Examining a Model of Economic Well-being Based on Financial Ratios

The purpose of this study was to examine a model of economic well-being based on the debt-to-income and debt-to-assets ratios. It was proposed that socioeconomic, attitudinal, and behavioral factors would affect whether households had satisfactory values for the debt-to-income and debt-to-assets ratios. The results of logistic regression with 4,519 households in the 2004 Survey of Consumer Finances showed that single female households were more likely than couples to have satisfactory debt/income (D/I) ratio values but less likely than couples to have satisfactory debt/asset (D/A) ratio values. There was no difference between single male households and couple households for either ratio.

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Introduction

The term well-being has been used interchangeably with happiness or having a worthwhile life (Diener, 1984). A key component of overall well-being is economic well-being or access to economic resources (Osberg & Sharpe, 2002). There are many indicators of economic well-being. For example, Osberg and Sharpe used consumption flows, accumulation of stocks, economic security, and income distribution to measure economic well-being. Zedlewski (2000) criticized the measurement of family's economic well-being and suggested that employment, poverty, food affordability, and housing affordability should be included when discussing well-being. Nevertheless, the most frequently used financial indicators of economic well-being are households' income, assets, and debt.

Income is usually the primary indicator of economic well-being; it also has a relationship with psychological well-being (Campbell, 1976). However, income by itself is not an adequate measure of well-being because it might not fully represent all of the components of economic resources (Mullis, 1992). Assets are more comprehensive than income which means that they, too, should be a good indicator of well-being. It is also important to consider the level of debt that a household has because this can indicate whether it is at risk of overspending. To integrate these indicators (income, assets, and debt), financial ratios are commonly used.

A financial ratio is an index that can be used to measure current financial strength as well as progress over time (Winger & Frasca, 2000). For example, the debt-to-assets ratio can be used to assess household solvency and also the ability to pay debts. For instance, Zhang and DeVaney (1999) found that households having a higher debt-to-assets ratio were more likely to have debt payment difficulties.

Another perspective on economic well-being is to include the composition of the household. Does the household consist of a couple or a single individual? Additional insight could be obtained by considering whether the single individual is a man or a woman. Previous research supports this conceptual model of considering the composition of the household.

Sunden and Surette (1998) concluded that gender and marital status significantly affected an individual's preference in allocating assets. Smyth and Weston (2000) found that women and children were more likely than men to experience financial hardship after divorce. Sobieszczyk, Knodel and Chayovan (2003) showed that marital status often mediates gender differences in well-being among older people.

Therefore, the purpose of this study is to examine a model of economic well-being. The study will differ from previous research on economic well-being because it will use two financial ratios to evaluate economic well-being. In addition, the study will consider if economic well-being is different for couples and single male or single female households. The results should contribute to an increased understanding of economic well-being by educators, researchers, and policy makers.

Review of Literature

The Use of Financial Ratios

Financial ratios have been used as guidelines in personal financial planning and to predict household insolvency (Baek & DeVaney, 2004; DeVaney, 2000; Garman & Forgue, 1994). In this study, two ratios, debt-to-income and debt-to-assets, will be used to examine economic well-being. The debt-to-income ratio reveals the proportion of gross income used to repay consumer debt. Home mortgage debt is usually excluded from consumer debt because a mortgage is perceived as an investment which is in contrast to most consumer goods (DeVaney, 2000). The debt-to-income ratio represents how much debt a household can safely manage in relationship to the amount of income (Sullivan, Warren & Westbrook, 2000). Most experts recommend debt-to-income ratios of less than 15 percent (DeVaney, 2000; Garman & Forgue, 2006).

The debt-to-assets ratio assesses households' solvency and ability to pay their debts. Many studies have used debt-to-assets ratios to measure financial wellness (Baeck & DeVaney, 2003; Baek & DeVaney, 2004) If total debts exceed total assets, the household is technically insolvent. An excessive use of debt might result in bankruptcy. Thus, the smaller the debt-to-assets ratio, the better. In general, a debt-to-assets ratio below 0.5 is recommended (Winger & Frasca, 2000). This ratio value means that debts should be less than one half the value of assets. In this study, a satisfactory level of debt-to-income and debt-to-assets will be defined as D/I ratio value less than 0.15 and D/A ratio value less than 0.5 (DeVaney, 2000; Winger and Frasca, 2000).

Marital Status, Gender and Household Size

Previous research has shown the effect of marital status, gender, and household size on economic well-being. Browning and Lusardi (1996) showed that marital status and household size influenced the household's consumption and savings behavior. DeVaney, Chiremba, and Vincent (2004) found that housing cost burden was greater for single women compared to couples. Lyons and Yilmazer (2004) showed that women who were married to less educated and older men were less likely to take risk with their investments. Titus, Fanslow, and Hira (1989) found that household size was negatively related to net worth. Godwin (1998) showed that household size was positively related to the amount of debt. Based on the previous studies, the following hypotheses were proposed.

H1a: Compared to couples, single women and single men will be less likely to have satisfactory D/I ratio values.

H1b: Compared to couples, single women and single men will be less likely to have satisfactory D/A ratio values.

H2a: Compared to households without children, those households who have dependent children will be less likely to have satisfactory D/I ratio values.

H2b: Compared to households without children, those households who have dependent children will be less likely to have satisfactory D/A ratio values.

Age

Age is an indicator of future earning potential as the slope of the age-earnings profile changes over the average person's working life (Munnell, Tootell, Browne, & McEneaney, 1996). Titus et al. (1989) showed that age and income were positively related to net worth. Household headed by individuals who were younger, unmarried, and with more children were more likely to have difficulty in repaying debt on time (Zhang & DeVaney, 1999). Therefore, the relationship between age and debt-to-income and debt-to-assets was proposed as follows:

H3a: As age of the household head increases, the household will be more likely to have satisfactory D/I ratio values.

H3b: As age of the household head increases, the household will be more likely to have satisfactory D/A ratio values.

Human Capital

Measures of human capital such as education level and employment are important predictors of savings and debt (Baek & DeVaney, 2004; Godwin, 1998). Education level is usually positively related to economic well-being. Education level and marital status were shown to have a positive relationship with income stability (Sullivan & Fisher, 1998). Those who have more education are more likely to take risk when making investments and this is expected to increase economic well-being (Chang, DeVaney, & Chiremba, 2004; Chen & DeVaney, 2002; Grable & Lytton, 1998). Thus, the following hypotheses were proposed.

H4a: Household heads with more education will be more likely to have satisfactory D/I ratio values compared to heads with less education.

H4b: Household heads with more education will be more likely to have satisfactory D/A ratio values compared to heads with less education.

Baek and DeVaney (2004) found that household heads who were employed were more financially well off compared to household heads who were not currently employed. Thus, the following hypotheses were proposed.

H5a: Compared to retirees and others who are not working, full-time workers will be more likely to have satisfactory D/I ratio values.

H5b: Compared to retirees and others who are not working, full-time workers will be more likely to have satisfactory D/A ratio values.

Attitude

Many researchers have found a relationship between increased tolerance for financial risk and economic well-being (Baek & DeVaney, 2004; Bajtelsmit, Bernasek, & Jianakoplos, 1999; Lyons & Yilmazer, 2004). Women exhibited greater relative risk aversion in their allocation of their defined contribution pension assets (Bajtelsmit et al. 1999). The degree to which a participant was risk averse had a negative impact on the asset allocation in their defined contribution plans (Lyons & Yilmazer, 2004). Chen and DeVaney (2002) showed that the relationship between risk tolerance and net worth was positive. Based on previous studies, the following hypotheses were proposed.

H6a: Household heads with more tolerance for risk will be more likely to have satisfactory D/I ratio values compared to those with no tolerance for risk.

H6b: Household heads with more tolerance for risk will be more likely to have satisfactory D/A ratio values compared to those with no tolerance for risk.

In previous research, attitude toward credit use was related to economic well-being**.** Canner and Cyrnak (1985) found that households who had more resources borrowed more money. Steidle (1994) found a significant relationship between having a positive attitude toward credit and use of credit. Thus, the following hypotheses were proposed.

H7a: Household heads with a favorable attitude toward credit use will be less likely to have satisfactory D/I ratio values compared to those with an unfavorable attitude toward credit use.

H7b: Household heads with a favorable attitude toward credit use will be less likely to have satisfactory D/A ratio values compared to those with unfavorable attitude toward credit use.

Chien and DeVaney (2001) developed an index to measure the attitude toward five specific uses of credit (for a vacation, a luxury item, a car, education, or when income is cut). They found a positive relationship between the index and outstanding credit card balances. Thus, the following hypotheses were proposed.

H8a: As the index for specific uses of credit increases, households will be less likely to have satisfactory D/I ratio values.

H8b: As the index for specific uses of credit increases, households will be less likely to have satisfactory D/A ratio values.

Length of the planning horizon for saving and investing is likely to be related to economic well-being. Godwin (1998) showed that a household's level of debt was positively related with their time preference. Households who preferred to use money in the present were more likely to borrow money. Based on previous studies, the following hypotheses were proposed.

H9a: Households who have a longer planning horizon for saving and investing will be more likely to have satisfactory D/I ratio values compared to those with a short planning horizon.

H9b: Households who have a longer planning horizon for saving and investing will be more likely to have satisfactory D/A ratio values compared to those with a short planning horizon

Behavior

The level of debt and repayment of debt are also likely to influence economic well-being. There are two types of debt, secured and unsecured debt. Commonly accepted examples of secured and unsecured debt are equity in a home and outstanding credit card balances, respectively. Although home equity is one of the largest components of household wealth in the US (Bucks, Kennickell & Moore, 2006), single individuals and single parents were less likely to have an affordable housing cost burden than couples (DeVaney et al. 2004).

Credit card revolvers who missed payments or paid their balances behind schedule were more likely to have a larger balance than those who paid on time (Kim & DeVaney, 2001). If the household spends more than income, it is probably an indicator that the household is in financial difficulty. Bae, Hanna, and Lindamood (1997) found that over-spenders were more likely to have low income. Based on previous research, the following hypotheses were proposed.

H10a: Compared to households who spend more than income, those who spend equal to or less than income will be more likely to have satisfactory D/I ratio values.

H10b: Compared to households who spend more than income, those who spend equal to or less than income will be more likely to have satisfactory D/A ratio values.
H11a: Compared to those who pay their outstanding credit card balance on time, those who sometimes or hardly ever pay off the balance will be less likely to have satisfactory D/I ratio values.
H11b: Compared to those who pay their outstanding credit card balance on time, those who sometimes or hardly ever pay off the balance will be less likely to have satisfactory D/A ratio values.

Methodology

Data and Sample

The data were drawn from the 2004 Survey of Consumer Finances (SCF).The SCF is sponsored by the Board of Governors of the Federal Reserve System in cooperation with the Statistics of Income Division of the Internal Revenue Service (Kennickell, 2006). Data for the 2004 SCF were collected by the National Organization for Research (NORC) at the University of Chicago.

The sample included all 4,519 households in the 2004 SCF. The data represent the financial characteristics of the PEU, the primary economic unit. The PEU is the economically dominant single individual or couple in a household and all other individuals in the household who are financially dependent on that individual or couple. Married household heads and those who lived with partners were categorized as couples. Separated, widowed, divorced, or never married household heads were categorized as singles. Single households were further categorized as single women and single men. The first implicate of the data set was used for the analysis.

Dependent Variables. Debt-to-income (D/I) and debt-to-assets (D/A) ratios were used to measure economic well-being. D/I was measured as consumer debt divided by annual household gross income. Consumer debt consisted of credit card debt, installment loans, and other debts (loans vs. pensions, loans versus life insurance, margin loans, and miscellaneous). Consumer debt did not include mortgage debt and home equity loans because a home mortgage is considered as an investment and home equity loans could be used to pay several types of debts such as an education, car, vacation or other debt (DeVaney, 2000). Consumer debt was total debt minus mortgage debt and home equity loans. Income was annual household income from all sources. If the debt-to-income ratio value was less than 0.15, it was coded as 1 which represented a satisfactory D/I ratio value. If otherwise, the value was 0.

D/A was measured as total debt divided by total assets. Total assets was the sum of non-financial assets and financial assets. Financial assets included transaction accounts, certificates of deposit, mutual funds, stocks, bonds, cash value of whole life insurance, other managed assets, and other financial assets. Non-financial assets included vehicles, primary residence, real estate, business interests, and other non-financial assets. If the debt-to-assets ratio value was less than 0.5, it was coded as 1 which represented a satisfactory D/A ratio value. If otherwise, the value was 0.

Because the dependent variables were dichotomous, logistic regression was used for the analysis. Chi-square tests and ANOVA were used to examine the relationships between categorical and continuous variables, respectively.

Independent Variables. Socioeconomic, attitudinal, and behavior variables were examined. The variables included marital status and gender of the head, age of the head, education of the head, presence of dependent children, employment, risk tolerance, attitude toward credit use, length of the planning horizon, savings behavior, and credit card payment behavior.

Age was a continuous variable. Presence of dependent children was defined as households with dependent children less than 18 years old living in the primary economic unit. Education level was coded as 12 years or less, some college, and college degree or advanced. Employment was coded as full-time, part time, and other which included retirees and those who were not employed

Risk tolerance was measured by this question, Which of the following statements comes closest to describing the amount of financial risk that you are willing to take when you save or make investments? The risk tolerance level was coded as above average risk tolerance, average risk tolerance, and no risk tolerance.

General attitude toward credit use was measured by this question, In general, do you think it is a good idea or a bad idea for people to buy things on the installment plan? The responses were coded as good idea, neutral, or bad idea. Specific attitude toward credit use was measured by the question whether it was all right for someone to

borrow money to cover the expenses of a vacation trip, to cover living expenses when income is cut, to finance the purchase of a fur coat or jewelry, to finance the purchase of a car, and to finance educational expenses. The responses were summed to form an index.

Planning horizon was measured by the question, In planning your family's saving and spending, which of the following time periods is most important to you? The possible responses were: the next few months, next year, next few years, next 5-10 years, and longer than 10 years. If a respondent answered yes for each question, then it was coded 1; otherwise it was coded as 0.

Spending behavior was measured by the question, Over the past year, would you say that your spending exceeded your family's income, that it was about the same as your income, or that you spent less than your income? Each response was coded as 1 for yes and 0 otherwise.

Credit card payment behavior was measured by the question, Thinking only about Visa, MasterCard, Discover, American Express cards you can pay off over time, and store cards, do you almost always, sometimes, or hardly ever pay off the total balance owed on the account each month? The response was coded as 1 for yes and 0 otherwise.

Results

Descriptive Statistics

The characteristics of the households are shown in Table 2. Fifty-eight percent of the households were couples, 15% were single men, and 27% were single women. The average age of the household head was 50. Forty five percent of households had 12 years or less education and 23% had some college education, and 32% had a college degree or advanced education. Forty-four percent had dependent children.

Sixty-three percent of heads worked full-time, and 28% of household heads did not work for pay. Over 40% of household heads had no tolerance for risk while 20% of heads had above average risk tolerance. The average income of all households was $68,489, average debt was $78,331, and average assets were $517,427.

Thirty-one percent of households had a positive attitude toward credit use while 32% of them had a negative attitude, and 37% were neutral. When the response to the five questions about using credit was summed, it was learned that the average was 2.3. Nineteen percent of the sample said their planning horizon was only a few months or less than a year; 14% said the next year; 28% said next few years; 26% said five to ten years; and 13% said longer than ten years.

Nineteen percent of households spent more than income, while 39% spent equal to income, and 42% spent less than income. Forty-one percent almost always paid off their credit card balances, 15% sometimes paid off their balances, 18% hardly ever paid off their balances, and 26% didn't have any credit cards. Among the households, 58% had a value below 0.15 for the debt-to-income ratio and 72% had a value below 0.5 of the debt-to-assets ratio.

Chi Square Results

Chi-square tests were used to examine the relationship between categorical variables and the three types of households. The results of chi-square analyses are shown in Table 3. The heads of couple households and single men had more education. Couples and single women were more likely to have dependent children than were single men. Heads of couples were more likely to work full-time. Single women had less tolerance for risk than did couples and single men. Single women had shorter planning horizons.

Couples and single men were more likely to spend less than their income than were single women. Couples were more likely to pay off their credit card balance on time. About one half of couples and two-thirds of single mean and single women had satisfactory D/I ratio values. The proportion of each group who had satisfactory values for the D/A were similar although the chi-square test suggested that values were different.

ANOVA Results

Analysis of Variance (ANOVA) was used to compare the continuous variables among the three groups. The results are presented in Table 4. Single women were older than the head of couple households and single men. The household income of couples was significantly greater than single women and single men. The average debt of couples was significantly greater than single women and single men. The average assets of couples were significantly greater than single women and single men.

The debt-to-income ratio was not significantly different among the three groups, but the debt-to-assets ratio was significantly different among the groups. Couples' debt-to-assets ratio was significantly lower than single men and single women. Single men were more favorable toward specific uses of credit compared to single women and couples.

The Results of Logistic Regression

The results of logistic regressions to predict satisfactory D/I and D/A ratio values are shown in Tables 5 and 6, respectively. Being a single woman, age, full-time work, both general and specific attitude toward credit use, time horizon, spending behavior, and credit card payment behavior were significantly related to satisfactory D/I ratio values. The determinants of satisfactory D/A ratio values were being a single woman, age, education, full-time work, risk tolerance, specific attitude toward credit use, time horizon, spending behavior, and credit card payment behavior. The results for D/I ratio values are discussed first.

Satisfactory D/I Ratio Values. Compared to couples, single women were 24% more likely to have satisfactory D/I values. As age increased, the household head was more likely to have satisfactory D/I values. Compared to others, full-time workers were 22% less likely to have satisfactory D/I values. Compared to those who had a negative attitude toward credit use, those who had a positive attitude toward credit were 16% less likely to have satisfactory D/I values. For each additional positive response to using credit, households were 14% less likely to have satisfactory D/I values.

Compared to those who spent more than income, those who spent equal to or less than income were 44% and 90%, respectively, more likely to have satisfactory D/I values. Compared to households who paid off their credit card balance, those who sometimes or hardly ever paid off their credit card balance were 58% and 74%, respectively, less likely to have satisfactory D/I values. Households who did not have credit cards were 54% more likely to have satisfactory D/I values compared to households who paid off their credit card balance.

Satisfactory D/A Ratio Values. Compared to couples, single women were 36% less likely to have satisfactory D/A ratio values. As age increased, the household head was more likely to have satisfactory D/A values. Households who had some college education were 23% less likely to have satisfactory D/A values compared to household heads that had 12 years or less of education. Compared to retirees and others, full-time workers were 25% less likely to have satisfactory D/A values. Compared to household heads with no tolerance for risk, those who had above-average or average risk tolerance were 58% and 27%, respectively, more likely to have satisfactory D/A values.

For each additional positive response to the specific uses of credit, household heads were less likely to have satisfactory D/A values. Compared to household heads whose time horizon for saving and investing was a few months or less than one year, those who planned for the next few years, five to ten years, and longer than ten years were 40%, 63%, and 92%, respectively, more likely to have satisfactory D/A ratio values. Compared to household heads who spent more than income, households who spent equal to or less than income were 41% and 144%, respectively, more likely to have satisfactory D/A ratio values.

Compared to household heads that always or almost always paid off their credit card balance, those who sometimes or hardly ever paid off their balance were 67% and 78%, respectively, less likely to have satisfactory D/A values. The only factors that were not significantly related to satisfactory D/A values were presence of children, general attitude toward credit use, and not having a credit card.

Conclusions and Implications

The results of the regressions which showed the influence of socioeconomic, attitude, and behavioral factors on economic well-being indicated that there were some differences between the predictors of satisfactory D/I and D/A ratio values. One of those differences was the results for single men and single women households.

Hypothesis H1a, predicting that single men and women would be less likely to have satisfactory D/I values than couple households, was not supported. Hypothesis 1b that single men and women would be less likely to have satisfactory D/A values was supported for single women but not for single men. This suggests that households headed by single women were able to manage their debt. However, the interpretation of the other ratio is not as clear.

The result that households headed by single men were comparable to couple households was not surprising because almost all of the couple households were headed by men. The ANOVA showed that single men had about one-half as much income, assets, and debt as did couple households. In contrast, single women had about one-third as much income, assets, and debt compared to couples.

Single women were more likely than single men to have dependent children. However, single women in the study could also be older widows with no dependents. It is well known that older single women are more likely to be poor than older single men. Undoubtedly, single women households are the most vulnerable to changes in the economy and in public policy.

The presence of dependent children was not significant in either regression. Thus, H2a and H2b in regard to dependent children and their effect on the ratios were not supported. This was not consistent with previous research (Godwin, 1998; Titus et al. 1989). Based on the chi-square tests, couple households were more likely to have dependent children. Perhaps separate regressions for each of three groups would show that children were influential on economic well-being (which was true in the past) although there was no evidence in this study.

H3a and H3b which proposed that households with older heads would be more likely to have satisfactory ratio values were supported. These results were consistent with previous research (Munnell et al. 1996; Titus et al. 1989).

There was no support for H4a and H4b which proposed that household heads with more education would be more likely to have satisfactory D/I and D/A values. Education was not influential on D/I. Interestingly, household heads with some college were less likely to meet the D/A guideline. This suggests that these households have heavy debt burdens or few assets.

Full-time workers were less likely to have satisfactory D/I and D/A ratio values. Thus, there was no support for hypotheses 5a and 5b which proposed that workers would have satisfactory ratio values. The results suggest that workers incur debt but they depend on their income to manage their debt. Another interpretation is that those who are not working (the reference group) are less inclined to hold debt because they are either retired or out of the labor force.

Tolerance for risk was not a determinant of D/I ratio values, but those with more tolerance for risk were more likely to have satisfactory D/A ratio values. Thus, H6a was not supported, but H6b was supported. Apparently households who are more risk tolerant understand how it affects their saving and investing and behave appropriately, e.g. they do not incur excessive debt.

There was support for hypothesis H7a that predicted a favorable attitude toward credit would mean a less satisfactory D/I ratio value. However, H7b was not supported. General attitude toward credit was an influence on satisfactory D/A ratio value. There was support for H8a and H8b which proposed that as the index of approval for specific uses of credit increased, households would be less likely to have satisfactory ratio values. This was consistent with Chien and DeVaney (2001).

Hypotheses H9a and H9b proposed that if the planning horizon was longer, it would lead to satisfactory ratio values. This was supported but only for the D/A results. This was consistent with Godwin's research (1989).

Hypotheses, H10a and H10b, which suggested that spending equal to or less than income would be related to satisfactory ratio values, were supported. Finally, hypotheses H11a and H11b were supported. Those who are late with credit card payments were less likely to have satisfactory ratio values for D/I and D/A. This is consistent with Zhang and DeVaney (1999).

The results suggest that households should not spend more than income and they should pay credit card bills on time. Also, a longer planning horizon is conducive to good financial management. Although the use of credit is commonly accepted due to its convenience (Chakravorti, 2003), these results suggest that a re-evaluation of attitude toward credit would be helpful. Instead of always planning to use credit, households should consider saving and paying cash instead of using credit. Another implication is that if children always see their parents paying with credit, they might be less likely to develop a habit of saving to make purchases.

Households who did not have credit cards were more likely to have satisfactory D/I ratio values. It is not known whether these households were unable to get credit cards or if they did not want credit cards.

Suggestions for Future Research

A direction for future research would be to conduct separate analyses for each of the groups. It would be interesting to compare these results with earlier versions of the SCF to see if the results have changed over time. Also, the results show that ratio values improved as the household head aged, but analysis with a sample of only older households might provide different results. Finally, if changes in Social Security are considered, the economic well-being of older single women should be of primary importance.

Table 1.
Coding of Variables.

Variables	Coding
Gender and Marital Status	
Single Female	1 if yes, 0 otherwise
Single Male	1 if yes, 0 otherwise
Couple	1 if yes, 0 otherwise
Age	Continuous
Education Level	
12 yr or less than 12 yr	1 if yes, 0 otherwise
Some College	1 if yes, 0 otherwise
College degree or advanced	1 if yes, 0 otherwise
Presence of Children	1 if yes, 0 otherwise
Employment Type	
Full-time Worker	1 if yes, 0 otherwise
Part time Worker	1 if yes, 0 otherwise
Other	1 if yes, 0 otherwise
Risk Tolerance	
Above Average Risk Tolerance	1 if yes, 0 otherwise
Average Risk Tolerance	1 if yes, 0 otherwise
No Tolerance for Risk	1 if yes, 0 otherwise
General Attitude toward Credit Use	
Good Idea	1 if yes, 0 otherwise
Neutral	1 if yes, 0 otherwise
Bad Idea	1 if yes, 0 otherwise
Specific Attitudes toward Credit Use (Sum)	Continuous
Time horizon for saving or investing	
Few months or less than a year	1 if yes, 0 otherwise
Next year	1 if yes, 0 otherwise
Next Few years	1 if yes, 0 otherwise
5 to 10 years	1 if yes, 0 otherwise
Longer than 10 years	1 if yes, 0 otherwise
Spending behavior	
Spending more than Income	1 if yes, 0 otherwise
Spending equal to Income	1 if yes, 0 otherwise
Spending less than Income	1 if yes, 0 otherwise
Credit card payment behavior	
Always or almost always pay off	1 if yes, 0 otherwise
Sometimes pay off	1 if yes, 0 otherwise
Hardly Ever pay off	1 if yes, 0 otherwise
Inappropriate (No credit cards)	1 if yes, 0 otherwise
Income	Continuous
Debt	Continuous
Assets	Continuous
Debt-to-income Ratio (without mortgage debt)	Continuous
Debt-to-assets Ratio	Continuous
Satisfactory for D/I ratio	1, if D/I < 0.15, 0 otherwise
Satisfactory for D/A ratio	1, if D/A < 0.5, 0 otherwise

Table 2.
Weighted Descriptive Statistics for Households in the 2004 SCF (N=4,519).

Variable	Mean	Standard Deviation	Frequency (%)
Gender and Marital Status			
Single Female			27.41
Single Male			14.76
Couple			57.84
Age	49.54	17.27	
Education Level			
12 yr or less than 12 yr			45.25
Some College			22.80
College degree or advanced			31.95
Presence of Children			43.80
Employment Type			
Full-time Worker			62.84
Part time Worker			9.08
Other			28.08
Risk Tolerance			
Above Average Risk Tolerance			19.14
Average Risk Tolerance			38.31
No Tolerance for Risk			42.55
General Attitude toward Credit Use			
Good Idea			31.26
Neutral			37
Bad Idea			31.74
Specific Attitude toward Credit Use	2.30	1.07	
Time Plan for Saving			
Few months or less than a year			19.24
Next year			14.06
Next Few years			27.82
5 to 10 years			25.65
Longer than 10 years			13.24
Past Savings Behavior			
Spending more than Income			19.09
Spending equal to Income			38.94
Spending less than Income			41.97
Credit card Payment Behavior			
Always or almost always pay off			40.99
Sometimes pay off			15.09
Hardly Ever pay off			18.20
Inappropriate (No credit cards)			25.72
Income	$ 68,488.60	$ 210,375	
Total Debt	$ 78,331.84	$ 168,702	
Total Assets	$ 517,427.28	$ 2,586,113	
Debt-to-assets Ratio	10.00	174.83	
Satisfactory D/I ratio			57.75
Satisfactory D/A ratio			72.29

Table 3.
Chi-square analysis of Characteristics of Households in the 2004 SCF (N=4,519) .

Variable	Couple (57.84 %)	Single Female (27.41%)	Single Male (14.76%)	P-value
Education Level				<.0001
12 yr or less than 12 yr	31.01	47.52	39.25	
Some College	16.48	27.14	21.67	
College degree or advanced	52.51	25.34	39.08	
Presence of Children	54.73	36.39	14.73	<.0001
Risk Tolerance				<.0001
Above Average Risk Tolerance	21.02	11.55	25.90	
Average Risk Tolerance	43.74	29.07	34.17	
No Tolerance for Risk	35.24	59.39	39.93	
Employment Type				<.0001
Full-time Worker	71.59	46.11	59.63	
Part time Worker	6.57	13.04	11.56	
Other	21.84	40.85	28.81	
General Attitude toward Credit Use				<.0001
Good Idea	32.20	28.72	32.32	
Neutral	36.96	38.89	33.60	
Bad Idea	30.83	32.40	34.08	
Time horizon for saving and investing				
Few months or less than a year	15.75	26.14	20.09	<.0001
Next year	12.63	15.70	16.61	
Next Few years	26.91	29.62	28.02	
5 to 10 years	29.42	19.20	22.85	
Longer than 10 years	15.29	9.34	12.44	
Spending behavior				
Spending more than Income	17.22	23.75	17.79	<.0001
Spending equal to Income	35.62	45.84	39.15	
Spending less than Income	47.16	30.41	43.07	
Credit card Payment Behavior				
Always or almost always pay off	46.85	29.76	38.87	<.0001
Sometimes pay off	16.74	14.02	10.60	
Hardly Ever pay off	17.94	20.78	14.41	
Inappropriate (No credit cards)	18.46	35.45	36.12	
Satisfactory for D/I ratio	54.20	62.52	62.80	<.0001
Satisfactory for D/A ratio	73.36	68.93	74.33	<.0001

Table 4.
Weighted ANOVA of Characteristics of Households in the 2004 SCF (N=4,519).

Variable	Couple (57.84 %) a	Single Female (27.41%) b	Single Male (14.76%) c	F -Value	P-value
Age ab, bc	48.54	52.85	47.31	33.18	<.0001
Income ab, ac	$ 93,234.39	$ 30,192.41	$ 42,627.36	44.27	<.0001
Specific Attitude towards credit use ac, bc	2.34	2.18	2.37	4.90	0.0075
Debt ab, ac	$ 106,587.04	$ 34,152.02	$ 49,643.46	92.24	<.0001
Assets ab, ac	$ 709,350.55	$ 202,451.72	$ 350,203.86	17.83	<.0001
Debt-to-income	42.07	17.41	697.40	0.89	0.4116
Debt-to-assets ab, ac	1.57	18.69	26.86	7.69	0.0005

Note: The different pairs of letters a, b, c represent the means of the groups (single female, single male, couple) that were significantly different from each other at the 0.05% level. For example, ab shows that the average age of the head in couple households was significantly different from the average age of single women.

Table 5.
Determinants of Satisfactory D/I Ratio Values in the 2004 SCF (N= 4,519).

Variables	Parameter Estimate	Standard Error	P-Value		Odds Ratio
Intercept	-0.2001	0.2578	0.4378		
Marital Status (reference: couple)					
Female Single	0.2128	0.0920	0.0208	*	1.237
Male Single	0.1359	0.1079	0.2079		1.146
Age	0.0190	0.0028	<.0001	***	1.019
Education Level (reference : 12 yr or less than 12 yr)					
Some College	-0.1862	0.0976	0.0563		1.005
College degree or advanced	0.0894	0.0884	0.3119		1.300
Presence of Children	-0.0021	0.0747	0.9771		1.155
Employment Type (reference : Other)					
Full-time Worker	-0.2529	0.0980	0.0099	**	0.777
Part time Worker	-0.0636	0.1347	0.6365		0.938
Risk Tolerance (reference : No Tolerance for Risk)					
Above Average Risk Tolerance	-0.0997	0.0996	0.3169		0.905
Average Risk Tolerance	-0.1038	0.0873	0.2345		0.901
General Attitude toward Credit Use (reference : Bad Idea)					
Good Idea	-0.1784	0.0861	0.0383	*	0.837
Neutral	0.0324	0.0823	0.6932		1.033
Specific Attitude toward Credit Use	-0.1496	0.0333	<.0001	***	0.861
Time Horizon for Saving (Reference : Few months or less than a year)					
Next year	0.1624	0.1289	0.2079		1.176
Next Few years	0.0931	0.1088	0.3924		1.098
5 to 10 years	0.0058	0.1089	0.9505		1.006
Longer than 10 years	0.1835	0.1224	0.1338		1.201
Spending behavior (reference : More than Income)					
Spending equal to Income	0.3616	0.1002	<.0001	***	1.436
Spending less than Income	0.6413	0.1007	0.0005	**	1.899
Credit card Payment Behavior (Ref: Always or almost always pay off)					
Sometimes pay off	-0.8769	0.1038	<.0001	***	0.416
Hardly Ever pay off	-1.3399	0.1099	<.0001	***	0.262
Inappropriate (No credit cards)	0.4315	0.1082	<.0001	***	1.540

*p < 0.05 ** p < 0.01, *** p < 0.001

Table 6.
Determinants of Satisfactory D/A Ratio Values in the 2004 SCF (N= 4,519).

Variables	Parameter Estimate	Standard Error	P-Value		Odds Ratio
Intercept	-1.1980	0.3158	0.0001		
Marital Status (reference: couple)					
Female Single	-0.4435	0.1073	<.0001	***	0.642
Male Single	-0.0994	0.1362	0.4658		0.905
Age	0.0561	0.0037	<.0001	***	1.058
Education Level (reference : 12 yr or less than 12 yr)					
Some College	-0.2594	0.1124	0.0210	*	0.771
College degree or advanced	-0.1326	0.1139	0.2444		0.876
Presence of Children	0.0065	0.0941	0.9447		1.007
Employment Type (reference : No work for Pay)					
Full-time Worker	-0.2838	0.1308	0.0301	*	0.753
Part time Worker	0.1557	0.1897	0.4118		1.168
Risk Tolerance (reference : No Risk Tolerance)					
Above Average Risk Tolerance	0.4577	0.1247	0.0002	***	1.580
Average Risk Tolerance	0.2384	0.1056	0.0240	*	1.269
General Attitude toward Credit Use (reference : Bad Idea)					
Good Idea	0.0709	0.1105	0.5212		1.073
Neutral	0.0901	0.1065	0.3973		1.094
Specific Attitude toward Credit Use	-0.0985	0.0440	0.0254	*	0.906
Time Horizon for Saving (Reference : Few months or less than a year)					
Next year	0.2667	0.1450	0.0659		1.306
Next Few years	0.3342	0.1261	0.0081	**	1.397
5 to 10 years	0.4856	0.1308	0.0002	***	1.625
Longer than 10 years	0.6524	0.1568	<.0001	***	1.920
Past Savings Behavior (reference : More than Income)					
Spending equal to Income	0.3424	0.1105	0.0019	**	1.408
Spending less than Income	0.8904	0.1198	<.0001	***	2.436
Credit card Payment Behavior (Ref: Always or almost always pay off)					
Sometimes pay off	-1.1227	0.1275	<.0001	***	0.325
Hardly Ever pay off	-1.5218	0.1230	<.0001	***	0.218
Inappropriate (No credit cards)	-0.1491	0.1334	0.2635		0.861

*p < 0.05 ** p < 0.01, *** p < 0.001

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