

Savers, Debtors, And Simultaneous Debtors And Savers

Heather L. Spencer¹ and Jessie X. Fan²

There is not much previous research investigating simultaneous debt and savings behavior. This study examines three distinct groups: savers, debtors, and simultaneous debtors and savers (SDS). Hypotheses were developed using a framework based on Browning and Lusardi's review on saving motives. Precautionary, investment, enterprise, and down payment saving motives were hypothesized to increase the probability of inclusion in the SDS group, and the improvement, independence, and bequest saving motives were hypothesized to decrease the probability of inclusion in the SDS group. The precautionary, life cycle, investment, independence, bequest, and down payment saving motives hypotheses were either supported or partially supported.

Key words: *Simultaneous debt and saving, Debt, Saving, Savings motives, Survey of Consumer Finances*

Introduction

We commonly view consumers as either debtors or savers. If someone has cash assets and wishes to make a purchase, we ordinarily think that they would first use these assets to make that purchase, or, having none, would resort to credit. However, empirical data show that some consumers incur and/or carry debt when they have adequate savings to pay up front. What are the reasons for such behavior? This study attempts to explain this seeming paradox by examining the predictors for behavior that includes saving, being in debt, or having savings and debt simultaneously.

Little research has been done looking at the group of people with simultaneous debt and savings. We would like to know what motivates this group, and understanding their economic and sociodemographic characteristics can shed light on this. Using the 1995 Survey of Consumer Finances, this study examines the group of people with simultaneous debt and savings (SDS) and compares this group to households that have only savings (savers), and households that have only debt (debtors).

This study has theoretical implications. Traditional economic models do not directly deal with simultaneous debt and savings as a rational behavior. Therefore, these models need to be extended, or new models developed, that incorporate simultaneous debt and savings behavior

as a possible outcome. This study also has counseling, marketing, educational, and policy implications. Understanding client's motivations for simultaneous debt and saving behavior will better enable financial professionals to counsel and guide their decision-making process. By comprehending these motivations and the likelihood of specific actions, professionals will be able to steer clients to appropriate and adequate financial products. Many times, consumers make decisions that have negative consequences because of faulty information. Possible educational and/or policy measures can be informed by this study.

Literature Review

Because little empirical work has been done specifically examining the group of people with simultaneous debt and savings, this review looks first at the borrowing literature and then the savings literature, determining the variables that have been found to affect the debt and saving behavior of consumers. Next the very brief literature on people with both debt and savings is reviewed. These determinants of either debt behavior or saving behavior also have an impact on simultaneous debt and savings behavior.

Borrowing Literature

Seventy-four percent of all American families had some debt in 1997, not including mortgage debt, with 47% of families carrying a balance on a credit card and 46% of

1. Heather L. Spencer, Associate Instructor, University of Utah, Department of Family and Consumer Studies, 225 S 1400 E AEB 228, Salt Lake City, UT 84112-0080. Phone: 801-581-4903. Fax: 801-581-5156. E-mail: heather.spencer@fcs.utah.edu

2. Jessie X. Fan, Associate Professor, University of Utah, Department of Family and Consumer Studies, 225 S 1400 E AEB 228, Salt Lake City, UT 84112-0080. Phone: 801-581-4170. Fax: 801-581-5156. E-mail: fan@fcs.utah.edu

We would like to thank Dr. Cathleen Zick and Dr. John Burton for their extremely helpful comments on earlier versions of this paper. Any remaining errors are the sole responsibility of the authors.

families having some other form of installment debt (U.S. Census Bureau, 1998). In 1998, the total consumer credit outstanding in the United States was \$1.3 trillion (U.S. Census Bureau, 1998).

Income and wealth Researchers have found that income itself is the most important predictor of consumer borrowing patterns; people with higher incomes spend and borrow more (van Raaij & Gianotten, 1990).

Demographic characteristics Family type and employment status have been found to affect consumers' debt behavior. In one study, researchers found that married people and employed people tend to have more credit cards and higher balances on credit cards than single people and unemployed people (Bird, Hagstrom & Wild, 1997). However, other studies have found that female heads of households tend to have more total debt than male heads of households or two-parent households (Lea, Webley & Walker, 1995; Livingstone & Lunt, 1992). Researchers have also found that households with younger children and families with more children living in the household have more debt (Lea, et al., 1995).

Other demographic characteristics linked to debt behavior are education level, home ownership status, and age. Education is linked to debt in a curvilinear manner; households with low education and households with high education have more debt in proportion to income (Canner & Luckett, 1991; Lea, Webley & Levine, 1993). Renters are more likely to have debt than home owners, although home owners tend to have a higher magnitude of debt (Lea, et al., 1993; Lea, et al., 1995). Younger cohorts carried higher balances on credit cards than older groups (Davies & Lea, 1995; Lea, et al., 1993; Zhu & Meeks, 1994).

Other Factors Psychological factors have been found to be important in consumer borrowing literature. Zhu and Meeks (1994) found that debt is partly a function of a consumer's willingness and ability to pay. In other words, consumers who are willing to pay the cost of credit and are able to access credit will be more likely to seek out and receive credit. Davies and Lea (1995) found that people with more credit cards and more tolerant attitudes towards credit made more purchases with credit cards and carried higher balances.

An individual's comfort level with taking risk also affects debt behavior. Grable and Lytton (1998) found that consumers with higher education have proportionately higher risk tolerance levels, and males are more risk

tolerant than females.

Savings Literature

Based on the 1995 Survey of Consumer Finances, researchers found that 55% of Americans had some form of savings (Kennickell, Starr-McCluer & Sundén, 1997).

Income and wealth Income and wealth are related to savings levels, with the top 10% of families accounting for the overwhelming majority of aggregate savings in the United States (Avery & Kennickell, 1991). Researchers also have found that saving motives change in a hierarchical fashion, with low income people more likely to report saving for daily expenses, middle income people for emergencies, and high income people for purchase, retirement, children, or growth (Xiao & Noring, 1994).

Demographic characteristics Various demographic variables are associated with differing levels of saving. In the population as a whole, saving is positive for every age group, with mean savings rates increasing until the period around retirement, and then decreasing (Avery & Kennickell, 1991). Savings rates are higher for married couples with no children and lower in households with children; single-parent households have the lowest savings rates (Bosworth, Burtless & Sabelhaus, 1991). Educational levels have also been linked to savings rates, with higher saving for higher education groups (Avery & Kennickell, 1991). Home owners typically have a higher rate of savings than others (Bosworth, et al., 1991).

Other factors The reasons people feel it is important to save, or their savings motives, also influence behavior. Carroll (1993) showed that people with a precautionary savings motive and impatience only show significant saving in later years (e.g., after age 45). Carroll found that it is the possibility of postretirement destitution that motivates people to switch from borrowing to saving behaviors. Deaton (1991) examined buffer stock behavior, where consumers accumulate assets only as a protection against income fluctuations; in other words, people save in case their income decreases in the future. People reporting saving in the 1995 Survey of Consumer Finances have differing motives to save, but the most common reason given is to increase liquidity (Kennickell, et al., 1997).

Simultaneous Debt and Savings (SDS) Literature

Limited research has been done to examine the group of people that have debt and savings simultaneously. There are a few studies in the existing literature that discussed simultaneous debt and savings behavior, although such

discussions were not the focus of these studies.

Xiao and Noring (1994) reported that people with high credit card debts or high real debts are more likely than people with no debt to report saving for purchase, emergency, retirement and children. This represents a group of people who have simultaneous debt and savings. Even though this group had high debt, they were still saving for things other than debt reduction. Another study found that as income increased, families both borrowed more and saved more (van Raaij & Gianotten, 1990). In the behavioral life-cycle model, it is noted that mental accounting, or dividing income into different "accounts," some of which are more accessible than others, may induce SDS behavior (Shefrin & Thaler, 1988). People think of saved funds as having a particular purpose, such as a Christmas fund or an education fund. Thus they may borrow money to buy a car, while leaving savings in the Christmas fund alone.

Summary of Literature Review

The socio-economic characteristics discussed above may be useful in categorizing and predicting the behavior of consumers in the savers group, debtors group, or simultaneous debt and savings (SDS) group. Demographic characteristics and other factors that are important in the borrowing or saving literature may be found to be important for the group of simultaneous debtors and savers. The purpose of this study is to build on existing literature by examining the group of people with both debt and savings, describing the characteristics of this group, and comparing this group with the group of people with only debt and the group of people with only savings.

Theory and Hypotheses

Various models exist that predict or explain debt behavior or savings behavior, although no current models exist to predict or explain simultaneous debt and savings behavior. Therefore, this study will develop hypotheses from a loose theoretical framework based on savings motives, and how those savings motives may affect behavior.

Browning and Lusardi (1996) summarized nine motives for saving:

1. The precautionary motive: To build up a reserve against unforeseen contingencies;
2. The life-cycle motive: To provide for an anticipated future relationship between the income and the needs of the individual;
3. The intertemporal substitution motive: To enjoy

interest and appreciation;

4. The improvement motive: To enjoy a gradually increasing expenditure;
5. The independence motive: To enjoy a sense of independence and the power to do things, though without a clear idea or definite intention of specific action;
6. The enterprise motive: To secure a *masse de manoeuvre* to carry out speculative or business projects;
7. The bequest motive: To bequeath a fortune;
8. The avarice motive: To satisfy pure miserliness, i.e., unreasonable but insistent inhibitions against acts of expenditure as such;
9. The downpayment motive: To accumulate deposits to buy houses, cars, and other durables.

The precautionary savings motive leads to an examination of models from the emergency fund literature which may be applied to develop a model to explain simultaneous debt and saving behavior. This literature states that it is important for households to be equipped with financial resources to deal with periods of income disruption, as being prepared may mitigate the financial stress that accompanies income disruption (Huston & Chang, 1997). Thus, some households may choose to have savings and debt at the same time, to have a measure of financial stability, and still consume at desired levels. People with simultaneous debt and savings may be exhibiting rational behavior, in that they are striving for increased liquidity over reduced debt (Chang, Hanna & Fan, 1997). Savers may be demonstrating the precautionary savings motive in accumulating assets against unforeseen circumstances. Therefore, we propose Hypothesis 1 that having a precautionary savings motive increases the probability of a consumer being included in the savers group, increases the probability of a consumer being included in the simultaneous debt and savings group, and decreases the probability of a consumer being included in the debtors group, all other things equal.

The life cycle motive describes the actions of consumers over the entire lifespan, with younger consumers borrowing against future income, middle-age consumers paying back debt as well as saving out of current income, and older consumers living off savings. In this way, the life cycle saving motive is linked with the life cycle stage. Thus, we propose Hypothesis 2 that during the early years of adult life, having the life cycle savings motive increases the probability of a consumer being included in the debtors group, decreases the probability of inclusion in the savers group, and decreases the probability of

inclusion in the SDS group, all other things equal. During the middle years of life, having the life cycle savings motive increases the probability of a consumer being included in the savers group, increases the probability of inclusion in the SDS group, and decreases the probability of inclusion in the debtors group, all other things equal. And during the later years of life, having the life cycle saving motive increases the probability of inclusion in the savers group, decreases the probability of inclusion in the SDS group, and decreases the probability of inclusion in the debtors group, all other things equal.

Browning and Lusardi (1996) define saving for interest and appreciation as the intertemporal substitution saving motive. We will hereafter refer to this saving motive as the investment saving motive. Consumers may choose to have simultaneous debt and savings because of the investment saving motive. If the real interest rate is higher than the personal discount rate, a person may optimally choose to have a high consumption growth rate over time in order to maximize the overall lifetime utility. Such a person would substitute high future consumption for low current consumption, which can be achieved through saving and investment in the early years. A person with the investment saving motive may choose to borrow money to invest when the interest paid is less than the interest earned. Thus, the simultaneous debt and savings behavior is invoked to enjoy interest and appreciation of a total portfolio. Hypothesis 3 states that having an investment saving motive increases the probability of a consumer being included in the savers group, increases the probability of inclusion in the SDS group, and decreases the probability of inclusion in the debtors group, all other things equal.

Credit has a cost associated with it because it costs money to borrow money. Therefore, people with the improvement saving motive will not engage in any borrowing behavior. Our Hypothesis 4 proposes that having the improvement saving motive increases the probability of a consumer being included in the savers group, decreases the probability of inclusion in the SDS group, and decreases the probability of inclusion in the debtors group, all other things equal.

Many people feel burdened by debt or enslaved by the cost of credit. These people are perhaps more likely to have the independence saving motive, and thus would not use credit as a means of obtaining money. Therefore, we propose Hypothesis 5 that having the independence saving motive increases the probability of a consumer being included in the savers group, decreases the

probability of inclusion in the SDS group, and decreases the probability of inclusion in the debtors group, all other things equal.

The enterprise motive may be used to explain the behavior of simultaneous debtors and savers. Entrepreneurs may save to finance a new business or to improve a relatively new business operation, while the business is operating under start-up debt. Or, if a person has nothing but debt and has captured the American dream of entrepreneurship, they may save to begin a business operation before paying off their debt. Thus, Hypothesis 6 states that having the enterprise saving motive increases the probability of a consumer being included in the savers group, increases the probability of inclusion in the SDS group, and decreases the probability of inclusion in the debtors group, all other things equal.

People with the bequest motive probably only want to leave assets to their heirs, without concurrent liabilities. Thus, Hypothesis 7 states that having the bequest motive increases the probability of a consumer being included in the savers group, decreases the probability of inclusion in the SDS group, and decreases the probability of inclusion in the debtors group, all other things equal.

People who have avarice motives will not borrow under almost any circumstances. Thus, we propose Hypothesis 8 that having an avarice motive increases the probability of inclusion in the savers group, decreases the probability of inclusion in the debtors group, and decreases the probability of inclusion in the SDS group, all other things equal.

Many people in debt have long-term financial goals that include the purchase of large-ticket items. These people may have simultaneous debt and savings while they are saving to accumulate a down payment. After the purchase of the item, these households may return to the primarily debtors group. Therefore, we propose Hypothesis 9 that having a down payment saving motive increases the probability of a consumer being included in the savers group, increases the probability of inclusion in the SDS group, and decreases the probability of inclusion in the debtors group, all other things equal.

Given these are saving motives, by default, all of the hypotheses predict an increase in saving behavior and a decrease in debt behavior, with the exception of the life cycle saving motive in the early years. The interesting part of each hypothesis is the direction of the SDS group. Table 1 gives a summary of the directions of these

hypotheses.

Table 1.
Summary of Hypotheses

	<u>Savers</u>	<u>SDS</u>	<u>Debtors</u>
H1: Precautionary Saving Motive	+	+	-
H2: Life Cycle			
Early Years	-	-	+
Middle Years	+	+	-
Later Years	+	-	-
H3: Investment Saving Motive	+	+	-
H4: Improvement Saving Motive	+	-	-
H5: Independence Saving Motive	+	-	-
H6: Enterprise Saving Motive	+	+	-
H7: Bequest Saving Motive	+	-	-
H8: Avarice Saving Motive	+	-	-
H9: Down Payment Saving Motive	+	+	-

Variables related to demographics, income and wealth, and other factors are not hypothesized in a specific direction, as no theory or literature exist to guide this decision. This study looks at sociodemographic characteristics to see if they have predictive and explanatory properties. It is important to note that this study is primarily exploratory, as no substantive work has been done in this area.

Data and Method

Data

To test these hypotheses, data were used from the 1995 Survey of Consumer Finances, a triennial study sponsored by the Federal Reserve Board. This survey, which had 4,299 respondents, employs a dual-frame sampling design that has a standard, geographically based, random sample and an oversample of relatively wealthy families (Kennickell, et al., 1997). The area-probability random sample is a multistage design, with each household in the United States having an equal probability of selection (Kennickell, 1998a). The sample from the 1995 Survey of Consumer Finances contains many high-income respondents, which skews the distribution to the right. However, the oversampling was necessary as many of the financial behaviors studied occur only in the right side of the income distribution. Weights are used to adjust for the oversampling of high-income households. The households are referred to as Primary Economic Units (PEUs).

Operational Definitions

Variable names used in this study, accompanied by their names in the 1995 Survey of Consumer Finance, the

question asked of the respondent in the survey, and the attributes of each variable are summarized in the Appendix.

Three definitions of debt and three definitions of saving were examined to determine the best way to measure SDS behavior. Savings and debt are determined at a single point in time. The three debt definitions are: (1) all non-mortgage debt, including credit card debt, installment debt, other debt, and lines of credit, and including home equity loans; (2) all non-mortgage debt, with home equity loans excluded (as they are technically mortgages); and (3) credit card debt only (as this is the most strict form of debt, usually with high interest rates). Savings definitions are: (1) all liquid and non-liquid financial assets, including checking accounts, savings accounts, money market accounts, stocks, mutual funds, bonds, and all retirement savings; (2) all financial assets excluding checking accounts (considered as transaction accounts rather than saving); and (3) all financial assets excluding checking accounts and retirement savings with tax advantages and penalties for early withdrawals, such as IRAs and 401(k)s. When credit card debt was used as the only measure of debt, the savers group was the largest. In all other combinations, SDS behavior was most prevalent, ranging from 48% to 58% of respondents; savings behavior was observed in 32% to 36% of respondents, and debt behavior was observed in 3% to 12% of respondents.

In the model presented in this study, we used saving definition (3) (all financial assets other than checking accounts and retirement saving accounts) and debt definition (1) all non-mortgage debt including home equity loans. These two definitions were chosen as we thought they are in line with most people's definitions of debts and savings. In this article, we analyze the amount of savings accumulated at a point in time, which will depend both on past saving and on the real return on assets. The difference is important in terms of hypotheses, because, for instance, a retired person would be expected to dissave but still have a considerable amount of savings. Alternate models using other definitions were run and results are available upon request.

The group of simultaneous debtors and savers (SDS) is defined as primary economic units (PEUs) with both savings and debt (absolute value) greater than zero. The group of savers is defined as PEUs with savings greater than zero and debt equal to zero. The group of debtors is defined as PEUs with debt greater than zero and savings

equal to zero.

Of the nine savings motives described in the theory section, eight are coded in the data; no one reported having the avarice saving motive, and thus it was not testable. Savings motives exist even if the household is not saving, or is in the debtors group. The question asked is: "People have different reasons for saving, even though they may not be saving all the time. What are your family's most important reasons for saving?" In this manner, the savings motives question measures the value consumers place on saving itself. In this study, responses given to the savings motives question are grouped according to the theoretical definitions of savings motives.

The precautionary savings motive is defined as saving to build up a reserve for emergencies, illness, or unemployment. Saving for the life cycle motive is defined as saving for children's education and/or retirement. The curvilinear relationship between life cycle saving motive and life cycle stage will be measured by two variables. The first variable is created by multiplying the life cycle saving motive and age. The second variable is created by multiplying the life cycle variable by age squared. This interplay of the two variables, life cycle * age and life cycle * age², is an attempt to measure the relationship between the life cycle saving motive and the respondent's life cycle stage. The investment savings motives includes saving for investment reasons. The improvement motive is measured through saving to advance the standard of living. The independence motive is reported as saving to have the power to do things or saving because there was extra income. The enterprise motive is measured through saving for buying or investing in a business. Saving for the estate, for the children, or for charitable contributions is defined as the bequest motive. Lastly, the down payment savings motives is defined as saving for buying a house, car, or other durable goods.

Demographic variables include family composition (married, single female, single male, single female with children, and single male with children), education (less than high school completed, high school degree, some college completed, college degree, and graduate degree), ethnicity (White, Hispanic, African American, and other race), employment status (employed, self-employed, unemployed, retired, and not employed, which includes students, homemakers, and volunteers), home ownership status (rents, owns home with a mortgage, and owns home without a mortgage), region (South, Northeast,

North Central, and West), and financial variables.

Psychological factors are measured through questions about risk attitudes and credit attitudes. Risk attitudes are defined as the amount of financial risk that a consumer is willing to take when saving or making investments, whether it is taking substantial or above average risks, taking average risks, or not willing to take any financial risks. Credit attitudes are measured by whether the respondents believe credit is a good thing, is sometimes a good thing and sometimes a bad thing, or is a bad thing.

Method

Unordered multinomial logistic regression was used to examine the differences between the group of simultaneous debtors and savers, the group of savers, and the group of debtors. The nonresponse rate in the Survey of Consumer Finances is relatively high; however, multiple imputation techniques are used to deal with missing data (Kennickell, 1998b). Multiple imputation technique was used in the SCF data to account for missing values in this data set. Repeated-Imputation Inference (RII) technique was used in this study to account for such imputation (Montalto & Yuh, 1998; Rubin, 1987). The estimated coefficients from the logistic regression were used to calculate the marginal probabilities of inclusion in the three groups.

Results and Discussions

Descriptive Statistics

Descriptive statistics are summarized in Table 2. Overall, there are 1,434 respondents in the savers group, 2,200 in the SDS group, and 388 in the debtors group.

Savings motives Almost 40% of the SDS group report having the life cycle saving motive, yet only 18% of the debtors group has this motive. Less than 1% of respondents, regardless of what group they are in, reported having the enterprise saving motive. Debtors have the highest occurrence of the down payment saving motive, with 13%, compared to savers with 6%.

Demographic characteristics The savers group has the highest average age of 59.7, while the SDS and debtors groups look very similar (44.4 and 43.9, respectively). Family composition varies across the groups, with savers having the highest number of singles, SDS having the highest number of married respondents, and debtors with the highest number of single parent households.

Table 2.
Weighted Descriptive Statistics: Mean (Standard Error)

Variables	Savers N = 1,434	SDS N = 2,200	Debtors N = 388
<i>Savings Motives:</i>			
Precautionary	38.41%	33.73%	32.01%
Life Cycle	33.57%	39.80%	17.91%
Investment	8.44%	8.13%	7.90%
Improvement	6.20%	6.16%	6.06%
Independence	6.33%	2.56%	6.96%
Enterprise	0.28%	0.40%	0.74%
Bequest	4.41%	2.61%	3.30%
Down Payment	6.19%	9.83%	13.29%
<i>Family Composition:</i>			
Age	59.7	44.4	43.9
Number of people living in household	1.9817 (1.146)	2.6084 (1.386)	1.4466 (1.481)
Married	50.73%	60.25%	40.14%
Single Female	27.89%	14.94%	22.29%
Single Male	15.23%	13.52%	15.99%
Single Female with children	4.22%	6.80%	15.31%
Single Male with children	1.93%	4.51%	6.27%
<i>Education:</i>			
Less than high school	21.73%	11.88%	29.60%
High school	27.02%	30.34%	34.90%
Some college	18.89%	26.95%	27.27%
College degree	16.67%	18.28%	5.91%
Graduate Degree	15.69%	12.55%	2.32%
<i>Ethnicity:</i>			
White	86.09%	80.44%	64.02%
Hispanic	1.95%	5.26%	9.52%
African American	7.13%	11.00%	22.54%
Other Race	4.83%	3.30%	3.92%
<i>Region of Residence:</i>			
South	30.11%	33.84%	45.32%
Northeast	22.27%	20.56%	14.31%
North Central	25.35%	25.66%	15.77%
West	22.27%	19.94%	24.60%
<i>Home ownership status:</i>			
Rents	25.74%	28.14%	52.33%
Owns home	48.18%	17.23%	16.89%
Owns home with mortgage	26.08%	54.63%	30.78%
<i>Employment Status:</i>			
Employed	34.34%	69.71%	57.49%
Self-Employed	9.63%	10.05%	5.89%
Unemployed	1.78%	1.18%	1.48%
Retired	42.31%	10.69%	12.12%
Not employed	11.94%	8.37%	23.02%
<i>Financial Variables:</i>			
Income Certainty	72.72%	68.76%	49.86%
# of credit cards	3.6503 (3.835)	5.0877 (4.284)	2.1423 (2.952)
Income	\$54,126 (\$290,822)	\$49,328 (\$88,139)	\$20,984 (\$19,626)

Variables	Savers N = 1,434	SDS N = 2,200	Debtors N = 388
<i>Risk attitudes:</i>			
Willing to take substantial or above average risk	14.82%	20.69%	8.97%
Willing to take average risk	36.92%	43.92%	28.43%
Not willing to take any risk	48.26%	35.39%	62.67%
<i>Credit attitudes:</i>			
Credit = good	24.53%	36.03%	37.43%
Neutral	38.68%	33.68%	37.55%
Credit = bad	36.79%	30.29%	25.02%

In both the SDS group and savers group, over 30% of the respondents have college or graduate degrees, as opposed to the debtors group, with about 8%. The debtors group has almost 30% with less than a high school education, versus the SDS group with about 12%.

The debtors group has the highest percentage of minority respondents, 36%; the SDS group has about 20% and the savers 14%. Forty-five percent of the debtors group lives in the South and 25% in the West.

Home ownership status differs across the three groups. Almost 50% of the savers own their homes with no mortgage, and 25% of the group rents their home. Over 50% of the debtors rent their homes, and about 17% own their homes with no mortgage. Almost 30% of the SDS group rent their dwellings, and about 17% own their homes with no mortgage. The highest employment rate occurs in the SDS group with 80% either self-employed or employed by someone else. Forty-two percent of the savers are retired, versus about 10% in the other two groups.

Regression Results

Coefficients, significance levels (p-values), and marginal probabilities are presented in Table 3. The hypotheses related variables and other variables with statistically significant results are discussed below, and are highlighted in Table 4. Due to space limitations, alternate models and other results are not discussed here; results are available from the authors upon request.

Savings motives Hypothesis 1, that having the precautionary saving motive increases the probability of inclusion in the savers group, increases the probability of inclusion in the SDS group, and decreases the probability of inclusion in the debtors group is supported by the data.

Table 3.
Multivariate Logistic Regression Results – Average
Marginal Probabilities and Chi-Squares

Variables	Savers	SDS	Debtors	χ^2
<i>Savings Motives:</i>				
Precautionary	0.042	0.114	-0.156	59.34*
Investment	0.020	0.141	-0.161	12.86†
Improvement	0.021	-0.018	-0.003	0.194
Independence	0.110	0.011	-0.121	21.69*
Enterprise	0.234	-0.297	0.063	2.390
Bequest	0.045	0.124	-0.169	21.17*
Down Payment	-0.020	0.18	-0.161	45.44*
Life Cycle * Age	0.013	-0.009	-0.004	7.556†
Life Cycle * Age ²	-0.0001	0.00007	0.00002	4.002
# of people in household	-0.013	0.007	0.006	3.756
<i>Family Composition:</i> (Married)				
Single Female	0.037	-0.027	-0.010	3.282
Single Male	-0.002	0.002	-0.0004	0.048
Single Female w/ chldrn	-0.016	-0.001	0.017	0.085
Single Male w/chldrn	-0.075	0.094	-0.019	5.708
<i>Education: (High School)</i>				
Less than high school	0.030	-0.046	0.016	4.326
Some college	-0.0002	0.023	-0.023	2.740
College degree	0.092	-0.013	-0.079	28.62*
Graduate Degree	0.128	-0.010	-0.118	40.60*
<i>Ethnicity: (White)</i>				
Hispanic	-0.119	0.053	0.065	13.67*
African American	-0.088	0.065	0.022	14.07*
Other Race	0.076	-0.100	0.024	8.088†
<i>Region of Residence:</i> (South)				
Northeast	0.047	0.037	-0.083	26.51*
North Central	0.035	0.038	-0.073	22.60*
West	0.036	-0.043	0.007	5.072
<i>Home ownership status:</i> (Rents)				
Owns home w/o mrtg	0.098	-0.004	-0.095	52.20*
Owns home w/mortgage	-0.059	0.100	-0.041	26.92*
<i>Employment Status:</i> (Retired)				
Employed	-0.197	0.140	0.057	122.7*
Self-Employed	-0.104	0.111	-0.007	19.83*
Unemployed	0.0004	0.150	-0.015	0.170
Not employed	-0.109	0.057	0.052	26.25*
<i>Financial Variables:</i>				
Income Certainty	0.028	0.0002	-0.029	8.058†
Number of credit cards	-0.01	0.024	-0.013	112.4*
Income (log of income)	0.004	0.012	-0.016	13.55*

Variables	Savers	SDS	Debtors	χ^2
<i>Risk attitudes: (Take average risk)</i>				
Substantial or above average risk	-0.001	0.015	-0.014	0.742
Not willing to take risk	-0.003	-0.038	0.041	10.21*
<i>Credit attitudes: (Neutral)</i>				
Credit = good	-0.036	0.047	-0.011	7.540†
Credit = bad	0.018	0.016	-0.035	6.454†

Note: Variables in parentheses are reference categories.

* $p < 0.01$ † $p < 0.05$

At the sample mean level, with such a saving motive, the probability of inclusion in the savers group increases by 4.2%, the probability of inclusion in the SDS group increases 11.4%, and the probability of inclusion in the debtors group decreases 15.6%.

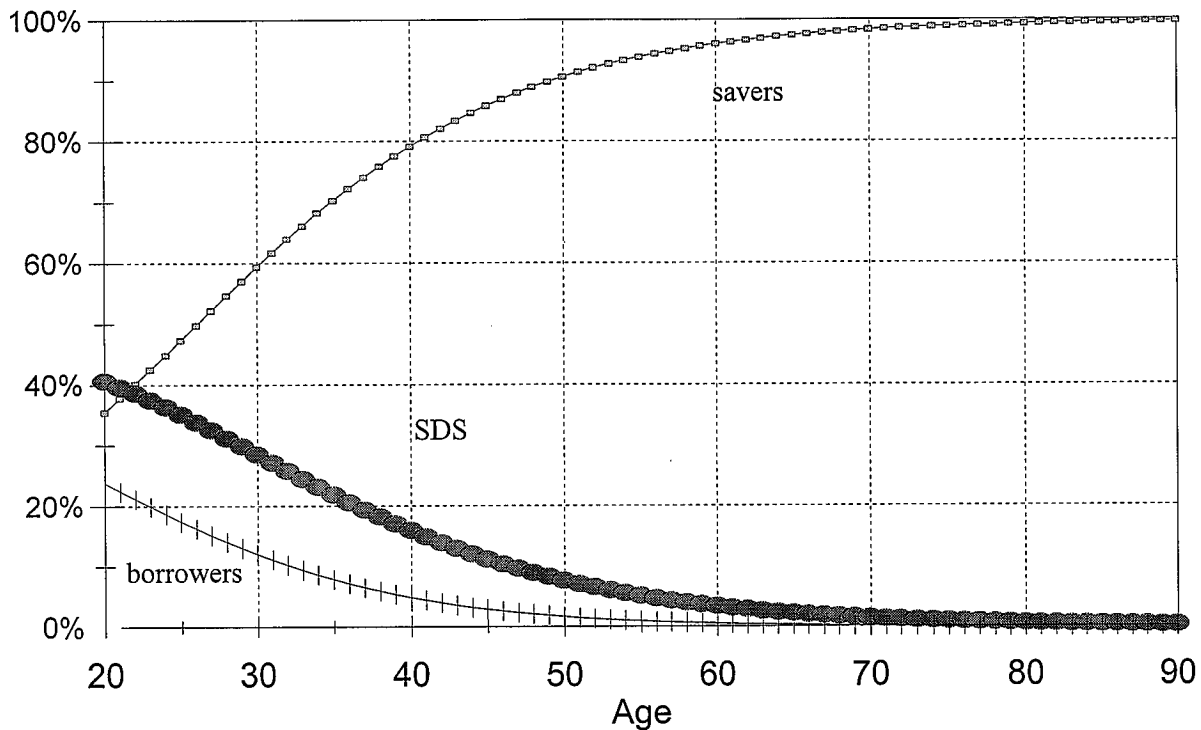
Hypothesis 2, the life cycle saving motive across the life cycle, is partially supported by the data (Figure 1). Figure 1 shows that the probability of being included in the savers group increases over the life cycle, and the probability of inclusion in the SDS and debtors group decreases over the life cycle. At the sample mean level, the probability of being in the savers group at age 20 is 57.32%, and the probability increases over the lifespan in a curvilinear manner until it reaches 99.33% at age 70.

The probability of inclusion in the SDS group begins at 26.68% at age 20, and declines in a curvilinear manner until it reaches 0.60% at age 70. The probability of inclusion in the debtors group begins at 16%, and declines in a curvilinear manner until it reaches 0.07% at age 70. It is important to note that this is cross-sectional data; younger people today will not necessarily look like older people tomorrow.

Hypothesis 3, that the investment savings motive will increase the probability of being included in the SDS group, increase the probability of inclusion in the savers group, and decrease the probability of inclusion in the debtors groups, is supported. With such a saving motive, the probability of inclusion in the SDS group increases by 14%, the probability of inclusion in the savers group increases by 2%, and the probability of inclusion in the debtors group decreases by 16%. As defined in the study, the investment saving motive includes saving for investment reasons. People with the investment saving motive may make investments thinking that the rate of return on the investment is greater than the cost of the credit. This behavior increases assets and also increases

Figure 1.

Predicted Relationship between Age and Probability of Being a Saver, a SDS, or a Debtor with the Presence of a Life-Cycle Saving Motivation



liabilities. Thus, it makes sense that consumers with this saving motive are more likely to be in the SDS group.

Hypothesis 4 states that having the improvement saving motive will increase the probability of being included in the savers group, decrease the probability of inclusion in the SDS group, and decrease the probability of inclusion in the debtors groups. This hypothesis has marginal probabilities in the hypothesized directions, but the comparison is not statistically significant.

Hypothesis 5, that having the independence saving motive will increase the probability of inclusion in the savers group, decrease the probability of inclusion in the SDS group, and decrease the probability of inclusion in the debtors groups, is partially supported by the data. With

such a saving motive, the probability of being in the savers group increases by 11%, and the probability of being in the debtors group decreases by 12.1%. The probability of being in the SDS group increases by 1.1%, which does not move in the hypothesized direction. It is possible that households with this saving motive want liquidity to support independence and spontaneity, and therefore use borrowing as a tool to maintain a certain level of liquid assets.

Hypothesis 6, that having the enterprise saving motive increases the probability of inclusion in the SDS group, increases the probability of inclusion in the savers group, and decreases the probability of inclusion in the debtors group, is not supported by the data. This may be due to the fact that such a small number of people responded as

having this motive (16 out of 4,299). As consumers begin saving to start a business, they may or may not have a concurrent debt load. Consumers may move out of the debtors group and into the SDS group while saving to start a business, or may already be in the savers group and start saving an additional amount to start a business.

Hypothesis 7, that having the bequest saving motive will increase the probability of being included in the savers group, decrease the probability of inclusion in the SDS group, and decrease the probability of inclusion in the debtors groups, is partially supported by the data. With this saving motive, the probability of being in the savers group increases by 4.5%, and the probability of being in the debtors group decreases by 16.9%. The probability of being in the SDS group increases by 12.4%, and this does not move in the hypothesized direction. Perhaps the people in the SDS group are saving to bequeath monetary assets and borrowing to leave other types of assets, such as a boat or a recreational vehicle. Or perhaps consumers move into the SDS group by using a home equity loan to borrow against their own assets, but still have remaining assets to bequeath to their heirs.

Hypothesis 9, that having the down payment saving motive increases the probability of being included in the SDS group, increases the probability of inclusion in the savers group, and decreases the probability of inclusion in the debtors groups, is partially supported by the data. The probability of being in the SDS group increases by 18%, and the probability of being in the debtors group decreases 16.1%. The probability of being in the savers group decreases by 2%, which is not in the hypothesized direction.

Financial variables Wage and salary income differs dramatically across the groups, with the lowest level of income, \$20,984, in the debtors group, and the highest level of income, \$54,126, in the savers group. Members of the SDS group have the highest number of credit cards, 5.1, versus 2.1 in the debtors group.

Demographic characteristics Compared to those with a high school education, people with a college or advanced degree are more likely to be in the savers group and less likely to be in the SDS or debtors groups. These marginal probabilities correspond with the literature findings that low education households tend to have more debt (Canner & Lockett, 1991; Lea, et al., 1993) and that higher education households have more savings (Avery & Kennickell, 1991).

Compared to White Americans, African Americans and Hispanics are more likely to be in the SDS or debtors groups, and less likely to be in the savers group. Other races are more likely to be in the savers or debtors groups and less likely to be in the SDS group, compared to Caucasians.

Compared to those in the South, people living in the Northeast and the North Central regions of the United States are more likely to be in the savers or SDS groups and less likely to be in the debtors group. People living in the West are more likely to be in the SDS group, compared to the South.

On average, people who own their home without a mortgage payment are more likely to be in the savers group, compared to renters. Those who own their home with a mortgage are more likely to be in the SDS group and less likely to be in the savers or debtors group, compared to renters. This confirms the literature that renters tend to have more debt (Lea, et al., 1995).

Employment status affects the probability of being in each group. Compared to people who are retired, being employed increases the probability of being in the SDS group by 14%, decreases the probability of being in the savers group by 19.7%, and increases the probability of being in the debtors group by 5.7%. This finding confirms the literature that employed people are more likely to borrow (Bird, et al., 1997). Those that are not employed, including students, homemakers, and volunteers, are 10.9% less likely to be in the savers group, 5.7% more likely to be in the SDS group, and 5.2% more likely to be in the debtors group.

Other factors The SDS group has the highest percentage of respondents willing to take substantial or above average risks in investments, about 21%, and the debtors group has the highest percentage of respondents not willing to take any risks in financial investments, about 63%. Having the attitude that credit is a good thing was higher in the SDS and debtors groups compared to the savers group (approximately 36% versus 25% for savers).

Conclusions, Implications, and Limitations

This study utilized a saving motives model to explain SDS behavior and compare the SDS group with savers and debtors. The hypotheses for the precautionary, life cycle, investment, independence, bequest, and down payment saving motives were either supported or partially supported by the data, while the hypotheses for the improvement and enterprise motives were not. Given that

simultaneous debt and saving behavior is practiced by a majority of Americans, this behavior should be studied more extensively. Theories should be further developed to explain SDS behavior. Other models may also be developed to explain SDS behavior more fully than this exploratory study.

In addition to its theoretical implications, this study has several practical implications. First, looking at motivations for saving sheds light on why people choose to spend or save their money the way they do. If they understand their client's saving motives and financial situation, financial planners will have a better understanding of the client's behavior from the results of this study. Financial professionals may have preconceived ideas about how people *should* behave to have strictly advantageous economic outcomes, but this study provides a glimpse into how Americans *actually* behave. The more understanding financial planners have of their clients, the better equipped they are to serve them.

Second, marketing issues also have relevance here. With the wide array of financial products on the market, understanding a client's financial motives and situation will give financial professionals the ability to find the best product for the client. For example, most financial professionals lean towards conservative financial advice, but if they know that a client has the investment saving motive, is willing to take risks in financial investments, and is looking to earn a higher rate of interest, the financial professional can suggest riskier investments or borrowing money at low rates of interest to invest for higher rates of return. Or if the financial professional knows that the client is in the debtors group and has any saving motives, the professional can make suggestions on how to reallocate income and move the client into the SDS group.

Third, consumer educators also need to look at the results of this study. Decisions made in the marketplace often have negative economic consequences because of faulty information. Even though a model was developed that predicted SDS behavior, showing this behavior as rational, consumers may be choosing SDS behavior because of faulty or misleading information. Educators need to focus on talking about the inherent risks and benefits of SDS behavior, so that the public can make choices that are economically advantageous.

Fourth, policy makers need to look at why people save money, borrow money, or have debt and savings

concurrently. If consumers are ill-informed about the rate of return on savings or the cost of credit, more legislation is needed to require the financial industry to have better disclosure.

Further research should add a measure of financial knowledge. The results from the addition of this variable would be useful for consumer educators and policy makers, in further delineating the line between strictly rational choices and rational choices based on less than perfect information. Future research should also look more closely at the group with the enterprise saving motive and see how this variable reacts with a larger cell size. Longitudinal research should be done to see how SDS behavior changes while controlling for a cohort effect. Is SDS behavior occurring across all ages of the lifespan, or are members of the SDS group merely a younger counterpart of the savers group? Longitudinal data would answer this question. It would also be interesting to see if the behavior within the SDS group is influenced by whether the consumer is a net saver or a net debtor. In other words, the consumer has both savings and debt, but the magnitude of the savings is higher than the magnitude of the debt, or vice versa. Spousal data should be analyzed in future studies, to see if the household is in the SDS group because one partner saves and one partner borrows.

Some limitations of this study need to be recognized when interpreting the results. As with any secondary data set, there are variables that would have been interesting to study, which might affect the dependent variable, but were not included in the original data set. For example, a financial knowledge variable would have been interesting to include in the model, to see how a person's level of financial knowledge affects their saving motivations and subsequent behavior. Small cell counts on the enterprise saving motive make it difficult to measure and undoubtedly influence the results of this hypothesis.

Table 4.
Hypotheses and Test Results

	<u>Savers</u>		<u>SDS</u>		<u>Debtors</u>		
	<u>Hyp.</u>	<u>Results</u>	<u>Hyp.</u>	<u>Results</u>	<u>Hyp.</u>	<u>Results</u>	
H1: Precautionary Saving Motive	+	++	+	++	-	-*	Supported
H2: Life Cycle							
Early Years	-	++	-	-†	+	-†	Partially supported
Middle Years	+	++	+	-†	-	-†	Partially supported
Later Years	+	++	-	-†	-	-†	Supported
H3: Investment Saving Motive	+	++	+	++	-	-†	Supported
H4: Improvement Saving Motive	+	not sig.	-	not sig.	-	not sig.	Rejected
H5: Independence Saving Motive	+	++	-	++	-	-*	Partially supported
H6: Enterprise Saving Motive	+	not sig.	+	not sig.	-	not sig.	Rejected
H7: Bequest Saving Motive	+	++	-	++	-	-*	Partially supported
H8: Avarice Saving Motive	+	N.A.	-	N.A.	-	N.A.	Not tested
H9: Down Payment Saving Motive	+	-*	+	++	-	-*	Partially supported

* p<0.01 † p<0.05

Appendix Variables and Coding

Variable Name	1995 SCF Code	Question / Definition	Attributes
Savers		All liquid and non-liquid savings, excluding checking accounts and retirement savings	Savings > 0 and borrowing = 0
Debtors		All non-mortgage debt, including credit card debt, installment debt, other debt, lines of credit, and home equity loans	Borrowing > 0 and savings = 0
Simultaneous Debtors & Savers			Savings > 0 and borrowing > 0
Saving Motives	x3006	Now I'd like to ask you a few questions about your savings. People have different reasons for saving, even though they may not be saving all the time. What are your most important reasons for saving?	<i>Precautionary</i> (reserve for emergencies, illness or unemployment) <i>Life Cycle</i> (children's education or retirement) <i>Investment</i> (investment reasons) <i>Improvement</i> (improve standard of living) <i>Independence</i> (have power to do things or save extra income) <i>Enterprise</i> (for buying or investing in a business) <i>Bequest</i> (for the estate, children, or charitable contributions) <i>Down Payment</i> (for a house, car, or other durable goods)
Age	x5908	What is your date of birth? (year)	Age = 1995 - year of birth
Family Composition	x7001 x8021 x8023 x7006 - x7014	Number of people in the Primary Economic Unit (PEU) Sex of Respondent Respondent marital status Children under age of 18?	Married Single Female Single Male Single Female with Children Single Male with Children

Savers, Debtors, and Simultaneous Debtors and Savers

Education	x5901	I'd like to ask you some questions about your background. What is the highest grade of school or year of college you completed?	Less than High School High School Degree Some College College Degree Graduate Degree
Ethnicity	x5909	Are you Native American, Asian, Hispanic, black, white, or another race?	White Hispanic African American Other Race
Region of Residence	x30022	Census region	South Northeast North Central West
Home Ownership Status	x701	Do you own this (house and lot/apartment), do you pay rent, do you own it as a part of a condo, co-op, townhouse association, or what?	Rents Owns Home Owns Home with a Mortgage
	x723	Is there a mortgage or land contract on this?	
Employment Status	x6670	We are interested in your present job status. Are you working now, temporarily laid off, unemployed and looking for work, disabled and unable to work, retired, a student, a homemaker, or what?	Employed Self-Employed Unemployed Retired Not Employed
	x4106	Next are some questions about your current, main job. Do you work for someone else, are you self-employed, or what?	
Income Certainty	x7586	At this time, do you have a good idea of what your income for next year will be?	Yes No
Number of Credit Cards	x411	Now I would like to ask you a few questions about your credit cards. How many?	Number of credit cards
Income	x5729	How much was the total income you received in 1994 from all sources, before taxes and other deductions were made?	Total earned income
Risk Attitudes	x3014	Which of the statements on this page comes closest to the amount of financial risk that you and your (spouse/partner) are willing to take when you save or make investments?	Willing to take substantial or above avg risk Willing to take average risk Not willing to take any risk
Credit Attitudes	x401	Now I would like to ask you some questions about how you feel about credit. In general, do you think it is a good idea or a bad idea for people to buy things on the installment plan?	Credit is a good idea Credit is sometimes good and sometimes bad Credit is a bad idea

References

- Avery, R.B. & Kennickell, A.B. (1991). Household saving in the US. *Review of Income and Wealth*, 37(4), 409-432.
- Bird, E.J., Hagstrom, P.A. & Wild, R. (1997). Credit cards and the poor. Institute for Research on Poverty, Discussion paper no. 1148-97, accessible at <http://www.ssc.wisc.edu/irp/>
- Bosworth, B., Burtless, G. & Sabelhaus, J. (1991). The decline in saving: Evidence from household surveys. *Brookings Papers on Economic Activity*, 183-241.
- Browning, M. & Lusardi, A. (1996). Household saving: Micro theories and micro facts. *Journal of Economic Literature*, 1791-1855.
- Canner, G.B. & Lockett, C.A. (1991). Payment of household debts. *Federal Reserve Bulletin*, 77(4), 218-229.
- Carroll, C.D. (1993). Buffer stock saving and the life cycle/permanent income hypothesis. Mimeo, Federal Reserve Board.
- Chang, Y.R., Hanna, S. & Fan, J. X. (1997). Emergency fund levels: Is household behavior rational? *Financial Counseling and Planning*, 8(1), 47-55.
- Davies, E. & Lea, S.E.G. (1995). Student attitudes to student debt. *Journal of Economic Psychology*, 16(4), 663-679.
- Deaton, A.S. (1991). Saving and liquidity constraints. *Econometrica* 59(5), 1221-1248.
- Grable, J.E. & Lytton, R.H. (1998). Investor risk tolerance: Testing the efficacy of demographics as differentiating and classifying factors. *Financial Counseling and Planning*, 9(1), 61-73.
- Huston, S. J. & Chang, Y.R. (1997). Adequate emergency fund holdings and household type. *Financial Counseling and Planning*, 8(1), 37-46.
- Kennickell, A.B. (1998a). Multiple imputation in the Survey of Consumer Finances. Accessible at <http://www.bog.frb.fed.us/pubs/oss/oss2/method.html>.
- Kennickell, A.B. (1998b). Analysis of nonresponse effects in the 1995 Survey of Consumer Finances. Accessible at <http://www.bog.frb.fed.us/pubs/oss/oss2/method.html>.
- Kennickell, A.B., Starr-McCluer, M. & Sundén, A. E. (1997). Family finances in the U.S.: Recent evidence from the Survey of Consumer Finances. *Federal Reserve Bulletin*, 83(1), 1-24.
- Lea, S.E.G., Webley, P. & Levine, M. (1993). The economic psychology of consumer debt. *Journal of Economic Psychology*, 14(1), 85-119.
- Lea, S.E.G., Webley, P. & Walker, C.M. (1995). Psychological factors in consumer debt: Money management, economic socialization, and credit use. *Journal of Economic Psychology* 16(4), 681-701.
- Livingstone, S.M. & Lunt, P.K. (1992). Predicting personal debt and debt repayment: Psychological, social, and economic determinants. *Journal of Economic Psychology* 13(1), 111-134.
- Montalto, C. P. & Yuh, Y. (1998). Estimating nonlinear models with multiply imputed data. *Financial Counseling and Planning*, 9(1), 97-101.
- Rubin, D.B. (1987). *Multiple imputation for nonresponse in surveys*. New York: John Wiley Sons.
- Shefrin, H. & R.H. Thaler (1988). The behavioral life-cycle hypothesis. *Economic Inquiry*, 26, 609-643.
- U.S. Bureau of the Census. (1998). Statistical abstract of the United States 1998, Washington DC: U.S. Government Printing Office.
- van Raaij, W.F. & Gianotten, H.J. (1990). Consumer confidence, expenditure, saving and credit. *Journal of Economic Psychology*, 11(2), 269-290.
- Xiao, J. J. & Noring, F.E. (1994). Perceived saving motives and hierarchical financial needs. *Financial Counseling and Planning*, 5, 25-44.
- Zhu, L.Y. & Meeks, C.B. (1994). Effects of low income families' ability and willingness to use consumer credit on subsequent outstanding credit balances. *Journal of Consumer Affairs*, 28(2), 403-422.