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PRELIMINARY – NOT FOR QUOTATION

Savings Account Ownership During the Great Recession[1]

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Abstract

Owning a basic savings account is a fundamental way for families to begin accumulating savings. These accounts can be a pathway to other more sophisticated savings and investment products that contribute to asset accumulation, wealth building, and economic mobility. To better understand what influences the decision to hold a basic savings account, we analyze how a household's economic circumstances, demographic characteristics, and certain financial behaviors influence savings account ownership using the 2007-09 panel of the Survey of Consumer Finances. Our analysis generally shows that younger, higher-educated, and greater-income or wealth households are more likely to maintain or open a basic savings account over the 2007-09 period than older, less-educated, and lower-income or smaller-wealth households. In contrast, families that experienced a loss of liquidity or are black or Hispanic are more likely to be without an basic savings account or to close an account. Possession other liquid assets, including money market accounts, certificates of deposit, and brokerage call accounts, also lowers the probability that households have or open a basic savings account, suggesting that to some degree savings asset choices are being made. From a policy perspective, our study offers further support for the efforts being made to encourage basic saving account ownership, especially for younger households, families with lower-income or little wealth, and minority households. Similarly, financial institutions have an opportunity to market their most basic savings account to these consumer segments, thereby helping to establish longer-term customer relationships. Overall, the findings from this study are expected to help policymakers and others better understand household savings account ownership and saving behavior.

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Introduction

Whether Americans are financially prepared to cover unexpected expenses and emergencies continues to be a major concern among policymakers, community leaders, and the public at large. Much of this concern derives from the fact that savings rates have been relatively low over the last decade, hitting an all-time low of 1.6 percent in 2005.[6] In the years surrounding and after the Great Recession, the savings rate has steadily hovered around 4 to 5 percent.[7]

Numerous studies have been undertaken to identify factors that influence the national savings rate. For example, savings rates have been found to vary for households in different income brackets, age cohorts, and cultural groups.[8] Financial planners encourage households to open and put funds in basic savings accounts so that they are better prepared to meet specific family needs. As an example, funds may be saved to create a financial cushion for unexpected expenses and emergencies, pay for a college education, purchase a vehicle or large durable good, make a down payment on a home, start or finance a small business, or fund retirement accounts. By owning a savings account, households are taking an important step in the process of accumulating assets and building wealth over time. Holding liquid savings is a self-insuring process that not only helps families cover unexpected expenses but also provides the family with peace of mind and better control over their financial circumstances.

Households that are unable to cope with financial shocks or life's uncertainties are at risk, possibly with negative externalities that spill onto the neighborhoods where they live. By having access to liquid savings, households indirectly help contribute to maintaining stable neighborhoods,

[6] See Federal Reserve Economic Data (FRED), St. Louis Federal Reserve Bank, U.S. Department of Commerce, Bureau of Economic Analysis.
[7] The Great Recession started in December 2007 and ended in June 2009 (NBER 2010).
[8] See, for example, Bosworth, Burtless, and Sabelhaus (1991) and Carroll, Rhee, and Rhee (1994).

increasing home and local business values, encouraging the formation of social capital, and generating additional tax revenues for the local, state, and federal governments. From a national perspective, personal savings contribute to national savings, making additional funds available for investments that support economic growth.

Owning a basic savings account is not the only way to build liquid wealth; however, it is a fundamental way to save a portion of income on a regular basis. It also serves as a pathway to other more sophisticated savings and investment products that contribute to asset accumulation, wealth building, and economic mobility (Friedline et al 2014). To better understand what influences the decision to hold a savings account, we analyze how a household's economic circumstances, demographic characteristics, and certain attitudes or financial behaviors influence savings account ownership using the 2007-09 panel of Survey of Consumer Finances (SCF). Our analysis generally shows that younger, higher-educated, and greater-income or wealth households are more likely to have or open a basic savings account over the 2007–09 period than older, less-educated, and lower-income or smaller-wealth households. One of the exceptions to this pattern is the insignificance of holding or opening an account by households between 55 and 64 years of age relative to retirement age households (65 years of age and older). In this case, it is possible that life-cycle influences are affecting the decisionmaking away from basic savings toward other, likely higher yield, savings, investment, and retirement products for households approaching or at retirement age. Another interesting finding is that the highest-income households are no more likely to have or open a basic savings account than households with the lowest income, while households in the top wealth quintile are more likely to have or open a savings account than those with the lowest wealth. That is, the household's decisions to hold or open a savings account are influenced by having relatively greater wealth but not the highest level of family income.

Families that have experienced a loss of liquidity and are black or Hispanic are less likely to have a basic savings account. Possessing other liquid assets, including money market accounts, certificates of deposit, and brokerage call accounts, also lowers the probability that households have or open a basic savings account. Overall, the findings from this study are expected to help policymakers and others better understand and encourage basic savings account ownership.

Reasons for Saving

Questions related to household saving have a long history in the economics literature. Theory suggests that households faced with uncertainty will lower consumption and accumulate 'precautionary' savings to self-insure against potential financial risks (Leland 1968). Under these circumstances, households consume (spend) less and save more of their total income during some periods and then spend these savings in other periods when expenses are greater than household income. From a broader perspective, households may accumulate liquid savings to reserve against a myriad of potential financial risks.

Buffer-Stock Saving

Empirical studies that draw on a buffer-stock theoretical framework of saving provide insight to analyzing patterns of saving. Deaton (1991) and Carroll (1996, 1997) employ an intertemporal model of consumption behavior under uncertainty to describe consumers as having a 'target' wealth-to-income ratio that determines the buffer-stock of wealth consumers will hold to insure against risk and uncertainty. It is worth noting that accumulated savings, when viewed through an intertemporal lens, is typically a component of wealth. Given the level of uncertainty and tolerance for risk, a household chooses to hold a targeted amount of accumulated savings (wealth) as a precaution against future financial shocks (e.g., loss of employment, death or illness of family member, or unexpected expenses).

The buffer-stock theoretical model of saving aligns fairly well with the savings recommendations of financial planners (Carroll, 1997) and others. As a starting point, the America Saves Program (2010) suggests that families hold at least $500 to $1,000 in a savings account for emergency purposes.[9] Additionally, most financial planners recommend that households have a financial reserve in a liquid savings account (i.e., a buffer stock of saving) equivalent to three-to-six months' worth of expenses as a precaution against financial uncertainty and risk (e.g., Greninger et al, 1996 and Winger and Frasca, 2005). Leonard and Di (2013) found that asset accumulation at or above levels equal to nine months' worth of income at the income-poverty level was important for improving a household's odds of escaping asset poverty.[10]

A numerical example provides insights about the magnitude of savings needed to support a financial buffer based on household expenses. This example focuses on the amount of monthly expenses needed as a financial reserve for lower-income households during the timeframe as our analysis. According to the Consumer Expenditure Survey, households in the lowest income quintile in 2007 had a net average monthly expense of roughly $1,706, which translates to a financial reserve that ranges from $5,118 to $10,236, for a three-to-six month reserve. In 2009, $5,403 was needed for a three-month cushion and $10,806 was needed for a six-month cushion.[11] When households in the lowest-income quintile were asked how much savings they believe they

[9] More information about saving for emergencies and other purposes is available at America Saves, http://americasaves.org/.

[10] A household that does not have net worth to sustain income for three months above the federal income poverty level, or net worth equal to 25 percent of the annual income poverty level, is considered "asset poor" (Haveman and Wolff, 2005).

[11] These figures are extracted from reports provided by the U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey (CE) for 2007 and 2009, respectively published in October 2010. The CE's use of *consumer unit* for summing expenditures is virtually the same as our household unit measurement. For more information about the definition of a consumer unit, go to http://www.bls.gov/cex/faq.htm#q3. These reports were accessed in September 2013.

need for emergencies and other contingencies, the median response was $2,000, a value substantially less than what is needed to cover three months of expenses (Bucks et al., 2009).

Numerous empirical studies have estimated aggregate precautionary savings but little consensus has been reached about how much savings individual households actually hold. In large part, the broad range of estimates reported (as high as 50 percent and as low as 2 percent of household wealth) is a result of different research objectives and data limitations.[12] More importantly, these generalized findings likely have little relevance to households that possess minimal (if not negative) levels of wealth.

Self Control, External Constraints, and Mental Accounts

Another way of thinking about why people save draws on the life-cycle hypothesis of consumption (Modigliani and Brumberg, 1954), saving (Ando and Modigliani, 1963) and the formulation of risk and uncertainty into consumer decision making (Kahneman and Tversky, 1979). In this case, consumers base their consumption and saving decisions on reference points in time rather than on a longer (permanent) time horizon. Thaler and Shefrin (1981) extend this analysis using an agency model to integrate a degree of self-control in consumer decision making. The authors view an individual at a point in time as being both a farsighted planner and a shortsighted action taker. A person's dual nature may create conflicts in achieving longer-term goals. As such, external constraints placed on an individual's shortsighted behavior may help control this behavior in favor of longer-term goals. Automatically saving into a savings account is an example of a construct that helps consumers control potential shortsighted behavior that may conflict with farsighted financial goals (e.g., retirement saving). As pointed out by Cole, Thompson, and Tufano

[12] The studies supporting these findings are summarized in Kennickell and Lusardi (2005).

(2008), precommitments such as these may be particularly important for goods and services whose benefits and costs are experienced in different time frames.

Behavioral economics teaches that consumers construct mental accounts for multiple savings motives that may differ, depending on the consumer's position in their life-cycle savings horizon (Thaler, 1999). That is, where a person is in his or her life likely influences which savings motives hold the most importance, which in turn, affect account ownership and saving behavior. Examples of mental accounts may include down payments (e.g., for vehicles and homes), retirement, education (for self or family member), and bequests.

Financial Vulnerability

Lusardi, Schneider, and Tufano (2011) show that financial vulnerability is particularly severe among households with less education, families with children, those households that experienced loss of employment, and households that lost much wealth during the 2007-09 recession. Similarly Brooks et al., (2014) estimate that 44 percent of all U.S. households do not hold enough liquid savings to cover three months' expenses.[13] Moreover, two-thirds of households of color are liquid-asset poor and 25 percent of middle-class households are liquid-asset poor. As the authors state, the majority of liquid-asset poor households are white (59%) and employed (89%), and nearly half (48%) have at least some college. Among liquid-asset poor families with children, roughly half (51%) are headed by two parents.

Whether a household possesses a savings account depends in part on their financial capacity to save. Hogarth and Anguelov (2003) find that, among the poorest households (households with income at or below the poverty threshold), 23 percent said they were current savers and 58 percent indicated that they usually save. This suggests that at least a portion of lower-income households

[13] Specifically, families are considered liquid asset poor if they do not hold liquid savings equal to 3 months' worth of income measured by the poverty rate relevant to the size of the family.

can and do save. Even so, the authors point out that the levels of saving are relatively small ($350 to $1,480). A case study by Pew (2010) in selected Los Angeles low- and moderate-income (LMI) neighborhoods finds that between one-quarter to two-thirds of families consistently sent money to family and friends outside the U.S. Regardless of whether these funds translate to actual savings or consumption, their finding support the proposition that LMI families have the capacity to hold a savings account and actively save. Our study analyzes savings account ownership to help identify factors that either contribute to or lower the likelihood that a household possesses a savings account—an important step toward holding liquid assets and moving toward financial security.

Data

To track household saving account ownership overtime, we employ the 2007-09 SCF panel.[14] This panel gives us a unique opportunity to look at how households held or adjusted their basic saving account ownership during the Great Recession. The respondent to the interviews is the most financially knowledgeable person in the household, and is not necessarily the head of the household.[15] The 2007 survey respondent or the spouse or partner of the respondent was interviewed in 2009. A few respondents had deceased or moved abroad between 2007 and 2009, categorizing them as being "out of scope" for the panel (Kennickell, 2010). There also were a few respondents who declined to be re-interviewed or could not be located. In some cases, only part or parts of the original households were re-interviewed due to changes in household structure. The re-interview response rate of the 2009 survey is nearly 90 percent, which results in a working sample

[14] The 2007 survey was in the field from May 2007 to March 2008 and the 2009 follow-up panel was conducted from July 2009 until January 2010.
[15] In the SCF, the male is artificially designated as the head for mixed-sex couple households and the older partner is designated as the head for same-sex couple households.

of 3,857 households (imputed five times), representing more than 113 million households nationwide in 2007.[16] For this study, households are the family primary unit.

Consistent with other SCF data, an imputation method is employed to fill any gaps in information collected. As Kennickell (1998) explains, a multiple imputation method is used in the creation of the public SCF data to provide as much information as possible while protecting the identity of respondents and their households. Missing data in the combined 2007 and 2009 surveys were imputed where data originally missing in 2007 were re-imputed conditional on the 2009 data. Weights for the panel were constructed using a procedure comparable to that which generated the original 2007 cross-sectional weights.[17] A repeated imputation inference (RII) technique is used on the five implicates of this panel.[18] In doing so, we obtain estimates of standard errors that more closely represent the true sampling standard errors than would be obtained by using any one implicate.

Kennickell (2010) analyzes the combination of the 2007 interview data and the process data from both years, and describes the patterns of nonresponse for groups based on operational, attitudinal, demographic and economic variables. Only a few systematic differences were identified. In general, households with the lowest income or younger age are harder to locate, likely because they tend to move more, while those with debt are easier to track. Physical incapacitation is more of

[16] As stated in the 2007-09 SCF codebook, because the SCF combines two samples, one of which over-samples relatively wealthy households, use of weights is important for obtaining unbiased population estimates from the data. Nonresponse-adjusted weights for the panel interviews were constructed using a methodology comparable to that used for the original2007 weights. For additional information on the weights, see "Try, Try Again: Response and Nonresponse in the 2009 SCF Panel,"(Kennickell,2010).

[17] It is important to note that the samples of eligible respondents for the original 2007 and 2009 panel differ slightly. Even allowing for this difference, estimates of 2007 characteristics may differ from previously published estimates as a consequence of additional editing, differences in imputation or differences in weighting. See Bricker et al. (2011) and Kennickell (2010) for more detailed information about the merging of respondents between the two periods for the 2007-09 panel.

[18] See the 2007 SCF codebook and Kennickell (2011) for a discussion about multiple imputation. Also see Montalto and Sung (1996) and Lindamood et al. (2007) for a discussion about the added advantages in using a repeated imputation inference technique.

an issue for older respondents. Respondents whose homes were repossessed may be less likely or less willing to participate in the 2009 survey. But the response differed relatively little from the average by homeownership status.

A description of the variables analyzed over the two periods is provided in Table 1. Variables that have an '07' at the end relate to 2007 and those that have an '09' at the end relate to 2009. Descriptive statistics for these variables in the weighted sample are reported in Table 2. In 2007, 46 percent of all households had a basic savings account.[19] By 2009 the proportion of households with an account had increased to 50 percent. While there was a slight improvement over this period, it remains true that roughly half of all households do not possess a basic savings account. Moreover, an analysis of the 2010 SCF survey finds that the proportion of households with a savings account was 50.5 percent, suggesting only a slight increase in account ownership since the panel period (Bricker et al. 2012a).[20] In the aggregate, the proportion of households holding other liquid assets, including money market accounts, certificates of deposit, and brokerage call accounts, increased somewhat from 35 percent to 39 percent by 2009. Over this period, median total family income fell slightly from $50,054 to $49,810 (in 2009 dollars). Similarly, median household wealth decreased from $446,343 to $337,500.

Changes in Attributes

One of the most prominent effects of the Great Recession was the substantial loss of wealth by a majority (63 percent) of households in the U.S. (Bricker et al, 2012b).[21] In the aggregate,

[19] We find that the proportion of households with a basic savings account in the 2007 survey is virtually the same as that reported for the 2007 panel year, suggesting that no systematic differences exist for savings account ownership of the non-respondents in the 2009 re-interview.

[20] This figure includes savings deposit accounts plus a relatively small number of tax-preferred accounts such as medical or health accounts and education accounts. See Bricker et al. (2012a).

[21] In addition, McKernan et al. (2013) discuss the wealth gap by race/ethnicity and document the substantial drop in wealth for many minority groups during the Great Recession.

housing prices dropped by close to one third. Stock prices also fell, with the Dow Jones Index plunging by nearly one half of its 2007 value. National unemployment doubled from 5 percent at the end of 2007 to 10 percent by October 2009. Deflated home and stock values, coupled with unstable employment, created an uncertain and unstable environment for many American households (Pfeffer et al., 2013). Descriptive evidence suggests that households emerged from the Great Recession with much more caution and restraint (Bricker et al., 2012b).

Table 3 provides descriptive information about changes in a household's circumstances or behavior. For example, 17 percent of households experienced lost employment for either the respondent or spouse/partner (if applicable), 10 percent lost health insurance coverage for at least one family member, and 8 percent changed marital status from married to unmarried. Behaviorally, 15 percent turned from being short-term financial planners to longer-term planners and 4 percent went from not being shoppers for credit to becoming very active shoppers. An important aspect of this study is to learn more about how these changes may have affected basic savings account ownership.

As shown in Table 3, 11 percent of households became liquidity constrained, moving from having enough income to meet their expenses in 2007 to not having enough income to cover expenses by 2009. This measure is somewhat complicated and merits further discussion. In the survey, respondents were asked if their household spent more, less, or the same as their household income. For our analysis, we consider households to have liquidity if they reported that their household spending was less than or equal to their income, while households that reported spending more than their income are considered to be liquidity constrained. It is conceivable that households adjust their spending and/or income from one period to another based on their initial liquidity

position. This possibility should be kept in mind when interpreting the effect of household liquidity on savings account ownership.[22]

Ownership Outcomes

The 2007–09 SCF panel data allows us to track household-level savings account ownership over two periods. As shown in Table 4, four account ownership outcomes are possible over the two periods. The first outcome is where the household owns a savings accounts in both periods, the second is where the household owns an account in 2007 and does not own an account by 2009, the third is where the household does not own a savings account in 2007 and owns an account by 2009, and the final outcome is where the household does not own a savings account in either period. The sample proportion of each of the four outcomes represents a baseline probability that a household is in that particular outcome.

We find that roughly one-third of households either held a savings account both periods (31 percent) or did not have a savings account in either period (35 percent). Nineteen percent of households without a savings account in 2007 opened one by 2009, while 15 percent who had a savings account in 2007 closed it by 2009.

Economic Model and Econometric Framework

We consider a family's holding of a basic savings account from a consumer choice theoretical viewpoint. We define the net utility for consumer *i* of holding a deposit account in period *t* as:

$$y_{it}^{*} = \boldsymbol{\beta}'\mathbf{x}_{it} + \varepsilon_{it} + u_i \qquad (1)$$

[22]According to the Consumer Expenditure Survey, the average household spent less in 2009 than in 2008 (U.S Bureau of Labor Statistics, October 2010); whereas median income over this period fell (Noss, 2010). As a consequence, how these trends may have influenced a household's overall liquidity position by 2009 is unclear.

where ε_{it} is assumed to be unobserved effects that may vary from period to period and u_i is unobserved effects that are invariant from period to period, both assumed to be normally distributed and uncorrelated with the observed effects, $\mathbf{x}_{it}$. Having a savings account in period t is then determined by the observation:

y_{it}= 1 if y_{it}^*>0 and 0 otherwise.

Similar to Rhine and Greene (2013), we observe the consumer in two periods, denoted period 0 and 1. Switching behavior may occur in either direction, so that four outcomes are possible: having a savings account in both periods, not having an account in either period, having an account in the first period and not having an account by the second period, and not having an account in the first period and having an account in the second. With two periods of observation, the preceding random-effects specification defines a bivariate probit model in which the correlation across the two periods is $\rho = \sigma_u^2/(1 + \sigma_u^2)$. All four cases will be analyzed in this study. Specifically, we will consider whether the consumer keeps an account in both periods, remains without an account both periods, or switches from having a savings account in the first period to not having an account in the second period or vice versa.

Consider the switching outcomes first. Based on the model suggested thus far, we might consider analyzing the two outcomes (y_{i0}= 1, y_{i1}= 0) and (y_{i0}= 0, y_{i1}=1). This might be recast as a simple model for the binary outcome *only for those who do switch status*: $z_i = y_{i1}|y_{i0} \neq y_{i1}$ and 0 otherwise. However, this neglects the dynamic aspects of the behavior. Switching behavior will depend on the characteristics of the individual and changes that might motivate a switch, such as

certain attitudes or financial behaviors, family income, or employment status. Thus, we consider a dynamic specification for the bivariate probit model:

$$y_{i0}^* = \beta_0' \mathbf{x}_{i,0} + \varepsilon_{i0} + u_i \quad (2a)$$

$$y_{i1}^* = \beta_1' \mathbf{x}_{i,1} + \alpha'(\Delta \mathbf{x}_i) + \varepsilon_{i1} + u_i \quad (2b)$$

The fact that this is a two-period model makes it possible to incorporate changes in characteristics that might help explain changes in savings account ownership. The generic term $\Delta \mathbf{x}_i$ indicates changes in the subset of the measured characteristics whose changes might induce a switch. We also note that preferences might change, which calls into question the assumption that the coefficients are the same in the two periods. We fit the model using full information maximum likelihood (Greene 2012, 745–756). The standard errors of the coefficient estimates are adjusted for the five implicates generated from the data imputation with Repeated Imputation Inference (RII) method.[23]

We are interested in the marginal effects of the influential variables on the probabilities of the various outcomes implied by the model. Since there are two equations, there are different candidates for the relevant margins to be analyzed. Throughout, we are interested in the probabilities of specific pairs of outcomes, for example, the probability of holding a savings account in period 0 ($y_{i0} = 1$) and not holding one in period 1 ($y_{i1} = 0$). This is the joint probability,

$$P_i(j_0,j_1) = \text{Prob}(y_{i0} = j_0 \text{ in period 0}, y_{i1} = j_1 \text{ in period 1}).$$

Based on the bivariate probit model, this is a bivariate normal probability that we will denote $P_i(j_0,j_1) = \Phi_2(j_{i0},j_{i1} \mid \mathbf{x}_{i0},\mathbf{x}_{i1})$. Partial effects are the derivatives of this bivariate probability, which we can denote

$$\Delta_{j_0,j_1} = \Delta_i(j_0,j_1) = \partial \Phi_2(j_0,j_1|\mathbf{x}_{i0}\ \mathbf{x}_{i1})/\ \partial \mathbf{x}_i.$$

[23] See Kennickell (2011), Montalto and Sung (1996), and Lindamood et al. (2007) for a discussion about RII.

There are three noteworthy aspects of the partial effects. First, for any given covariate, such as age or income, there are four outcomes (cells) that can be examined. The four cells (probabilities) must sum to one, which means that these four partial effects will sum to zero. Second, for a specific variable, *x*, that only appears in one of the two latent regressions in (2a, 2b), the partial effect with respect to that variable will only change sign but not magnitude when the corresponding dependent variable changes. As an example, let's say that LNFAMINC09 only appears in (2b). The partial effect LNFAMINC09 on the Prob(y_{i0}=1,y_{i1}=1|LNFAMINC09, other variables) with respect to LNFAMINC09 will be the negative of the partial effect of LNFAMINC09 on the Prob(y_{i0}=1,y_{i1}=0|LNFAMINC09, other variables). This possibly counterintuitive result is more transparent, and familiar, in the univariate case, where

$$\partial \text{Prob}(y_{i1} = 1|\text{LNFAMINC09},\mathbf{x}_{09}) / \partial\ \text{LNFAMINC09} =$$

$$-\partial \text{Prob}(y_{i1} = 0|\text{LNFAMINC09},\mathbf{x}_{09})/\partial\ \text{LNFAMINC09}.$$

This is a consequence of straightforward algebra

$$\text{Prob}\ (y_{i1} = 0|\text{LNFAMINC09},\mathbf{x}_{09}) = 1- \text{Prob}(y_{i1} = 1|\ \text{LNFAMINC09},\mathbf{x}_{09}),$$

so the derivatives are mirror images. Finally, it is important to maintain the relative, not absolute values of partial effects. The economic importance of the magnitude of the partial effect depends on the margin from which the change (the effect) begins.[24] We will note this at some points below in the discussion of our empirical results.

Empirical Model

Drawing on previous literature, certain socioeconomic and demographic factors are likely to have an influence on whether a household has a savings account. For ease of discussion, attributes

[24] For example, a partial effect of a year in age of, say, +.05 has quite different implications when the joint probability is, say, 0.2 (whereupon the partial effect would be 25 percent of the probability) from when the joint probability is, say, 0.8 (whereupon the partial effect would be only 6.7 percent of the probability).

that have an '07' at the end relate to 2007 and those that have an '09' at the end relate to 2009. DeVaney, Anong, and Whirl (2007) show that households with higher income, more education, and larger families are more likely to save. As such, we expect that over the 2007–09 period, households with greater family income (FAMINC07/09), higher levels of education (COLLEGE07/09, SOME COLLEGE07/09, and HIGHSCHOOL07/09) and children present (CHILDREN07/09) are more likely to hold funds in a basic savings account to self-insure against unexpected financial shocks. Similarly, married (MARRIED07/09) households are expected to have a savings account to guard against financial uncertainties and to help build financial stability for their families.[25]

To financially prepare for life's uncertainties, households have numerous savings options. Holding a basic savings account is a fundamental way to formally hold funds for contingencies. However, households may also consider using other liquid assets such as money market accounts, certificates of deposit, and brokerage call accounts. These assets typically require more funds to open an account and often cannot be drawn without penalty for some period in time. We include an indicator variable to control for whether a household possesses one of these other liquid accounts (LIQASSETS). A positive relationship between basic savings and other liquid assets would suggest that households tend to hold an array of savings assets with different degrees of liquidity. In contrast, a negative relationship between basic savings and other liquid savings assets implies that these assets are substitutes. The empirical investigation will shed light on this relationship.

It is possible that households will temporarily cover unexpected expenses using short-term credit (e.g., credit card). Use of credit is a means of smoothing consumption by either directly tapping into expected future income or drawing down on wealth assets. In addition to controlling

[25] This also follows from Chang and Huston (1995).

for family income, this analysis takes into account the households level of wealth (WEALTH07/09) as a possible financial source tapped when unexpected financial shocks occur.

We expect employed (EMPLOY07) households to be in a better financial position to hold a savings account than unemployed household. For employed households, possessing a savings account or opening an account can be a way to prepare against potential future disruptions in employment and income. This analysis also considers whether households willing to take high risk about money and investment decisions (HIGHRISK07/09) have a different preference for basic savings account ownership than households unwilling to take high risk. It is feasible that high risk-taking households establish a savings buffer to compensate for this behavior. Conversely, it is possible that these households find it unimportant to possess a financial buffer. As such, the empirical investigation seeks to bring insights about savings account ownership between these two groups.

It is likely that the need for liquid savings is influenced by the stage in life that a household is being observed. Life-cycle effects are proxied by age to investigate whether working-age households (those included in the AGE3007/09, AGE4007/09, AGE5407/09, andAGE6407/09 groups) are more or less likely to possess a savings account than retirement age (AGE6507/09) households.[26] Several market research studies describe millennial households (Generation Y), those in the AGE3007/09 age category, as being better cash flow managers who save more than some of the other age groups including baby boomers, the retirement age group, AGE6507/09.[27]

[26] According to the Social Security Administration, in 2007 households 65 years of age and older were eligible for full retirement benefits. It is possible that the household became eligible for retirement at age 66 by 2009, reflecting a change in eligibility with full benefits based on the Social Security Amendments 1983 (H.R. 1900, Public Law 98-21). About 1 percent of households became eligible for retirement by 2009. The model was re-estimated to account for a retirement threshold of 66 years of age, however, the partial effects on the age groups remained virtually unchanged.
[27] See, Andrea Kempfer, "Inside the Mindset of Millennials," Lab42, April 2013, accessed 2/22/2014 at http://blog.lab42.com/inside-the-money-mindset-of-millennials; Carter, Erik, Gregory Ward, and

With this in mind, our analysis will observe whether generational differences influence the likelihood of owning a savings account.

Consistently, the literature shows that certain minority households, including blacks and Hispanics, are less likely to hold either a checking or a savings account than white or non-Hispanic households, respectively.[28] Our study controls for being a black (BLACK) or Asian and other race (ASIAN_OTHER) household, relative to being a white household; as well as being in a Hispanic (HISPANIC) household, relative to being in a non-Hispanic household, to determine whether significant differences exist.

There are competing views about how having health insurance coverage influences a household toward holding a savings account. For example, it might be that households without health insurance tend to have a basic savings account as a way to store funds to self-insure against health uncertainties, while households with health insurance may be less likely to hold a basic savings account because of an expectation that insurance will cover most health-related expenses. This view is contrasted with the possibility that households believe that having health insurance is insufficient for paying out-of-pocket or out-of-network health expenses. Hence, households with health insurance coverage also may be inclined to have a basic saving account to store funds that may be needed to cover health-care costs. Because of these competing influences, we look to the empirical investigation to determine, what if any, relationship exists between having health insurance and possessing a savings account.

Liz Davidson, "2013 Generational Research," Financial Finesse, Inc., January 2014; the Merrill Edge Report, Bank of America, Spring 2013; and "Millennials & Money: Highlights from the 2013 Wells Fargo Millennial Survey," Spring 2013.A descriptive analysis for families by age was also undertaken by America Saves, see "Survey: Where and How America Savers Save, May 2014.

[28] See for example, Rhine and Greene, (2006), Bi and Montalto (2004), Chang, Hanna, and Fan (1997),Chang et al. (1995), Hanna and Wang (1995), DeVaney (1995), and Hanna, Chang, and Fan (1993).

Households focused on short-term planning (STPLAN07) rather than long-term planning may be less likely to hold a basic savings account as a contingency against future risk or uncertainly than households that re long-term planners. Shopping for credit is an example of how a family gathers information about financial products and services to make informed decisions. It is expected that households that shop little or none for credit (LITTLE_NOSHOP07) likely have less acumen about personal financial management than those that do shop for credit or other financial products and services.

Taking advantage of the longitudinal nature of the data, we are able to determine whether a loss of employment (LOSEJOB), a drop in liquidity (LOSSLIQ), becoming uncovered by health insurance (YNINSUR), and becoming unmarried (MARRUNMARR) influence savings account ownership over the two periods. Changes in behavior, including a household's planning horizon turning from a short- to longer-term (STLTPLAN) focus and from not being a shopper for credit to becoming an extensive shopper for credit (NLOTSHOP) are also included. These attributes are included in the estimation to document whether or not the changes in these characteristics influence the likelihood that households possess a basic savings account between 2007 and 2009.

Results

The analysis begins by identifying attributes that influence either maintaining a basic savings account in 2007 and 2009 or in opening an account by 2009. A bivariate probit model is used to estimate these two possible outcomes over the 2007-09 period.

Has a Savings Account or Opens an Account

Table 5a displays the partial effects for holding an account in both periods and opening the account in the second period.[29] Households with higher income or greater wealth are more likely to hold an account in both periods or to open an account by 2009. For example, households with family income in the fourth quintile are 8.2 percentage points more likely to have an account in both periods and 10.7 percentage points more likely to open an account than households with family income in the first quintile. The probability of maintaining a basic savings account in both periods for households in the fourth quintile is 39.2 percent (31 percent + 8.2 percentage points) and opening an account is 29.7 percent (19 percent + 10.7 percentage points).

While having higher income positively influences either having or opening an account, we find that households in the highest family income group are no more or less likely to either hold an account in both periods or to open an account by 2009 than lowest family households. This suggests the possibility that at a relatively high family income level, households may turn to other savings and investment options. Similarly, households with greater levels of wealth also are more likely to possess a savings account in both periods or opening an account by 2009. While being in the highest income quintile has an insignificant influence on having a basic savings account, we find that the wealthiest households are more likely to possess an account. As an example, households in the top wealth quintile are 4 percentage points more likely maintain an account and 5.3 percentage points more likely to open a basic savings. The largest family income and greatest wealth effects are observed for households in the fourth quintile. A comparison of the influence of

[29] Following Bucks and Bricker (2013), Hogarth et al. (2004), Kennickell (2010), we estimate the bivariate probit models for the weighted sample. The estimated coefficients are available from the senior author upon request. The partial effects can be calculated either based attribute means (reported here) or the average over all observations. We estimated the partial effects using both methods and found the effects virtually the same.

income and wealth suggests that a household's decision to hold or open a savings account is influenced by having relatively greater wealth but not at the highest level of family income.

Households that hold other liquid assets (i.e., money market accounts, certificates of deposit, and brokerage call accounts) are less likely to possess a basic savings account, suggesting that these two measures of savings tend to be substitutes. Being in possession of other liquid assets lowers the likelihood of having a basic savings account in both periods by 3.8 percentage points (to a probability of 27.2 percent) and lowers the probability by 5 percentage points (to a probability of 14 percent) for opening an account by 2009.

Having a higher level of education increases the likelihood of either having an account in both periods or opening one. As an example, households with at least a college degree, relative to not having completed high school, are almost 4 percentage points more likely to possess an account and 5 percentage points more likely to open a basic savings account. This finding suggests that those with higher levels of education may better understand or recognize the potential benefits from having liquid assets available if needed.

Relative to retirement age households, younger families are more likely to either maintain a savings account over the period or to open one by 2009. For example, households 30 years of age or younger were 9 percentage points more likely to maintain an account (a probability of 40 percent) and almost 12 percentage points more likely to open an account (to a probability of 31 percent) than retirement age households. Households between 55 and 64 years of age, however, are not influenced differently than retirement age households in terms of either holding or opening a savings account over this period. Overall, our findings suggest that, as households move through the work life cycle, the probability that they will maintain or open a savings account during this period declines somewhat.

Consistent with other studies, our analysis shows that black, Asian or other race, and Hispanic households are significantly less likely than white and non-Hispanic households to maintain a savings account. For Black households, the likelihood of holding an account in both periods declines by 6.6 percentage points (to a probability of 24.4 percent) relative to white households, while Asian and other race households are 6.1 percentage points less likely to have an account in both periods than white households . For Hispanic households, the likelihood of possessing an account in both periods declines by 8.1 percentage points (to a probability of 22.9 percent) compared to non-Hispanic households. For these specific racial/ethnic groups, the likelihood of opening account is no different than for white or non-Hispanic households, respectively.

Willingness to take high risk is found to have a positive influence on either maintaining or opening a basic savings account. Specifically, these households are 2.3 percentage points more likely to maintaining an account and 3.1 percentage points more likely to open an account. This suggests that high risk-taking households have a greater tendency to establish a savings buffer against the risk being taken toward money and investment decisions.

Turning to changes of specific attributes over time, households that experienced a loss in liquidity over the 2007-09 period are 2 percentage points less likely to maintain an savings account in both periods and also are less likely to open an account by 2009 by 2.6 percentage points. In addition a change in the pattern of shopping for credit has a significant influence on savings account ownership. Specifically, households who were not credit shoppers in 2007 and became shoppers by 2009 are 6.6 percentage points less likely to maintain a savings account in both periods and are 8.6 percentage points less likely to open an account.

There are several reasons why a change in credit shopping behavior may have influenced the household's basic savings account holding of savings accounts is discussed. First, as pointed out by Chakrabarti et al., (2011), there was a tendency for households to decrease average spending and/or lower household debt in response to their weakened financial circumstances caused by the Great Recession.[30] During this timeframe, the interest rate paid on credit card debt was substantially higher than the interest earned on basic savings accounts.[31] As such, it is quite possible that funds in basic savings accounts were drawn down to pay off credit card and other debt. Another possibility is that as households became more active shoppers for credit, they also became more aware about the returns on other savings and investment products. The difference in return between a basic savings account and other liquid savings accounts, for example, may have resulted in some households turning to higher yielding savings products. We find evidence suggesting that a larger proportion of households that became more active shoppers for credit also possessed other liquid assets in lieu of a basic savings account. In particular, slightly more than 19 percent of households that changed their credit shopping behavior from doing little to no shopping to being active credit shoppers possessed other liquid assets, including money market accounts, certificates of deposit, and brokerage call accounts, but no basic savings account. This contrasts with 15.6 percent of households that did little or no shopping for credit in 2009 possessed liquid assets other than basic savings accounts.

[30] Schmeiser et al (2014) find that a relatively large share of consumers continue to pay down debt and saving.
[31] For example, rates among the highest consumer ranked credit cards were between 9 and 11 percent, with median rates ranging from 14 and 17 percent (See "The best and worst credit cards," CNNMoney.com, September 4, 2007). This contrasts with the 5-Year Treasury Rate declining from slightly less than 5 percent in 2007 to roughly 1.5 by 2009 (See 5 Year Treasury Constant Maturity Rate, Board of Governors of the Federal Reserve System, Federal Reserve Bank of St. Louis (research.stlouisfed.org).

Has No Savings or Closes Account

The partial effects for the second two cases, households not having a savings account over the period or closing the account by 2009, are displayed in Table 5b. As discussed earlier in the Empirical Model section, for variables that appear in one of the two latent regressions in (2a, 2b), the partial effect on specific attributes will change sign but not magnitude when the correspondent dependent variable changes. This 'mirror-like' relationship is apparent when comparing Table 5a and 5b**.**

As shown from Table 5b, households with increasing family income or greater wealth are less likely to be without a savings account or to close an account. Having higher-levels of education, being younger than retirement age, or taking high risk have a negative influence on being without or closing a savings account. In contrast, experiencing a loss of liquidity or becoming a more active shopper for credit increases the likelihood of either being without a savings account or closing the account.

Because racial and ethnic background does not change over the two periods, the partial effects do not mirror the effects reported in Table 5a. Our analysis finds that black households are 7.5 percentage points more likely to be without a basic savings account and Asian and other racial groups are 6.7 percentage points more likely to be without a savings account than white households. Similarly, Hispanic households are 9 percentage points more likely to be without a savings account than non-Hispanic households. We further find that Black, Asian and other racial groups, and Hispanic households are no more likely than white or non-Hispanic households, respectively, to close an account.

Concluding Remarks

Owning a basic savings account is a fundamental way for households to save a portion of income on a regular basis. These funds help households self-insure against financial shocks and contribute to a family's overall financial security. Holding a savings account can also serve as a pathway to other more sophisticated savings and investment products that contribute to asset accumulation, wealth building, and economic mobility. Even though basic savings account ownership among all U.S. households rose from 46 percent to 50 percent during the Great Recession, it remains true that a substantial share of households are without a basic savings account.

As expected, households with higher income, greater wealth, or higher education are more likely to possess or open a basic savings account than lower income, smaller wealth, or less educated households. Our analysis also shows that younger households, especially those who are 30 years of age and younger, are more likely to maintain or open a savings account, suggesting that programs aimed at encouraging saving among younger population groups could be especially responsive and beneficial to this population.

A loss in liquidity, that is, a fall in income or an increase in expenses, had a negative influence on whether a household maintained or opened a basic savings account. In addition, households who became active shoppers of credit are less likely to maintain or open savings accounts. This suggests that acquiring market knowledge about credit and likely savings and other financial products tends to discourage household ownership of a basic savings account with a relatively lower yield. The analysis also shows that ownership of other liquid savings accounts, including money market accounts, certificates of deposit, and brokerage call accounts, are substitutes for possessing a basic savings account among many households.

From a policy perspective, our study offers further support for the efforts being made to encourage basic savings account ownership. Our analysis suggests that attention be given to a household's position in the life cycle as well as to specific population segments including minority, lower-income, smaller-wealth, and less educated households. For these households, a basic savings account remains an important instrument of savings and represents an important step families can take toward financial wellbeing and economic mobility. Similarly, financial institutions have an opportunity to market their most basic savings account to these consumer groups, thereby helping establish longer-term customer relationships. Overall, the findings from this study are expected to help policymakers and others interested in better understanding household savings account ownership and saving behavior.

The findings from this study offer several areas for future investigation. The first area relates to a need for a more in-depth analysis about household life-cycle savings decisions be undertaken to further investigate the motivations and timing of acquiring savings and other assets in a dynamic way. This inquiry should include identifying how much and in what ways households accumulate and use liquid saving over time. A second area for exploration relates to the savings decisions of specific populations, including Black, Hispanic, and other minority households. For example, it is possible that minorities save in nontraditional ways, relative to non-minorities. Third, while this study helps us understand household savings decisions, the data analyzed were collected during a financially stressful time. It would be useful to compare these findings to studies that analyze account ownership over financially stable timeframes and analyses that look at decisions during different recessions. In a forthcoming paper, we are further investigating other asset holdings and debt obligations for households over the period of the Great Recession, with a particular focus on younger households.

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Table 1. Description of Variables

Name	Description
Savings Account Ownership	
SAVACCT07/09	Respondent and/or spouse (if applicable) have a basic savings account in 2007/2009
Economic Characteristics	
Family Income and Wealth	
FAMINC07/09	Total family income in 2007/2009
WEALTH07/09	Total family wealth in 2007/2009
Liquid Assets	
LIQASSETS	The family possesses liquid assets including money market accounts, certificates of deposit, and brokerage accounts.
Liquidity	
LIQUID07/09	Spending is less than or equal to total income in 2007/2009
Work Status	Respondent is:
EMPLOY07/09	full- or part-time worker in 2007/2009
Education	Family head has:
NOHIGHSCHOOL07/09	completed less than a high school degree in 2007/2009
HIGH SCHOOL07/09	received a high school degree or equivalent in 2007/2009
SOME COLLEGE07/09	completed some years in college/university in 2007/2009
COLLEGE07/09	completed at least a four-year college/university in 2007/2009
Health Insurance	
HAVEINS07/09	Everyone in family is covered by health insurance in 2007/2009
Demographic Attributes	
Age Groups	Family head is:
AGE3007/09	30 years of age or younger in 2007/2009
AGE4007/09	Greater than 30 years of age and less than or equal to 40 years of age in 2007/2009
AGE5407/09	Greater than 40 years of age and less than or equal to 54 years of age in 2007/2009
AGE6407/09	Greater than 54 years of age and less than or equal to 64 years of age in 2007/2009
AGE6507/09	Greater than or equal to 65 years of age in 2007/2009
Race/Ethnicity	Respondent is:
WHITE	white, non-Hispanic
BLACK	black
HISPANIC	Hispanic, nonwhite
ASIAN_OTHER	Asian or other racial groups
Marital Status	Respondent is:
MARRIED07/09	married or in married-like relationship in 2007/2009
Children in Household	
CHILDREN07/09	Number of children less than 18 years of age in the family household in 2007/2009
Financial Attitudes and Behaviors	
Risk Taking	
HIGHRISK07/09	Respondent and/or other family members were willing to take risk or be aggressive in decisions concerning money and investments in 2007/2009

Planning Horizon	
STPLANER07/09	Respondent plans one year or less for household savings and spending decisions in 2007/2009
Shopping for Credit	
LITTLE_NOSHOP07/09	Little to no shopping for credit is done by respondent or family in 2007/2009
Changes in Attributes	
LOSEJOB	Respondent and/or spouse/partner (where applicable) was/were employed in 2007 and not employed by 2009
LOSSLIQ	Spending is less than or equal to total income in 2007 and spending more than total income by 2009
YNINSUR	Everyone in family is covered by health insurance in 2007 and at least one family member is not covered by health insurance by 2009
MARRUNMARR	Married in 2007 and not married by 2009
STLTPLAN	For saving and spending, respondent takes one year or less for planning in 2007 and takes more than one year for planning by 2009
NLOTSHOP	Little to no shopping for credit done by respondent or family in 2007 and became an active shopper for credit by 2009

Table 2. Descriptive Statistics

Name	2007	2009
Economic Characteristics		
Savings Account Ownership		
SAVACCT07/09	.46	.50
Household Family Income		
FAMINC07/09(mean)	$89,127	$80,838
FAMINC07/09(median)	$50,054	$49,810
WEALTH07/09 (mean)	$12,863,700	$9,480,259
WEALTH7/09 (median)	$446,343	$337,500
Liquid Assets		
LIQASSETS	.35	.39
Liquidity		
LIQUID07/09	.84	.84
Work Status		
EMPLOY07/09	.69	.64
Education		
NOHIGHSCHOOL07/09	.13	.12
HIGHSCHOOL07/09	.32	.32
SOME COLLEGE07/09	.19	.19
COLLEGE07/09	.36	.37
Health Insurance		
HAVEINS07/09	.80	.79
Demographic Attributes		
Age Groups		
AGE3007/09	.15	.11
AGE4007/09	.19	.18
AGE5407/09	.30	.30
AGE6407/09	.17	.18
AGE6507/09	.20	.22
Race/Ethnicity*		
WHITE	.71	.71
BLACK	.13	.13
HISPANIC	.12	.12
ASIAN_OTHER	.04	.04
Marital Status		
MARRIED07/09	.60	.53
Children in Household		
CHILDREN07/09	.86	.85
Financial Attitudes/Behaviors		
Risk Taking		
HIGHRISK07/09	.28	.20
Planning Horizon		
STPLAN07/09	.21	.19
Shopping for Credit		
LITTLE_NOSHOP07/09	.75	.70
Sample Size (each of 5 implicates)	3,857	3,857

Notes:
The descriptive statistics are calculated from the weighted sample. Family income and wealth are in 2009 dollars.
*Respondents were asked about their race and ethnicity only in 2007.

Table 3. Changes in Selected Attributes

Change in Attributes	From 2007 to 2009
LOSEJOB	.17
LOSSLIQ	.11
YNINSUR	.10
MARRUNMARR	.08
STLTPLAN	.15
NLOTSHOP	.04
Sample Size (each of 5 implicates)	3,857

Note:
The descriptive statistics are calculated from the weighted sample.

Table 4.Basic Savings Account Ownership: 2007 – 2009

From 2007	**To 2009**	
	Savings Account %	No Savings Account %
Savings Account %	31	15
No Savings Account %	19	35

Note:
The descriptive statistics are calculated from the weighted sample.

Table 5a. Partial Effects—Holding or Opening a Savings Account

	SAVACCT07 = 1 SAVACCT09 = 1	**SAVACCT07 = 0 SAVACCT09 = 1**
Economic Characteristics		
Family Income Quintiles		
Q2FAMINC09	.034*** (0.010)	.044*** (0.014)
Q3FAMINC09	.053*** (0.012)	.069*** (0.016)
Q4FAMINC09	.082*** (0.015)	.107*** (0.019)
Q5FAMINC09	.009 (0.023)	.011 (0.030)
Wealth Quintiles		
Q2WEALTH09	.049*** (0.013)	.064*** (0.016)
Q3WEALTH09	.066*** (0.018)	.086*** (0.017)
Q4WEALTH09	.081*** (0.015)	.106*** (0.019)
Q5WEALTH09	.040** (0.016)	.053** (0.021)
Other Liquid Assets		
LIQASSETS	-.038*** (0.009)	-.050*** (0.012)
Education		
HIGH SCHOOL09	.038*** (0.013)	.049*** (0.017)
SOME COLLEGE09	.032** (0.014)	.042** (0.019)
COLLEGE09	.039*** (0.014)	.050*** (0.018)
Demographic Attributes		
Age Profile		
AGE3009	.090*** (0.015)	.118*** (0.019)
AGE4009	.039*** (0.014)	.052*** (0.018)
AGE5409	.027** (0.011)	.035** (0.015)
AGE6409	.007 (0.012)	.010 (0.015)
Risktaking		
HIGHRISK09	.023** (0.011)	.031** (0.014)
Race/Ethnicity		
BLACK	-.066*** (0.020)	-.018 (0.018)
ASIAN_OTHER	-.061** (0.031)	.009 (0.029)
HISPANIC	-.081*** (0.021)	-.0005 (0.017)

Table 5a (continued)		
Children in Household		
CHILDREN09	.002 (0.003)	.003 (0.005)
Changes in Attributes		
LOSEJOB	.004 (0.010)	.005 (0.013)
LOSSLIQ	-.020* (0.011)	-.026** (0.015)
YNINSUR	-.014 (0.013)	-.019 (0.018)
MARRSINGLE	-.002 (0.014)	-.003 (0.018)
STLTPLAN	-.002 (0.010)	-.003 (0.013)
NLOTSHOP	-.066*** (0.018)	-.086*** (0.024)
Baseline Probability at the mean level of attributes	31%	19%

Notes: ***, **, * denote significance at the1%, 5%, 10% level, respectively.
Standard errors are in parentheses. The bivariate probit models are estimated with the weighted sample.
Rho, the correlation coefficient from the bivariate probit estimation, is 0.442, significant at the 1% level.

Table 5b. Partial Effects—Not Having or Closing a Savings Account

	SAVACCT07 = 0 SAVACCT09 = 0	**SAVACCT07 = 1 SAVACCT09 = 0**
Economic Characteristics		
Family Income Quintiles		
Q2FAMINC09	-.044*** (0.014)	-.0339*** (0.010)
Q3FAMINC09	-.069*** (0.016)	-.053*** (0.012)
Q4FAMINC09	-.107*** (0.019)	-.082*** (0.015)
Q5FAMINC09	-.011 (0.030)	-.009 (0.023)
Wealth Quintiles		
Q2WEALTH09	-.064*** (0.016)	-.049*** (0.013)
Q3WEALTH09	-.086*** (0.017)	-.066*** (0.018)
Q4WEALTH09	-.106*** (0.019)	-.081*** (0.015)
Q5WEALTH09	-.053** (0.021)	-.040** (0.016)
Other Liquid Assets		
LIQASSETS	.050*** (0.012)	.038*** (0.009)
Education		
HIGH SCHOOL09	-.049*** (0.017)	-.038*** (0.013)
SOME COLLEGE09	-.042** (0.019)	-.032** (0.014)
COLLEGE09	-.050*** (0.018)	-.039*** (0.014)
Demographic Attributes		
Age Profile		
AGE3009	-.118*** (0.019)	-.090*** (0.015)
AGE4009	-.052*** (0.018)	-.039*** (0.014)
AGE5409	-.035** (0.015)	-.027** (0.011)
AGE6409	-.010 (0.015)	-.007 (0.012)
Risktaking		
HIGHRISK09	-.031** (0.014)	.023** (0.011)
Race/Ethnicity		
BLACK	.075*** (0.022)	.008 (0.015)
ASIAN_OTHER	.067* (0.034)	-.014 (0.05)
HISPANIC	.090*** (0.024)	-.008 (0.015)

Table 5b (continued)		
Children in Household		
CHILDREN09	-.003 (0.005)	.002 (0.003)
Changes in Attributes		
LOSEJOB	-.005 (0.013)	.004 (-0.010)
LOSSLIQ	.026** (0.015)	.020* (0.011)
YNINSUR	.019 (0.018)	.014 (0.013)
MARRSINGLE	.003 (0.018)	.002 (0.014)
STLTPLAN	.003 (0.013)	.002 (0.010)
NLOTSHOP	.086*** (0.024)	.066*** (0.018)
Baseline Probability at the mean level of attributes	19%	31%

Notes: ***, **, * denote significance at the1%, 5%, 10% level, respectively.
Standard errors are in parentheses. The bivariate probit models are estimated with the weighted sample.
Rho, the correlation coefficient from the bivariate probit estimation, is 0.442, significant at the 1% level.