



Credit Cards for the Poor

Ronald J. Mann, Columbia University

This paper was delivered at a National Poverty Center conference, "Access, Assets, and Poverty," in October, 2007.

This project was supported in part by funds provided by the Ford Foundation and in part by funds provided by the U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, #5 U01 PE000001-05 and #1 U01 AE000002-01. The opinions and conclusions expressed herein are solely those of the author(s) and should not be construed as representing the opinions or policy of any agency of the Federal government.

Credit Cards for the Poor

*Ronald J. Mann**

Providing access to financial products and services to the poor has taken on increased significance in recent years as it becomes clear that access promotes savings and enables the poor to manage cash flows and to meet basic needs such as health care, food and housing. In the United States, the last few decades have seen remarkable progress on that front, as low- and moderate-income (“LMI”) households increasingly use both mainstream products like deposit accounts¹ and “fringe” products like payday lending, check-cashing services, and pawnshops.² Because many of those products exploit cognitive and financial constraints, policymakers now increasingly move beyond concerns about access to emphasize the need for safety in the design and marketing of financial products.³

Credit cards cut across those concerns. With respect to access, the credit card is a profoundly democratizing instrument. It is only a slight exaggeration to say that any person with a Visa or MasterCard product can walk into the same stores and restaurants as the most elite trend-setters in our society and purchase the same goods and services, at the same prices. As social status in our consumer society shifts to depend on consumption rather than wealth or family status, the credit card has become the great leveler of social hierarchies.⁴ The credit card also provides a remarkably flexible safety net, ready for deployment in response to the most unexpected financial crises.⁵ That protection is particularly important in the United States, where the public safety net is more porous than it is in many of our peer nations.⁶

At the same time, the credit card is singled out as one of the most perilous consumer financial products. Rising credit card use raises concerns that consumer spending is leading to overindebtedness.⁷ Studies of national aggregate data suggest a significant relation between the rise of credit card use and consumer bankruptcy filings.⁸ The flexibility and unpredictability that make the credit card so useful for households faced with unexpected difficulties are central to the danger the product can bring to those who use it recklessly.⁹ The financial precariousness of LMI households makes those concerns particularly telling for those concerned about financial products for the poor.

This chapter uses data from the Federal Reserve Board’s Survey of Consumer Finances for 2004 (the “SCF”) to examine the penetration of credit cards into LMI markets. The chapter has two purposes.

* Professor of Law, Columbia Law School.

¹ Hogarth et al. 2004.

² Caskey 1996; Mann & Hawkins 2007.

³ Warren 2007.

⁴ Frank 1999 ch. 4; Cross 2000:169-84.

⁵ Mann 2006.

⁶ Howard 2007; Hacker 2002.

⁷ Schor 1999.

⁸ Mann 2006.

⁹ Mann & Hawkins 2007; Littwin 2008a.

First, I describe the extent to which LMI households borrow on credit cards, the types of LMI households that borrow, and how they differ from the more affluent households that borrow. Despite lower incomes, credit card use is almost as common among LMI households as it is among more affluent households. Indeed, measured as a share of income, the credit card balances that LMI cardholders carry are substantially higher than those of more affluent households.

Second, I estimate models of credit card use for the different quintiles of households in the SCF. In related work I explain that a dominant feature of modern credit card markets is the segmentation of product lines based on behavioral and financial characteristics of customer groups.¹⁰ Based on that general trend, I hypothesize here that the products offered and taken up by LMI households would differ significantly from those used by middle-class households. Comparing the characteristics of LMI households that use credit cards to the characteristics of more affluent households that use credit cards is a useful way to examine how well family-level data supports that hypothesis. Because the survey data have relatively little information about credit history, I focus on demographic variables, primarily age, race, family status and education. Despite the relatively weak link between those variables and the variables credit card issuers use to underwrite their accounts, the results do provide some support for my hypothesis. Specifically, I show that the demographic characteristics of LMI households that relate to their credit card debt are different in material ways from the characteristics that relate to credit card debt carried by more affluent households.

The Modern Credit Card Market

The rise of the credit card to dominance in American payment and lending transactions is well known. The total value of credit card transactions has increased from about \$800 billion in 1990 to more than \$1.7 trillion in 2006. Similarly, credit card balances have increased from about \$450 billion in 1990 to more than \$750 billion in 2006.¹¹

What is less widely understood is the mechanism by which this has occurred. Credit card lending is by its nature risky. Unlike the home mortgage lender or the car lender, the credit card lender has no collateral to which it can look for repayment. Moreover, several factors combine to leave the credit card lender with no practical device for collecting payment. First, in most American jurisdictions unsecured lenders have no practical remedy other than litigation, either because garnishment is illegal (the rule in some States), or because it is ineffective, especially against debtors that do not have regular incomes or bank accounts. Most jurisdictions also have schedules of exempt assets that are not subject to seizures by unsecured creditors, even when they hold unpaid judgments, and, in many cases, exemptions will cover all assets in the household. Finally, the availability of a discharge in bankruptcy means that a debtor that is pushed too far normally can discharge its obligation to the credit card lender.

¹⁰ Mann 2007.

¹¹ Nilson Report. For a more detailed discussion, see Mann 2006.

In truth, the most effective lever the credit card lender has is the threat of damaging the credit report of the borrower. A credit card debtor that does not pay will suffer a substantially lower credit rating. Although the lower credit card rating will have only a limited impact on the debtor's access to credit card debt, it will substantially increase the cost of subsequent borrowing. This is particularly true for mortgage lenders, who continue to use crude underwriting systems that rely directly on the credit rating system. For the sophisticated credit card lender, in contrast, the credit rating will be at most one of many inputs into the underwriting process. In any event, the threat of an adverse credit report will be ineffective against debtors in serious financial distress, where the credit rating already has been compromised because of missed payments to other creditors.

Because of the riskiness of the credit card business model, the industry, in its infancy, used a unitary business model. The product offerings of the different issuers were similar, so competition occurred mainly through marketing and customer service. Interest rates were standard and relatively high, typically in the range of 18%. At the same time, despite those relatively high rates, the customers to whom credit card lenders could make profitable loans were a relatively small slice of the middle class. The wealthy would have no interest in borrowing at 18% and those without reliable income streams were too risky. In general, most issuers had a large group of profitable customers that borrowed and paid substantial amounts of interest, a second group of unprofitable customers that did not borrow, but instead paid their bills each month, and a third group of highly unprofitable customers that borrowed and did not repay their debts. Profitability came from maximizing the number of customers in the first group and minimizing the number in the second and third groups.

The advent of technological underwriting tools in the 1990's changed everything. The most capable lenders developed increasingly complex statistical models that predicted more accurately the spending and repayment behavior of smaller slices of the potential cardholding population. The result has been a steady segmentation and specialization of the market. The first stage involved differential pricing, in which low risk customers received lower interest rates (to encourage borrowing), and in which high risk customers received higher interest rates (to provide a margin for delinquencies).

Differential pricing has not led to a decline in net interest margins. Although the effective annual interest rate has fallen in the last fifteen years from about 16.4% in 1990 to 12.2% in 2006,¹² a parallel decrease in the cost of funds means that the net interest margin has not changed substantially during that period (rising from 7.4% in 1990 to 7.6% in 2005). At the same time, however, the portfolios underwritten at that margin have become considerably riskier. For example, the rate of chargeoffs steadily increased during this period from 3.5% in 1990 to about 6% during 2004-05.¹³ Essentially, improved underwriting technologies allowed the successful credit card lenders to develop reliable predictions about the repayment behavior of increasingly unreliable customers. This capability has

¹² The statistics reported in this paragraph are compiled from the annual Cards Profitability Survey published by Cards & Payments (formerly Cards Management).

¹³ There was a sharp fall shortly after the implementation of BAPCPA (to 3.9% for 2006), but the rate has been steadily trending up throughout 2007. It remains unclear whether the decline will be permanent.

allowed those lenders to acquire profitable portfolios filled with cardholders that would have been unacceptably risky a few decades ago.¹⁴

The maintenance of a relatively constant net interest margin suggests a balance of increased borrowing at lower rates by relatively creditworthy customers against new borrowing by relatively risky customers at higher rates. The ability to profit with flat interest margins despite the rise in chargeoffs suggests that the card issuers have developed new revenue sources. The first is an increased reliance on fees, particularly in subprime product lines. Late and overlimit fees on an annual basis were only 0.7% of the average outstanding balances in 1990, but doubled during the 1990's to 1.4% or 1.5% of the average outstanding balances, a plateau at which they remained until they began to decline in 2005 and 2006. The second increased revenue source is interchange, which has risen about 70% faster than receivables, from 2.15% to 3.69% of average outstanding balances. In part, this reflects the ability of issuers, especially in recent years, to shift increasing numbers of cardholders to high-interchange premium and "platinum" products.¹⁵

The second stage of market segmentation involves the development of increasingly complex product attributes that tailor products to specific classes of potential cardholders.¹⁶ Thus, different issuers specialize in superprime offerings (Chase Bank), affinity offerings (Bank of America's MBNA division), relational offerings (Wells Fargo), and subprime offerings (Capitol One). Each issuer tailors its products carefully to make them both profitable and attractive, with a different mix of anticipated revenue streams based on the type of customer. Superprime offerings, for example attract a portfolio of customers that spend very heavily and borrow in response to occasional financial reversals. Issuers rely heavily on interchange and episodic interest payments, balanced against the large losses that come when a customer with a five-figure credit line becomes insolvent. Affinity products are more likely to emphasize annual fees and interchange. Customers who want to associate themselves with their alma mater or favorite sports team, for example, are often willing to pay a substantial annual fee and are similarly likely to keep such a card at the "top of the wallet." Relational offerings are part of a strategy in which a bank strives to provide many products to each customer, with a view to lowering the customer's price sensitivity on particular products.

For a study of LMI households, subprime issuers are the most interesting, because they are the issuers most likely to design products for LMI households. Not surprisingly, subprime products rely heavily on interest income and fees. Indeed, a dominant share of the increase in fee revenue discussed above has come from the subprime market. In part, this reflects the reality that the stated interest rates on those products (often in the range of 18%-24% per annum) are inadequate to provide a return on a portfolio with a chargeoff rate in the vicinity of 15-20%. Fee revenue provides a simple way to substantially increase the effective interest rate. Take, for example, a typical subprime \$500 credit card line that has been fully extended. If the cardholder incurs three late or overlimit fees per year (not an unreasonable

¹⁴ The most detailed evidence of that trend comes from Black & Morgan's comparison of the characteristics of credit cardholders in the 1989 and 1995 cross-sectional SCF studies.

¹⁵ Premium cards typically bear higher interchange rates than subprime and prime cards, even though premium cardholders present lower risk to the issuer and their transactions involve no offsetting benefit for the merchant.

¹⁶ The information in this paragraph is based on strategy analysis in the annual reports of large credit card issuers.

estimate), the issuer is likely to get approximately \$100 in extra revenue.¹⁷ Those fees add an additional 20% return per year on the credit line, for a total effective rate (assuming no other fees or charges) of about 35%-40%.

Collectively, those market segmentation strategies are highly effective, at least for lenders that are able to employ cutting-edge technology. Large issuers say privately that about 90% of their customers are now profitable, a substantial improvement from the early 1990's when only about two-thirds of the customers in an excellent portfolio would be profitable to the issuer. One final corollary of the increasing importance of sophisticated underwriting technology is the rapid concentration of the lending market. Issuers that do not invest heavily in technology quickly fall behind, losing the ability to compete against those that do. As of 2006 the top five issuers held more than 70% of the outstanding credit card balances, up from only 39% in 1994.¹⁸

The changes in the credit card market raise important questions about the role of credit cards in the finances of LMI households. It is clear, of course, that a considerable number of LMI households have held credit cards for some time. For example, the analysis by Edward Bird and his coauthors of the 1995 SCF cross-sectional study shows that 36% of households below the poverty line had a credit card and about two-thirds were carrying balances.¹⁹ Similarly, Peter Yoo's analysis of the SCF cross-sectional studies between 1983 through 1995 show that the share of households with credit cards and credit card debt has been increasing over time. Most importantly for present purposes, he shows that the rates of increase have differed at differing deciles of the SCF's respondent population.²⁰

Still, we know relatively little about the extent of borrowing or the characteristics of LMI households that use credit cards. Existing research does show that credit cards play a different financial and social role in LMI households than they do in middle-class households. For example, Jeanne Hogarth and Kevin O'Donnell have studied in some detail the holdings of checking accounts among LMI households. Their work shows that a significant number (8%) of LMI households that do not have checking accounts nevertheless have credit cards.²¹ So, credit cards must present benefits that extend beyond simple retail transacting.

Angie Littwin's research is particularly enlightening. Based on interviews with women in Boston housing projects, Littwin shows how credit cards provide a lifeline that facilitates access to or lower prices for a variety of mainstream transactions. She explains that the credit card helps LMI households remain a part of the mainstream economic community. As Edmund Phelps explains, the maintenance of a continuing sense of participation in the larger economy has substantial positive spillover effects.²² At the same time, Littwin shows that these households have a deep-seated recognition of the risks they face if they borrow. Generally, she suggests, these products would be more attractive to LMI

¹⁷ Carddata.com reports that the average late fee among large issuers currently is about \$35.

¹⁸ Compiled from the Nilson Report.

¹⁹ Bird et al. 1999.

²⁰ Yoo 1997; Yoo 1998.

²¹ Hogarth & O'Donnell 1999. This fact seems surprising given the logistical difficulties of making payments on a credit card account without a checking account.

²² Phelps 1997.

households and also safer for them if they included a hard-credit line, thus limiting impulsive borrowing.²³

Given the rapid changes in the credit market in the last 10 years, it is valuable both to update the early findings about the initial penetration of credit cards into LMI households and also to analyze the available data in more detail. For example, scholars have not examined which LMI households are most likely to hold credit cards or to borrow heavily with them. The segmentation and proliferation of product models discussed above suggests that the products that will be attractive to LMI households will function differently than the products that are attractive to the middle class. Thus, it would be useful to understand who chooses to use those products and how the choices that LMI households make differ from the parallel choices that more financially secure households make.

It is not easy to find data to investigate those questions with care. National aggregate data are useful to understand the conceptual relations among spending, borrowing and financial distress,²⁴ but are of no use for this inquiry because they do not show how card use varies over the distribution of income. I decided to look to the 2004 survey of the Survey of Consumer Finances, conducted by NORC for the Federal Reserve Board. The 2004 survey is based on a random sample of U.S. households and includes data on income, borrowing and the demographic characteristics of respondents.

There are some problems with the use of the SCF for such an inquiry. First, the SCF is not a panel survey. Rather, investigators draw a different sample of interview subjects (and train a different set of interviewers) for each edition of the survey. This limits the value of the data for analyzing trends over time – such as the changes in credit card use since 1990. Another well-known problem is the tendency of survey respondents to underreport stigmatizing behavior. Credit card borrowing, for example, is understated by about 30%, at least as compared to the Federal Reserve's G-19 statistics (which rely for the most part on call reports submitted to the Federal Reserve by national banks).²⁵ At first glance, the large underreporting problem seems fatal to the project, given the likelihood that the factors that cause the underreporting will create a selection bias in the data. Jonathan Zinman's work, however, suggests that the underreporting is random with respect to other variables – so that the underreporting will affect only the weights of variables rather than the relation among them.²⁶ Reasonably skeptical observers, however, will worry that use of the SCF to analyze card-related behavior is a dubious enterprise. This is particularly true for a project that focuses directly on data known to be substantially underreported. Still, the fact remains that the SCF, despite its problems, is the best available source for household-level data about national patterns of card use.²⁷

²³ Littwin 2008.

²⁴ Mann 2006.

²⁵ Mann 2006; Zinman 2007. For details on G.19, see Furletti & Ody 2006.

²⁶ Zinman 2007.

²⁷ Kennickell 2006.

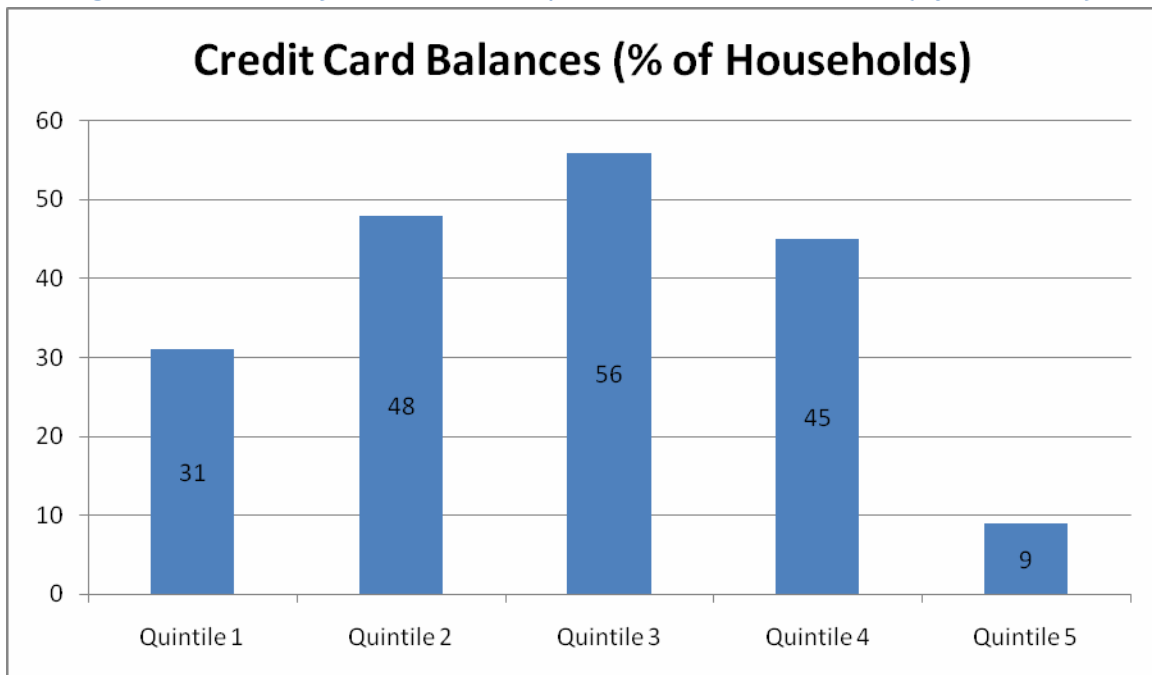
Patterns of Credit Card Use

Because the purpose of this project is to understand the role that credit card borrowing plays among LMI households (defined as the bottom two quintiles in the income distribution), I start by dividing the SCF dataset into five quintiles based on income. The two lowest quintiles (Quintiles 1 and 2 in the analysis below) end at \$23,500 and \$46,000 of annual income respectively.²⁸ Conversely, I use three distinct metrics to capture the penetration of credit card lending into LMI households: the number of households with any credit card debt at all (those carrying a positive balance); the size of the balances carried by households that are carrying balances (“CCBAL”); and the ratio of the household’s credit card balance to its income (“CCSHARE”).

Penetration of the Market

The most basic question about credit card use by LMI households is how often they borrow on cards, as compared to more affluent households. The answer, in short, is that their usage patterns are quite similar. The importance of income as the primary source of repayment for credit card lenders suggests that a group of households defined by low income levels should have little or no credit card debt. On the contrary, it is startling how similar the borrowing patterns are for the four lower income quintiles.

Figure 1: Share of Households w/ Credit Card Balances (By Quintile)



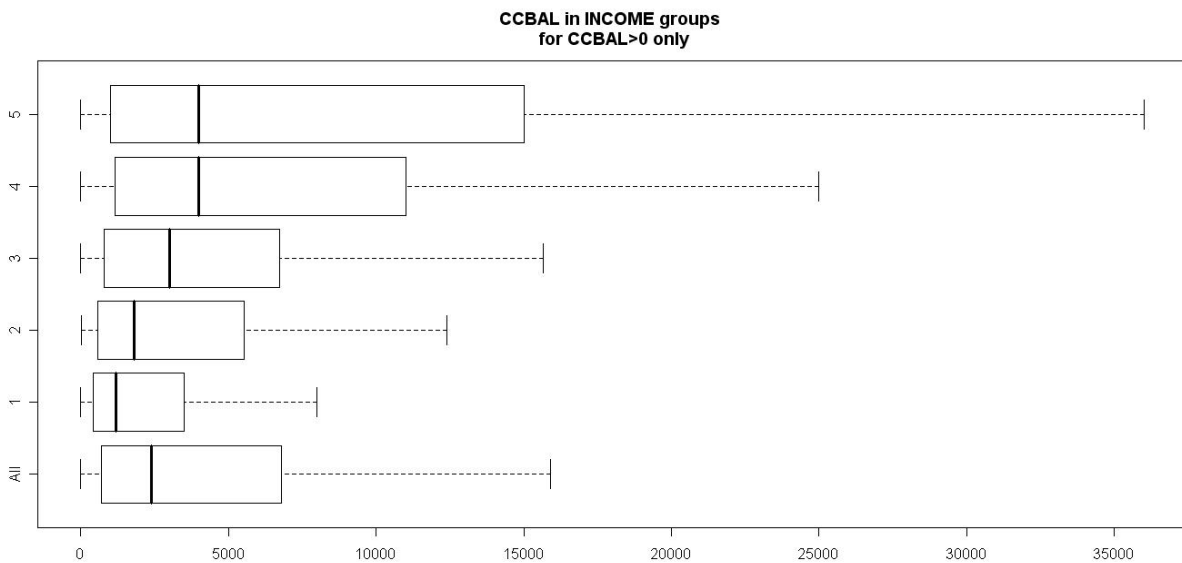
I start with the incidence of debt – the share of households that report that they are carrying any credit card debt at all (38% across the entire dataset). Figure 1 breaks down that data by quintile. Several things about this figure are interesting. First, as expected it shows the highest rate of card balances (56%) in the middle-class quintile long considered the principal focus of credit card lending. Second, the rate of borrowing in the fifth quintile (9%) is surprisingly low by comparison – less than a third of the

²⁸ According to the U.S. Census Bureau, the 2004 poverty threshold for a family of four was \$19,307.

rate of borrowing in any of the less affluent quintiles, albeit consistent with the increased reliance on interchange revenues in superprime sectors. The most intriguing feature of the data is the robust rate of borrowing in the two LMI quintiles. First, the 48% rate of borrowing by households in the moderate-income quintile is very close to the third quintile rate and even higher than the rate in the fourth quintile. This is a graphic illustration of the broadening of the traditional credit card demographic discussed above. The data here display a highly similar incidence of borrowing across the interior three quintiles of the populace – with incomes ranging from \$23,500 (the top of the first quintile) to \$275,000 (the bottom of the fifth quintile). To be sure, the 31% incidence of borrowing in the first quintile is considerably lower, but it remains much higher than the rate in the fifth quintile, and is somewhat sobering given the reality that the first quintile consists of households with income below \$23,500.

The second metric of credit card borrowing is the size of the balances carried by those households that are carrying balances. This metric provides considerably more information about borrowing than the first metric because it displays the intensity and regularity of borrowing. To set the frame of reference, the median balance for those carrying balances in the entire dataset is \$2400, the 25% balance is \$700 and the 75% amount is \$6800. Figure 2 displays a series of boxplots by quintile, which show the complete range of the data as well as the 25 percentile, median, and 75 percentile values.²⁹

Figure 2: Credit Card Balances (by Quintile)



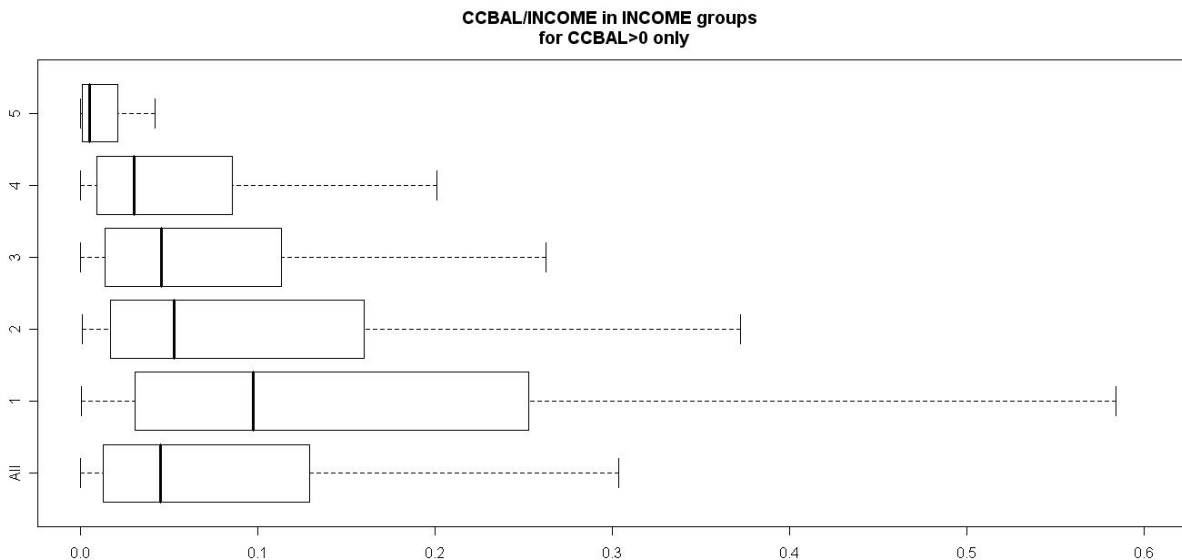
Like Figure 1, several points about the boxplots in Figure 2 warrant emphasis. First, the plot of the fifth quintile shows a surprisingly broad dispersion of credit card balances. Combined with the data in Figure 1 suggesting that less than a tenth of those households have any credit card debt, this tells us that despite their relative liquidity, a considerable number (more than a quarter) of households that borrow are carrying quite substantial balances (\$15,000 or more). Second, the level of balances is relatively

²⁹ The boxplots in Figures 2 and 3 exclude a number of statistical outliers.

stable across the three interior quintiles. To be sure, the amounts borrowed are staggered by quintile, but the differences are relatively insignificant. Finally, the level of debt in the first quintile is surprisingly high. Press reports and industry publicity suggest that credit limits of \$500 are typical for subprime households. But these data suggest that most of the lower-income (first quintile) households that are carrying credit card balances have balances greater than \$500. Again, combining the importance of income to credit card underwriting with the limited income of these households, it is quite surprising that the typical balances could be so high.

The third metric of credit card borrowing is the amount of the credit card balance as a share of income. This metric has two advantages over the preceding metrics. First, given the role that income plays in credit card underwriting, it facilitates useful cross-quintile comparisons. If we want to compare the extent to which customers in the different quintiles are heavy borrowers, it is more useful to know what share of customers are borrowing a tenth of their annual income than it is to know what share of customers are borrowing \$5000. Related to the first, the ratio of credit-card debt to income provides a useful tool for examining overindebtedness. Thus, Edward Bird and his co-authors use this metric to identify customers who have borrowed excessively.³⁰

Figure 3: Credit Card Balance as a Share of Income (by Quintile)



The boxplots in Figure 3 underscore the analysis above. For one thing, the differences among the three interior quintiles are relatively slight, with typical debt loads of about one-twentieth of a customer's annual income. Again, this suggests a relatively homogeneous willingness to take and use credit cards within these quintiles. For another, the charts show an interesting and steady decline on each of the measurement points (25%, median, 75%). Thus, when we use this metric, we can see that the first quintile in fact borrows more intensively than the higher quintiles. The median borrowing share of about one-tenth of annual income is about twice the median for the other quintiles. Indeed, the long

³⁰ Bird et al. 1999.

right tail of borrowing share in that quintile suggests that creditors routinely write relatively extensive credit lines for these people.

Demographic Factors

Knowing that credit cards have become a common product for LMI households tells us little about who uses them, or, more importantly, whether the factors that relate to use by LMI households are the same as those that relate to use by the populace more broadly. For purposes of this study, I have chosen to examine five sets of demographic variables from the SCF: age, educational level, family status, race, and having a checking account. My goals for this analysis are modest. I do not believe, for example, that a model based on these variables can reliably predict the level of credit card use. The models that credit card issuers use to predict card-related behavior are much more sophisticated, including dozens of variables for each potential cardholder. These variables are related not only to demographic factors like the ones included here, but more importantly to indicators of financial activity and creditworthiness that are not easily replicated in a survey like the SCF. To put it another way, the most important variables issuers use to identify the persons to whom they will extend credit (and the terms on which they will extend it) are missing from this dataset. The absence of those variables necessarily limits the quality of the potential models.

Nevertheless, we learn two things from investigating the demographic characteristics of credit card users. First, the model illuminates the social role of credit cards by contributing to an understanding of the extent to which those that borrow differ from those that do not. Second, the model provides indirect evidence related to the hypothesis that the business models for the products that are marketed to LMI households differ substantially from those offered to more affluent households. If the differences between those that do and do not borrow (or among those that borrow) relate to different factors at different quintiles, it strongly suggests that the products being sold to customers in those different quintiles differ in substantial ways. I analyze those variables in two steps. First, I present pairwise data comparing each of these variables to credit card metrics. Second, I close the paper by presenting the results of efforts to create models fitting those demographic variables to the various credit card metrics discussed above.

Age

The relation between age and credit card borrowing is relatively straightforward. On the one hand, to the extent cardholders use credit card borrowing to smooth consumption over their lifecycle, we should see more borrowing by relatively young cardholders and less borrowing by relatively old cardholders. As for the relation between this age effect and LMI households, we might expect both that young cardholders in LMI quintiles would need to borrow more frequently than young cardholders in more affluent households. Similarly, we might expect that cardholders in LMI households would be less likely to repay their debts and thus more likely to continue borrowing into middle and old age.

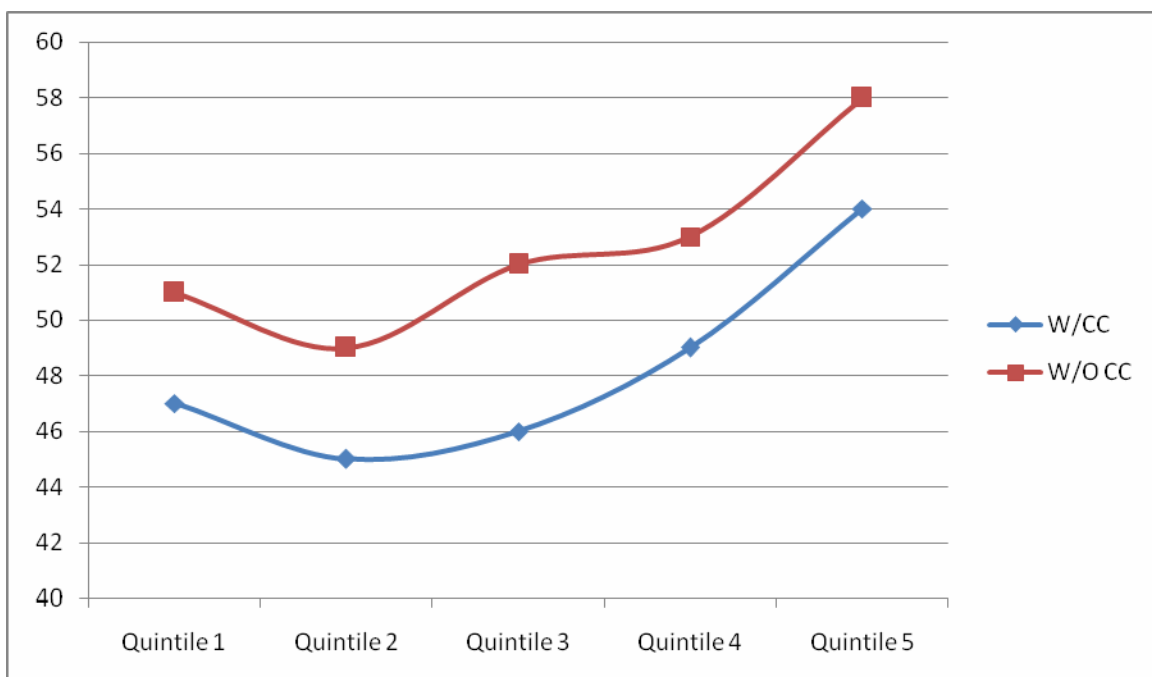
In general, the data support that understanding of the relations among age, credit card debt, and income quintile. Table 1 shows the results of simple pairwise correlations between age and the absence of credit card debt. The coefficients are positive for each quintile, and in each case significant at the 0.01% level. Thus, the coefficients suggest that in each quintile people without credit card debt tend to

be older than those with credit card debt. Finally, the coefficients are weakest in the first and fifth quintiles (where the credit card is least likely to be used for consumption smoothing) and strongest in the third quintile, where consumption smoothing is most likely. Figure 4 illustrates the distinction graphically, showing a gap between the mean ages of those who do borrow and those who do not, with the widest gap in the third quintile.

Table 1: Correlations Between Age and Absence of Credit Card Debt³¹

Quintile	NOCC
Overall	.20***
1	.10***
2	.13***
3	.24***
4	.17***
5	.09***

Figure 4: Mean Age and Credit Card Debt (by Quintile)



Educational Level

The relation between education and credit card borrowing is considerably harder to predict, primarily because it is difficult to be certain whether that increased financial sophistication would lead to a greater or lower incidence of credit card debt. Similarly, it is possible that education would have a different relation to credit card borrowing at different levels of affluence. Among LMI households, for

³¹ The correlation relationships for the other credit card variables are similar, but for simplicity of presentation I report here the results for the categorical variable only.

example, it might be that only the relatively well-educated would be in a position to obtain a credit card, while in more affluent households (where educational levels are likely to be higher across the board), credit cards might be readily available even to the relatively less educated.

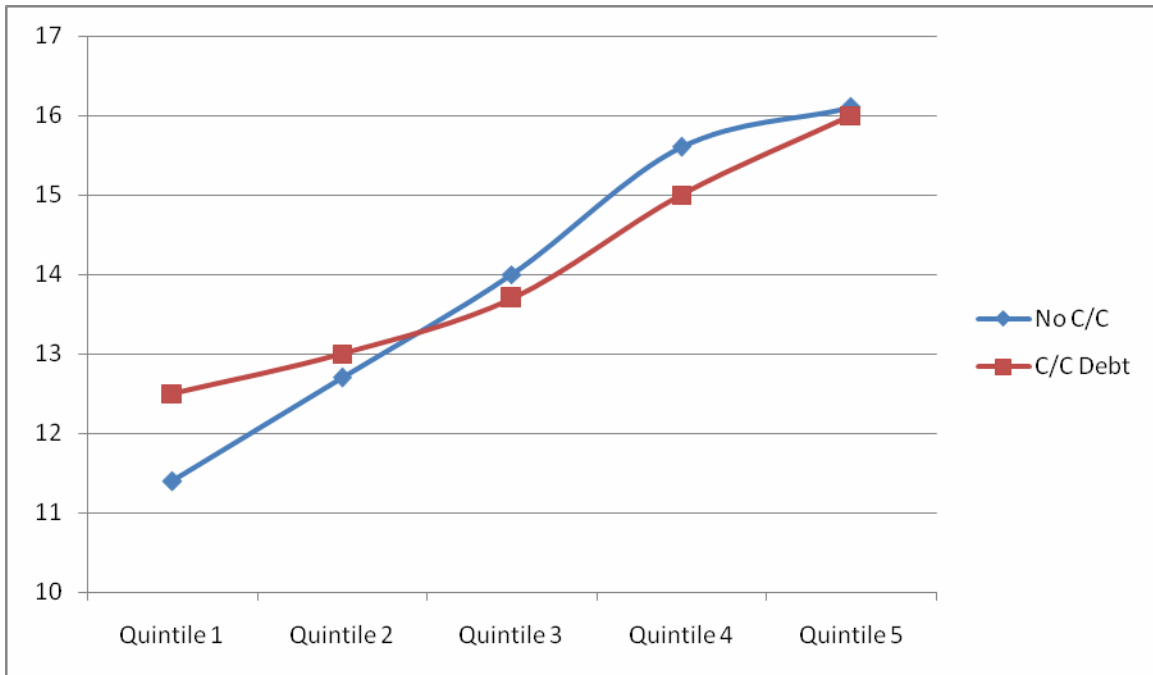
The correlations between educational level and credit card borrowing do little to dispel the ambiguity of the relationship suggested above. For the first four quintiles the coefficients (all significant at the 0.01% level) steadily rise from a strongly negative coefficient in the first quintile to a strongly positive coefficient in the fourth quartile. {There is no significant difference in the fifth quintile, apparently because there is relatively little variation in education.} As illustrated graphically in Figure 5, the level of education steadily increases by quintile, but the credit card borrowers in the first two quintiles are the relatively more educated, while they are the relatively less educated in the third and fourth quintiles.

Interestingly, the correlation is much stronger and more stable for credit-card share. As Table 2 illustrates, the relation between educational level and the share of income devoted to credit card debt is persistently negative. People with more education might be more likely to borrow on credit cards, especially at low quintiles, but they are less likely to spend high shares of their income on credit card debt.

Table 2: Correlations Between Education and Credit Card Borrowing

Quintile	NOCC	CCSHARE
Overall	.05***	-.17***
1	-.17***	-.11***
2	-.07***	-.07**
3	.08***	-.01
4	.15***	-.08***
5	-.02	-.09#

Figure 5: Mean Education and Credit Card Debt (by Quintile)



Family Status

The next set of demographic variables are family status variables – specifically whether the head of the household is married and whether there are children in the household. As with educational level, it is easy to discern conflicting possible relations. On the one hand, married families and those with children might be more stable, and thus less likely to need credit card borrowing. On the other hand, the greater level of stability and higher level of consumption might make them more attractive customers. Interestingly, the data suggest that having children and being married have different effects on the likelihood of credit card borrowing. Having children correlates with having credit card debt, and the correlation is significant both overall and at each of the five quintiles. The effect of marriage, on the other hand, is more nuanced – the married who are in the two LMI quintiles are less likely to borrow on credit cards. Households with a married head of household in the more affluent quintiles, by contrast are significantly more likely to borrow.

Table 3: Correlations Between Family Status and Absence of Credit Card Debt

Quintile	Married	Kids
Overall	-.01*	-.12***
1	-.02	-.05***
2	-.06***	-.10**
3	.10***	-.19***
4	.07***	-.13***
5	.06***	-.03*

Figure 6: Marital Status and Credit Card Debt

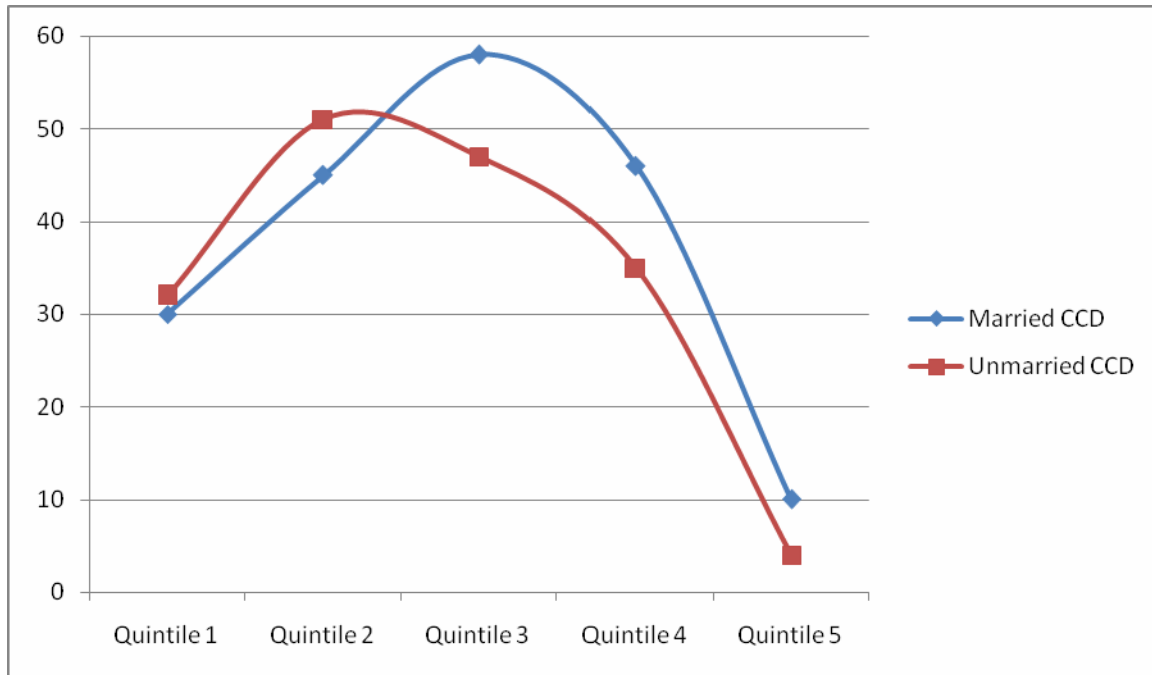
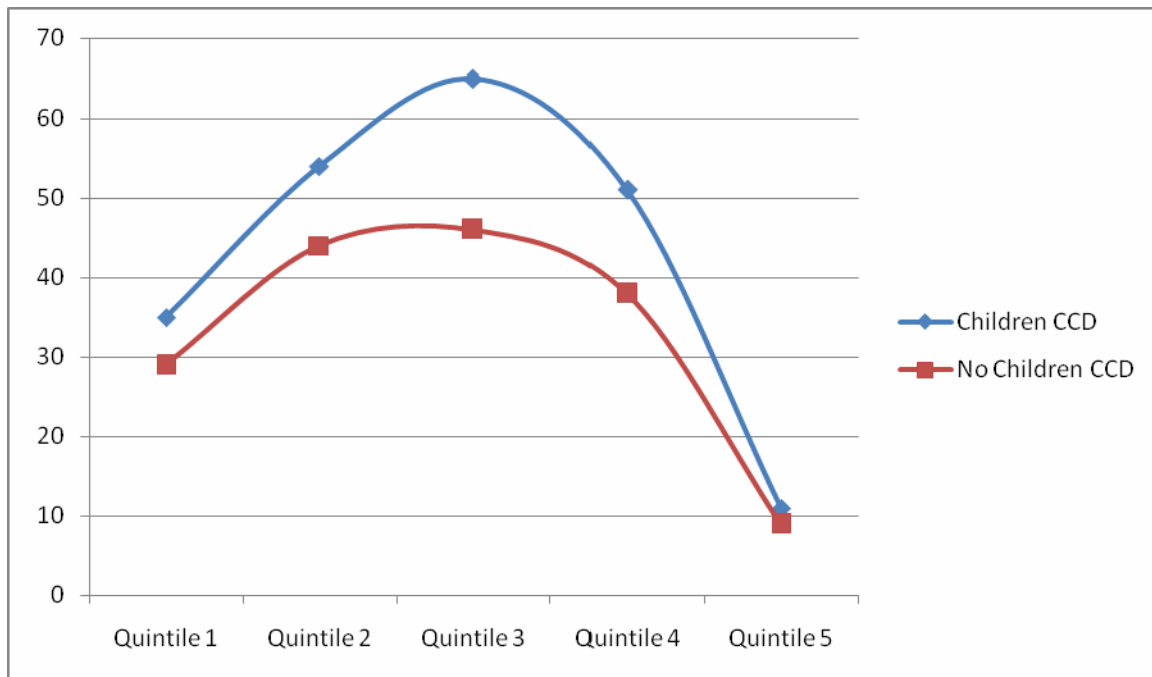


Figure 7: Children and Credit Card Debt



Race

The effects of race on credit card borrowing are most difficult to predict because of two directly conflicting intuitions. On the one hand, if markets function rationally, race would not be a useful predictor of either creditworthiness or financial behavior. On the other hand, if the effects of discrimination are present in lending or borrowing markets, or if race correlates substantially with important variables that are missing from this dataset, then we would find correlations between race and credit card behavior. The data in Table 4 suggest that whites are less likely to borrow on credit cards than blacks and Hispanics.³²

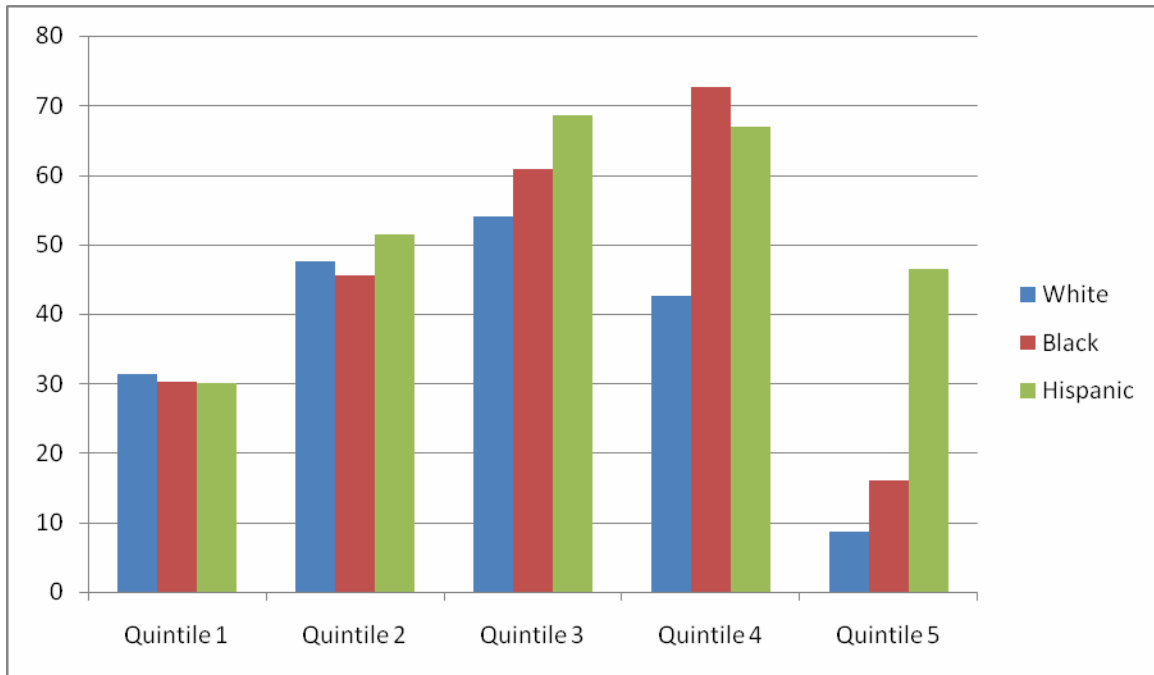
On the other hand, as Table 4 illustrates, the significant correlation with race appears only in the more affluent quintiles; there are no significant correlations between race and the incidence of credit card debt in the LMI quintiles. The pattern is apparent in Figure 8. In the first two quintiles, all races have approximately the same incidence of credit card debt. But in the more affluent quintiles, blacks and Hispanics are much more likely to be carrying credit card debt.

Table 4: Race and the Absence of Credit Card Debt

Quintile	Cauc	Black	Hisp
Overall	.08***	-.04***	-.06***
1	-.0008	0.01	.01
2	.01	.02	-.03#
3	.05***	-.03*	-.07***
4	.11***	-.12***	-.08***
5	.12***	-.02	-.14***

³² Parallel runs on the other credit card variables that I do not report here support this intuition.

Figure 8: % w/ Credit Card Debt (by Race and Quintile)



Having a Checking Account

The last variable to investigate in this section is whether the household has a checking account. This is not, strictly speaking, a demographic variable, but it seems important to include it in the model because it provides a valuable proxy for financial sophistication. If we think families are more likely to borrow on credit cards if they previous experience with other banking products, then we should expect a positive relation between having a checking account and carrying a credit card balance. The data provide some support for that hypothesis, concentrated at the lower-income quintiles, apparently because almost all households in the more affluent quintiles have checking accounts.

Table 5: Credit Card Debt and Checking Accounts

Quintile	NOCHK
Overall	.10***
1	.19***
2	.15***
3	.06***
4	-.07
5	NA

Multivariate Analysis

Given the large number of variables that exhibit pairwise association, multivariate analysis is necessary to test the robustness of the associations. As explained above, it would be surprising if the variables in the SCF dataset explained most of the pattern of credit card borrowing. Credit card lenders rely on

proprietary statistical models that aggregate dozens of variables from numerous sources, many of which are not in the public domain much less in the SCF.³³

The first step was to estimate models for the entire dataset. As summarized in Table 6, those models were only marginally successful. On the one hand, they did generate large t- and z-statistics (indicating that the relations are unlikely to be random). At the same time, however, the models do not have a particularly good fit. They explain a relatively small share of the variation in the credit card use variables (generally between six and nine percent). Accordingly, the models are at best suggestive of the relations that we might expect to document with panel data or with more comprehensive data regarding financial activity and creditworthiness.

Still, they do show a series of significant relations consistent with the pairwise correlations discussed above. Age and being married relate negatively to having debt or to having a lot of it, but positively to debt that is a high share of income. Blacks and Hispanics are more likely to have credit card debt and if they do have it they are likely to have higher balances. The absence of a checking account correlates with not having a credit card and with having a lower balance if you borrow on your card. Finally, families with children are more likely to have credit card debt and also to have higher balances.

³³ Credit card lenders rely heavily, for example, on information about past spending and repayment patterns, much of which is far more detailed than the information available from credit reporting agencies. The information is proprietary, in part, because of its competitive value. The issuer familiar with years of spending, borrowing and repayment history has a considerable advantage in designing and pricing products over an issuer that has never had a relationship with the cardholder. Among other things, consumers face high switching costs when competing issuers are less well placed to extend credit than their existing card issuer. This contributes, in turn, to the ability of issuers to charge higher prices to LMI customers (and other customers in distress).

Table 6: Multivariate Models of Entire Dataset

Explanatory Variables	Model 1 (NOCC) (Logistic)	Model 2 (CCBalLog) (OLS)	Model 3 (CCShare) (OLS)
Age	1.022***	-.035***	.0013***
NoChk	5.43***	-2.17***	.008
Educ	1.011#	-.005	-.011***
Married	1.25***	-.356***	.0627***
Black	.812***	.206*	.002
Hispanic	.812***	.365***	.018*
Kids	.743***	.511***	-.016**
Logincome	1.32***	-.397***	-.023***
N	22595	22595	16706
Pseudo R2/Adj R-Squared	.0811	.0896	.0661

As the final step of analysis, I estimated similar models for each of the five quintiles for each of the three credit card variables. Table 8 in the Appendix briefly summarizes the results of those models. Recognizing the limitations discussed above, the models in the aggregate do provide considerable support for the fundamental hypothesis that there are important substantive differences in the characteristics that make products successful for the different quintiles. Table 7 illustrates that point by summarizing the demographic factors that are characteristic of a profitable customer, assuming the validity of the models in Table 8. Some of the variables are similar throughout. If we take this data seriously, for example, it suggests that the young, Hispanics, and households with children generally are reliable borrowers without regard to quintile. But the data also suggest several differences among the quintiles. The presence of a checking account is a valuable positive indicator, but only in the two LMI quintiles. Being relatively well-educated is a positive indicator for the first quintile, but a negative indicator at upper quintiles – presumably because the more educated middle class will be less likely to borrow heavily. Finally, married households seem more likely to borrow at the moderate level (where marital status may be associated with increased consumption), but less likely to borrow at more affluent quintiles (where marital status may be associated with increased forethought and budgeting).

Table 7: Demographics of Borrowers by Quintile

QUINTILE	IDEAL CHARACTERISTICS
1	Young, Educated, Hispanic, Checking Account
2	Young, Married, Kids, Checking Account
3	Young, Less Educated, Unmarried or Kids, Hispanic
4	Young, Less Educated, Unmarried or Kids, Hispanic
5	Young, Unmarried, Hispanic

Conclusion

This chapter provides a glimpse of the role that credit cards play in the financial life of LMI households. Most obviously, the data show that credit cards are now a major part of the economic life of the poorest U.S. households. Indeed, at least as a share of income, the credit card debt that LMI households carry is higher than that of more affluent households. The data also illustrate the patterns by which credit card borrowing is distributed based on age, race, and other demographic factors.

The statistical analysis of demographic characteristics of borrowers is intended to be suggestive, with a view to showing how rational lenders that specialize in different markets would target entirely different groups of customers. The persistent variations in correlation and association by quintile provide strong evidence of the reasons why sophisticated issuers should design and market different products to households at different income levels. The data do not, however, provide reliable information on the actual factors that credit card issuers use to underwrite their loans. Moreover, data limitations aside, the absence of panel data means that the SCF simply cannot provide the temporal evidence useful for examining causal effects. Given the difficulties of using surveys to collect panel data on that question, the best source for research of that nature likely would be data from the portfolio of a major credit card issuer.

Returning to the focus on access and safety with which the chapter began, the data provide stark evidence about the high incidence and level of debt among the poorest families. Looking at the lowest quintile alone – with income below \$23,000 – 31% of the households are carrying credit card debt. Among those that carry credit card debt, half have debt equal to 10% of their income and a quarter have debt equal to 25% of their income (all before making mortgage payments, car payments, child support payments and the like). As I discuss, the process of repaying that debt typically will involve high interest rates and considerable fees. By comparison, among the middle class borrowers who are so widely bemoaned for their rampant spending and overindebtedness, the median debt share is only 5% and only a quarter have debt that exceeds 10% of their incomes. By any yardstick, we must acknowledge that credit card use among poor households has created a debt overhang that many households will bear for years, if not decades.

Bibliography

- Bird, Edward J. et al. Credit Card Debts of the Poor: High and Rising, 18 J. Pol'y Analysis & Management 125 (1999)
- Black, Sandra E. & Donald P. Morgan. Meet the New Borrowers, 5 Current Issues in Economics & Finance No. 3 (Fed. Reserve Bank of New York Feb. 1999)
- Cards & Payments. Statistics about credit card profitability and expenses over time are compiled from the annual cards profitability surveys published by Cards & Payments (formerly Cards Management).
- Caskey, John P. Fringe Banking: Check-Cashing Outlets, Pawnshops and the Poor (1996).
- Cross, Gary. An All-Consuming Century: Why Commercialism Won in Modern America (2000).
- Frank, Robert H. Luxury Fever: Money and Happiness in an Era of Excess (1999).
- Furletti, Mark & Christopher Ody. Measuring U.S. Credit Card Borrowing: An Analysis of the G.19's Estimate of Consumer Revolving Credit (Payment Cards Center Discussion Paper, Fed. Reserve Bank of Philadelphia Apr. 2006).
- Hacker, Jacob S. The Divided Welfare State: The Battle over Public and Private Social Benefits in the United States (2002).
- Hogarth, Jeanne M. et al. Why Don't Households Have a Checking Account?, 38 J. Consumer Affairs 1 (2004).
- Hogarth, Jeanne M. & Kevin H. O'Donnell. Banking Relationships of Lower-Income Families and the Governmental Trend toward Electronic Payment, Fed. Res. Bull, July 1999, at 459.
- Howard, Christopher. The Welfare State Nobody Knows: Debunking Myths About U.S. Social Policy (2007).
- Kennickell, Arthur B. How Do We Know If We Aren't Looking? An Investigation of Data Quality in the 2004 SCF (American Statistical Ass'n 2006)
- Littwin, Angela. Beyond Usury: A Study of Credit Card Use and Preference Among Low-Income Consumers, 86 TEXAS L. REV. (forthcoming Feb. 2008)
- Littwin, Angela. Comparing Credit Cards: An Empirical Examination of Borrowing Preferences Among Low-Income Consumers (forthcoming 2008)
- Mann, Ronald J. Charging Ahead: The Growth and Regulation of Payment Card Markets Around the World (Cambridge U. Press 2006)

Mann, Ronald J. Bankruptcy Reform and the "Sweat Box" of Credit Card Debt, 2007 Ill. L. Rev. 375

Mann, Ronald J. & Jim Hawkins. Just Until Payday, 54 UCLA L. Rev. 855 (2007).

Nilson Report: I use a variety of national aggregate statistics reported in the Nilson Report

Phelps, Edmund S. Rewarding Work (1997).

Schor, Juliet B. The Overspent American: Why We Want What We Don't Need (1999).

Warren, Elizabeth. Unsafe at Any Rate, DemocracyJournal.Org, Summer 2007

Yoo, Peter S. Charging up a Mountain of Debt: Accounting for the Growth of Credit Card Debt, Fed. Res. Bank of St. Louis Review, Mar./Apr. 1997, at 3

Yoo, Peter S. Still Charging: The Growth of Credit Card Debt Between 1992 and 1995, Fed. Res. Bank of St. Louis Review, Jan./Feb. 1998, at 19

Zinman, Jonathan. Where Is the Missing Credit Card Debt? Clues and Implications (Sept. 2007 working paper)

Appendix -- Table 8: Multivariate Models by Quintile

Explanatory Variables	Quintile	Model 1 (NOCC) (Logistic)	Model 2 (CCBalLog) (OLS)	Model 3 (CCShare) (OLS)
Age	1	1.001***	-.012***	.002***
	2	1.015***	-.024***	.0014***
	3	1.03***	-.050***	.0005
	4	1.02***	-.035***	.002***
	5	1.03***	-.014***	.001**
NoChk	1	2.80***	-1.40***	-.044*
	2	2.93***	-1.86***	.0080
	3	3.48***	-2.52***	.093***
	4	2.08	-2.10*	-.111*
	5	NA	NA	NA
Educ	1	.911***	.147***	-.001
	2	.987	.035	-.006*
	3	1.06***	-.105***	-.004*
	4	1.12***	-.141***	-.009***
	5	.976	.0079	-.003
Married	1	.887	.156	.047**
	2	.725***	.591***	.039***
	3	1.33***	-.347*	.023*
	4	1.42***	-.537**	.022*
	5	3.01***	-.505***	-.040***
Black	1	.844#	.196	.011
	2	1.13	-.412**	-.049***
	3	.788*	.139	.001
	4	.0573***	1.78***	.081***
	5	.564	.080	-.042
Hispanic	1	.692***	.571***	.046#
	2	.845	.281	.043*
	3	.703**	.739***	-.041**
	4	.579***	.799*	-.034*
	5	.163***	2.84***	.164***
Kids	1	.753	.340**	-.027
	2	.696***	.619***	-.033**
	3	.666***	.936***	-.005
	4	.744***	.474***	-.0032
	5	1.37*	-.098	-.0008
Logincome	1	.937**	.075**	.018***
	2	.661*	.791**	-.083**
	3	1.24	.080	-.071**
	4	3.01***	-1.97***	-.060***
	5	1.80***	-.315***	-.0005
