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# Preferences for Banking and Payment Services among Low- and Moderate-Income Households

Michael S. Barr
*University of Michigan Law School*, msbarr@umich.edu

Jane Dokko
*Federal Reserve Board*, jane.k.dokko@frb.gov

Eleanor Feit
*University of Pennsylvania*, efeit@wharton.upenn.edu

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Michael S. Barr
Professor of Law
University of Michigan Law School
625 South State Street
Ann Arbor, MI 48109
734-936-2878
msbarr@umich.edu

Jane K. Dokko
Economist
Division of Research and Statistics
Federal Reserve Board
20th and C Streets NW
Washington, DC 20551
202-452-3637
jane.k.dokko@frb.gov

Eleanor McDonnell Feit
Research Director
Wharton Interactive Media Initiative
The Wharton School
University of Pennsylvania
Philadelphia, PA 19104
215-746-8143
efeit@wharton.upenn.edu

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## 1. Introduction

### 1.1 The need for banking and payment services among low- and moderate-income households

Bank account ownership and financial inclusion are widely viewed as necessary conditions for improving the economic well-being of low- and moderate-income (LMI) households, yet 25% of households in the United States earning under $20,600 per year do not have a bank account (Blank and Barr (eds.) 2008, Bucks et al. 2009).[1] As articulated in Caskey (1996), Barr (2004), and Blank and Barr (eds., 2008), LMI households need affordable bank accounts to make payments, obtain credit, save for short-term emergencies, and build longer-term assets. Increasing the capacity of LMI households to build savings as a buffer against emergencies may promote their financial stability and improve their income and employment opportunities. Without affordable and accessible banking services, these households frequently use non-bank substitutes – a typical LMI household spends around half of its annual outlays on financial services in the high-priced alternative financial services sector to obtain services, such as check-cashing, wire transfers, and short-term credit, and has little savings (Barr et al. 2009).[2] From a public policy perspective, this financial exclusion and use of high-priced alternative financial services undermine the government's mechanisms for income redistribution, reduce the employment incentives of programs such as the Earned Income Tax Credit (EITC), and reduce the positive network externalities in electronic payment systems (Humphrey et al. 2001, Barr 2004).[3] We contend that an understanding of preferences for payment card features can help improve the overall equity of the banking system by building upon the efficiency gains from electronic payments.

A payment card, a broad term used in this paper to include debit, prepaid debit, and payroll cards but exclude gift cards, provides the user with an electronic method of receiving income, making purchases, paying bills, and withdrawing cash. Also, payment cards offer the holder the opportunity to save, for example, through a linked account at a bank that is separate from the account for the card. Payment cards typically do not enable check-writing and can be set up without the ability to overdraft, thus minimizing risks and administrative costs for financial institutions and consumers.

Payment cards come in several forms, including debit cards, payroll cards, or prepaid debit cards, such as MasterCard or Visa prepaid debit cards. In this study, we use the term "debit card" to describe basic cards that are linked to a source of funds and can be used with a personal identification number (PIN) at ATM machines and at larger retailers that have PIN pads at the point of sale. A "payroll card" is set up by the cardholder's employer and enables employees to electronically draw their pay from a pooled account. A "*prepaid* debit card" is not associated with an individually owned bank account, but is instead loaded with funds by the consumer or a third party. Payroll and prepaid debit cards can be structured to have federal deposit insurance. Unlike the basic debit card, these cards are typically offered through the MasterCard or Visa network and can generally be used at any retailer that is a part of these networks with a signature rather than the entry of a PIN. Each of these payment cards poses different costs and risks to the financial institution providing the card, with payroll cards generally being less expensive and risky than prepaid debit cards requiring only a signature; both of these cards tend to be less expensive than debit cards linked to a source of funds.

To date, the patchwork of public and private payment card programs are quite fragmented and neither sector offers a broadly available payment card product that is affordable, transparent,

and reflects the preferences of LMI households. After the 1996 welfare reform law, states began to disburse public assistance benefits, such as food stamps and welfare, electronically onto debit, or electronic benefit transfer (EBT), cards. Also, for the unbanked, many states provide the option of receiving unemployment insurance benefits on EBT cards. Most states do not establish individually owned accounts linked to EBT cards for benefit recipients, and instead use a private contractor to provide cards for recipients to access funds held by the state government in a pooled account (Barr 2004). The federal government deploys a prepaid card, Direct Express, to electronically deliver payments to unbanked Social Security beneficiaries. Use of the card has grown rapidly and now reaches over one million participants. Both state and federal cards currently lack full functionality, such as the ability for cardholders to receive other income, pay bills electronically, or set up savings accounts. As currently structured, publicly offered payment cards are limited in their use and accordingly, LMI households cannot use these cards to fulfill many of their financial services needs. Similar to publicly offered payment cards, payroll cards generally do not offer bill payment or savings mechanisms. The availability of these options usually depends on the employers, who, like state governments, use a single contractor to allow employees to withdraw funds from a pooled account.

Private sector payment card programs, on the other hand, offer a broader array of financial services, but at a much higher price. For example, as shown in Appendix 1, two popular cards charge activation fees ranging between $3.95 and $19.95 as well as monthly maintenance fees between $5.95 and $9.95.[4] Also, additional charges apply for making purchases with the card, making ATM withdrawals, enrolling in a bill payment plan, reloading the card, and other uses of the card. If the cardholder is not savvy, the fees of a payment card offered in the private sector can rival and even surpass those of check cashers and bank accounts.

In addition to high fees, shopping for a payment card and picking one can be complicated because the card's fixed and variable costs are complex and hidden. Also, the services offered on a card are often bundled. For example, one card charges a different set of fees depending on whether the cardholder chooses to pay a large up-front activation fee or a lower monthly fee. Another card offers an entirely different menu of fees and services. Moreover, consumers' cognitive biases may make comparing the two cards difficult, as their respective costs depend on how the cardholder *anticipates* loading the card with money and how frequently purchases are *expected* to be made.

Federal consumer protection regulations for payment cards may leave gaps in coverage or create confusion.[5] The FDIC's deposit regulations and the Federal Reserve's Regulations D and E stipulate deposit insurance and liability protection for payment cards, but these rules do not necessarily apply to all types of payment cards or their holders in all situations. When a card is lost or stolen and the cardholder does not report a stolen or missing card within two business days, the cardholder is not fully protected. Also, cardholder's responsibility for charges made is capped at $50 only if the cardholder is able to prove that she did not "recklessly" use or misplace the card. In some cases, deposit insurance may not "pass through" to a cardholder if the account linked to the card is linked to a pooled account without individually assigned sub-accounts (as may often be the case with a private payroll card). The cardholder agreements of the most popular prepaid branded payment cards warn that in the event of a loss or theft, it is possible under certain circumstances for the holder to lose all of the money that has been loaded onto the card.

Given that public and private payment cards offer an incomplete spectrum of affordable and transparent financial services, the use of payment cards, though growing, is not widespread

among LMI households (Romich et al. 2009). This suggests that there is a possibility in the current payment card marketplace to provide more affordable financial services through payment cards without hidden fees to LMI households. Public subsidies to banks are one potential implementation of expanded payment card offerings to these households, as are efforts to reduce acquisition costs through widespread programs for the direct deposit of tax refunds and government benefits onto such cards.[6] Another potential implementation strategy is to integrate card programs into the "Bank On" initiatives in cities around the country that provide low-cost starter bank accounts and financial education for unbanked households. These programs also seek to develop new bank products for unbanked households.

This study contributes to this policy discussion by characterizing the features of an account-based payment card – including bank debit cards, prepaid debit cards, and payroll cards that elicit a high take-rate among low- and moderate-income (LMI) households, particularly those without bank accounts. To the best of our knowledge, no large-scale study identifies how preferences over monetary and non-monetary features of a payment card influence its use.[7] Previous research on electronic payment methods has focused on individuals' decisions to choose among different electronic payment methods, such as debit cards, credit cards, and electronic funds transfer (EFT) (Hirschman 1982, Kennickell and Kwast 1997, Mantel 2000). Related research demonstrates the substantial sensitivity of consumers' use of an electronic payment method to its own price (Humphrey et al. 2001, Amromin et al. 2007, Borzekowski et al. 2008). In this prior research, it is unclear whether the non-monetary aspects of electronic payment methods, such as how money is loaded onto the card, whether a card has lost card protection, or how the card is branded, are quantitatively important. Also, the importance of non-monetary costs relative to the monetary costs of electronic payments is not well understood.

Recent research, however, emphasizes the relative importance of non-monetary factors in influencing the financial decisions of the poor (Bertrand et al. 2006). An aggregated view of consumer preferences that does not distinguish between monetary and non-monetary features leaves financial institutions, payment card providers, employers, and government agencies uninformed on how to design payment cards to maximize take-up among LMI households.

### 1.2. Analysis approach

Drawing on methods from marketing research, we develop a discrete-choice model of LMI households' preferences for payment cards as a function of the features of the payment card. We then use this model to predict take-up rates for payment cards with different combinations of monetary and non-monetary features. By assigning costs to different payment card designs, policymakers and financial institutions can assess the net benefits implied by the costs and take-rates of various payment cards. The proposed analysis approach can be used by policy makers determine which payment card is most profitable (or least unprofitable) given costs and demographics in a particular local and whether or not subsidies or other public intervention is necessary to entice private institutions to offer payment cards.

The model we use allows us to compare (among other things) whether banked and unbanked respondents value the features in similar (or different) ways. This comparison is facilitated by the hierarchical multinomial logit specification used in the discrete choice model. At the lower level in this model, we estimate a relationship between observed payment card choices and unobserved consumer preferences for payment card features (cf. Rossi, Allenby and McCulloch 2005, Train 2003). In the upper level of the model, these consumer preferences are modeled as a linear function of LMI households' characteristics, including whether they have a

bank account, income, age, race, and gender. This structure enables us to analyze whether LMI households' preferences for payment card features differ depending on income, age, race and gender. This modeling structure also allows us to extrapolate from a representative sample of LMI households in Detroit in order to predict take-up rates for other cities with a different distribution of demographic and socio-economic characteristics.

The remainder of this paper is organized as follows. Section 2 describes the survey and modeling approach that was used to estimate the discrete-choice model. Section 3 presents the estimated demand model parameters and, in particular, the role of non-monetary cost factors. Section 4 concludes with policy implications and suggested guidelines for institutions who wish to target payment cards for LMI households.

## 2. Measuring consumer preferences for purchase cards

### 2.1 Data collection

There are a number of different features that a payment card can offer that can change the cost of offering the card and the level of services available to LMI users. These features are summarized in Table 1 and described in more detail in Appendix 2. This study collected data specifically designed to measure how the features in Table 1impact take-rates for purchase cards among LMI households.

The limited use of payment cards by LMI households in the market place makes it difficult to assemble market data to estimate preferences for the various features described in Table 1, particularly since we are interested the preferences of non-users as well as users. As a result, we chose to estimate our model for payment card take-up based on hypothetical choices made by LMI households in a survey (following the 'conjoint analysis' or 'discrete-choice survey'

approach, c.f. Louviere, Hensher, and Swait 2000). These hypothetical choice questions are from the Detroit Area Household Financial Services (DAHFS) study, a broader survey of LMI households in Detroit administered by the Survey Research Center at the University of Michigan. The survey was conducted as a computer-assisted, in-person survey from July 2005 through March 2006. In addition to the choice questions on purchase cards, the survey asked many questions about LMI individuals' experiences with mainstream and alternative financial services, in addition to their socio-economic characteristics, saving/borrowing attitudes, and net asset portfolio. Respondents took on average 76 minutes to complete the DAHFS survey; the choice questions represent a small fraction of this time. The survey was pre-tested on a sub-sample of LMI households to validate wording and other aspects of the survey instrument. Because we were concerned about the overall literacy level and the ability of respondents to provide reliable responses to seemingly difficult questions about financial behaviors, we also conducted cognitive interviews regarding the most difficult questions, including the discrete-choice portion of the survey, and modified the instrument based on how respondents processed the questions (c.f. Presser et al. 2004). In the discrete-choice portion of this survey, respondents were asked to answer a series of 13 questions where they indicated which of 3 alternative payment cards they found most attractive (see Appendix 3 for an example question). Each question also includes a 'none' or no-purchase option. The attributes and levels for the alternatives in each question followed an experimental design created using Sawtooth Software's Choice-Based Conjoint package (Sawtooth Software, 2007).

The survey sample was carefully constructed to be representative of households living in LMI neighborhoods in the Detroit metropolitan area. We randomly selected sample members to form a stratified random sample of Wayne, Oakland, and Macomb counties. Because we

constructed the sample frame to include more census tracts from the low- and moderate-income strata (defined as tracts with median incomes that are 0-60% and 61-80% of the Detroit area's median income of $49,057), the sample frame includes more census tracts from the low- and moderate- income strata than the middle stratum that consists of census tracts with median incomes 81-120% of the area median.[8] Note that these stratum definitions do not restrict the income levels of the sample members to fall within these ranges. Our sample consists of 1,003 interviews, with a response rate of 65 percent. Of those, 788 answered all of the discrete-choice questions, as well as the five demographic and socio-economic questions we used in estimating the demand model.

**2.2 Descriptive Statistics for the Sample**

Overall, the demographic characteristics of the sample reflect the average characteristics of LMI households in the Detroit metropolitan area (see Barr et al. 2009 for a detailed comparison). Our sample is socio-economically disadvantaged relative to the average U.S. household. The sample is two-thirds African-American, two-thirds female, and unlikely to be married. Nearly 30% have less than a high school diploma. While most of the respondents are of working age, only slightly more than half were employed at the time of interview. The median household income of the sample is $20,000, which is much lower than the Detroit metropolitan area's median income of $49,057 and the national median of $44,684. About one-third of these households lived below the poverty line in 2004, and 29% percent do not have a bank account. The modal respondent to the survey is an African-American working-age woman, without children, who has lived in the Detroit area for a long time. Her income from work is low and

close to the federal poverty line, and she likely receives some public assistance from the government.

The survey identified a number of problems with bank account ownership among LMI households. Among the 73% of respondents who have either a checking or savings account, 35% overdrafted on their account at least once during the year prior to the survey interview.[9] During this period, 13% paid a fee for going below their minimum balance. To identify which financial barriers were most important to the unbanked, they were asked what improved feature of a bank account would make them most likely to open an account. Unbanked respondents cite less confusing fees (16%), lower minimum balances (14%), and the ability to get money faster (10%) as the main obstacles they would like to see removed. For 29% of the sample, lower fees were perceived as the primary facilitator to opening an account, while 20% considered more convenient bank hours and locations as their chief motivation. Table 1 reports the distribution of responses of the unbanked regarding the feature that would make them most likely to open a bank account.

Respondents report difficulty maintaining a bank account. Despite being banked, 12% of account holders had a previous bank account closed by the bank (not due to a move). Common reasons for a bank closing an account include a low balance or an inactive account (63%) or bounced checks and overdrafts (51%). In addition, 55% of the banked respondents closed a previously held bank account voluntarily, most commonly due to the convenience of another bank (27%) or excessive fees (21%). Among the unbanked, 70% report they chose to close the account themselves, citing moving, worrying about bouncing checks, and having to pay fees as their reasons for closing the account. The remaining formerly-banked, 30%, report that the bank closed the account mostly due to bounced checks and overdrafts.

In spite of how bank accounts are typically structured, there is interest among the unbanked to have a bank account. Of the unbanked respondents, 75% say they would like to open a bank account in the next year, and 33% say they have shopped around for a bank account. However, 17% report that a bank denied their application to open a bank account.

The more-in-depth findings from other portions of the study can be found in Barr and Dokko (2008), Barr et al. (2009), and Barr et al. (forthcoming).

### 2.3 Model Specification

To analyze the responses to the hypothetical choice questions in the discrete-choice portion of the survey, we use a hierarchical multinomial logit model (c.f., Allenby and Ginter 1995, Train 2003). In this model, the choice made by consumer *i* in question *t* is related to the vector of product attributes, $x_{ijt}$, for each alternative *j* through a vector of individual-level parameters, $\beta_i$. Specifically, the likelihood that alternative *j** is chosen is given by the familiar multinomial logit model:[10]

$$p\left(y_{it} = j^* \mid \beta_i, \{x_{ijt}\}\right) = \frac{\exp(\beta_i x_{ij^*t})}{\sum_j \exp(\beta_i x_{ijt})} \tag{1}$$

The estimated parameters $\beta_i$ indicate respondent *i*'s strength of preference for the different levels of the attributes. These parameters are assumed to arise from a multivariate regression relating $\beta_i$ to a vector $z_i$ of known characteristics of consumer *i*. Specifically,

$$p\left(\beta_i \mid z_i, \Delta, \Sigma\right) = N_K(\Delta z_i, \Sigma), \tag{2}$$

where *K* is the number of attributes, $\Delta$ is the matrix of regression coefficients and $\Sigma$ is the covariance matrix of the error term. The matrix $\Delta$ describes the overall population preferences for the different product attributes and the covariance between those preferences and the

characteristics of the individuals. The matrix Σ describes how individual preferences vary around the predictions of the regression model. This hierarchical structure allows us to understand how consumer preferences for payment cards vary with the demographics of the respondent. The data used to estimate the model consists of the product attributes in the discrete choice questions $\{x_{ijt}\}$, the observed choices $\{y_{it}\}$, and respondent characteristics, $\{z_i\}$.

For this application, we specified the $x_{ijt}$ as effects codes for the attribute levels described in Table 1 plus a dummy variable for the 'none' option (or outside good), which resulted in 17 estimated attribute preference parameters for each respondent. To specify $z_i$ we chose 5 demographic variables from the survey that we believed were likely to be related to individuals' payment card preferences and were relatively uncorrelated with each other. These included the age of the respondent (centered at 40, approximately the median age), the gender of the respondent, the log of the income (centered at $20K per year, approximately the median income), a dummy variable indicating whether the respondent has a bank account, and a dummy indicating whether the respondent was not African American. We also included a dummy variable for the moderate-income sampling strata versus the low-income strata in $z_i$. Thus, each estimated parameter in Δ describes how preferences for the payment card attributes vary with the demographics of the respondent.

Our approach to estimation is Bayesian with conditionally-conjugate, diffuse, proper priors for Δ and Σ, which allows us to use the usual Metropolis-within-Gibbs sampler for the hierarchical multinomial logit model (c.f., Rossi, Allenby and McCulloch. 2005). The priors on Δ and Σ were

$$p(vec(\Delta)) = N_{KL}(\mathbf{0}, \text{diag}(1000))$$
$$p(\Sigma) = \text{InvertedWishart}(K+2, I)$$

where *K* is the number of attributes and *L* number of individual characteristics. The sampler was coded using the R statistical language. Convergence of the sampler was assessed by comparing two chains with different starting values; all parameters in Δ and Σ achieved Gelman-Rubin potential scale reductions factors of 1.1 or less. Posterior inference was based on 200,000 draws, thinned by 10 to reduce data storage requirements.

**3. Discrete-choice model parameter estimates**

The parameter estimates for the model suggest that there may be a significant opportunity to induce take-up of a payment card among LMI households, and in particular those without bank accounts and those who live in low-income census tracts. In this section, we describe the features of a payment card that have the largest weight in determining individuals' decisions about payment cards. We also discuss demographic differences in the relative weight given to a particular payment card feature as well as in the take-up rates of cards for different demographic groups. The parameter estimates for the model are shown in Table 3. Parameters which are different than zero (i.e., the $5^{th}$ and $95^{th}$ percentiles of the posterior density do not span zero) are highlighted in bold.

The first column in Table 3 shows the intercept parameters in Δ. Given the coding scheme for the variables in $z_i$, these intercept terms correspond to the average attribute part-worths for the modal respondent in the sample who is unbanked. The parameters in Table 3 indicate that the most appealing payment card for this respondent is a debit card with no credit check requirements, with federal lost card protection, that is loaded for a $2.95 fee, that has unlimited cash withdrawal for $1.50 each, has a savings plan and no monthly fees. Columns 2-7 in Table 3 show the estimated parameters in Δ that describe how payment card preferences vary

with respondent demographics. For example, the last row in Table 3 shows how preferences for the outside good vary for different respondent groups. The outside good parameters describe how likely the respondent was to choose one of the payment cards over the "none" option in the discrete choice questions. Generally, lower values of the outside good parameter indicate more interest in payment card products. The estimated parameters indicate that people who are older, male and are not black are significantly less likely to find payment cards attractive. In other words, respondents whose demographic characteristics suggest they have greater access to bank accounts, and therefore an outside option, are less likely to report wanting a payment card (c.f. Table 7 in Barr et al. 2009). Although not statistically significant, the estimated parameter in the last row of column 2 indicates that those with bank accounts are also less interested in purchase cards.[11] We also find that people with higher incomes are significantly more interested in purchase cards, possibly due to greater economic activity and a stronger demand for financial services.

Columns 2-7 in Table 3 also show some significant and interesting between-group variation in the preferences for various purchase card attributes. Although almost all groups prefer a debit card to a Master Card or payroll card, this distinction is not as important for those with bank accounts (who already have debit cards) and those who are older (who are more likely to have bank accounts and therefore debit cards). Similarly, federal deposit protection is preferable to no protection among all groups, but is somewhat less important to those who are male, older, and have lower incomes relative to the modal respondent in column 1. Put differently, these patterns suggest that preferences for the availability of federal protection among younger, female, and unbanked respondents (the reference category) are quite strong relative to other demographic groups.

Cards with savings plans are preferable to all groups, but are less important to those who are male and those without bank accounts (who may not value the saving option as much as the transactional features of a payment card). In other words, the banked are more likely to prefer the savings feature of the payment card, perhaps because, on the margin, this attribute may provide a service that banked households may not necessarily have. There is statistically significant variation across respondent groups in preferences for the method of loading the card. A respondent who is unbanked and not African American will, on average, prefer to have the employer load the card, while banked respondents prefer direct deposit. Respondents who are African American show significantly less preference for cards that are loaded by employers, which is consistent with sociological research finding a general distrust of employers among inner-city African Americans (Wilson 1987, 1996). All respondent groups prefer cards with no fees for withdrawing cash or no monthly fees, although those from moderate-income neighborhoods find the $2.95 monthly fee less dissuasive than those who live in low income census tracts.

The last column in Table 3 shows the parameter estimates for the diagonal elements in $\Sigma^{12}$. These parameters describe how much variance we see in attribute preferences among respondents with the same demographic profile. The high estimate for the variance in the outside good parameter (19.20) indicates that there are large differences between respondents in their preference for the outside good. This suggests that even that within each demographic group, some respondents are very interested in purchase cards while others are not at all interested. This heterogeneity suggests it is unlikely that a single card can be developed to be universally accepted among all LMI households.

The hierarchical model structure allows us to compute attribute importance estimates for different combinations of socio-economic variables. In the first two columns of Table 4, we contrast the average relative attribute importances for the modal unbanked respondent who lives in a low income census tract to the modal banked respondent who lives in a moderate income census tract. The first group of respondents place equal weight on monthly fees and the availability of federal protection when they make their payment card decisions. After these two features, the payment card's type (debit v. payroll v. MasterCard) is an important factor. Like the first group, the second group places the most importance on monthly fees and lost card protection, but relative to the first group, they place a higher weight on the former and less weight on the latter. Also, the second group of respondents places less importance on the card type and more weight on the method of making deposits than the modal unbanked respondent in Column 1. We also contrast these two low-income respondents with a middle-income male resident of a moderate income census tract who is not African American, is age 40, and has a bank account (Column 3). Like the first two groups, monthly fees have the greatest effect on the purchase decisions for this group. In contrast to the other two groups, middle-income respondents place less importance on lost card protection and more importance on the method of making deposits. Also, for this group, the functional aspects of the payment card, such as the availability of a savings plan and the method for paying bills, have less weight. By showing the variation in attribute importance, the results in Table 4 suggest how different purchase card programs could be tailored to appeal to various demographic groups.

### 3.2. Predicting Take-Rates

As we discussed earlier, the discrete-choice model can be used by policy makers to estimate the fraction of LMI households who report they would sign up for a payment card if there were a payment card offered to them. We refer to this fraction as the take-rate. This take-rate can be estimated for any combination of the payment card features described in Table 1, based on the estimated likelihood of choosing a particular card versus choosing the outside good. (Given the scarcity of payment card programs, take-rate estimates reported here assume that there would only be one card available to LMI households. However the model could be used to produce take-rates and market shares were multiple purchase cards available to a group of LMI households.) We have developed an interactive tool that can be used to explore take-rates for different payment card configurations and different subgroups of the Detroit LMI population.[13] Policy makers can use this tool to determine the take-rate for any payment card program, given the target market in their locality (race, age, gender, access to bank accounts, etc.)

To demonstrate the approach, we used the tool to determine the payment card design that would maximize the take-rate for the overall Detroit LMI population. The card maximizing the take rate is a debit card with no credit check, federal lost card protection and an automatic savings plan. The full profile for this card is described in the first column of Table 5. We estimate that almost 52% of LMI respondents say they would enroll in a payment card program designed in this particular way. The estimated take-rate is slightly higher for those that live in a low-income census tract versus those in a moderate-income census tract(52.8% versus 50.8%). The last two columns of Table 5 describe designs tailored to the unbanked and banked subgroups, which are largely the same as the best design for the overall LMI population. If a card were optimized for the unbanked subset of Detroit LMI households, the card would allow users to pay bills in person with the card, be a debit card, and would achieve a 54% take-rate among

the unbanked. A card optimized for the banked Detroit LMI households would be a MasterCard instead of a debit card, and would achieve a 53% take-rate among the banked. Although a card optimized for the unbanked achieves a lower overall take-rate than one optimized for the banked or for the overall LMI population (50.4% v. 51.2% v. 51.8%), the estimates in Table 5 suggest that tailoring a card to the unbanked will sacrifice little in terms of the take rate among the banked.

It should be noted that the take rates shown in Table 5 are estimated from the survey responses and therefore represent the likelihood that the respondent would *say* that they would choose the card in a survey rather than actual behavior. Take rates in the marketplace may be lower because respondents are not aware of the availability of payment card or because respondents do not immediately take action as soon as a new product is available.

### 3.2. The Effect of Price on Take-Rates

The interactive tool can also be used to predict how the response varies with changes in the design of the card. For instance, one can predict how take-rates might change if monthly fees were added to the ideal card in the first column of Table 5. (Such fees might offset the costs of providing payment cards.) Figure 1 shows that as monthly fees increase sharply, take-rates drop off dramatically from 51.8% for the LMI population when there are no fees to 37.1% when the monthly fees are $9.95. The difference in take rate for those who live in low versus moderate income census tracts increases (39.5% versus 34.6%) when fees are $9.95, indicating that demand for payment cards is less elastic in households that live in low-income census tracts.We also find that those living in moderate income census tracts, who are more likely to have bank accounts, are more sensitive to fees, suggesting greater substitutability between the payment card

and a bank account for these households. Similarly, in Figure 2, we show the decline in take-rates for banked and unbanked respondents. The take-rates for the banked are more sensitive to monthly fees, consistent with the results in Figure 1.

### 3.2.1.1. Details of the take-rate calculations

In the model, the take-rate depends on the demographics of the consumers, and so we can compute take-rates specific to any particular demographic profile. This allows policy makers to compute take rates specifically for any local target population. Following the Bayesian approach, we compute average the likelihood of the choice over the posterior. Specifically, the average take-rate for a target design $x$ for a respondent with demographics $z_i$ is computed as

$$\text{take}-\text{rate} = p(y_i = \text{target design}) = \int_{\Delta,\Sigma} p(y_i \mid x, \beta_i)\, p(\beta_i \mid z_i, \Delta, \Sigma)\, p(\Delta, \Sigma) d\Delta d\Sigma$$

where $p(y_i \mid x, \beta_i)$ is the likelihood that $i$ will choose the target design, $x$, over the outside good (based on equation 1), $p(\beta_i \mid z_i, \Delta, \Sigma)$ is as given in equation 2 and $p(\Delta, \Sigma)$ is the posterior density of the model parameters. The integral is estimated by sampling from the posterior draws.

To estimate the take-rate for a population of respondents, we average the take rate over some distribution of the demographic variables. For example, to estimate the take rate overall among LMI households in Detroit, we use the distribution of $z_i$ observed in the survey sample. One advantage of the hierarchical modeling approach is that we can also estimate take-rates for another population of respondents, e.g. for a different city, simply by averaging over some other distribution of $z_i$.[14] If $p(z_i)$ is the distribution of demographics for the population we wish to estimate a take rate for, then the take-rate for the population is given by

$$\text{take}-\text{rate} = p(y_i = \text{target design}) = \int_{z_i} \int_{\Delta,\Sigma} p(y_i \mid x, \beta_i)\, p(\beta_i \mid z_i, \Delta, \Sigma)\, p(\Delta, \Sigma) d\Delta d\Sigma p(z_i) dz_i$$

The take rates for the overall Detroit LMI population are shown in the first row of the bottom panel of Table 5.

**4. Costs and the profitability of payment-card**

The design in the first column of Table 5 represents the ideal designs from the *consumer's* perspective. However, government agencies and private financial intuitions who are designing payment card programs need to weigh the likely take-rates against the costs of offering different features. Such an analysis also must consider the potential revenues that would be generated by the various fees. When private firms design products for the market, the central objective is profit. However, government agencies are considering developing payments cards programs in an effort to improve the welfare of LMI households. We do not anticipate that low-fee payment cards will necessarily be profitable (else they would already be more widely available in the private sector) and so government agencies need to weigh the costs of such a program against the potential benefits to LMI households.

One approach to weighing costs of a payment card program against the social benefits to an LMI household from having a payment card is to optimize the per-household cost of the program, that is, the ratio of the costs to the number households who sign up for the program. Costs for payment cards programs can be summarized as the fixed cost of developing a program, $C_0$, the cost of setting up an individual account, $s$, and the monthly cost (net of revenues from fees) of servicing an account, $c(x)$. The take-rate can be estimated using our discrete choice model as the total number of individuals in the target population, $M$, times the take rate $\rho(x)$. The per-household net present cost for the program is then

$$\frac{C_0}{M\rho(x)} + s + \sum_{t=1}^{T} \delta^t c(x),$$

where $\delta$ is the discount factor and $T$ is the planning horizon. If the fixed costs of the program, $C_0$, are sufficiently large, then the cost of adding attractive features to the program may be offset by the economies of scale gained by increasing the take-rate, $\rho(x)$.

Although we do not have access to the detailed cost data that would necessarily be required for an agency to design a payment card program, we have developed a tool which can be used by policy makers and private firms to optimize payment card designs to achieve the lowest possible per-household net present cost. [15] The hierarchical Bayes model allows this tool to adjust for any local demographic distribution (i.e., percent African American, percent low versus moderate income, etc.) so that the take rate predictions are specific to the group targeted by a particular program. This tool is available from the authors upon request.

**5. Conclusions and Policy Implications**

The high estimated take-up rate for a low-fee payment card is encouraging for policymakers and financial institutions interested in offering a broader range of payment card products to LMI households. Whether the products should be made available through government initiatives or by the private sector is a question left unanswered as we do not have proprietary data from financial institutions on the costs of offering payment card services. Instead, we note that policymakers and financial institutions can use our predicted take-up rates to weigh against cost estimates to determine the optimal design of the payment card that achieves the lowest possible per-household net present cost. The predicted take-up rates also inform whether the optimal payment card would be profitable. In the case where the optimal payment card is not profitable to the private sector but there are social benefits of expanding financial services to LMI households, subsidies to private institutions or a publicly funded payment card may be

appropriate. One form of these subsidies might be for the government to provide a one-time subsidy to financial institutions to for opening the account linked to a payment card as previous research suggests that once an account is open, banks are able to profit from it on a monthly basis if there are recurring payments of a sufficient size (Dove Associates and U.S. Department of Treasury 1999). However, since prior research was based on the behavior of Social Security recipients who may be less inclined to use the electronic features of the payment card, an alternative form of the subsidy may be more appropriate for a payment card serving LMI households more broadly.

While the results of the paper are encouraging for depository institutions interested in selling payment cards or electronic-based financial services more broadly, it is important to recognize that the results are derived from a hypothetical discrete-choice survey. The take-up rates estimated in the paper presume that consumers are fully aware of the attributes of the payment card, whereas in reality, substantial marketing and communication, which are costly, may be necessary to impart this awareness to consumers.[16] Further research is needed to understand how construal, situational factors, and cognitive principles, such as the payment card's default features or how costs are presented, may inhibit the actual take-up of a payment card (Bertrand et al. 2006). Also, additional research is also necessary to identify whether payment cards and the availability of mainstream financial services are indeed welfare-improving for low- and moderate-income households.

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[1] Put differently, around 8% of U.S. households do not have a bank account (Bucks et al. 2009).
[2] Median annual outlays are estimated to be $179, or 1% of annual income (Barr et al. 2009). This amount is largely spent on transactional financial services.
[3] For example, existing programs providing benefits to the poor could more efficiently transfer resources to the poor if LMI households were to receive funds and pay their bills using modern electronic funds transfer (EFT) systems instead of checks that are expensive for the payment system to process and potentially subject to fraud.
[4] Part of the reason why fees are so high might be that companies offering the most popular payment cards are not banks and do not have direct access to the payments system. Instead, these companies need to partner with a bank in order to issue the card.
[5] Although federal consumer protections do not apply to publicly offered payment cards, such as the EBT card, state government regulations ensure that cardholders do not lose the money that is loaded on a card when it is lost or stolen.
[6] Research on an early U.S. Treasury project in this area, Electronic Transfer Accounts, found that banks are likely to need subsidies to cover the cost of opening an electronically based account but could profitably offer the account on a monthly recurring basis (Dove Associates and U.S. Department of Treasury 1999).
[7] Romich et al. (2009) present results from a qualitative survey of 22 users of pre-paid cards.
[8] With sampling weights, our sample represents the population of Detroit metropolitan area residents living in low-, moderate-, and middle-income census tracts.

[9] The estimate of the proportion unbanked (27%) is consistent with previous large-scale surveys of the LMI population, which have estimated the proportion unbanked as 20-30% of households and 28-37% of

individuals (Aizcorbe 2003; Dunham 1998; Seidman 2005). Evidence from nationally-representative surveys suggests that the number is close to 10% of the overall population (Aizcorbe et al. 2003, Bucks et al. 2006, 2009).

[10] Throughout, we use the notation $p(y \mid x)$ to indicate the probability (or probability density function for continuous random variables) for $y$ conditional on $x$. $N_K(\mu, \Sigma)$ is used to denote the multivariate normal distribution for a random vector of dimension $K$ with mean vector $\mu$ and covariance matrix $\Sigma$.

[11] Barr et al. (2009) show that in the DAHFS study, bank account ownership is highly correlated with age, race, and income, which may help explain the relatively large standard error on the estimated preference for the outside good among the banked.

[12] To capture correlations between attribute preferences, we estimated a full covariance matrix for $\Sigma$, but do not report the off-diagonal elements. There were few correlations with posterior support far from zero. Full results are available upon request.

[13] This tool is available upon request.

[14] Although one must be carefully examine the underlying assumption that the relationship between demographics and preferences holds between the target population and the survey population used to estimate the model.

[15] An example of how policy makers can use this tool is to project the revenues from a particular card and compare this figure with the likely costs. In turn, this comparison can help policy makers determine the size of the subsidy a depository institution would need, if any, in order to profit from issuing a payment card.

[16] We are grateful to an anonymous referee for pointing this out.

**Table 1. Attributes and Levels in the Payments Cards Questions.**

| Attribute | Levels |
|---|---|
| Requirements | No credit check |
| | Favorable credit report |
| Card Type | Debit (ATM) Card |
| | Payroll Card |
| | MasterCard Prepaid Debit Card |
| Lost Card Protection | Federal protection |
| | No protection |
| Deposits | Direct Deposit |
| | Employer loads cards |
| | You cash check and load card for $2.95 fee |
| Savings | Automatic savings plan |
| | No savings plan |
| Bill Payment | Buy money orders with card |
| | Automatic bill payment available |
| | Pay bills in person with card |
| | Pay bills by phone or Internet with card |
| Get Cash | Get cash at any ATM, from bank tellers and with purchases at stores |
| | Get cash at participating ATMs and with purchases at stores |
| Cash Access Fees | 4 free per month at the card issuer's ATMs; then $2.00 each |
| | $1.50 fee for each ATM cash withdrawl |
| | $2.50 fee for each ATM cash withdrawl |
| Monthly Fees | No monthy fees with Direct Deposit of your paycheck |
| | $2.95 per month fee |
| | $5.95 per month fee |
| | $9.95 per month fee |

**Table 2. Unbanked Respondents' Answers to the Question About What Changes to a Bank Account's Features Would Make Them Most Likely to Open a Bank Account (N=268)**

| | Percent |
|---|---|
| Lower Fees | 29 |
| Convenient Hours/Locations | 20 |
| Less Confusing Fees | 16 |
| Lower Minimum Balances | 14 |
| Get Faster Funds | 10 |
| Other | 11 |

**Table 3. Estimates of the relationship between payment card features and households show the relative importance of payment card features for the modal respondent (column 1) and differences between average preferences for the model respondent and preferences of those who have higher income, are older, are male, are not African American or live in a moderate income census tract (columns 2-7).** [17]

[17] Estimates are posterior means estimated from the discrete-choice survey of residents of LMI census tracts in Detroit. Posterior standard errors for estimated parameters are shown in parentheses. Parameters for which the 5th and 95th percentiles of the posterior do not span zero are highlighted in bold.

| | | | Respondent Characteristics | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | **intercept** modal respondent unbanked low income tract (5) | has bank account | log(income/ 20,000) | age (decades) | male | not African American | moderate income census tract (6) | unexplained heterogeneity (variance) |
| **Purchase Card Attributes** | requirements | no | 0.26 | -0.11 | 0.00 | -0.02 | -0.12 | -0.01 | 0.07 | |
| | | yes | **-0.26** (0.05) | 0.11 (0.06) | 0.00 (0.01) | 0.02 (0.02) | **0.12** (0.05) | 0.01 (0.06) | -0.07 (0.06) | **0.20** (0.02) |
| | card type | debit | 0.44 | 0.00 | 0.02 | -0.13 | -0.11 | -0.30 | -0.22 | |
| | | master card | **-0.60** (0.23) | **0.48** (0.24) | -0.04 (0.03) | **0.16** (0.07) | 0.07 (0.22) | 0.33 (0.2) | 0.25 (0.23) | **0.19** (0.02) |
| | | payroll | 0.17 (0.13) | **-0.48** (0.14) | 0.01 (0.02) | -0.03 (0.04) | 0.03 (0.12) | -0.04 (0.12) | -0.03 (0.13) | **0.22** (0.02) |
| | protection | no | -0.70 | -0.05 | -0.02 | 0.05 | 0.22 | 0.02 | 0.09 | |
| | | yes | **0.70** (0.06) | 0.05 (0.07) | **0.02** (0.01) | **-0.05** (0.02) | **-0.22** (0.06) | -0.02 (0.07) | -0.09 (0.06) | **0.28** (0.03) |
| | deposits | fee | 0.21 | -0.38 | 0.02 | -0.13 | -0.01 | -0.61 | -0.34 | |
| | | direct deposit | -0.08 (0.13) | **0.38** (0.14) | -0.03 (0.02) | 0.05 (0.04) | 0.16 (0.13) | 0.23 (0.13) | 0.12 (0.13) | **0.27** (0.03) |
| | | employer | -0.13 (0.12) | 0.00 (0.13) | 0.01 (0.02) | **0.09** (0.04) | -0.15 (0.11) | **0.38** (0.11) | 0.21 (0.12) | **0.25** (0.03) |
| | savings | no | -0.22 | -0.15 | -0.01 | -0.01 | 0.14 | 0.04 | 0.07 | |
| | | yes | **0.22** (0.07) | **0.15** (0.07) | 0.01 (0.01) | 0.01 (0.02) | **-0.14** (0.07) | -0.04 (0.08) | -0.07 (0.08) | **0.27** (0.03) |
| | bill pay | money order | -0.16 | 0.05 | -0.02 | -0.03 | 0.05 | 0.02 | 0.15 | |
| | | automatic | **0.22** (0.08) | -0.01 (0.09) | **0.04** (0.01) | 0.00 (0.03) | -0.12 (0.08) | 0.03 (0.09) | -0.17 (0.09) | **0.27** (0.03) |
| | | by phone | -0.02 (0.08) | 0.07 (0.08) | -0.01 (0.01) | 0.01 (0.03) | -0.04 (0.09) | -0.12 (0.09) | 0.01 (0.09) | **0.31** (0.04) |
| | | in person | -0.04 (0.1) | -0.12 (0.1) | 0.00 (0.01) | 0.01 (0.03) | 0.12 (0.09) | 0.07 (0.1) | 0.01 (0.09) | **0.37** (0.05) |
| | get cash | participating | -0.04 | 0.06 | 0.00 | -0.02 | 0.02 | -0.06 | 0.11 | |
| | | any | 0.04 (0.06) | -0.06 (0.07) | 0.00 (0.01) | 0.02 (0.02) | -0.02 (0.06) | 0.06 (0.07) | -0.11 (0.07) | **0.26** (0.03) |
| | cash fee | free | -0.06 | -0.02 | 0.01 | -0.01 | 0.08 | 0.13 | 0.09 | |
| | | $1.50 | **0.23** (0.09) | -0.01 (0.09) | -0.02 (0.01) | -0.01 (0.03) | -0.07 (0.09) | -0.05 (0.09) | -0.14 (0.09) | **0.36** (0.04) |
| | | $2.50 | -0.17 (0.1) | 0.02 (0.1) | 0.00 (0.01) | 0.02 (0.03) | -0.01 (0.09) | -0.08 (0.11) | 0.05 (0.1) | **0.48** (0.05) |
| | monthly fee | free | 0.61 | 0.48 | 0.04 | 0.04 | -0.07 | 0.15 | 0.17 | |
| | | $2.95 | **0.26** (0.12) | -0.07 (0.11) | -0.01 (0.02) | -0.01 (0.03) | -0.01 (0.13) | 0.04 (0.13) | **0.26** (0.11) | **0.60** (0.07) |
| | | $5.95 | -0.09 (0.13) | -0.22 (0.14) | -0.02 (0.02) | -0.05 (0.04) | -0.06 (0.13) | 0.09 (0.13) | -0.19 (0.12) | **0.81** (0.09) |
| | | $9.95 | **-0.78** (0.14) | -0.19 (0.15) | -0.02 (0.02) | 0.02 (0.05) | 0.15 (0.15) | -0.28 (0.15) | -0.24 (0.14) | **1.23** (0.15) |
| | outside good | | **1.24** (0.35) | 0.53 (0.35) | **-0.15** (0.06) | **0.76** (0.11) | **0.70** (0.34) | **1.08** (0.38) | 0.21 (0.4) | **19.20** (1.75) |

**Table 4. Relative importance of purchase card attributes indicate that female, African American, unbanked respondents weigh lost card protection and monthly fees similarly in choosing purchase cards, while banked and higher-income, male respondents find monthly fees substantially more important than any other attribute.[18]**

| | Relative Attribute Importance | | |
|---|---|---|---|
| | **(1)**<br>**female**<br>**black**<br>**$20K income**<br>**age 40**<br>**unbanked**<br>**low-income tract** | **(2)**<br>**female**<br>**black**<br>**$20K income**<br>**age 40**<br>**banked**<br>**moderate-income tract** | **(3)**<br>**male**<br>**not black**<br>**$50K income**<br>**age 40**<br>**banked**<br>**moderate-income tract** |
| Requirements | 9% | 6% | 2% |
| Card Type | 17% | 8% | 11% |
| Lost Card Protection | 24% | 19% | 11% |
| Deposits | 6% | 13% | 25% |
| Savings | 7% | 9% | 3% |
| Bill Payment | 6% | 3% | 3% |
| Get Cash | 1% | 4% | 2% |
| Cash Access Fees | 7% | 2% | 6% |
| Monthly Fees | 23% | 35% | 36% |

## Table 5. Alternative Payment Card Designs and Take-Rates

| | | Ideal Design for Detroit LMI Population | | |
|---|---|---|---|---|
| | | **(1) Detroit LMI Population** | **(2) Detroit LMI Unbanked** | **(3) Detroit LMI Banked** |
| **Purchase Card Attributes** | Requirements | No credit check | No credit check | No credit check |
| | Card Type | Debit (ATM) Card | Debit (ATM) Card | MasterCard Prepaid Debit Card |
| | Lost Card Protection | Federal protection | Federal protection | Federal protection |
| | Deposits | Direct Deposit | Direct Deposit | Direct Deposit |
| | Savings | Automatic savings plan | Automatic savings plan | Automatic savings plan |
| | Bill Payment | Automatic bill payment available | Pay bills in person with card | Automatic bill payment available |
| | Get Cash | Get cash at participating ATMs and with purchases at stores | Get cash at any ATM, from bank tellers and with purchases at stores | Get cash at participating ATMs and with purchases at stores |
| | Cash Access Fees | $1.50 fee for each ATM cash withdrawl | $1.50 fee for each ATM cash withdrawl | $1.50 fee for each ATM cash withdrawl |
| | Monthly Fees | No monthy fees with Direct Deposit of your paycheck | No monthy fees with Direct Deposit of your paycheck | No monthy fees with Direct Deposit of your paycheck |
| **Estimated Take-Rates** | Detroit LMI Population | **51.8%** | 50.4% | 51.2% |
| | Residents of Low Income Census Tracts (stratum 5) | 52.8% | 51.4% | 50.3% |
| | Residents of Moderate Income Census Tracts (stratum 6) | 50.8% | 49.2% | 52.2% |
| | Banked Detroit LMI Population | 51.4% | 49.2% | **52.5%** |
| | Unbanked Detroit LMI Population | 53.0% | **53.3%** | 47.8% |

**Figure 1. Response of take-rates to monthly-fees (lives in moderate- v. low-income neighborhood).**

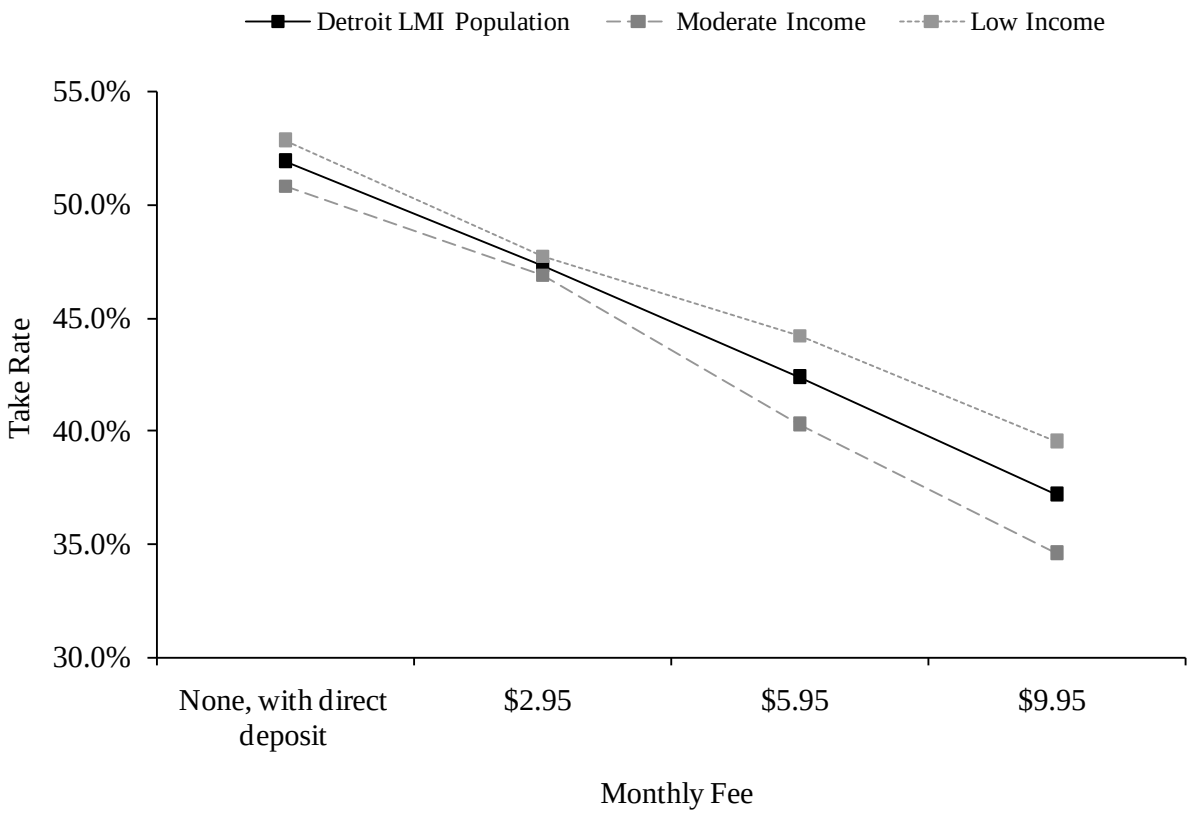
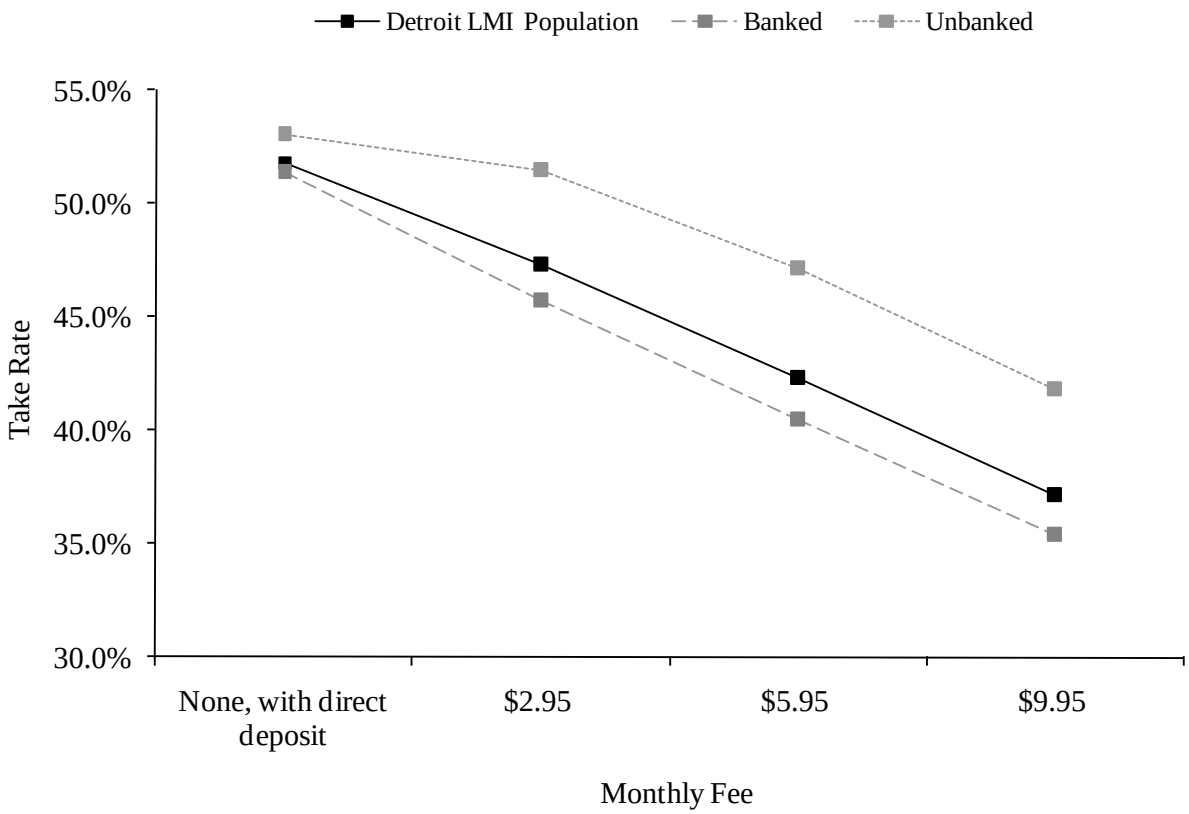


**Figure 2. Response of take-rates to monthly fees (banked v. unbanked).**




[18] Attribute importance are computed based on the estimated mean utility parameters for the demographic group. Attribute importance is the difference between the best and worst levels for that attribute as a percentage relative to the other attributes.

**Appendix 1. Select Features of Two Popular Pre-Paid Cards Offered in the Private Sector**

| | Card 1 | Card 2 | |
|---|---|---|---|
| | Monthly Plan | Monthly Plan | Pay As You Go |
| Activation Fee | $4.95 to $6.95 | $3.00 | $19.95 |
| Monthly Charge | $5.95 or Free if cardholder loads $1000/mo. or makes 30 purchase transactions | $9.95 | $1.95 |
| ATM Fee | Free at in-network ATMS $2.50 otherwise | 2 Free withdrawals per month, $2.50 thereafter | $1.95 |
| Reload Fee | Up to $4.95 | Free | Free |
| Bill Pay Enrollment Fee | NA | $2.00 | $2.00 |
| Bill Payment Fee | NA | $1.00 | $1.00 |

## Appendix 2. Example discrete-choice question

VERSION THREE **SAMPLE PAGE**

Please put an X under the ***one*** option you would choose from this card:

| | Option 1 | Option 2 | Option 3 | Option 4 |
|---|---|---|---|---|
| **Requirements** | Favorable credit report | No credit check | No credit check | None |
| **Card Type** | MasterCard Prepaid Debit Card | Payroll Card | Debit (ATM) Card | I would not choose any of these options. |
| **Lost Card Protection** | No protection | Federal protection | Federal protection | |
| **Deposits** | You cash check and load card for $2.95 fee | Direct Deposit | Employer loads cards | |
| **Savings** | No savings plan | No savings plan | Automatic savings plan | |
| **Bill Payment** | Automatic bill payment available | Buy money orders with card | Pay bills in person with card | |
| **Get Cash** | Get cash at any ATM, from bank tellers and with purchases at stores | Get cash at participating ATMs and with purchases at stores | Get cash at any ATM, from bank tellers and with purchases at stores | |
| **Cash Access Fees** | $1.50 fee for each ATM cash withdrawal | 4 free per month at the card issuer's ATMs; then $2.00 each | $2.50 fee for each ATM cash withdrawal | |
| **Monthly Fees** | $5.95 per month fee | $9.95 per month fee | $2.95 per month fee | |
| SID#_ _ _ _ _ _ _ | ○ | X | ○ | ○ |

## Appendix 3. Detailed description of attributes and levels

| Attribute | Levels | Description |
|---|---|---|
| Requirements | Favorable credit report | Credit or ChexSystem report indicates no mishandling of previous account[19] |
| | No credit check | No credit check required |
| Card Type | A Debit (ATM) card | Allows access to a bank account where money is kept |
| | A Payroll card | Set up by employer to let holder withdraw from paycheck at ATMs |
| | MasterCard Prepaid debit card | Card holder loads with money from paycheck at a check casher or other local store offering such cards |
| Lost Card Protection | Federal protection | Protects holder of card with a $50 limit on losses if the issuer notified within 48 hours that it has been lost or stolen |
| | No federal protection | Card holder is fully liable for losses |
| Deposits | Direct Deposit | Employer directly deposits paycheck automatically into a bank account |
| | Employer Loads Card | Employer automatically adds paycheck to card |
| | Cash Check & Load Card for $2.95 | Card holder cashes own checks and loads the money on a card for $2.95 per-load fee |
| Savings | Automatic Savings Plan | Card holder sets how much money from each paycheck is automatically set aside into a savings account at bank that is separate from account for card |
| | No Savings Plan | No savings feature on the card or account |
| Bill Payment | Automatic Bill Payment | Card holder sets up card or account to pay monthly bills |
| | Pay Bills by Phone or Internet | Card holder pays by phone or internet using card |
| | Pay in Person | Card holder uses card to make payments at merchants and agent locations |
| | Buy Money Orders | Card holder uses card to buy money orders to pay bills |
| Get Cash | Any ATM, bank teller, with purchase | Get cash at any ATM, bank tellers, and with purchases at stores |
| | Participating ATM | Get cash at participating ATMs and with purchases at stores |
| Cash Access Fees | 4 free per month at card issuer's ATM; then $2.00 each | Types of fees card holder would pay to obtain cash |
| | $1.50 for each ATM cash withdrawal | |
| | $2.50 for each ATM cash withdrawal | |
| Monthly Fees | No monthly fees with direct deposit of paycheck | Types of fees card holder would pay to keep card or account |
| | $2.95 per month | |
| | $5.95 per month | |
| | $9.95 per month | |

**Appendix 3. Interviewer instructions for conjoint interview**

This part of the survey is about payment cards. Payment cards are ways of getting your income and paying for things. Payment cards include debit cards, payroll cards, and prepaid debit cards.

You will see a sample page, and then 13 sets of choices. Let's look at the sample page together.

Each set will contain three payment card descriptions for you to consider, numbered 1, 2, and 3.

For each set, you will select the option you prefer, or choose "none", number 4, if you do not like any of the options.

All the cards would give you some way to get access to your paycheck immediately.

--Debit cards let your employer set up direct deposit of your paycheck automatically into a bank account in your name and funds are available to you right away.

--Payroll cards are loaded with money automatically by your employer and funds are available right away.

--Prepaid debit cards let you load your paycheck onto the card and have your funds available right away.

At the bottom of each page is a place for you to indicate with an X which option you prefer. If you would not choose any of the options, mark an X in the last box here. When you are finished, I will enter the information into the computer.

If you have a question at any time you can just ask me.

We are almost done. This is your chance to help decide the best products in your community.

Additional instructions given to interviewer but not read aloud:
*In these examples, you would not have to leave any money on the card or in the account from month to month; no minimum balance would be required.*

*You would not be allowed to write checks against this card or account and no overdrafts would be permitted.*

*You would be given a toll-free number that you could call to check your card account balance or for help if you had any problems with the card.*

*If you choose a debit card from a bank, your account would be insured by the federal government up to $100,000 per account.*

[19] The ChexSystems is a consumer reporting agency that tracks individuals who have mishandled bank accounts. Examples of mishandling include excessive overdrafts, account abuse, fraud, and providing false information when opening an account.