Attitudes toward Using Credit for Loss of Income

The non-business bankruptcy filing rate doubled between 1990 and 2004, and then increased even more because of the impending change in bankruptcy rules. Was part of the increase due to changing attitudes toward credit use? This study analyzes consumer attitudes about whether it was acceptable to borrow money to cover living expenses when income is cut. Based on a logistic regression model with a combined sample of the SCF datasets, respondents in 2001 and 2004 were more likely than respondents in 1998 to think it was acceptable to use credit to cover living expenses, but attitude changes do not seem consistently related to changes in the overall bankruptcy rate. The rate of having a positive attitude toward credit decreases strongly with age and increases with income, even after controlling for other factors. Households that spent more than income, had low comprehensive assets and non-couple households were more likely to have positive attitudes toward using credit to cover living expenses. A better understanding of this credit attitude can assist consumer educators, financial advisors, and policy makers in helping consumers who might be engaging in risky financial behaviors.

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Introduction

Access to credit has increased substantially during the past 30 years in the United, with the increase in credit cards. Along with the increase in credit access, bankruptcies have increased in the past 20 years, to the point where almost 9% of all households have experienced a bankruptcy (Marcuss, 2004). Figure 1 shows the increase in non-business bankruptcy rates over the past 25 years. The decision to file for bankruptcy is typically triggered by unforeseen adverse events such as job losses or uninsured illnesses (Athreya, 2004). However, Marcuss (2004) suggested that the frequency of such triggering events has not increased. The increase in filing rates might be attributed to a decline in social sanctions for promise breaking and the loss of a sense of shame people feel when such values are internalized (Buckley & Brinig, 1998). Changes in social norms related to credit might have led to changes in consumer attitudes.

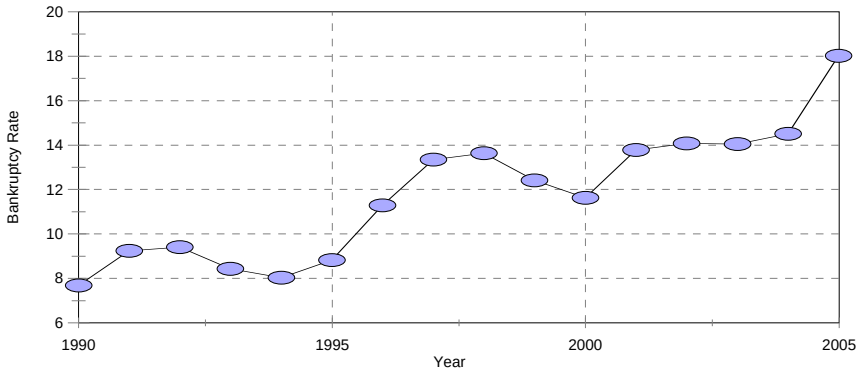
It might be rational to plan on using credit rather than to save for emergencies (Chang, Hanna, & Fan, 1997; Hatcher, 2000), although such a strategy has risks for those who do not consider the potential costs of not being able to pay off credit balances. Financial educators suggest that households hold enough emergency funds in cash equivalent accounts to cover three to six months of expenses (Greninger, Hampton, Kitt & Achacoso, 1996). However, only 30% of households in 1998 had enough monetary assets to cover three months of expenses (Bi & Montalto, 2004). Using credit for living expenses may be risky, because they do not create assets that the lender can claim (Black & Morgan, 1999). It could take a household many years to pay back credit card balances over a period of time and end up costing them much more in the future, therefore leaving them in a more vulnerable financial position. Further, filing for bankruptcy results in a lower credit rating and a constrained access to credit in the future (Board of Government of the Federal Reserve System, 2006).

Some observers have suggested that attitudes toward credit have become more relaxed, as consumers are willing to borrow more, and to borrow for seemingly riskier purposes (Black & Morgan, 1999). Castellani and DeVaney (2001) analyzed attitudes toward credit use for living expenses, using the 1995 Survey of Consumer Finances. They found that a positive attitude for using credit to cover living expenses was related to age groups younger than 55, racial groups other than White, low income groups, and those with a history of late credit payments. A better understanding of the likelihood of risky credit usage when income is cut can assist consumer educators, financial advisors, policy makers and counselors in helping consumers who have potentially risky credit behavior.

The remainder of the paper is organized as follows. Section II describes background information, the theoretical framework, and reviews the determinants of attitudes toward credit used in the current study. Section III describes our model of determinants of having positive attitudes toward credit when income is cut. In Section IV, we

present descriptive results for the patterns during the 1995 to 2004 period for attitude toward credit when income is cut. We also present multivariate results. Finally, Section V includes our conclusions and implications.

Figure 1. Non-business Bankruptcy Filing per Thousand Households, 1990-2005



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Background Information and Theoretical Framework

Economic Perspective: Life Cycle Theory

The life cycle theory of consumption attempts to explain household consumption and saving over lifecycle stages. This theory focuses on the systematic variations in income and in "needs" which occur over the life cycle as a result of maturing and retiring, as well as changes in family size. Because the retirement span follows the earning span, consumption smoothing leads to a humped-shaped age path of wealth holding (Modigliani, 1986). Therefore, consumers are expected to borrow against future earnings during their early stages when income is low, save more during their most productive period, and consume accumulated assets after they retire. If we assume that attitudes toward credit are related to whether borrowing is a good idea based on the prescriptions of the life cycle model, consumers' willingness to borrow and use their credit will change over the life cycle. Consumers will have more positive attitudes toward credit earlier in life and more negative attitudes toward credit in later life. Consumers' willingness to use credit will depend on expected changes in their income and changes in household size.

Fan, Chang & Hanna (1993) demonstrated the importance of the consumer's expectation of income growth, as well as the probability of that income growth taking place, in determining optimal credit use. For a plausible level of risk aversion, a consumer who was at least 95% certain that real income would increase substantially would optimally use credit even at high real interest rates. Chang, Hanna, and Fan (1997) showed that the expected income growth and the probability that income would grow should be related to holding emergency funds, and that the probability of holding enough emergency funds was negatively related to expected income growth. Therefore, households that expected income to grow might rationally decide to rely on credit for emergencies rather than building an emergency fund. Hanna and Rha (2000) presented an expected utility analysis of the effect of children on optimal credit use. All other things being equal, a household with children would rationally use more credit in order to have higher consumption while the children were at home, compared to the future periods when the children would have left home.

Thus, from a life cycle perspective, when current period income exceeds permanent income, people are expected to save, and dissaving is expected when current period income is less than permanent income. The purpose of an emergency fund is to cover unforeseen events or emergencies that result in the current period income being insufficient to meet the current period consumption. Emergencies can result in unexpected decreases in or loss of current period income, or unexpected increases in consumption. When current period income is less than consumption, resources other than savings, such as the use of credit or borrowing against assets, may be available in

the event of an emergency and may be useful substitutes for emergency savings to cover the temporary gap (Bi & Montalto, 2004).

Empirical Studies With Attitudes Toward Credit

Durkin (2000) used interviews with nearly 500 households in the monthly Surveys of Consumers in January of 2000. Using these interviews, Durkin showed that the percent of households with positive attitudes toward credit cards increased from 28% in 1970 to 39% in 1977, then dropped to 33% in 2000, while the percent with negative attitudes went from 43% in 1970 to 27% in 1977, then increased to 51% in 2000. Durkin concluded that overall opinions about credit cards were somewhat more negative and polarized in 2000 than they were a generation before that.

Chien and DeVaney (2001) showed that households with a head who was younger, unmarried, non-White, and in a professional or managerial occupation were more likely to hold favorable attitudes toward using credit. Another study using credit attitudes as a dependent variable in a multivariate analysis was conducted by Castellani and DeVaney (2001). The sample frame for their analysis was the 1995 Survey of Consumer Finances (SCF). One question: "...People have many different reasons for borrowing money which they pay back over a period of time. Please tell me whether you feel it is all right for someone like yourself to borrow money cover living expenses when income is cut?..." was selected for study. In order to examine the relationship between the dichotomous dependent variable and the independent variables, they used a logistic regression. Logit analysis revealed that having positive attitudes toward using credit when income was cut followed patterns of age, amount of income, being a non-minority, and credit card payment history. They suggested that it might be necessary to use data on employment status to understand better which households would encounter this problem and that it would surely benefit consumers who were most in need of this help.

Empirical Studies With Credit Use

Slocum and Mathews (1970) selected 4316 card holders out of approximately 250,000 commercial bank credit card holders in a large eastern metropolitan area in a random basis and used 2032 who returned usable responses. Their study showed that upper income consumers held more favorable attitudes toward credit card than did lower income consumers. However, they concluded that social class was not the most useful market segmentation variable in the area of consumer credit card behavior.

Zhu and Meeks (1994) investigated consumer credit use of low income families selected from the 1983 and 1986 Survey of Consumer Finances. In this study, the low-income families' ability and willingness to use credit, along with selected interaction variables, were tested in a hierarchical multiple regression model. Two indicators measured the attitudes toward credit for a subject family: a general attitude variable and a specific attitude variable. Their result showed that the interaction between specific attitudes toward credit and debt balances in 1983 had significant effects on the amount of credit outstanding in 1986. Similarly, Chien and DeVaney (2001) concluded that households with favorable attitudes toward credit were more likely to have higher outstanding credit balances.

Lea, Webley, and Levine (1993) conducted a survey in a small town in England and found that debt levels were strongly associated with attitudinal factors correlated with consumer debt from three credit category groups, such as non-debtors, mild debtors, and serious debtors. King and King (2005) used a probit model to examine the effects of key variables on the probability that a household would use a debit card and developed a simple model of a consumer's choice between using credit and debit, using data from the 1998 Survey of Consumer Finances. They assumed that a generally unfavorable view of credit could be just the incentive needed to convince consumers to use debit cards. They showed that beliefs about credit were important in determining whether or not a household would choose debit over credit. Hayhoe, Leach, and Turner (1999) examined credit and money attitudes held by college students to determine how these attitudes influenced the number of credit cards students held, using survey results from 500 students randomly selected in five universities. They showed that students with four or more credit cards scored higher on affective credit attitudes.

In summary, life cycle theory and previous studies show that demographic, economic, and credit-related variables influence consumers' attitudes toward credit. However, the existing literature leaves us with no clear answer to our question of why people have positive attitudes toward credit use to cover living expenses when their income is cut.

Our Model

Because we are analyzing factors related to having a particular attitude, it is difficult to create a theoretical model based on an economic approach, since economists usually assume preferences as exogenous. We assume that the attitude toward the use of credit for living expenses if income drops is related to expected income growth, age, household composition, other provisions for emergencies, and risk tolerance. Education might have an impact both as a proxy for life cycle factors not otherwise controlled, and for differences in preferences. We are also interested in finding time trends in the credit attitude, both the actual trend and the predicted trend after adjusted for the effects of other variables. We also include some other demographic variables such as race, because differences in credit attitudes might have implications for consumer education.

Methodology

Data

The current study used four data sets from the 1995-2004 Survey of Consumer Finances (SCF), a triennial interview survey of U.S. families sponsored by the Board of Governors of the Federal Reserve System, with the cooperation of the U.S. Department of the Treasury (Bucks, Kennickell, & Moore, 2006). The SCF public-use data contains information on U.S. households and provids very comprehensive and detailed financial and demographic information that was crucial to this study. The sensitivity of information regarding financial characteristics resulted in significant amount of missing information in the sample. Missing and incomplete data were imputed, using the multiple imputation technique developed for the SCF, and 5 implicates were produced as a result (Montalto & Yuh, 1998). In this paper, the descriptive and multivariate analyses were based on averaging the implicates.

In the 2004 survey, 4,522 families were interviewed; in the 2001 survey, 4,449; in the 1998 survey, 4,305; and in the 1995 survey, 4,299 were interviewed. For our study, the entire sample of 4 data sets was used and descriptive analyses were weighted to represent the population of interest for our descriptive result. The multivariate logistic regression was not weighted, based on a note in Yao, Hanna, and Lindamood (2005).

Dependent Variable in This Study

This study seeks to account for the consumers' attitudes toward credit for loss of income through logistic regression estimation of having positive attitudes during 1995 and 2004. The dependent variable was developed from one of the questions from the 1995, 1998, 2001 and 2004 SCF. In the SCF, the question about attitudes toward using credit when income was cut was:

> *People have many different reasons for borrowing money which they pay back over a period of time. For each of the reasons I read, please tell me whether you feel it is all right for someone like yourself to borrow money to cover living expenses when income is cut?*

The possible answer for this question was 1) Yes or 2) No. The households who answered "Yes" were defined as respondents with positive attitudes toward credit and the households who answered "No" were defined as respondents with negative attitudes toward credit. The final sample contained 17,575 respondents, and they were used for the logistic regression analysis. The dependent variable "positive attitude" was coded as 1 if the respondents' answered "Yes" (when they felt it was all right for someone like themselves to borrow money to cover living expenses when their income was cut)" and as 0 if the respondents' answered "No" (Table 1).

Model and Independent Variables in This Study

We assume that the probability of being a respondent who has positive attitudes toward credit when income is cut is a function of four types of independent variables: (1) the year of the survey, (2) economic variables, (3) attitudinal variables, and (4) demographic variables through the reduced form of a logistic regression equation.

$$In\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1 \mathbf{X_1} + \beta_2 \mathbf{X_2} + \beta_3 \mathbf{X_3} + \beta_4 \mathbf{X_4} + \varepsilon$$

Where : $\mathbf{X_1}$ = The year of the survey

$\mathbf{X_2}$ = Economic variables
$\mathbf{X_3}$ = Attitudinal variables
$\mathbf{X_4}$ = Demographic variables

The year of the survey variable included dummy variables for 1995, 1998, 2001, and 2004. The demographic variables consisted of age, race, education, and marital status. Based on the life cycle theory, using categorical variables of age might represent the life cycle stages of the household. Race, education, age and marital status were coded as categorical variables.

Working status, income, consumption patterns, adequate comprehensive assets and health insurance were included as economic variables. Income was coded as a continuous variable and log of income was used. Therefore, we could assume that a 1-unit change in log of income produced the same change in the log odds of our dependent variable. Consumption patterns were coded as a categorical variable with two groups. Over-spender was coded as "1" if the reply to the following question was not "Spending was less than income": "Over the past year, would you say that your family's spending exceeded your family's income, that it was about the same as your income, or that you spent less than your income?" Adequate comprehensive assets represented whether respondents' comprehensive assets was bigger than their subjective emergency assets. Adequate comprehensive assets were coded "1" if the respondents had more comprehensive assets than their subjective emergency assets and "0" if otherwise. Comprehensive assets were calculated by summing the amount of money in savings, checking, money market deposit accounts, call accounts at brokers, CDs, total directly-held mutual funds, stocks, bonds, savings bonds, and cash value of whole life insurance. The subjective emergency assets were coded as a continuous variable using the following question: "About how much do you think you (and your family) need to have in savings for emergencies and other unexpected things that may come up?" Health insurance was coded as "1" if the answer to the following question was "Yes" : "Is everyone here covered by some type of government or private health insurance?"

The attitudinal variables included saving motive, spending pattern, expectation about future economy or future income, and risk tolerance. Saving motive was coded as a categorical variable with four groups: purchases, retirement, emergency, and other motives based on the study by Aizcorbe, Kennickell, and Moore (2003). Spending patterns were coded as a categorical variable using this question: "Over the past year, would you say that your spending exceeded your income, that it was about the same as your income, or that you spent less than your income". Expectation about future economy measured how respondents expected the U.S. economy as a whole to perform over the next five years. Definitions and descriptions of all independent variables are provided in Table 1. The conceptual model of this study is shown in Figure 2.

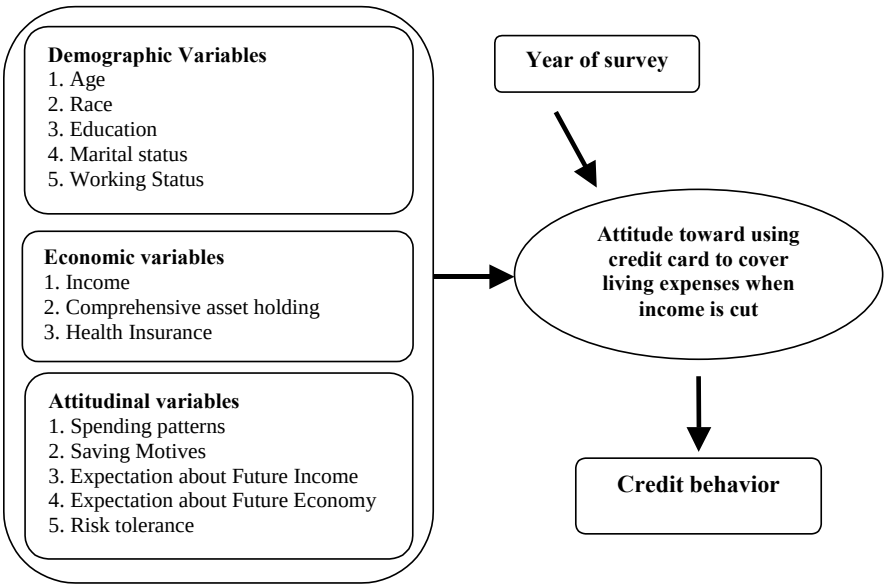
Table 1. Variable Descriptions and Coding

Dependent variables	
Positive attitude toward credit for living expenses	SCF variable X403: People have many different reasons for borrowing money which they pay back over a period of time. For each of the reasons I read, please tell me whether you feel it is all right for someone like yourself to borrow money… to cover living expenses when income is cut? 1=agree that it is all right to borrow to cover living expenses when income is cut, 0 otherwise.
Independent variables	
The year of Survey	
1995	1 if this survey was conducted in 1995, 0 otherwise.
1998	1 if this survey was conducted in 1998, 0 otherwise.
2001	1 if this survey was conducted in 2001, 0 otherwise.
2004	1 if this survey was conducted in 2004, 0 otherwise.
Demographic variables	
Age	Respondents' age (Continuous variable)
Age under 25	1 if respondents' age is <=24, 0 otherwise
Age 25-34	1 if respondents' age is 25 and 34, 0 otherwise
Age 35-44	1 if respondents' age is 35 and 44, 0 otherwise
Age 45-54	1 if respondents' age is 45 and 54, 0 otherwise
Age 55-64	1 if respondents' age is 55 and 64, 0 otherwise
Age 65+	1 if respondents' age is over 64, 0 otherwise

Race (based on SCF variable X6809 for 1998-2004, X5909 for 1995)	
White	1 if respondents describe themselves as White, 0 otherwise
Black	1 if respondents describe themselves as Black, 0 otherwise
Hispanic	1 if respondents describe themselves as Hispanic, 0 otherwise
Asian and others	1 if respondents describe themselves as Asian or other group, 0 otherwise
Marital status	
Married	1 if respondent and spouse in household, 0 otherwise
Partnered	1 if respondent currently living with a partner, 0 otherwise
Single	1 for non-couple household, 0 otherwise
Education	
Less than High School	1 if respondent's highest level of school completed is less than high school diploma or GED, 0 otherwise
High school	1 if respondent's highest level of school completed is a high school diploma or GED 0 otherwise
Some college	1 if respondent's highest level of school is more than a high school diploma/GED, but no college degree
College degree	1 if respondent's highest level of school completed is a college degree, 0 otherwise
Economic variables	
Working status	
Self employed	1 if respondent is self employed, 0 otherwise
Salary earner	1 if respondent has a salary or wage job, 0 otherwise
Not working	1 if respondent is not retired but not otherwise employed or self-employed, 0 otherwise
Retired	1 if respondent is retired, 0 otherwise
Log of Income	Log of income
Comprehensive asset holdings	
Yes	1 if comprehensive asset including liquid asset, CDs, Mutual fund, Stocks, Bond, Saving bonds, and cash value of whole life insurance $\geq$ desired emergency funds in 2004 dollars
No	1 if comprehensive asset including liquid asset, CDs, Mutual fund, Stocks, Bond, Saving bonds, and cash value of whole life insurance < desired emergency funds in 2004 dollars
Health Insurance	
Insurance	1 if everyone is the household is covered by government or private insurance, 0 otherwise
No Insurance	1 if not everyone covered by government or private insurance, 0 otherwise
Attitudinal variables	
Saving motives	
Emergency or retirement	1 if the respondents' reason for saving is emergency or retirement, 0 otherwise
Others	1 if the respondents' reason for saving is others, 0 otherwise
Spending patterns	
Over spender	1 if respondents' spending exceeds income, 0 otherwise
Non-Over spender	1 if respondents' spending equals or less than income, 0 otherwise
Expectation about future income	
Sure grow	1 if respondent is sure that household income will grow more than prices, 0 otherwise
Sure less	1 if the respondent is sure that household income will grow less than prices, 0 otherwise
Sure same	1 if the respondent is sure that household income will grow the same as prices, 0 otherwise
Not sure	1 if the respondent is unsure which way, 0 otherwise
Expectation about future economy	
Better	1 if the respondents expect the U.S. economy as a whole to perform better, 0 otherwise
Same	1 if the respondents expect the U.S. economy as a whole to perform the same, 0 otherwise
Worse	1 if the respondents expect the U.S. economy as a whole to perform the worse, 0 otherwise

Risk Tolerance	
No risk	1 if households are not willing to take any financial risk, 0 otherwise
Average risk	1 if households are willing to take average financial risks, 0 otherwise
Above risk	1 if households are willing to take above average financial risks, 0 otherwise
Substantial risk	1 if households are willing to take substantial financial risks, 0 otherwise

Figure 2. Conceptual model used in this study



Analysis

In order to examine the dichotomous dependent variable and independent variables using micro data, a logistic regression analysis was applied in this study. To understand what influences consumers' attitudes toward credit when income is cut, it might seem plausible to include variables relating to credit card usage such as the kind of credit card used, experiences with credit cards, the outstanding balances and credit terms in the research model. For example, Durkin (2000) showed consumers' opinions about credit cards also varied depending on their use of and experience with credit cards. Less enthusiastic viewpoints were somewhat more common among those who used credit cards as credit devices rather than primarily as substitutes for cash or checks. Credit cards were also viewed less positively by those who had three or more cards, or had an outstanding balance between cards. However, significant correlations could exist among the unobserved factors contributing to both the endogenous independent variable and the dependent variable, resulting in biased estimators, because of possible endogeneity. Chien and DeVaney (2001) showed the effect of credit attitudes on credit behavior, so use of credit behavior variables as independent variables to explain credit attitudes may be problematic. In addition, the correlation between the independent variables can create significant multicollinearity.

In this study, in order to overcome these potential problems, we omitted these questionable variables in our model. The effects of the other variables in our multivariate analyses are approximately the same when we left out the credit-related variables. Therefore, apparently endogeneity was not a serious problem. In order to investigate consumers' attitudes toward credit use during income loss, a multivariate logit was run to find what variables were related to having positive attitudes toward credit use. The Repeated-Imputation Inference technique (Montalto & Yuh, 1998) was used to combined the five implicates.

Results

Descriptive Analysis

Table 2 shows percent with positive and negative views about use of credit if income drops, by various demographic, attitudinal, and economic characteristics. Overall, 46% of the respondents in the combined samples had positive attitudes. Credit attitudes varied by respondents' economic, attitudinal, demographic characteristics and the year of survey. Positive attitudes toward credit for loss of income decreased from 1995 to 1998, sharply increased from 1998 to 2001, and then remain about the same in 2004 (Figure 3). Those who had positive attitudes toward credit for loss of income were relatively young, over-spenders, had lower income, and were not working. Figure 4 shows the pattern by age of the respondent, with a steady decrease in the percent with positive attitudes from the under 25 category to age 55 to 64, then about the same level for those over 64. Those who had comprehensive assets greater than their subjective assessment of emergency funds needs, households with everyone covered by health insurance, and those who were that their income would stay the same or decrease were less likely that those in corresponding groups to have a positive attitude.

Table 2. Selected Descriptive Statistics of Attitude Toward Using Credit for Loss of Income

	Use of Credit for Living expenses	
	Positive attitude	Negative attitude
The Year of Survey		
1995	46.36%	53.64%
1998	42.77%	57.23%
2001	47.59%	52.41%
2004	47.21%	52.79%
comprehensive assets> subjective emergency fund level		
Yes	42.61%	50.47%
No	57.39%	49.53%
Consumption pattern		
Over spender	57.06%	42.94%
Non-over spender	43.52%	56.48%
Saving motives		
Retirement	42.10%	57.90%
Other motives	48.75%	51.25%
Health Insurance		
Insurance	43.67%	56.33%
No Insurance	52.78%	47.22%
Expectation about economy		
Better	48.35%	51.65%
Same		54.51%
Worse	44.02%	55.98%
Expectation about income	45.49%	
Sure same	42.82%	57.18%
Sure grow	48.19%	51.81%
Sure less	42.01%	57.99%
Not sure	57.99%	49.05%
Risk tolerance		
No risk	45.14%	54.86%
Average risk	46.10%	53.90%
Above risk	47.21%	52.79%
Substantial risk	49.21%	50.79%
Income (Mean)	$61,373	$68,699
Income (Median)	$37,829	$42,323
Income 1st quartile	49.74%	50.26%
Income 2nd quartile	47.06%	52.94%
Income 3rd quartile	44.76%	55.24%
Income 4th quartile	42.49%	57.51%
Net worth (Mean)	$297,432	$425,391

	Use of Credit for Living expenses	
	Positive attitude	Negative attitude
Net worth (Median)	$57,473	$107,750
Net worth 1st quartile	53.71%	46.29
Net worth 2nd quartile	45.85%	54.15
Net worth 3rd quartile	40.83%	59.17%
Net worth 4th quartile	38.36%	61.64%
Age (Mean)	44 years	51 years
Age < 25	68.23%	31.77%
25-34	56.17%	43.83%
35-44	50.49%	49.51%
45-54	44.35%	55.65%
55-64	36.41%	63.59%
65+	33.00%	67.00%
Race		
White	44.20%	55.80%
Black	52.20%	47.80%
Hispanic	51.33%	48.67%
Asian and others	51.50%	48.50%
Education		
Less than High	44.80%	55.20%
High school	45.99%	54.01%
Some college	48.19%	51.81%
Bachelor's degree	45.41%	54.59%
Marital status		
Married couple	43.07%	56.93%
Partner couple	55.05%	44.95%
Non-couple household	48.12%	51.88%
Working status of respondent		
Self employed	46.21%	53.79%
Salary earner	48.48%	51.52%
Not working	51.69%	48.31%
Retired	32.54%	67.46%
Total percentage	46.01%	53.99%
Overall Sample	8,081	9,483

Weighted analysis by authors of combined 1995, 1998, 2001, and 2004 Surveys of Consumer Finances, using all five implicates in each survey year.

Logistic Regression Analysis

Time Trends. Table 3 presents the result of the logistic analysis of the probability of having positive attitudes toward credit for loss of income. Figure 3 shows the actual and predicted probabilities of having a positive attitude toward credit for the four survey years. Respondents in 1995 and 1998 were significantly less likely to have positive attitudes toward credit than otherwise similar respondents in 2001. For sets of dummy variables, such as survey year, the significance tests in Table 3 only indicate whether an effect is different from the reference category. Based on separate tests, we found that respondents in 1995 were significantly more likely to have a positive attitude than those in 1998.

Demographic and Economic Variables. The predicted probability of having a positive attitude decreases with age, from 65% for those under age 25 to 37% for those age 55 to 64 and 35% for those over 64 (Figure 4). As income increased the probability of having a positive attitude decreased. Respondents' working status was a significant determinant of the likelihood of having positive attitudes. Specifically, a salary earner was less likely to have positive attitudes toward credit to cover living expenses. When controlling other variables, partnered-couple households and non-couple households were more likely to have a positive attitude than the reference category, married households. Black respondents and Asian/other respondents were more likely to have positive attitudes than

otherwise similar White respondents. However, the level of education was not significantly related to the probability of having positive attitudes toward using credit to cover living expenses.

When controlling all other variables, whether everyone in the household was covered by government or private insurance did not make any significant difference. Also, holding more comprehensive assets than their subjective emergency fund assets was a significant factor in explaining respondents' attitudes.

Attitudinal Variables. Those who were not sure that their income would increase more than prices were more likely to have positive attitudes than those who were sure that their income would increase the same as prices. After rerunning the logistic regression with different reference categories, we found that there was no difference between those who expected the sure increase in income and those who expected the sure decrease in income. Also, those who were pessimistic about the future economy were less likely to have positive attitudes than the reference category. Respondents whose spending exceeded their family's income were more likely to have positive attitudes toward credit compared with those whose spending was about the same as (or less than) their income. The amount of financial risk that they were willing to take when saving or making investments and the reasons respondents save turned out to be insignificant.

Conclusion and Implications

Using four SCF datasets (1995-2004), this study identified factors related to having positive attitudes toward credit to cover living expenses when income was cut. An attitude is not fleeting, and may persist over time. An attitude is general in that it summarizes consumers' evaluation over a wide range of situations. Also, attitudes help consumers to make many kinds of choices. (Arnould, Price, & Zinkhan, 2002). In this sense, we can assume that respondents' attitudes toward credit to cover living expenses lasts over time and it helps them to make many kinds of financial choices in the households.

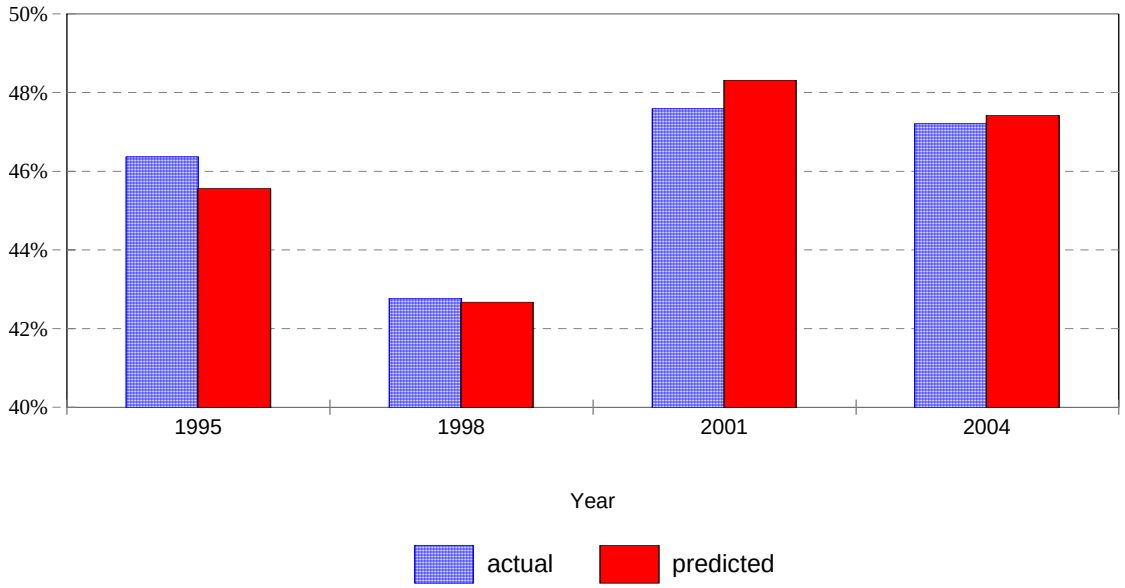
The year of survey was included as an environmental variable, and it was a significant factor to explain respondents' attitudes. We concluded that opinions about credit for living expenses were somewhat more negative and polarized in 1998 than they were in any other year surveyed. As Figure 1 shows, the number of bankruptcy filings did not consistently increase, but the overall trend was increasing, and there was a large increase in 2005 as consumers tried to file before the new federal bankruptcy law was implemented (American Bankruptcy Institute, 2006). Interestingly, 1997 was the beginning of the "modern" era of consistently high non-business bankruptcy filings, as it was the first year of more than a million non-business bankruptcy filings, up over 25% from the prior year's previous high of 989,172 (Tabb, 2006). However, even though it seemed plausible that there would be a relationship between filings for bankruptcy and consumer attitudes toward credit, our analyses do not show a consistent pattern. As Figure 3 shows, the lowest actual and predicted rate of positive attitudes toward use of credit if income dropped is 1998, which was the highest rate of personal bankruptcies in the 1990s (Figure 1). Attitudes became more positive by 2001, and bankruptcy rates increased also, though macroeconomic conditions and discussion of congressional action might have prompted some of the increases in bankruptcy filings. It is possible that experiences with bankruptcy might have eventually changed some consumer attitudes, and future research should explore that possibility.

Table 3. Logistic Result of the Likelihood of having Positive Attitude Toward Credit If Income Is Cut

	Attitude toward Credit for Living expenses		
	Coefficient	P-value	Odds ratio
The Year of Survey (reference category : Year 2001)			
1995	-0.1311	0.0033	0.877
1998	-0.2244	0.0004	0.799
2004	-0.0367	0.4416	0.964
comprehensive assets> subjective emergency fund level (reference category : No)			
Yes	-0.0872	0.2029	0.917
Consumption pattern (reference category : Non-over spender)			
Over spender	0.4337	<.0001	1.543
Saving motives (reference category : Do not have retirement as saving goal)			
Retirement	-0.1579	<.0001	0.854
Health Insurance (reference category : Not everyone covered)			
Insurance	0.5489	0.7595	0.974
Expectation about economy (reference category : Same)			
Better	0.0315	0.7806	1.032
Worse	-0.1402	0.0004	0.869
Expectation about income (reference category : Same)			
Sure grow	-0.0252	0.7809	0.975
Sure less	-0.0019	0.5070	0.998
Not sure	0.0925	0.0024	1.097
Risk tolerance (reference category : No risk)			
Average risk	0.0466	0.2922	1.048
Above risk	0.0237	0.5682	1.024
Substantial risk	-0.0171	0.8790	0.983
Log of income	-0.0238	0.1626	0.976
Age	-3.8454	<.0001	0.021
Square of Age	1.5516	0.0003	4.719
Race (reference category : White)			
Black	0.0897	0.0666	1.094
Hispanic	-0.0299	0.8807	0.971
Asian and others	0.1659	0.4331	1.180
Education (reference category : Less than High)			
High school	-0.0261	0.3234	0.974
Some college	0.0174	0.8128	1.018
Bachelor's degree	0.0436	0.7654	1.045
Marital status (reference category : Married couple household)			
Partner couple household	0.1530	0.0136	1.165
Non-couple household	0.1442	<.0001	1.155
Working status (reference category : Not working)			
salary earner	-0.1495	0.0015	0.861
self employed	-0.1604	0.7850	0.852
Retired	-0.0519	0.0060	0.949
Intercept	1.6807	<.0001	

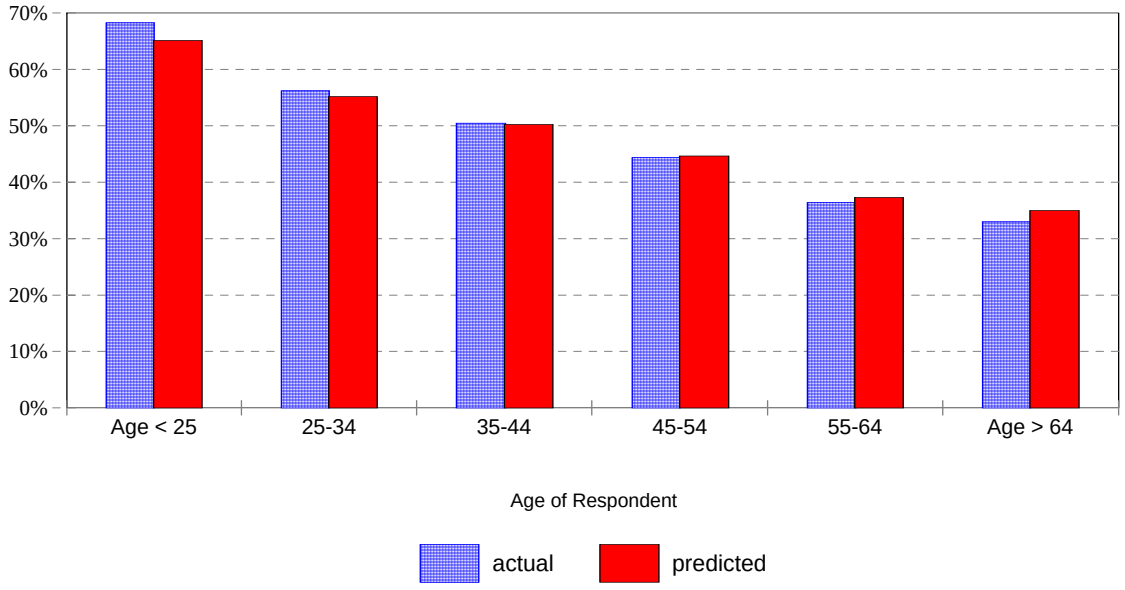
Source : Analysis of combined sample of the 1995, 1998, 2001, 2004 Surveys of Consumer Finances datasets, unweighted analyses. The Repeated-Imputation Inference technique was used to combined the five implicates in each survey year.

Figure 3.
Predicted and Actual Proportion of Households with Positive Attitude Toward Use of Credit for Living Expenses if Income Drops, by Survey Year, 1995-2004.



Based on calculations by authors using 1995-2004 Survey of Consumer Finances. Actual percentages based on weighted analyses shown in Table 2. Predicted percentages based on the logit results shown in Table 3, at overall sample mean values of variables other than year, and adjusted so that the predicted probability at the mean value of all variables equals the sample mean rate of having a positive attitude toward use of credit for living expenses if income dropped.

Figure 4.
Predicted and Actual Proportion of Households with Positive Attitude Toward Use of Credit for Living Expenses if Income Drops, by Respondent Age, 1995-2004.



Based on calculations by authors using 1995-2004 Survey of Consumer Finances. Actual percentages based on weighted analyses shown in Table 2. Predicted percentages based on the logit results shown in Table 3, at overall sample mean values of variables other than respondent age, and adjusted so that the predicted probability at the mean value of all variables equals the sample mean rate of having a positive attitude toward use of credit for living expenses if income dropped.

Under the life cycle theory, the conceptual framework of this study was somewhat supported. The effect of age on attitude toward credit use was reasonably related to what would be optimal from a life cycle savings perspective. The negative effect of current income was also reasonable, as a household with high current income should be less likely to use credit than an otherwise similar household with low current income. Castellani and DeVaney (2001) found a similar effect of income.

The effects of holding comprehensive assets and spending patterns are important factors in explaining the dependent variable. Respondents having more comprehensive assets than their subjective assessment of the need for emergency funds were less likely to have positive attitudes than those who did not have as much comprehensive assets as they felt they needed. Those who spent more than their income were more likely to have positive attitudes toward credit use. The finding that those who are not employed have more positive attitudes toward credit use than salary earners, self employed and the retired makes sense because non-working households might expect income to eventually increase substantially. The result that those who have retirement as a savings motive are more likely than respondents in otherwise similar households without a retirement savings motive to have a positive credit attitude might be related to the idea that if income dropped, rather than relaying on financial assets, credit use might be acceptable, thus preserving financial assets for retirement. The lack of significant effects for risk tolerance, education, and having health insurance is somewhat difficult to understand, although it seems plausible that the relationship of these variables to other variables in the logistic regression might have masked the true relationships.

The results of this study should help financial educators and counselors better understand consumers' attitudes toward credit usage for loss of income. This leads to a possible intervening counseling and education strategy for use by financial educators and financial counselors. Specifically, those who have excessively favorable attitudes toward borrowing for living expenses when income is cut become a special target group for counseling and education. Their positive attitudes might be related to consumers' demographic characteristics such as age or marital status, but also to their consumption patterns, saving motives, and expectations about the future economy. Consumers should be presented with the necessary knowledge and information to be more responsible for their behaviors concerning credit card usage. Therefore, educators should emphasize budgeting, developing an appropriate spending pattern, and setting a saving motive for managing future expenses to help consumers manage their unforeseen financial difficulties. Consumers should clearly understand the consequences of relying on credit for loss of income and filing for bankruptcies. Financial counselors may start by evaluating the spending practices of clients and then try to help their clients stick to realistic consumption patterns and preparations for possible financial hardships.

References

Aizcorbe, A. M., Kennickell, A. B., & Moore, K. B. (2003). Recent Changes in U.S. Family Finances: Evidence from the 1998 and 2001 Survey of Consumer Finances. Federal Reserve Bulletin, 89(1), 1-32.

Arnould, E., Price, L., & Zinkhan, G. (2002). Consumers. New York. McGraw Hill Higher Education.

Athreya, K. (2004). Shame As It Ever Was: Stigma and Personal Bankruptcy. Economic Quarterly, 90(2), 1-19.

Bi, L., & Montalto, C. P. (2004). Emergency funds and alternative forms of saving. Financial Services Review, 13(2), 93-109.

Black, S.E., & Morgan, D.P.(1999).Current issues in economics and finance. Meet the New Borrowers. Federal Reserve Bank of New York, 5(3).

Board of Government of the Federal Reserve System (2006). Report to the Congress on Practices of the Consumer Credit Industry in Soliciting and Extending Credit and their Effects on Consumer Debt and Insolvency. June, 2006. from http://www.federalreserve.gov/boarddocs/rptcongress/bankruptcy/bankruptcybillstudy200606.pdf.

Buckley, F. H., & Brinig, M. F. (1998). The bankruptcy puzzle. Journal of Legal Studies, 27(1), 187-207.

Bucks, B. K., Kennickell, A. B., & Moore, K. B. (2006). Recent changes in U.S. family finances: Evidence from the 2001 and 2004 Survey of Consumer Finances. Federal Reserve Bulletin, 92, 1-38.

Canner, G. B., Kennickell, A. B., & Luckett, C. A. (1995). Household sector borrowing and the burden of debt. Federal Reserve Bulletin, 81, 4, 323-338.

Cardweb.com. (2005). Carded Americans. Retrieved October 20, 2005, from www.cardweb.com/cardtrak/news/2005/octoer/20a.html.

Castellani, G., & DeVaney, S. A. (2001). Using credit to cover living expenses : A profile of a potentially risky behavior. Family Economics and Nutrition Review, 13(2), 12-20.

Chang,Y. R., Hanna, S., & Fan, X. J. (1997). Emergency fund levels: Is household behavior rational? Financial Counseling and Planning, 8(1), 47-55.

Chien, Y.W., & DeVaney, S. A. (2001). The effects of credit attitude and socioeconomic factors on credit card and installment debt. The Journal of Consumer Affairs, 35(1), 162-179.

Draut, T., & Silva, J. (2003). Borrowing to make ends meet. De–mos: A Network for Ideas and Action. from www.demos.org/pubs/borrowing_to_make_ ends_meet.

Durkin, T. A. (2000). Credit Cards : Use and Consumer Attitudes, 1970-2000. Federal Reserve Bulletin, September, 1-12.

Fan, X.J., Chang, Y.R., & Hanna, S. (1993). Real income growth and optimal credit use. Financial Services Review, 3(1), 45-58.

Federal Reserve Statistical Release. (2006). Consumer credit. Retrieved November, 7, 2006 from http://www.federalreserve.gov/releases/g19/Current/

Greninger, S. A., Hampton, V. L., Kitt, K. K., & Achacoso, J. A. (1996). Ratios and benchmarks for measuring the financial well-being of families and individuals. Financial Services Review, 5(1), 57-70.

Hanna, S., & Rha, J.Y. (2000). The effect of household size changes on credit use: An expected utility approach. Consumer Interests Annual, 46, 121-126.

Hatcher, C. B. (2000). Should households establish emergency funds? Financial Counseling and Planning, 11(2), 77-83.

Hayhoe, C., Leach, L., & Turner, P. (1999). Discriminating the number of credit cards held by college students using credit and money attitudes. Journal of Economic Psychology, 20, 643-656.

Kennickell, A. B. (1998). Multiple imputation in the Survey of Consumer Finances. The Federal Reserve Board. from http://www.federalreserve.gov/PUBS/oss/oss2/papers/impute98.pdf

Johnson, K.W. (2005). Recent developments in the credit card market and the financial obligations ratio, Federal Reserve Bulletin, Autumn 2005, 473-486.

King, A. D., & King, J. T. (2005). The decision between debit and credit: finance charges, float, and fear. Financial Services Review,14 (1), 21-36.

Lea, S., Webley, P., & Levine, R.(1993). The economic psychology of consumer debt: Money management, economic socialization, and credit use. Journal of Economic Psychology, 14, 85-119.

Luckett, C. A., & August, J. D. (1985). The growth of consumer debt. Federal Reserve Bulletin, 71, 6, 389-402.

Marcuss, M. (2004). A look at household bankruptcies. Communities & Banking, Federal Reserve Bank of Boston. Spring, 15-20.

Modigliani, F. (1986). Life cycle, individual thrift, and the wealth of nations. American Economic Review, 76, 297-313.

Montalto, C. P. & Yuh, Y. (1998). Estimating nonlinear models with multiply imputed data. Financial Counseling and Planning, 9(1), 97-101.

Woods, B., & Weiss, J. A. (1999). Buying charity care without property tax expenditures. Journal of Policy Analysis & Management, 18(1), 120-125.

Punch, L. (2002). Shape up, Issuers. Credit Card Management, 15(1), 42-48.

Slocum Jr., J. W., & Mathews, H. L. (1970). Social class and income as indicators of consumer credit behavior. Journal of Marketing, 34 (2), 69-74.

Tabb, C. J. (2006). Consumer bankruptcy filings: Trends and indicators. Illinois Law and Economics Working Papers Series Working Paper No. LE06-023.

Yao, R., Hanna, S. D., & Lindamood, S. (2004). Changes in financial risk tolerance, 1983-2001. Financial Services Review, 13 (4), 249-266.

Yieh, K. (1996). Who has a negative attitude toward installment debt in the U.S.? Consumer Interests Annual, Issue 42.

Zhu, L.Y., & Meeks, C. B. (1994). Effects of low income families' ability and willingness to use consumer credit on subsequent outstanding credit balances. The Journal of Consumer Affairs, 28(2), 403-422.

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