

Consumers' Response to Credit Card Solicitations

Credit card issuers have heavily marketed their cards via mail solicitations. Previous studies show that a variety of economic, demographic, and attitudinal characteristics, along with card features, explain consumer credit. Using primary data from Michigan's Survey Research Center, we found scant support for socio-economic characteristics as determinants of applying for a credit card; attitudinal variables are important in our models.

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Introduction

In 1996, 2.4 billion credit card solicitations ended up in U. S. consumers' mail boxes. Credit card companies have learned to package their solicitations and credit card products to appeal to a range of consumer desires, from low interest rates to frequent flier miles.

Data from the 1992 Survey of Consumer Finances show that 73 percent of American households had at least one credit card account, and of those, 85 percent had more than two credit card accounts, with an average of five accounts held by all card-holding families (Canner and Lockett, 1992; Kennickell and Star-McClure, 1994). In 1995, 48 percent of household carried over a balance on their credit cards, up from 43 percent in 1992; the average balance carried over was \$1500 (up from \$1000 in 1992)(Kennickell and McClure, 1994).

Outstanding consumer credit is at an all time high. Consumer installment debt stood at \$1.21 trillion in February, 1997, up 8 percent from the previous year. Revolving debt, the type most associated with credit cards, stood at \$480 billion, up 12.9 percent from the previous year (Federal Reserve, 1997). Delinquency and charge-off rates for consumer loans are rising and consumer bankruptcies stand at a record 1.1 million in 1996. These numbers only speak to the macroeconomic losses our economy suffers when households overextend themselves. At the personal level, the losses are as great. Families lose homes and possessions. They have poor credit records but must function in a society where one's credit record is the key to access many goods and services. In this environment, it may be helpful to learn what factors are associated with consumers' response to the numerous credit card solicitations they find in their mail boxes.

The objective of this paper is to explore the

factors associated with consumers applying for a credit card in response to a mail solicitation.³ By gaining a better understanding of these factors, consumer educators can better educate and advise consumers about choices they face and policy makers may be better able to tailor disclosures to consumer needs.

Previous Studies

Factors Associated with Holding Credit Cards

Kinsey's 1981 study explored the probability of having credit cards, as well as estimating the number of credit cards held by households with certain characteristics. Significant factors associated with having a credit card were income level, home ownership, having a positive attitude toward credit, and holding checking and savings accounts (Kinsey, 1981).

Canner and Cynrak (1985) analyzed the card holding and use patterns of households in the U.S. based on the 1983 Survey of Consumer Finances. They found that card usage was positively associated with family income, educational attainment, age, liquid assets, being "financially sophisticated" (use financial services such as mutual funds), owning a home, and being married.

Along with education and income, Lindley et. al (1989) found that nonwhite respondents were less likely to hold a card; one-third of Hispanic individuals held credit cards. In part this may be due to supply-side factors, but it may also be due to high levels of distrust of financial institutions within the Hispanic community (Higgins, 1994).

The characteristics of the cards may determine who holds them. Consumers who use credit cards as a payment device look for different characteristics in a card than consumers who revolve their credit card debt. Convenience users are most likely to focus on the level of any annual fee, the length of the grace period, the

availability of desirable enhancements, and the credit limit. Revolvers are mainly concerned with the interest rate that they will incur when they roll over part of their balances (Canner and Lockett, 1992).

A 1995 survey of credit union members found differences in card use by gender and age. Income and area of residence were also significant determinants of credit card usage. Respondents in urban areas used their cards more than twice as much as rural cardholding members (Schenk, 1995).

Ryan (1995) found that consumers who are younger, have moderate incomes and have "monetary needs caused by some recent life event, such as relocation, a home purchase, birth of a child and so forth" are more likely to be credit users. After the purchase of a home, a consumer is four times as likely as the population base rate to borrow money, including credit card debt as well as other forms of credit.

Using data from the 1983 SCF, Duca and Whitesell found that households who were headed by males, who were in rural areas, or who were relatively large were less likely to have credit cards. Households whose heads were married, white, or high school or college graduates were more likely to own a card. The probability of having a credit card was negatively associated with holding a checking account, money fund balances, and total transactions deposits (Duca and Whitesell, 1995).

While most studies have shown that income is positively associated with holding a credit card, and in some cases with revolving credit card debt, use of credit cards has risen in the lower income brackets as well. The percentage of households earning less than \$10,000 annually and holding card debt nearly doubled between 1989 and 1992, from 13.4 percent to 23.7 percent (Credit Card Management, 1995). Thus, there may be more opportunity to observe a wider range of behaviors across income categories than previously.

Response to Solicitations

According to the BAI Mail Monitor, 2.7 billion solicitations were distributed by credit card companies in 1995, with a resulting 1.2 percent response rate (or a total of 32.4 million applications) (Block, 1995). One early study of consumer's response to credit card solicitation found that once consumers obtain a card, they tended to disregard future solicitations even though these may contain offers for lower interest rates (Sullivan, 1988). Only 20 percent of cardholders read solicitation material about new cards. Those who responded to mail solicitations were revolvers, young cardholders and households with annual incomes over \$50,000.

The 1995 credit union member study showed

that 95 percent of those with a major credit card had received solicitations, with an average of 3.4 solicitations per month. Older, wealthier members who were convenience users were more likely to receive a mail solicitation. Of those solicited, 17 percent applied to change cards. Younger members and revolvers were more likely to apply for a new card. Reasons for applying included: solicitation offered better rates or terms (nearly two-thirds of those who applied); respondent wanted additional credit (about one-fourth); respondent wanted a variety of cards (15 percent) (Schenk, 1995).

Summary

These studies show that a variety of economic (income, liquid assets, checking and savings accounts, home ownership, financial sophistication), demographic (age, education, marital status, family size, race, gender, area of residence, occupation), life events, and attitudinal and behavioral (convenience user or revolver) characteristics along with credit card characteristics (interest rates, fees) influence whether or not consumers hold credit cards. Some of these same characteristics may be associated with responsiveness to credit card solicitations. Many of the proprietary market research studies on solicitations, however, have not reported any multivariate analysis of who responds to solicitations -- a situation this paper will address.

Proposed Model

Data

In December, 1995 and January, 1996, Michigan's Survey Research Center collected data on consumers' behaviors and understanding of credit card solicitations. The Surveys of Consumer Attitudes were administered to 1000 households across the two month period. The Survey of Consumer Attitudes is a monthly telephone survey of consumers, which collects information used to construct the Survey Research Center's Index of Consumer Sentiment. Each month the Survey Research Center surveys individuals in about 500 households. In the December and January Surveys, consumers were asked whether or not they had received and/or responded to a credit card solicitation in the past 3 years. If so, they were asked about some of details of their application.

Variables

While some of the variables in previous studies were included in the Surveys of Consumer Attitudes, others were not. Therefore, the complete model posited above

Response to Solicitation = f(Economic, Demographic, Life Events, Attitude towards Credit, Credit Behavior, Card Characteristics)

cannot be tested empirically with the data at hand. However, the data do contain substantial information about economic and demographic factors as well as attitudinal factors which may provide some insights. A complete listing of variables used is contained in Table 1.

We included an age-squared variable to account for the curvilinear relationship found by some researchers. Experience in working with these data lead us to include education as a categorical rather than continuous variable. It is also the case that interpreting education effects and noting policy or consumer education implications is easier when education is categorical rather than continuous.

The reason for using Hispanics as the comparison category in the race-ethnicity variable is again based on experience with these data. Because this is a phone survey, interviews with Hispanic respondents may be carried out in Spanish or in English, something that many other surveys do not do. In other analyses with these data, Hispanic respondents were significantly different from others in some aspects of credit use. Using Hispanics as the comparison group allows us to explore these differences further.

Estimating the Models

Because we are interested in the probability of responding to a credit card solicitation and because we have a 0-1 dependent variable, the empirical models were estimated using Probit.

Table 1.
Dependent and Independent Variables

Dependent

Apply = 1 if applied in response to solicitation, 0 otherwise

Independent

Socio-Economic

- Income Annual household income in dollars (continuous)
- Age Respondent's age (continuous)
- Age² Respondent's age squared
- Education1 = 1 if respondent has high school diploma, 0 otherwise
- Education2 = 1 if respondent has post-high-school education, 0 otherwise
- Education3 Omitted category is respondents with less than high school education
- Gender = 1 if male, 0 if female
- Race-Ethnic1 = 1 if white, 0 otherwise
- Race-Ethnic2 = 1 if African- or Asian-American, 0 otherwise
- Race-Ethnic3 Omitted category is Hispanic respondents
- Marital Status = 1 if married, 0 otherwise
- Kids<18 Number of children under 18 in household (continuous)
- Homeowner = 1 if own home, 0 otherwise

Attitudinal/Behavioral

- Info Unclear = 1 if respondent thought information in card solicitation was not clear, 0 otherwise
- Expect Better = 1 if respondent expects to be better off financially next year, 0 otherwise
- Expect Interest = 1 if respondent expects interest rates will go down next year, 0 otherwise
- Expect Income = 1 if respondent expects income will go up faster than prices during the next year or two, 0 otherwise
- Use Credit Now = 1 if respondent is using credit more now than 3 or 4 years ago, 0 otherwise
- Use Credit Future = 1 if respondent expects to use credit more in the next year, 0 otherwise

However, Probit coefficients need to be transformed to be read as marginal effects on the probability of applying or transferring a balance. Therefore, we also estimated these models using Ordinary Least Squares and report the coefficients which can be directly interpreted as marginal changes in probabilities.

Results

Sample Description

A vast majority of the respondents (914 of the 1000) had received at least one mail credit card solicitation over the past three years. All data analysis was based on these 914 respondents (In the interest of space, tables for the descriptive data have been omitted; they are available from the authors). Of those receiving credit card solicitations, over one-third (35%) responded to at least one of these solicitations by applying for the advertised card. Nearly one-third (30%) of those who applied for a card also asked to transfer a balance to that new card. Nearly one-fourth (23%) of these could be classified as "rate surfers" -- people who had previously transferred a balance at least once before.

Most of the respondents (94%) applied for a general purpose credit card (Visa, MasterCard, Discover, Optima); another 10% reported applying for a store charge card. Fewer respondents reported applying for a travel and entertainment card (4.5%) or a gasoline company card (3.8%).

Overall, about one-fourth (24%) of the respondents thought the information included in the mail solicitation was not clear nor accurate. Those who did not apply were more likely to say that the information in the solicitation was not clear. Nearly one out of three (30%) of those who did not apply thought the materials were not clear and accurate, while only one out of seven (14%) of those who applied thought the information was not clear and accurate.

The Survey of Consumer Attitudes also asks consumers whether or not they think they will be better off next year, what their expectations for interest rates and income are, whether they are using more credit now than three or four years ago, and whether they think they will use credit more in the upcoming year. Two out of five consumers (40%) thought they would be better off next year. People who did not apply for a credit card were a bit more likely to think they would be better off than those applied (40% versus 37%, respectively).

One out of five consumers (20%) thought that interest rates would go down over the next year. People who applied for a credit card were slightly more likely to think that rates would go down than those who did not apply for a card (21% versus 20%, respectively).

One out of five consumers (20%) thought that their family income would go up more than prices over the next year. Surprisingly, those who applied for a card were less likely to think their family incomes would rise faster than prices, compared to consumers who did not apply for a card (16% versus 22%, respectively).

One out of five consumers (21%) report that they are using credit cards more now than they did three or four years ago. People who applied for a credit card were more likely to report more credit use than those who did not apply for a card (22% versus 20%, respectively).

Only 5% of consumers reported that think they will be using credit cards more in the next year than they do now. However, people who applied for a credit card were twice as likely to report higher expected credit use than those who did not apply (6% versus 3.7%, respectively).

Model Estimations

Results for the probability of applying for a credit card presented in Table 2. The only two significant determinants of applying for a credit card in response to a mail solicitation were whether or not respondents thought the information in the solicitation was clear and whether or not respondents expected their income to rise faster than prices.

Respondents who thought the information was unclear had a substantially lower probability of applying for a credit card. The estimated probability for the full sample was .58; the estimated probability for those who thought the information in the solicitation was unclear was .36. This is as expected, and should be good news to consumer educators who have spent years trying to get through to consumers the need to understand credit terms.

Those respondents who expected their incomes to rise faster than prices were somewhat less likely to apply for a credit card. Compared to the full sample probability of .58, those who expected income to out pace prices had a probability of .49. Again, this is as might be expected. If families think their incomes will go up faster than prices, they may see less need to use credit in the foreseeable future. On the other hand, another way to look at this finding is that families who don't expect incomes to rise as fast as prices are more likely to apply for a credit card, possibly taking on more credit to bridge the income-expense gap they foresee.

Summary and Conclusions

In this paper we explored the factors associated with consumers applying for a credit card in response to a mail solicitation. Unlike previous researchers, we found scant support for socio-economic characteristics as

Table 2.
Model Estimates for Probability of Applying for a Credit Card in Response to a Mail Solicitation

Variable	Probit Coefficient	Prob.	OLS Coefficient	Prob.
Intercept	.235	.564	.422	.006
Socio-Economic				
Income	-.192E-5	.204	.739E-6	.193
Age	-.012	.457	.004	.492
Age ²	.136E-3	.427	-.483E-4	.457
Education1	.093	.621	-.037	.595
Education2	.015	.933	-.008	.897
Gender	.104	.304	-.039	.305
Race-Ethnic1	.092	.638	-.034	.642
Race-Ethnic2	-.060	.807	.021	.816
Marital Status	.004	.965	-.001	.972
Kids<18	-.041	.413	.014	.434
Homeowner	.029	.813	-.013	.776
Attitudinal/Behavioral				
Info Unclear	.605***	.001	-.219***	.001
Expect Better	.080	.471	-.031	.450
Expect Interest	-.043	.729	.018	.699
Expect Income	.236*	.092	-.088*	.093
Use Credit Now	-.058	.648	.021	.651
Use Credit Future	-.261	.279	.098	.280
N				
Applied	284			
Did not apply	395			
prob(apply)-- at means	.58			
Goodness of Fit Measures				
Log Likelihood	-442.298		R-square	.054
Chi Square	884.597		F value	2.234
Prob (Chi square)	.000		Prob (F)	.003

* Significant at .10 or better
 *** Significant at .01 or better

determinants of applying for a credit card. In part, this may be a vestige of the marketing scheme of financial institutions who send out mail solicitations. Many of these solicitations are "pre-approved" in that the credit records or credit scores of households have been pre-screened in the process of developing the mailing list. Therefore, the sample of households who receive these solicitations is more homogeneous than other samples used to model the credit decisions of households. Given this potentially homogeneous nature of the socio-economic characteristics, it is no wonder that the attitudinal variables became so important in our models. However, we would argue that attitudinal variables are also key even when there is more variability in the socio-economic characteristics in the sample. Thus, we

encourage researchers to continue to utilize these important taste and preference shifters in their work.

Consumer educators and policy makers should be heartened by the news that some consumers are reading the details and disclosures of these solicitations and rejecting them when they seem unclear.

Finally, it is important for credit grantors and consumers alike to understand both the micro- and macro-economic consequences of their decisions. Credit is an important tool in our economy, enabling many families to manage their resources more efficiently and effectively. However, as creditors extend credit to higher and higher risk consumers, they face higher charge-off rates, placing both families and financial institutions at risk.

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Endnotes

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3. Other analysis on balance transfers contingent upon responding to a mail credit card solicitation is not reported here due to space

constraints. Information is available from the authors.