009 survey, the numbers were 47.7 percent and 86.5 percent, respectively.

The share of debit card transactions among adopters who rated debit cost as "very low" was 32.0 percent in the 2008 survey and 35.4 percent in the 2009 survey—both substantially higher than the corresponding shares for consumers who rated debit cost less favorably. Thus the cost of debit cards seems to be an important factor affecting consumer payment decisions.

Besides the general cost category, in the 2008 survey respondents were asked to rate each payment method according the difficulty of setup, a term and concept that could include any initial costs of acquiring a debit card.[5] Although banks typically do not charge any explicit fees for issuing debit cards, this is one option that banks could potentially consider in the future. The 2008 survey results indicate that such fees might influence debit card adoption: respondents who gave debit card setup the lowest rating had a much lower adoption rate than those who gave it higher ratings (see the bottom part of table 2). To the extent that an increase in the one-time cost of acquiring a debit card changes consumers' assessment of how difficult or costly it is to set up a debit card, fewer consumers might adopt debit as a payment method.

[5] Setup was dropped from the 2009 survey, because it was found to have little predictive power in payment behavior regressions based on the 2008 data, but it was added again in the 2010 survey.

Which consumers are the most responsive to the cost of using debit cards, and therefore would be most likely to react strongly to an increase in debit fees? Based on the cost ratings broken down by demographic and income attributes, consumers with the least education (less than a high school diploma) and the lowest annual income (below $25,000) were most likely to assess the cost of debit cards as "very high," and least likely to assess the cost of debit cards as "very low" (table 3). Consumers in these two groups as well as the youngest respondents (under 25 years of age) listed cost as the most important characteristic of payment methods. Although it is difficult to infer from these ratings the effect of cost *changes*, it is probable that those consumers who are the youngest, the least educated, and/or in the lowest income group would be most affected by an increase in debit card fees, and thus most likely to change their payment behavior in response.

4. Adoption and Use of Debit Cards: Econometric Results

The adoption and use of debit cards in 2008 and in 2009 are estimated using the Heckman two-step model.[6] The Heckman regressions allow us to estimate payment use conditional on adoption, and therefore avoid a potential bias resulting from estimating adoption and use separately. The regression results are shown in table 4. Although debit card adoption is correlated with having a bank account, about 20 percent of respondents did have a bank account but did not have a debit card. In the 2009 SCPC we found that younger respondents were more likely to adopt and to use (conditional on adoption) debit cards, and older consumers were significantly less likely to adopt debit cards. Consumers in the lowest income cohort were less likely to adopt or to use debit cards, although those with the highest levels of net worth (above $500K) were also less likely to adopt or use debit. Respondents who carried a balance on their credit cards (revolvers) were significantly more likely to both adopt and to use debit, either because they viewed debit cards as a tool that helps them control their spending on the demand side (Sprenger and Stavins 2010), or because they had more limited options of how to pay on the supply side, as their credit card limits tend to be lower, all else constant.

Earning rewards on a debit card was associated with more intensive debit card use: the dummy variable indicating whether a respondent carried a reward debit card was positive in both

[6] The method is explained in detail in Schuh and Stavins (2010). We are also working on a paper where we estimate a structural model of adoption and use of payments.

years (although not statistically significant in the 2008 SCPC). Consumers who held a credit card had a significantly lower share of debit card transactions: 16 percent lower in 2008 and 13 percent lower in 2009. For those respondents with a reward credit card, debit card share was even lower, controlling for debit card rewards. Consumers might have used debit less because they could earn rewards on their credit cards, or those who used credit cards more heavily (and debit cards less) applied for reward credit cards.

The characteristics of debit cards relative to other payment methods are included in the adoption and use regressions. Because we are primarily interested in the effect of a payment method's cost on consumer behavior, we included separate measures for the perceived cost of debit cards relative to every other payment instrument. We also included separate measures of the perceived security of debit cards relative to checks and credit cards. For the remaining characteristics (convenience, acceptance, and so on) we created a composite variable measuring each respondent's average rating of debit cards relative to other payment methods. The 2008 SCPC contained eight payment characteristics, while the 2009 SCPC had only four characteristics—those that turned out to be most significant in explaining payment behavior based on the 2008 survey results.

Most of the characteristics of debit cards relative to other payment methods were significant in the adoption and use regressions (see table 4). For the purpose of this brief, we are mainly interested in the effect of cost on the adoption and use of a payment method. In the 2008 SCPC, respondents who viewed debit as less costly than checks or stored-value cards were more likely to adopt debit. In the 2009 SCPC, the cost of debit cards relative to cash or stored-value cards was significant in affecting debit card adoption. In both years, debit use was affected by the cost of debit cards relative to credit cards.

5. Estimating the Potential Effect of an Increase in the Cost of Debit Cards

To assess how changes in banks' pricing of debit card services might affect consumer payment behavior, we simulated three different scenarios: an increase in the cost of debit card adoption (measured in the survey as "setup"), an increase in the cost of using a debit card, and a broader increase in the cost of maintaining bank accounts. In this section we present our simulation results.

a. Effect on Debit Card Adoption

Although banks typically do not charge for issuing debit cards, a one-time debit card setup fee is one option banks might consider in the wake of the new rule on debit transaction fees. If banks begin to charge consumers for the one-time cost of issuing a debit card, the effect could be substantial. We simulated an increase in the setup cost by lowering every consumer's rating of the difficulty and cost of debit card setup by 1. The simulation yielded a decline in the adoption of debit cards by 8.2 percentage points, relative to the baseline adoption rate of approximately 80 percent.

b. Effect on Debit Card Use

Although some consumers might get rid of debit cards altogether in response to an increase in debit card fees, it is more likely that consumers would respond by reducing the number of their debit transactions. Therefore we are particularly interested in the effect of the relative cost of debit on the *use* of payment methods. In the 2009 regression of the share of debit card transactions (table 4), only the relative cost of credit cards was significant, while in 2008 the relative costs of both credit cards and cash were significant. *Conditional on the adoption of debit, consumers who viewed the cost of debit cards as high relative to the cost of credit cards were less likely to use debit cards, so the two payment methods were viewed as substitutes.*[7]

We simulated an increase in the cost of using debit cards by lowering every consumer's rating of the cost of debit by 1. For example, a respondent who originally had rated the cost of debit cards as 5 (very low) then was assigned a rating of 4.[8] As a result, the share of debit card transactions dropped by approximately 1.6 percentage points relative to the baseline share, which equaled 27.5 percent of all transactions in the 2009 survey.[9]

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[7] A consistent result was found in a separate nationwide poll of 1,000 consumers conducted by GfK Roper Public Affairs and Corporate Communications in June 2011, where in response to a hypothetical question about debit card fees, the highest fraction of respondents (22 percent) said they would switch to credit cards: http://www.ap-gfkpoll.com/pdf/AP-GfK%20Poll%20June%202011%20FULL%20Topline_CL%20and%20DC.pdf.

[8] The 1–5 rating scale does not correspond to an actual dollar amount, so the magnitude of a rating does not matter. However, the relative ratings and changes in ratings allow us to compare across payments or simulate what would happen if cost increased or decreased.

[9] The initial proposal of a 12-cent limit on debit interchange fees raised concerns about increased fraud, as banks claimed they would not be able to afford fraud prevention under that limit (for example, see http://online.wsj.com/article/SB10001424052748704281504576329553048686030.html?mod=googlenews_wsj).

c. How an Increase in Debit Fees May Affect the Use of Other Payment Instruments

If consumers reduce their use of debit, what payment methods will they use instead? In order to evaluate the effect of a debit card cost increase on the use of *other* payment methods, we estimated separate regressions for each of the other payment methods used: cash, checks, credit cards, stored-value cards, electronic bank account deductions, and online banking bill payments. The specifications resembled those shown in table 4, except that the dependent variable was the transactional share of each of the payment methods listed above rather than the transactional share of debit cards. As in table 4, we included the cost of a given payment method relative to the cost of every other payment method, including debit cards, on the right-hand side. Table 5 shows the estimated coefficients on the relative cost of debit cards from each of these use regressions. Both in 2008 and in 2009, the relative cost of using debit cards significantly affected the use of credit cards and—to a lesser extent—checks.[10] *Consumers who viewed the cost of debit as high relative to the cost of credit cards had a significantly higher share of credit card transactions.*

Again we simulated an increase in the cost of using debit cards by lowering every consumer's rating of the cost of debit by 1. As a result, the share of credit card transactions increased by approximately 1.1 percentage point relative to the baseline share, which equaled 15.8 percent of all transactions in the 2009 survey. It is reasonable to expect that an increase in the cost of debit would lead to an increase in the use of credit cards.

Borzekowski, Kiser, and Ahmed (2008) used data from a 2004 survey of consumers to estimate consumers' response to debit card fees. The only source of variation in the fee level in their analysis was from consumers whose banks charged for PIN debit card transactions.[11] Consumers whose banks charged for PIN debit card transactions were found to be more likely to use signature debit, and less likely to use debit in general. The median fee was about 1.8 percent

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Although the final rule allows for fraud-prevention cost to be added, we simulated a drop in security rating of debit cards by 1, which resulted in a decline of debit card share by 1.2 percentage points.

[10] The effect on check use was also statistically significant, but because check volume has been declining, it is more probable that consumers substitute debit cards for checks, rather than the other way round. Our results do not allow us to distinguish between the two directions.

[11] Debit transactions can be processed using PIN debit (also known as online debit) or signature debit (also known as offline debit).

of the average transaction value, yielding a 12 percent drop in the likelihood of debit use. Therefore debit use was found to be elastic with respect to fees. If debit cards were not available, the study found that consumers would use cash, checks, and credit cards, although this analysis was based on data collected seven years ago, and consumers might have self-selected (meaning consumers who used PIN debit heavily most likely selected banks that did not impose PIN debit fees).

d. Effect of an Increase in Checking Account Fees

Instead of raising the fees on debit cards specifically (either fixed or per-transaction), banks may instead raise the cost of checking accounts more broadly—for example, by introducing or increasing a monthly checking account fee. How would consumers react to an increase in the cost of checking accounts? We simulated an increase in the cost of checking accounts by lowering each SCPC respondents' rating of the cost of every bank account payment method: checks, debit cards, bank account number payment, and online banking bill payment. This drop in the cost rating resulted in a decline in the share of debit card transactions by 1.2 percentage points. The effect of an increase in the cost of maintaining a bank account is smaller than the effect of an increase in the cost of debit cards only because there are fewer alternative ways to pay, and so consumers would most likely continue to access their bank accounts to pay for transactions. Because of the inelastic demand for deposit accounts, banks are more likely to raise account fees rather than institute debit card fees, although some large banks report that if their competitors impose debit card fees, they might follow suit.[12] Per-check fees used to be common on some types of checking accounts, so it is feasible that banks will eventually impose per-debit card transaction fees or issuance fees despite the negative feedback they received following their announcements. Eliminating perks—such as debit card rewards—is another way for banks to lower their costs. Although lowering interest rates on checking accounts could be another way for banks to reduce benefits, many checking accounts already pay zero interest rates, so right now it is not possible for banks to lower these further.

[12] David Hayes and Katherine Lee, "Diminished Durbin still bites big banks," seen at http://www.snl.com/interactivex/article.aspx?id=13067268&KPLT=6.

6. The Effect of Overdraft Fees on Debit Adoption and Use

Although banks do not typically charge per-transaction debit card fees when there are sufficient funds in the account, many do charge overdraft fees if a cardholder exceeds his or her account balance. In July 2010 the Federal Reserve adopted regulations which prohibited banks from charging overdraft fees unless the customer opted in to overdraft protection. Despite this option of not allowing overdraft, in February 2011 Moebs Services released research showing that as many as 90 percent of U.S. bank customers had chosen to opt in to overdraft protection. Mobes projected that despite the new regulation U.S. banks would therefore continue making substantial profits from overdraft fees.[13]

How does the availability of overdraft protection affect consumers' debit card use? Approximately one-third of the 2009 SCPC survey respondents overdrew their bank account balance at least once during the preceding 12 months. Those who overdrew their accounts were significantly more likely to adopt and to use their debit card (see table 6). The debit adoption result is obvious, as in order to overdraw a bank account one has to have a bank account, and therefore probably also has an ATM card and/or a debit card (typically the two are combined as one).[14] The usage result is more interesting. Besides overdrawing a bank account by using a debit card, an overdraft can occur through the use of paper checks, online banking bill payments, or electronic bank account deduction. However, because without either a checkbook to balance or access to online bank account balances on a computer screen, a consumer cannot verify the current account balance when swiping a debit card at checkout—so is more likely to overdraw the account by using a debit card rather than by using another payment method.

The correlation between increased debit card use and overdrawn bank accounts indicates nothing about causality. It is not clear whether overdrawing an account caused changes in debit card use, or whether heavy debit card users were more likely to overdraw their account. However, the SCPC asked about overdrafts incurred during the previous 12 months, whereas the adoption and use questions referred to the time when the survey was taken. Therefore it is

[13] Kapner, Suzanne, February 23, 2011. "Americans Choosing to Pay Overdraft Fees." *The Financial Times*. http://www.ft.com/cms/s/0/5eb4cc72-3f9b-11e0-a1ba-00144feabdc0.html#ixzz1EpOTfWmT.
[14] Almost 20 percent of bank account holders did not have a debit card.

possible that incidents of overdrawn bank accounts generated changes in debit payment use, rather than the other way round.

To isolate the effect of overdrawing a bank account on the choice of payment method, we included an "Overdrew Account" dummy variable in the regression models of debit adoption and use. The variable equals 1 if a respondent overdrew a bank account any time during the previous year. As the estimated coefficients in table 4 indicate, there was no statistically significant effect of account overdrawing on debit card use.

The possibility of paying overdraft fees as a penalty for overdrawing a bank account does not seem to deter consumers from using their debit cards, and so banks will likely continue charging those fees and encouraging their customers to opt in to the overdraft option.

Conclusion

Recent regulatory changes are likely to result in an increase in the direct or indirect cost of obtaining and/or using debit cards. This brief analyzes potential effects of such an increase. The main findings are as follows:

- Consumers with the least education (less than a high school diploma), the lowest annual income (below $25,000), and the youngest ages (under 25-years-old) consider cost of use to be the most important characteristic of payment methods. It is probable that these consumers would be most affected by an increase in debit card fees, and most likely to respond by changing their payment behavior.

- The cost of using debit cards seems to be an important factor affecting consumer payment decisions: consumers who rated the cost of debit cards as low relative to the cost of using other payment methods were significantly more likely to adopt and to use debit cards.

- In regressions of payment use, the relative cost of debit cards had a significant effect on the use of credit cards, and vice versa, indicating that credit cards were viewed as the closest substitute for debit cards. If the cost of using debit cards rises, consumers are most likely to substitute credit cards for some of their debit card transactions. Consumer reaction depends on the type of fee increases: a specific increase in the cost of debit cards

is expected to have a greater effect on debit card use than would a broader increase in the cost of bank accounts.

- An increase in the one-time cost of setting up a debit card could lead to a substantial decrease in the rate of adoption of debit cards.

References

Borzekowski, Ron, Elizabeth Kiser, and Shaista Ahmed. 2008. "Consumers' Use of Debit Cards: Patterns, Preferences, and Price Response." *Journal of Money, Credit and Banking* 40(1): 149–172.

Schuh, Scott, and Joanna Stavins. 2010. "Why Are (Some) Consumers (Finally) Writing Fewer Checks? The Role of Payment Characteristics." *Journal of Banking and Finance* 34 (8): 1745–1758.

Sprenger, Charles, and Joanna Stavins. 2010. "Credit Card Debt and Payment Use," *Financial Services Review*, 19(1) :17–36.

Table 1: Adoption and Use of Debit Cards by Demographic Attributes

	2008		2009	
	Adoption (%)	Use (% share)	Adoption (%)	Use (% share)
Age (in years)				
Under 25	80.4	43.2	86.3	37.4
25 to 34	82.7	40.5	72.3	30.2
35 to 44	90.1	36.7	83.8	29.5
45 to 54	79.1	32.4	81.2	29.0
55 to 64	75.0	31.3	74.0	24.1
Over 65	72.1	21.7	65.6	16.0
Education				
Less than high school	36.3	21.6	58.4	25.7
High school diploma	83.0	28.6	72.8	27.6
Some college	84.9	41.7	84.7	31.6
College degree	84.0	29.0	82.3	26.5
Graduate degree	81.6	22.5	74.0	17.7
Gender				
Male	79.3	31.5	76.5	26.7
Female	81.0	37.3	77.5	28.2
Status				
Married	85.7	33.8	78.2	27.7
Separated	66.6	37.3	76.8	28.0
Widowed	79.2	31.1	72.7	19.8
Single	74.5	35.9	74.5	28.1
Race				
White	82.4	34.4	77.1	28.1
Black	68.2	35.2	75.7	27.4
Asian	85.4	19.8	80.1	17.5
American Indian	75.7	46.2	92.0	26.9
Other Race	72.1	45.3	75.6	26.1
Ethnicity				
Latino	88.5	34.1	75.5	28.4
Non-Latino	78.9	27.3	77.3	27.3
Annual income				
Less than $25,000	62.9	35.7	65.7	23.1
$25,000 to $49,000	85.4	38.0	78.5	29.1
$50,000 to $74,000	85.0	36.1	78.8	29.8
$75,000 to $99,000	79.0	32.2	83.5	29.2
Greater than $100,000	88.0	25.3	81.1	23.2
Total	80.2	34.5	77.0	27.5
N	1,010	1,010	2,169	2,169

Source: 2008 and 2009 *Survey of Consumer Payment Choice*

Table 2: Adoption and Use of Debit Cards by Cost and Setup Ratings

	Adoption (%)		Use (% share)	
Cost	2008	2009	2008	2009
Very high	54.7	47.7	24.6	22.3
High	54.8	69.5	22.9	21.1
Neither high nor low	72.6	72.7	24.4	21.7
Low	84.8	73.3	25.8	28.1
Very low	90.4	86.5	32.0	35.4
Setup				
Very hard	43.6	-	23.8	-
Hard	52.1	-	13.2	-
Neither hard nor easy	70.6	-	17.8	-
Easy	83.4	-	29.9	-
Very easy	92.0	-	36.3	-

Source: 2008 and 2009 *Survey of Consumer Payment Choice*

Note: Ratings for "setup" are not available for the 2009 SCPC.

Table 3: Cost Rating for Debit Cards and Order of Importance for the Characteristic "Cost" by Demographic Attributes

Rows sum to 100 within categories (e.g. for "Under 25", "very high" to "very low" sum to 100)

	Rating of Debit Card Cost (% response)					Relative Importance of Cost (1=Least/4=Most)			
	Very high	High	Neither high nor low	Low	Very low	1	2	3	4
Age (in years)									
Under 25	0.6	7.1	32.6	22.5	37.2	30.3	13.1	19.1	37.5
25 to 34	2.0	9.4	28.7	30.0	29.9	17.8	17.9	29.9	34.4
35 to 44	3.3	5.1	20.1	33.9	37.7	22.7	23.1	27.1	27.1
45 to 54	0.6	9.3	19.9	30.5	39.6	25.9	25.6	28.3	20.3
55 to 64	1.8	8.2	23.3	31.1	35.5	29.5	22.5	28.2	19.8
Over 65	4.0	8.2	16.6	30.5	40.7	30.0	24.7	28.9	16.4
Education									
Less than high school	11.3	13.6	27.2	23.7	24.2	26.2	17.1	18.9	37.8
High school diploma	1.0	6.3	28.9	27.5	36.3	22.8	19.7	29.6	27.9
Some college	2.0	9.3	19.4	29.9	39.4	26.8	23.1	25.4	24.7
College degree	1.0	7.2	18.2	34.8	38.9	26.6	24.0	28.7	20.7
Graduate degree	3.1	8.6	17.0	36.7	34.6	31.4	22.4	26.4	19.7
Gender									
Male	2.6	7.0	23.8	29.7	37.0	24.9	21.1	26.5	27.5
Female	1.7	8.8	22.5	30.5	36.5	26.2	21.9	28.1	23.8
Status									
Married	1.7	8.3	22.0	31.8	36.2	25.2	21.7	27.7	25.5
Separated	2.1	9.0	24.8	25.3	38.8	23.6	23.4	26.6	26.5
Widowed	4.8	3.0	19.7	25.6	47.0	40.4	25.4	23.7	10.4
Single	2.9	7.0	26.5	28.9	34.7	24.8	19.0	27.5	28.6
Race									
Latino	1.7	7.4	19.4	32.7	38.9	27.6	22.1	27.3	23.0
White	5.5	10.8	29.4	21.4	32.9	16.2	16.7	22.2	44.9
Black	1.1	9.5	33.8	27.6	28.0	26.9	15.8	36.2	21.1
Asian	0.0	2.7	3.6	24.6	69.1	0.0	3.6	35.4	61.0
American Indian	1.9	8.7	43.8	22.2	23.3	24.6	27.0	30.0	18.4
Other Race						72.1	45.3	75.6	26.1
Annual income									
Less than $25,000	3.8	8.5	36.2	23.5	28.1	21.0	23.4	23.4	32.1
$25,000 to $49,000	1.7	11.6	21.4	28.9	36.3	25.5	16.8	30.0	27.7
$50,000 to $74,000	2.9	4.3	20.0	32.4	40.4	24.9	24.0	27.9	23.2
$75,000 to $99,000	0.6	4.3	21.8	30.5	42.8	25.6	24.4	26.0	24.0
Greater than $100,000	0.7	7.7	15.7	37.4	38.4	34.4	24.2	24.8	16.5
N = 2,169									

Source: 2009 *Survey of Consumer Payment Choice*

Table 4: Heckman Two-Step Estimates for Adoption and Use of Debit Cards

		2008		2009	
		Adopt	Use	Adopt	Use
Age (in years)	Under 25	0.08 ***	0.12 ***	0.11 ***	0.05
35 to 45	25 to 34	-0.02	0.02	-0.01	0.05 **
is the excluded group	45 to 54	-0.05	0.01	-0.03	-0.01
	55 to 64	-0.06	0.03	-0.13 ***	0.01
	Over 65	-0.01	0.00	-0.12 **	-0.01
Education	Less than high school	-0.35 **	0.03	0.01	0.01
College degree excluded	High school diploma	-0.01	0.00	-0.06 *	0.02
	Some college	-0.02	0.04 **	0.02	0.02
	Graduate degree	0.01	-0.03	-0.03	-0.03
Marital Status	Separated	-0.05	0.03	0.04	0.02
Married excluded	Widowed	-0.11	0.04	0.06 *	0.01
	Single	-0.04	-0.01	-0.04	-0.02
	Household Size	-0.01	0.00	0.00	-0.01 *
	Latino	0.04	-0.04	-0.19 **	0.01
Race	Black	-0.06	-0.02	-0.05	-0.02
White excluded	Asian	0.05	-0.11 **	-0.06	-0.03
	American Indian & Other Race	-0.10	0.01	0.06	0.00
	Male	0.00	-0.06 ***	-0.03 *	-0.03 **
Anuual income	Less than $25,000	-0.12 **	-0.04	-0.09 **	-0.06 **
$50,000 to $74,000	$25,000 to $49,000	0.00	-0.02	0.03	-0.02
excluded	$75,000 to $99,000	0.00	0.00	0.02	0.02
	Greater than $100,000	0.03	-0.02	0.06 **	0.00
	Not Highest Income in Household	-0.04	0.01	-0.02	0.01
Net Worth	Less than $50,000	0.02	0.01	0.08 ***	0.01
$100,000 to $250,000	$50,000 to $100,000	0.01	0.04	0.02	0.05 ***
excluded	$250,000 to $500,000	0.00	-0.01	0.00	0.00
	Greater than $500,000	-0.10 **	-0.05 *	-0.05	-0.06 ***
	Missing Net Worth	-0.13	0.13 ***	-0.01	0.06
Employment Status	Retired	0.03	0.01	0.02	-0.02
	Employed	0.00	0.04	-0.05	0.02
	Born Abroad	-0.13 *	0.02	0.00	-0.03
	Carrieds Credit Card Balance	0.05 **	0.08 ***	0.07 ***	0.08 ***
	Overdrew Account	0.08 ***	-0.02	0.09 ***	0.03
	Has Rewards Credit Card		-0.05 **		-0.10 ***
	Adopted Credit Card		-0.16 ***		-0.13 ***
	Has Rewards Debit Card		0.03		0.04 ***
Adoption Instruments	Number of Children	0.03 *		-0.02	
	Owns Home	0.05		0.04	
	Defaulted	0.04 *		0.03	
Cost Rating Relative to	Cash	0.01	0.08 ***	0.10 **	0.03
Each Payment Instrument	Checks	0.10 **	-0.02	0.04	0.02
	Credit Cards	-0.04 *	0.06 ***	0.03	0.02 **
	SVC	0.07 **	-0.03	0.07 ***	-0.01
	EBAD/BANP	-0.09 ***	0.00	0.03	0.01
	OBBP			-0.06 *	-0.02
Security Rating Relative	Checks	-0.03	0.03	0.01	0.01
to Checks and Credit	Credit Cards	0.06 **	0.03	0.08 ***	0.02
Relative Payment	Security (other than Checks/Credit)	-0.03	0.01	-0.03	0.01
Characteristics	Ease/Convenience	0.09 *	0.12 ***	0.25 ***	0.12 ***
	Acceptance	-0.02	0.09 **	0.09 **	0.09 ***
	Speed	0.09 *	0.07		
	Control	0.05 *	0.01		
	Records	0.16 ***	-0.06		
	Setup	0.20 ***			
	Inverse Mills Ratio		-0.10 *		-0.04
	Dummies for Number of Other Payment Methods Adopted				
	McFadden's Adjusted R-squared/Adjusted R-square	0.21	0.30	0.14	0.28
	Number of Observations	907	745	1,879	1,461

*p-values * 0.10 ** 0.05 *** 0.01*

Source: 2008 and 2009 *Survey of Consumer Payment Choice*

Table 5: Regression Coefficients for the Effect of Cost
Relative to Debit Cards for Each Payment Instrument

Each row represents a separate regression - only the coefficients of relative cost to debit cards have been reported.

	2008		2009	
	Adoption Coefficient	Use Coefficient	Adoption Coefficient	Use Coefficient
Cash [1]	-	0.03	-	0.07
Check [1]	-	0.05 ***	-	0.03 **
Credit Card	0.06 **	0.08 ***	0.01	0.08 ***
SVC	0.05	-0.04 **	0.02	0.03
EBAD/BANP	0.07	0.01	0.02	0.00
OBBP	-0.07	-0.01	-0.01	-0.01

*p-values * 0.10 ** 0.05 *** 0.01*

[1] Almost all respondents adopted cash and checks.

Source: 2008 and 2009 *Survey of Consumer Payment Choice*

Note: SVC stands for "Stored value card," EBAD/BANP stands for "Electronic bank account deduction/bank account number payment," and OBBP stands for "Online banking bill payment." In the 2009 SCPC the term "Electronic bank account deduction" was replaced with "Bank account number payment.

Table 6: Overdraft Protection/Fees and Debit Card Adoption/Use

	2008			2009		
	% of sample	Adoption (%)	Use (% share)	% of sample	Adoption (%)	Use (% share)
Overdraft Protection?						
Yes	69.6	88.4	40.3	63.4	85.1	30.3
No	25.4	78.1	20.2	24.1	80.8	30.7
Don't know	5.0	91.3	23.5	12.5	75.4	23.4
Overdrew Bank Account?						
Yes and paid late fee	28.0	93.9	30.6	23.6	88.9	39.2
Yes, didn't pay late fee	4.3	93.0	25.1	7.2	87.9	36.7
No	67.7	73.6	22.0	69.3	72.4	22.5
Overdrew Bank Account? [1]						
Yes and paid late fee	31.8	97.4	41.3	24.0	93.8	42.6
Yes, didn't pay late fee	3.9	96.2	28.8	9.8	90.4	37.8
No	64.2	83.7	25.3	66.2	81.0	24.6

[1] Among individuals with overdraft protection

Source: 2008 and 2009 *Survey of Consumer Payment Choice*