

Patterns of Credit Card Use Among Low- and Moderate-Income Households

Ronald J. Mann

Ensuring that the poorer segments of the population have access to financial products and services has taken on increased significance as policymakers have come to understand the broad social ramifications of inclusive financial regimes. Access not only promotes savings but also 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 accounts and “fringe” products like payday lending, check-cashing services, and pawnshops (Barr, this volume; Caskey 1996; Hogarth, Anguelov, and Lee 2004; Mann and Hawkins 2007). At the same time, because many of those products exploit cognitive and financial constraints, policymakers are now increasingly moving beyond concerns about access to emphasize the need for safety in the design and marketing of financial products (Warren 2007).

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 trendsetters in our society and purchase the same goods and services, at the same prices. As status in a consumer society shifts to depend more heavily on consumption (rather than family wealth or occupational status), the credit card acts as a leveler of status (Cross 2000, 169–84; Frank 1999, ch. 4). The credit card also provides a remarkably flexible safety net that can be deployed in response to unexpected financial crises (Mann 2006). That protection is particularly important in the United States, where the public safety net is more porous than it is in many peer nations (Hacker 2002; Howard 2007).

At the same time, the credit card is singled out as one of the most perilous consumer financial products. The prevalence of credit card use raises concerns that consumer spending is leading to overindebtedness (Schor 1999). In previous work, I present aggregate data that suggest a significant relation between increased credit card use and consumer bankruptcy filings at a national level (Mann 2006). The

flexibility that makes the credit card so useful for households faced with unexpected difficulties is central to the danger that the product can bring to those who use it in excess (Littwin 2008a; Mann 2007; Mann and Hawkins 2007). Safety concerns are particularly important in connection with financial products for the poor (McCloud 2007).

This chapter uses data from the Federal Reserve Board's Survey of Consumer Finances (SCF) for 2004 to examine the penetration of credit cards into LMI markets. The chapter has two purposes. First, I discuss the rise of the modern credit market, emphasizing the segmentation of product lines based on behavioral and financial characteristics of customer groups (for more detail, see Mann 2007). Among other things, that trend involves the use of products aimed at LMI households that differ significantly from those aimed at middle-class households.

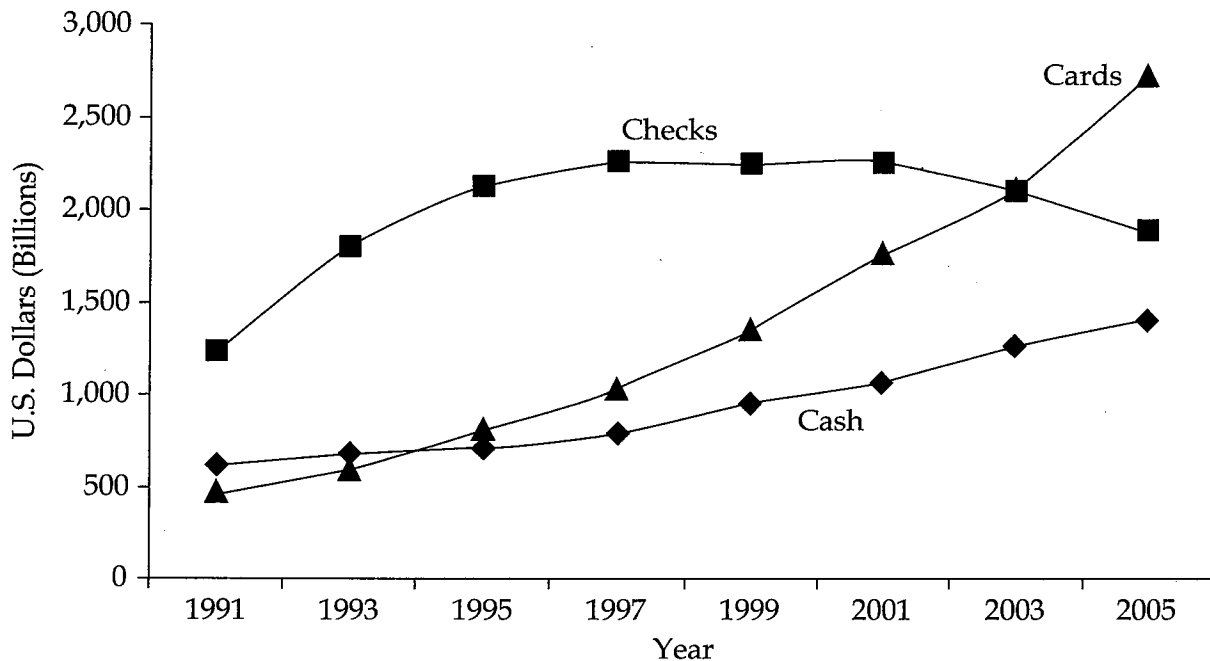
Second, I describe the use of credit cards by LMI households: the amounts of debt they carry; the types of LMI households that carry debt; and how these households differ from higher-income households that carry debt. Despite their lower incomes, LMI households use credit cards almost as often as other households do. Indeed, measured as a share of income, the credit card balances that LMI cardholders carry are substantially higher than those of higher-income households. To refine the analysis, the chapter closes with the results of a multivariate regression analysis of the characteristics of LMI households with credit card debt. Generally, those results suggest that the demographic characteristics of LMI households that have credit card debt are different in material ways from the characteristics of those households in the overall population with credit card debt. The models I summarize here suggest that age, race, and education correlate with credit card use in the population at large. At least in these models, however, age and race become less important predictors, and education has only a marginal relation to credit card use in LMI households. In LMI households, by contrast, credit card use is most closely related to the use of other financial products: checking accounts, mortgage loans, and car loans.

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 increased from about \$800 billion in 1990 to more than \$1.7 trillion in 2006. Similarly, credit card balances increased from about \$450 billion in 1990 to more than \$750 billion in 2006 (Nilson Report; for a more detailed discussion, see Mann 2006). As figure 9.1 illustrates, the rise in spending on cards reflects a substantial shift toward cards and away from other payment devices.

What is less widely understood is the mechanism by which this has occurred. Credit card lending is by 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,

FIGURE 9.1 / Spending on Retail Payment Systems in the United States, 1991 to 2005



Source: Author's calculations based on the Nilson Report.

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 who 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. Thus, exemptions in many cases cover all assets in the household. Finally, the availability of a discharge in bankruptcy means that debtors who are pushed too far normally can discharge their obligations to the credit card lender.

In practice, the most effective lever the credit card lender has is the threat of damaging the credit report of the borrower. A credit card debtor who 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, which 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 is at most one of many inputs into the underwriting process. In any event, the threat of an adverse credit report is ineffective against debtors who are in serious financial distress and whose 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

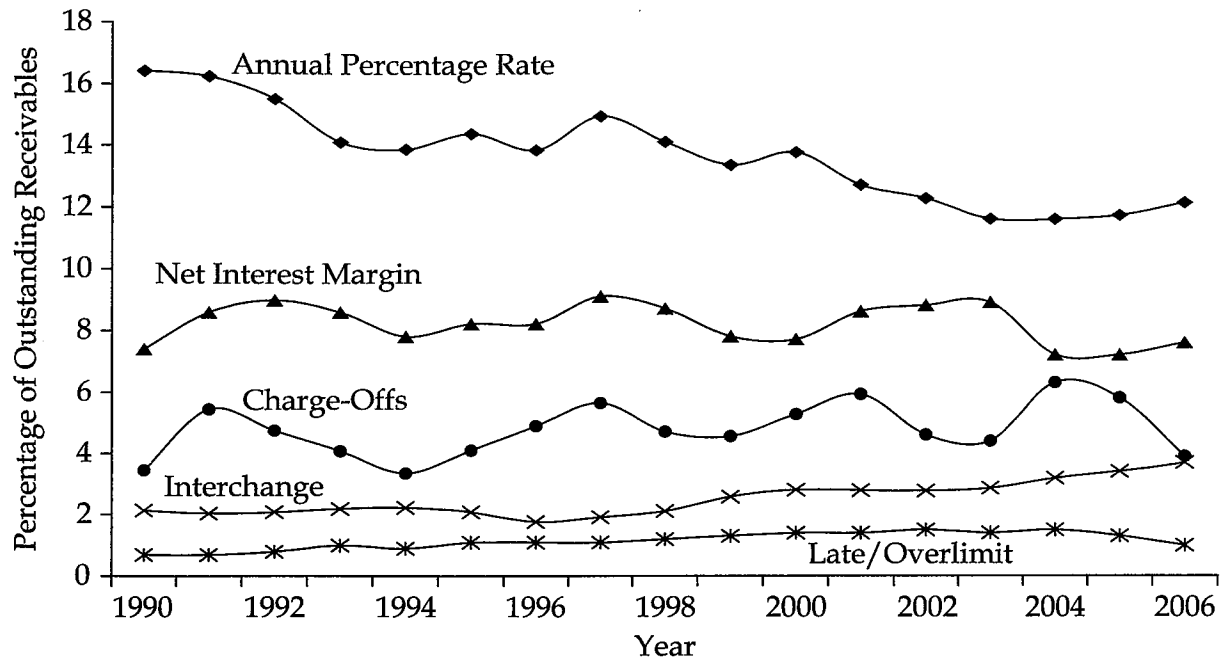
service. Interest rates were standard and relatively high, typically in the range of 18 percent. At the same time, despite those relatively high rates, the customers to whom credit card lenders could make profitable loans were a relatively small part of the middle class. The wealthy had little interest in borrowing at 18 percent, and those who had no reliable income stream were too risky. In general, most issuers had a large group of profitable customers who borrowed and paid substantial amounts of interest, a second group of generally unprofitable customers who did not borrow but instead paid their bills each month, and a third group of highly unprofitable customers who 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 1990s 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 (Johnson 2005). 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 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 percent in 1990 to 12.2 percent in 2006, 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 percent in 1990 to 7.6 percent in 2006).¹ At the same time, however, the portfolios underwritten at that margin have become considerably riskier. For example, the rate at which issuers write off unpaid balances (charge-offs) steadily increased during this period, from 3.5 percent in 1990 to about 6 percent during 2004 to 2005.² 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 allowed those lenders to acquire profitable portfolios filled with cardholders who would have been unacceptably risky a few decades ago.³

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 increase in charge-offs suggests that the card issuers have developed new revenue sources. The first is an increased reliance on fees, particularly in the subprime product lines discussed later in this chapter. Late and overlimit fees on an annual basis were only 0.7 percent of the average outstanding balances in 1990, but doubled during the 1990s to 1.4 percent or 1.5 percent 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 fees paid by merchants that accept cards (interchange), which has risen about 70 percent faster than receivables, from 2.15 percent to 3.69 percent of average outstanding balances. In part, this reflects the ability of issuers, especially in recent years, to shift

FIGURE 9.2 / Cards Profitability Data



Source: Author's calculation from Cards Profitability Survey, published by *Cards and Payments*.

increasing numbers of cardholders to high-interchange premium and "platinum" products.⁴

The second stage of market segmentation involves the development of increasingly complex product attributes that tailor products to specific classes of potential cardholders.⁵ Thus, different issuers are particularly expert in superprime offerings (Chase Bank and Bank of America), affinity offerings (Bank of America's MBNA division), cobranded offerings (Chase Bank), relational offerings (Wells Fargo), subprime offerings (Capitol One), and foreign offerings (CitiBank). 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 who spend very heavily and borrow occasionally, primarily for convenience. 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 (bearing logos of universities, sports teams, or the like) are more likely to balance interchange against limited payments to sponsors, while cobranded offerings (bearing logos of airlines or leading retailers) are likely to balance annual fees and interchange against relatively high payments to sponsors. 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.

Insufficient Funds

For a study of LMI households, subprime issuers are the most interesting, because the unstable incomes and poor or spotty repayment histories of many LMI families make them likely users of those products.⁶ Not surprisingly, subprime products rely heavily on interest income and fees. Indeed, a dominant share of the increase in fee revenue discussed in this chapter 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 to 24 percent per annum) are inadequate to provide a return on a portfolio with a charge-off rate in the vicinity of 15 to 20 percent. 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 estimate), the issuer is likely to receive approximately \$100 in extra revenue.⁷ Those fees add an additional 20 percent return per year on the credit line, for a total effective rate (assuming no other fees or charges) of about 35 to 40 percent.

More aggressive card issuers, targeting higher-risk customers, design products with even higher effective rates. For example, one popular subprime card has a \$300 limit and a 20 percent interest rate, with \$247 in up-front fees (\$49 annual fee, \$99 account processing fee, \$89 program participation fee, and \$10 monthly maintenance fee).⁸ The fees are charged against the card when the cardholder receives it, leaving an available credit line of \$53. If a cardholder makes a \$53 purchase on the date the card arrives (thus expending the entire remaining available balance) and repays the balance in one month, the effective interest rate would be about 5,500 percent. From a marketing perspective, this card might look attractive because it offers a grace period to cardholders who pay their entire balance. Nor is this card unique. Another successful product offers a \$250 limit and an interest rate of only 10 percent, with \$178 in up-front fees (\$29 account setup fee, \$95 program fee, \$48 annual fee, \$6 participating fee). If that cardholder spends the entire available credit (\$72) on the first day and repays the balance at the end of the first month, the effective interest rate would be about 3,000 percent. To be sure, the interest rates would fall if the cardholders took longer to repay their balances, but the large share of fees compared to the maximum amount of available credit ensures that the effective interest rate will remain substantially higher than the stated interest rate.

Collectively, these market segmentation strategies are highly effective, at least for lenders that are able to employ cutting-edge technology. Large issuers say privately that only about 25 percent of their customers are unprofitable, a substantial improvement from the early 1990s, when about half of the customers in a typical 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 percent of the outstanding credit card balances, up from only 39 percent in 1994 (Nilson Report).

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 con-

siderable number of LMI households have held credit cards for some time. For example, the analysis by Edward Bird, Paul Hagstrom, and Robert Wild (1999) of the 1995 SCF cross-sectional study shows that 36 percent of households below the poverty line had a credit card, and about two-thirds were carrying balances. Similarly, Peter Yoo's (1997, 1998) analysis of the SCF cross-sectional studies between 1983 and 1995 shows 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 vary across deciles of the SCF's respondent population.

Still, relatively little is known about the extent of borrowing or the characteristics of LMI households that use credit cards. Existing research shows 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 (1999) have studied in some detail the holdings of checking accounts among LMI households. Their work shows that a significant number (8 percent) of LMI households that do not have checking accounts nevertheless have credit cards.⁹ So credit cards must present benefits that extend beyond simple retail transacting.

Angela Littwin's (2008b) 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.¹⁰ At the same time, these households have a deep-seated recognition of the risks they face if they borrow. Generally, Littwin suggests, these products would be more attractive to LMI households, and also safer for them, if they included a hard-credit line, thus precluding overlimit borrowing.

Given the rapid changes in the credit market in the last ten years, it is valuable both to update the early findings about the initial penetration of credit cards into LMI households and 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 earlier in this chapter suggests that the products that are attractive to LMI households function differently than the products that are attractive to the middle class. Thus, it would be useful to understand who chooses to use credit cards and how the choices that LMI households make differ from the parallel choices made by more financially secure households.

It is not easy to find data to investigate these questions with care. National aggregate data are useful to understand the conceptual relations between spending, borrowing, and financial distress but are of no use for this inquiry because they do not show how card use varies over the distribution of income (Mann 2006). I decided to look to the 2004 Survey of Consumer Finances, conducted by the National Opinion Research Center (NORC) for the Federal Reserve Board. The 2004 survey is based on a complex sample of U.S. households and includes data on income, assets, debt, and the demographic characteristics of respondents (for a general summary of the 2004 data, including the data on credit card use, see Bucks, Kennickell, and Moore 2006, table 11).¹¹

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 percent, at least as compared to the Federal Reserve's G.19 statistics (which rely for the most part on call reports submitted by financial institutions to regulators) (Mann 2006; Zinman 2007; for details on G.19, see Furletti and Ody 2006). At first glance, the large underreporting problem seems difficult to overcome, given the likelihood that the factors that cause the underreporting will create a selection bias in the data. Jonathan Zinman's (2007) 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 relations between them.¹² Yet another problem is the ambiguous relation between balances and borrowing on a revolving credit product like a credit card. This makes it particularly difficult for survey researchers to collect accurate information about debt: is the relevant figure the amount owed to the issuer at the time of the interview, the amount owed on the last statement, the amount that went unpaid on the last statement, the amount expected to go unpaid on the next statement, or some other figure entirely?¹³ Reasonably skeptical observers 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 that are both difficult to define and collect and 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 (Kennickell 2006a).

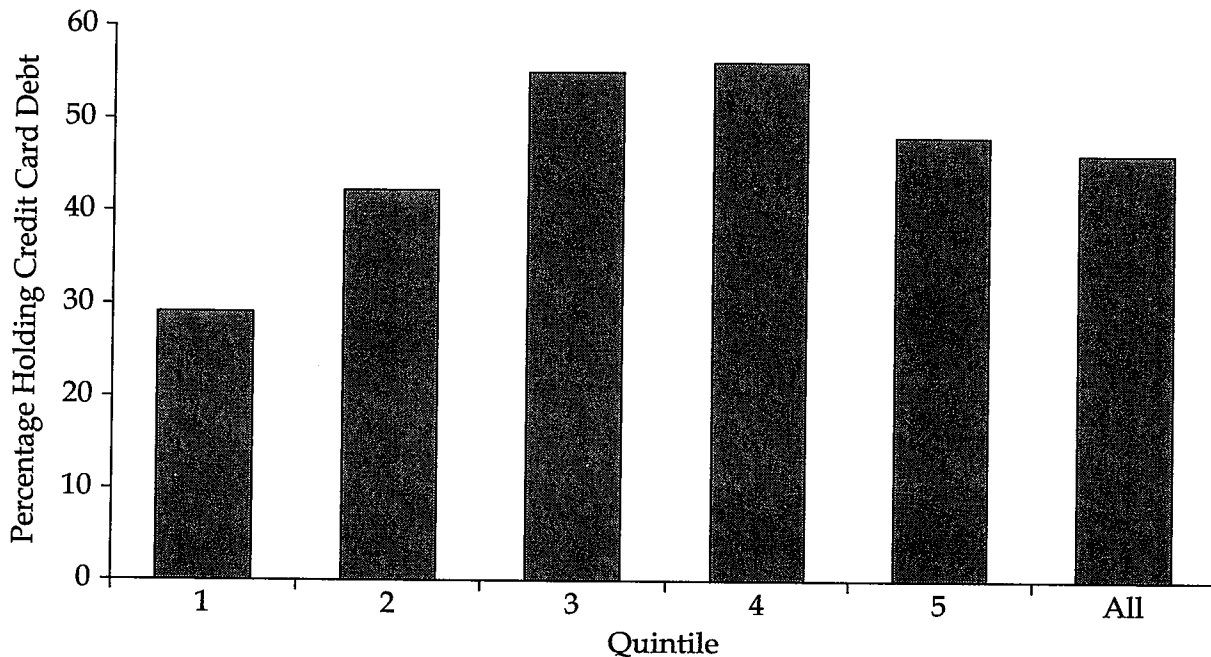
PATTERNS OF CREDIT CARD USE

Because the purpose of this project is to understand the pattern of credit card use among LMI households (defined as the bottom two quintiles in the income distribution), I start by dividing the SCF data set into five quintiles based on income. The two lowest quintiles (quintiles 1 and 2 in the analysis that follows) end at \$18,500 and \$34,000 of annual income, respectively.¹⁴ Conversely, I use three distinct metrics to capture the penetration of credit card use in LMI households: the number of households that report a positive balance; the size of the balances reported by households that report a balance (CCBAL); and the ratio of the household's credit card balance to its income (CCSHARE) (Kennickell 2006a).

Penetration of the Market

The most basic question about credit card use by LMI households is how often they carry balances on cards, as compared to higher-income households.¹⁵ The answer,

FIGURE 9.3 / Households Holding Credit Card Balances



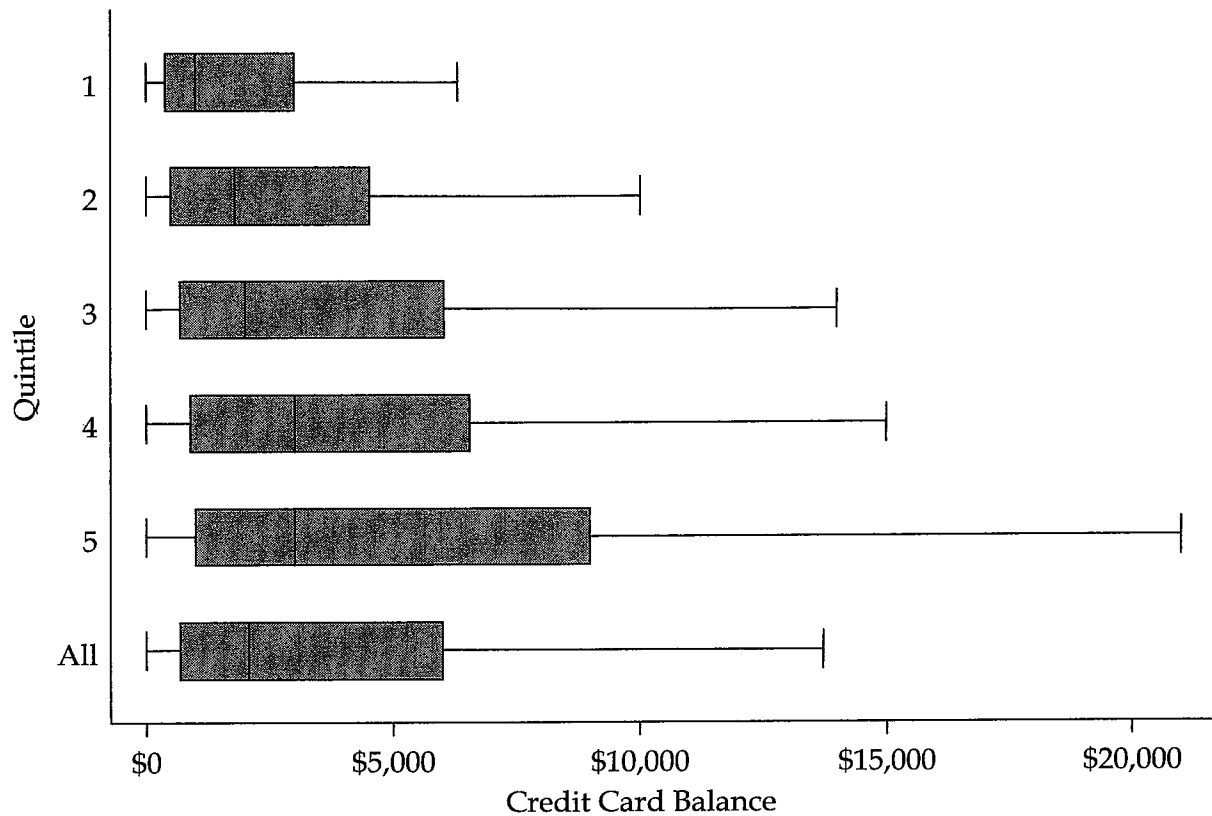
Source: Author's calculations based on Survey of Consumer Finances 2004.

in short, is that their usage patterns are surprisingly 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, the borrowing patterns for the four lower income quintiles are surprisingly similar.

I start with the incidence of debt—the share of households reporting that they are carrying any credit card debt at all (46 percent across the entire data set). Figure 9.3 breaks down that data by quintile. Several things about this figure are interesting. First, as expected, it shows the highest rate of card balances (55 percent and 56 percent) in the second and third quintiles, long considered the principal focus of credit card lending. One notable feature of the data is the robust rate of borrowing in the two LMI quintiles. First, the 43 percent rate of borrowing by households in the moderate-income quintile is very close to the rates in the higher quintiles. This is a graphic illustration of the broadening of the traditional credit card demographic discussed earlier in this chapter. 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 \$90,000 (the bottom of the fifth quintile). To be sure, the 29 percent incidence of borrowing in the first quintile is considerably lower, but even that incidence is notable given the reality that the first quintile consists of households with incomes below \$23,500.

The second metric of credit card borrowing is the size of the balances carried by those households that are carrying balances.¹⁶ This metric displays the intensity

FIGURE 9.4 / Credit Card Balances, by Income Quintile

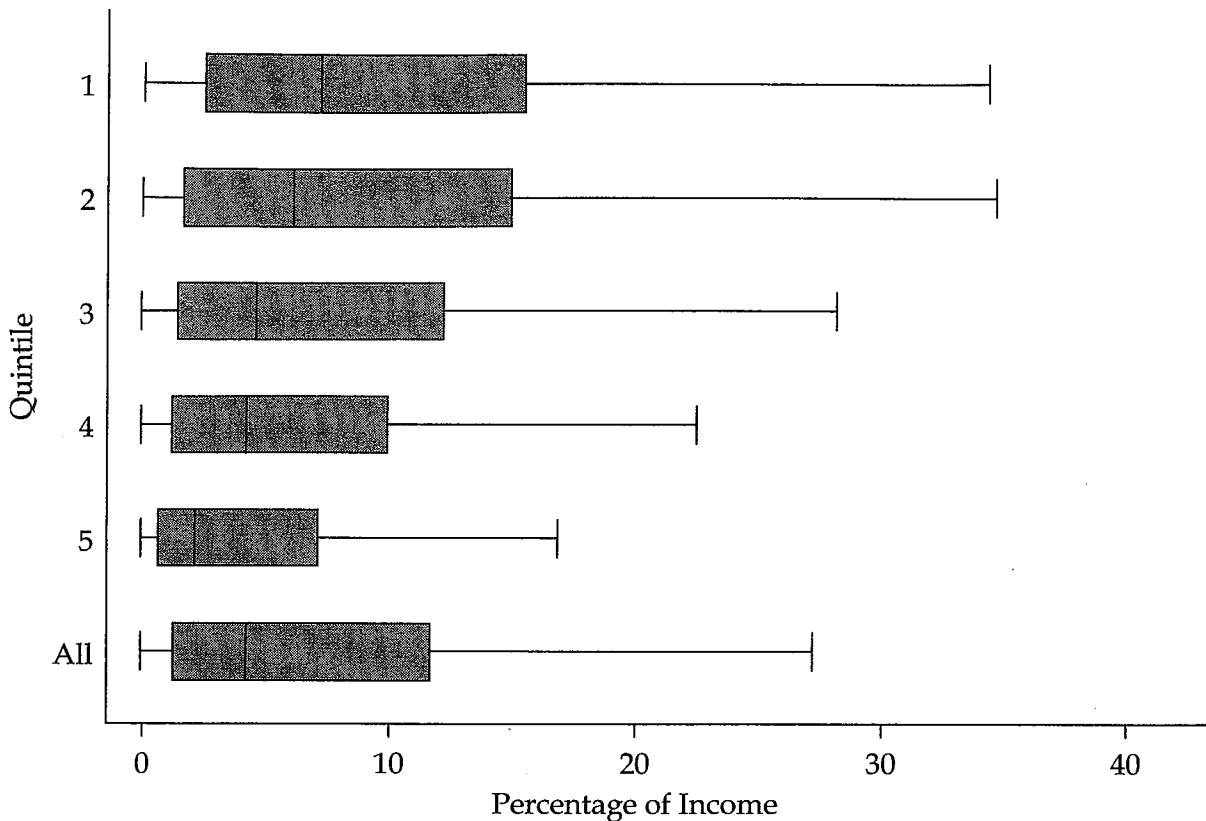


Source: Author's calculations based on Survey of Consumer Finances 2004 (excluding outliers).
 Note: Endpoints of horizontal lines show minimum and maximum; box indicates twenty-fifth and seventy-fifth percentile. Vertical line within the box indicates median (fiftieth percentile).

and regularity of borrowing by the subset of respondents who report a positive balance. To set the frame of reference, the median balance for those carrying balances in the entire data set is \$2,300, the 25 percent balance is \$700, and the 75 percent balance is \$6,300. Figure 9.4 displays a series of boxplots by quintile. These plots indicate the range of data for each quintile by vertical lines, with the boxes shading the range from the twenty-fifth to the seventy-fifty percentile and with internal vertical lines showing the median value.

Like figure 9.3, several points about the boxplots in figure 9.4 warrant emphasis. The most notable is the relative similarity of balances 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 low-income households. But these data suggest that most of the lower-income (first-quintile) households that are carrying credit card balances have balances greater than \$1,000. Again, combining the importance of income to credit card underwriting with the limited income of these households, it might

FIGURE 9.5 / Credit Card Balance As a Share of Income Among Those with Balances, by Income Quintiles



Source: Author's calculations based on Survey of Consumer Finances 2004 (excluding outliers).
 Note: Endpoints of horizontal lines show minimum and maximum; box indicates twenty-fifth and seventy-fifth percentile. Vertical line within the box indicates median (fiftieth percentile).

be surprising that the median balances are so high. The most likely explanation is that, even in this quintile, most of the households carrying balances are using more than one card.

The third metric of credit card borrowing is the amount of the credit card balance as a share of income. For purposes of descriptive comparison, 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. To compare the extent to which customers in different quintiles are heavy borrowers, it is more useful to know what share of customers are borrowing one-tenth of their annual income than it is to know what share of customers are borrowing \$5,000. Related to the first, the ratio of credit card debt to income provides a useful tool for examining overindebtedness. Thus, Bird and his coauthors (1999) use this metric to identify customers who have borrowed excessively.

The boxplots in figure 9.5 underscore this chapter's analysis. Again, the differences among the three interior quintiles are relatively slight, with typical debt

