The Effect of Financial Literacy on Withdrawing Funds Intended for Retirement—Conclusions Drawn from Three Years of Data

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Abstract: This study determines the importance of financial literacy on the decision to withdraw funds from different types of retirement accounts, before a worker decides to retire. Using 3 large datasets of U.S. households and adults, collected across multiple years, this paper investigates how financial literacy can explain the decision to dissave from funds already set aside for retirement. The results from the probit analysis explain that a lack of financial knowledge significantly influences the decision to retract funds saved for retirement, before retiring, across different types of retirement accounts. The importance of financial literacy persists, even after controlling for various demographic, socio-economic, and consumption "shock" variables. Though withdrawing from funds stowed away for retirement may be the optimal utility maximizing decision for some households, the results from this study show that being able to answer one more question correctly on the five point financial literacy quiz, decreases withdrawal likelihoods, depending upon the type of retirement account and withdrawal option.

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In studying retirement planning, "success" signifies adequately amassing funds during working years to sustain livelihood when a worker leaves the labor force. The past twenty years of interest and research in financial literacy has revealed the positive role of an individual's financial knowledge on their aptitude to save for retirement, along with effects on numerous other economic and financial behaviors. Yet, sometimes, money set aside for retirement is used before its intended purposes. Individuals may suffer adverse financial shocks and or simply may decide to dip into their retirement funds before commencing retirement.

Lusardi, Mitchell and Michaud (2011) find those who are more financially knowledgeable are better able to deal with adverse income shocks. It should also be noted that withdrawing funds from retirement accounts is not the only option for households facing negative shocks—households in financial stress could obtain credit via credit cards, take out loans instead of withdrawals from retirement accounts or obtain home equity lines of credit. In addition, research shows that more financially knowledgeable individuals are more likely to have precautionary savings (de Bassa Scheresberg 2013; Hilgert et. al 2003).Thus, when an immediate need arises, more financially literate individuals are more likely to have other resources that they can exhaust, while keeping retirement funds intact, before retirement.

Financially knowledgeable households are not somehow immune to adverse shocks and hence, never faced with the decision to withdraw from retirement accounts. Unforeseen circumstances can strain financially knowledgeable households just as well. Withdrawing from retirement accounts is also not always a "mistake". Sometimes withdrawing from retirement accounts may be the optimal utility maximizing decision for the said household. This paper on withdrawals and financial literacy, however, questions the financial awareness of households who withdraw from retirement funds. Are these households equipped to make the optimal savings decision for maximizing their overall well-being? The overwhelming evidence of financial illiteracy related to basic financial topics suggests that this is probably not the case (e.g., Bernheim 1998; Lusardi and Mitchell 2011b). If this is true, how can it be expected that households, who severely lack in financial knowledge, will accurately weigh their options

in regards to withdrawing funds from retirement accounts to make optimal financial decisions? The overall deficit of financial literacy in the majority of the population, combined with the research evidence that financially knowledgeable individuals are more likely to have other forms of savings that they can lay hands on in times of need, indicates that financial literacy is a key variable, omitted in the research pertaining to withdrawal decisions, pre-retirement. The research questions investigated in this paper are as follows:

- Is financial literacy significant in the model for withdrawing money from retirement accounts, before reaching retirement status?
- Is financial literacy significant in the model for taking out hardship withdrawals from retirement accounts, before reaching retirement status?

Since funds can be withdrawn from ESPs as a result of job loss or job change and hardship, financial literacy may have little or no effect on the likelihood of withdrawing funds from retirement accounts by the sample that only has employer sponsored plans. Again, the overall hypothesis is that the financially literate will be more prepared to better deal with negative financial shocks and hence, are less likely to dip into their retirement accounts, pre-retirement. On the same note, for ESPs, since hardship withdrawals require proof of economic hardship and hence do not involve the spurious relation to job change or job loss, the more financially literate may be less likely to make a hardship withdrawal. Since some ESPs don't have hardship provisions, however, the effect is probably underestimated.

Since IRAs are not linked to jobs, the likelihood of both general withdrawals and hardship withdrawals will be affected negatively by financial literacy. For individuals with IRAs, the more financially literate will be less likely to engage in either type of withdrawal, when other variables are held constant. For individuals who have both IRA and ESP accounts, it is hard to predict whether financial literacy will have an effect without knowing which account withdrawals came from. Still, since hardship withdrawals require proof of economic hardship, financial literacy will have a negative effect on the model, even if again, the estimates underestimate the true population parameters, since all ESP do not offer hardship withdrawal provisions.

Does financial literacy play a role in keeping the money for retirement, maintained for that purpose? In other words, all other things equal, is someone with low financial literacy more likely to retract money from retirement funds, pre-retirement, compared to someone with high financial literacy? This paper investigates the effects of financial literacy on the likelihood of withdrawing funds from retirement accounts, pre-retirement. Results from this study show that financial literacy is significant in the model of withdrawing funds before retirement—individuals with more financial literacy are less likely to withdraw funds from their retirement accounts compared to individuals with less financial literacy, before reaching retirement status, *ceteris paribus*.

The next section of this paper will focus on the current research pertaining to tax deferred accounts, financial literacy, retirement planning and saving for retirement by households, and, the existing literature on early withdrawals. The specifics of the data used in this study will be explained next. The following section will detail the econometric model and will then, present the results by year. The final section of this paper will evaluate conclusions and implications of the overall study.

Literature Review

Various studies have examined characteristics of Tax Deferred Accounts (TDAs). TDAs have been studied in the context of job loss, job change, and, rolling over of assimilated funds. Studies have also examined the effect of financial literacy on the opposite act of dissaving from retirement accounts—i.e., saving for retirement. There is also quite an extensive array of research regarding the characteristics of individuals who dip into their retirement funds, pre-retirement.

Review of Studies Related to Tax Deferred Accounts

Retirement savings are usually accumulated in Tax deferred accounts (TDAs). TDAs include Individual Retirement Accounts (IRAs) and Employer Sponsored Plans (ESPs), which have two common features—tax exempt account earnings and withdrawal restrictions before retirement age (59 1/2).Early withdrawals

are subject to taxes and a 10 percent penalty.[3] Depending on the type of plan, individuals can obtain general withdrawals or hardship withdrawals from retirement accounts. Hardship withdrawals require proof of economic hardship, may be subject to penalties, and in the case of ESPs, are only available if the plan permits them.[4]

Since IRAs are not tied to an employer or another third party, there are virtually no outright withdrawal restrictions, except for taxes or penalties that are due on withdrawals taken before the appropriate age. For ESPs, like 401(K) plans, on the other hand, withdrawals are strictly prohibited except in the case of job separation or in the case of economic hardship (if the employer's plan allows). In addition, when an individual with an ESP, like a 401(K), decides to leave a job or is fired from a job, he or she can choose to roll over their funds to other retirement accounts or can choose to cash out the accumulated savings in the account as a lump sum distribution (LSDs).

Studies on TDA cash outs have been based on comparisons between current and future marginal tax rates (Burman, Coe, and, Gale 1999b). TDA cash outs can also be affected by a consumption smoothing framework in response to income and demographic shocks (Amromin and Smith 2003). Nevertheless, no study has included an individual's financial knowledge in explaining the decision to withdraw funds from retirement accounts prior to retiring. All of the previous models, regarding the decision to cash out money from retirement accounts, implicitly assume that individuals are financially knowledgeable. There is evidence, however, of widespread financial illiteracy in the United States (examples include: Lusardi and Mitchell, 2014; 2011a-c; 2008), suggesting that

[3] For penalty exceptions, see: U. S. Department of the Treasury, Internal Revenue Service. Individual Retirement Arrangements (IRAs). IRS Pub. 590. Washington: GPO, 2014 http://www.irs.gov/pub/irs-pdf/p590.pdf

[4] For information on 401(K) hardship withdrawal, see: Authority, Financial Industry Regulatory. "401(K) Hardship Withdrawals—Understand the Tax Bite and Long-Term Consequences." (2014). http://www.finra.org/investors/protectyourself/investoralerts/retirementaccounts/p039023

financial literacy may be an omitted variable in the existing economic models depicting the decision to withdraw from retirement accounts.

Financial Literacy, Retirement planning, and Saving for Retirement

The standard economic model of wealth accumulation states that individuals undergo consumption smoothing—consumption decisions follow a life-cycle framework whereby individuals save during their times of employment to meet their needs during retirement. Recent studies, however, show alarming evidence for the lack of financial literacy (examples include: Lusardi and Mitchell, 2014; 2011a-c; 2008). In addition, financial markets and products are now more complex and more and more financial decisions pertaining to retirement are the responsibility of the individual. Thus, the importance of financial literacy in the context of planning and saving for retirement is now more relevant than ever.

Financial literacy has been positively associated with planning for retirement in the United States (van Rooij et. al 2012;2011a; Lusardi and Mitchell 2011b-c; Lusardi 2008) and across the world (Klapper et. al 2011; Bucher-Koenen and Lusardi 2011; Sekita 2011; Lusardi and Mitchell 2011d). A key finding is that individuals who plan for retirement have been found to have higher retirement savings, when compared to individuals who do not plan for retirement (Lusardi and Mitchell 2011b-c; Lusardi and Mitchell 2007a). van Rooij et. al (2012) posits that financial literacy may facilitate wealth accumulation through two channels. First, more financial literate individuals were more likely to invest in stock markets compared to less financially literate individuals. Participating in stock markets allows individuals to benefit from equity premium. Second, financial literacy was also found by this study to be positively related to retirement planning.

Widespread financial illiteracy, however, has been reported globally (Lusardi and Mitchell 2011d). In Russia, only 36.3 percent of respondents in a sample understood the concept of compounding and only half of the respondents could answer a very simple question about inflation (Klapper et. al 2011). An analysis of the financial literacy in Germany shows that women, the less educated and lower earners were severely lacking in their financial knowledge, especially these

groups of individuals living in East Germany (Bucher-Koenen and Lusardi 2011). More than half of the respondents in Japan could not answer a risk diversification question correctly (Sekita 2011).

In earlier studies Bernheim (1998) reports widespread financial illiteracy—many US households are lacking in their basic financial understanding. In a more recent study, Lusardi and Mitchell (2011b) find that only half of the respondents older than 50 years of age could answer two simple financial literacy questions pertaining to compound interest and inflation and only a third of the respondents in this age group could answer a financial literacy question pertaining to stock diversification. Lusardi and Mitchell (2011b) also find that the "don't know" responses are highly correlated with financial literacy. Results show that there is a 70 percent correlation between those who cannot answer both the inflation question and the question related to compound interest. It is interesting to note that incorrect answers to these questions are only correlated at 11 percent. These results suggest that these respondents are simply unknowledgeable of basic financial concepts across the areas tested.

In addition, Gustman and Steinmeier (2004) report that approximately half of the employees surveyed in the HRS sample could not report what type of pension plan they had. This study also shows that more than half of the respondents were ignorant as to their Social Security contributions. In Puerto Rico, more than half of the respondents in a sample did not try to design a plan for retirement (Castro-Gonzalez, 2014). Another study examines data from 1500 employees from three large companies, who are nearing retirement. Results from this study show that a large percentage of respondents in the sample have a very limited knowledge regarding public and company provided retirement benefits (Clark et. al 2012).These results are even more surprising when considering the fact that retirement planning is a very strong predictor of wealth.

Early Withdrawals—What, Who, and Why?

Regardless of whether penalty rules apply, early withdrawal from retirement funds incurs a compounded loss of the cashed out amount multiplied by (1+r)^N, where "r" is the rate of return on the retirement account investments and "N" is the number of years until retirement. Analysis of data from the Survey of Consumer Finances data shows that for couples with the older spouse younger than 55 years of age and

for single individuals younger than 55 years of age, real retirement account balances declined between 2007 and 2010 (Bricker et. al 2012; Munnell 2012). In 2010, for families with the head of the household younger than 55 years of age, about 45 percent of retirement account contributions were offset by early withdrawals (Argento et al, 2015). Bryant et. al (2011) also finds that for IRA accounts, withdrawals before plan holders reached the age of 60, accounted for roughly 2.5 percent of underlying assets in previous years.

Englehardt (2002) shows that for the median household receiving a lump sum distribution (LSD) from their retirement account, the lost accumulation is between 8 and 11 percent of Social Security and pension wealth. Since Social Security and pensions account for three fourths of retirement income for a typical elderly household, this indicates that cashed out LSDs reduce consumption at retirement by 6 to 8 percent. Further, Poterba Venti and Wise (1999) estimate that those cashing out LSDs will reduce 401k balances by 5 percent. In addition, Burman et. al (1999a) shows that losses in pension balances decline by over $26,000 when cashed out between the ages of 30-39, and decline by $18,500 for distributions taken near retirement age (assuming that retirement age is 65 years). This study also shows that pension losses are about $16000 for low income households, pension losses are about $29,500 for households with incomes over $75,000 and, if r is assumed to be between 6 percent and 10 percent, the loss in retirement consumption is estimated to be between $1,000 and $3,000 dollars per year.

The effects on retirement savings calculated by these studies, however, tend to overestimate the effect of withdrawals on retirement income. These studies do not take into account possible increases in pension participation because individuals can access their retirement funds (Burman et al, 1999a). Secondly, these studies cannot predict what would exactly happen to the funds, had they not been cashed out (Burman et al, 1999a). Burman et. al (1999a) further shows, using the 1993 CPS data, that the majority of LSDs received, are in fact, rolled over.

Burman, Coe, and Gale (1999b) is one of the first studies to model the decision to withdraw funds from retirement accounts. The decision to withdraw in this study follows a simple rule: if the tax payer's cheapest source of funds has an after tax rate that is greater than the break even after tax opportunity cost

(interest rate calculated by setting the net gain of cashing out an LSD from the pension versus using other taxable saving/borrowing equal to zero), then he or she is better off withdrawing money from retirement accounts rather than using other sources for funds. Amromin and Smith (2003) on the other hand, model the withdrawal decision under a utility maximization framework. With this model the withdrawal decision is a function of the household's consumption-smoothing motives, income, and size and composition of savings.

Nevertheless, studies have shown that when individuals have access to ESP assets upon leaving a job, many decide to cash out the assets rather than roll the assets over to another TDA (Englehardt 2002; Moore and Muller 2002). In fact, while the majority of LSDs are rolled over, the majority of individuals who receive LSDs do not roll over these amounts to retirement accounts (Burman et. al, 1999a). Research on pre-retirement lump sum access suggest that younger workers, lower earners, women, and workers with less than college education are more likely to cash out their distributions (Bassett, Fleming, and Rodrigues 1998; Purcell 2000; Poterba, Venti, and Wise 1998; Scott and Shoven 1996). It is also these same groups— women, the less educated, and, lower earners— that show lower levels of financial literacy. Research also finds that households with low levels of ESP assets are more likely to cash out these assets when given a chance (i.e., changing jobs) (Poterba, Venti and Wise 1998, 1999). In fact, Choi et. al (2002) analyzes administrative data from several large firms to find that most terminated employees with 401(K) balances less than $5000 were likely to consume the money. On the other hand, employees that no longer worked at these firms with balances higher than that amount were seen to roll over their savings to other retirement accounts.

Further, research indicates that lower earners and the less educated have less potential for future wage growth, increasing the likelihood that dissaving from retirement accounts will adversely affect their future retirement wellbeing (Korczyk 1996). There is also evidence to show that younger individuals, low earners, and those with less wealth are unlikely to substitute their pension wealth for other savings (Gale 1998). Even though there is evidence that the aggregate size of the cash outs from retirement accounts are

small (Poterba, Venti and Wise 1998, 1999), it is very alarming that precisely those households who have less retirement assets are dipping into their retirement funds.

Data, Sample, and Descriptive Statistics

In 2009, the first National Financial Capability Study (NFCS) of adults in the United States was administered to assess the financial attitudes, financial behaviors, and financial literacy of adults following the 2007 and 2008 financial crisis. It was commissioned by the Financial Industry Regulatory Agency (FINRA) Investor Education Foundation, a non-profit organization. It was prepared in consultation with the U.S. Department of the Treasury and the President Bush's Advisory Council on Financial Literacy. The surveying and data collection was done using scientific sampling procedure by Applied Research and Consulting (ARC), an independent survey research firm.

The survey instrument was designed by Professor Annamaria Lusardi (then at Dartmouth College and now at George Washington University), ARC, the Office of Financial Education of the U.S. Department of the Treasury Department, and the FINRA Investor Education Foundation (ARC 2009). The initial survey was piloted and modified based on a 20 person one on one interview and through a computer aided telephone interview of a sample of 100 respondents. After making modifications based on feedback from the pilot testing, actual fielding of the survey took place between May and June of 2009. The 2009 NFCS consisted of a national survey, a state-by-state survey and a military survey.

The NFCS was conducted again in 2012 and in 2015 to assess the changes from 2009. The 2012 survey instrument is very similar to the 2009 survey instrument, except for minor changes made after consultation with policy makers, academics and researchers who have used the earlier dataset. Similarly, the 2015 survey instrument is a modified edition of the 2012 survey. From 2009 to 2012, some of the more notable changes include the addition of questions pertaining to the financial education of respondents. Other examples of new data collected in the 2012 survey include questions regarding student loans, unpaid medical bills, a question recording financial fragility, and, questions collecting additional information on sources of income. For both years, owing to the large size of the datasets, the state by state datasets were analyzed in this study.

Generally speaking, the NFCS survey contains about 80 questions that provide information on financial capabilities, financial literacy measures, financial behaviors, financial attitudes, and standard demographic characteristics (FINRA Investor Education Foundation 2013). The survey collects information regarding financial capability in four major areas—making ends meet, planning ahead, managing financial products, and financial literacy and financial decision making. The survey begins by collecting demographic and other background information from participants. The following sections in the survey gather information pertaining to financial attitudes and behaviors, financial advisors, money management, retirement accounts, sources of income, home and mortgages, credit cards, other debt, insurance, and, self-assessment and literacy, respectively.

The 2012 and 2015 surveys were self-administered online through a website. Panels of data were developed by SSI (Survey Sampling International), EMI Online Research Solutions, and, Research Now. The respondents for the sample were drawn using non probability quota sample from the online panels. As with the 2009 survey, the 2012 and 2015 surveys did not target the head of the household. The 2012 state by state sample consists of 25,509 observations (ARC 2012), while the 2015 sample consists of about 27,564 adults (ARC 2015).

Table 1 includes a description of all of the variables used in the paper. The NFCS collects extensive information on demographic and socioeconomic factors. Information on the respondent's gender, age, race, highest level of education completed, marital status, number of financially dependent children in the household, employment status, and income level are available. These descriptive variables offer detailed information about each respondent and make it possible to control for background characteristics.

<Insert Table 1 here>

The questionnaire also contains five financial literacy questions, which are collectively referred to as the "Big Five" questions in financial literacy by previous research (Hastings et. al 2012). These financial knowledge questions can be used to create a five score financial literacy measure indicating respondents'

level of financial knowledge. Respondents are "scored" based on the number of financial literacy questions that they answer correctly (scores hence, range from 0 to 5).

The 2012 and 2015 surveys have two questions about withdrawals. One question asks about receiving general withdrawal income and another question determines if the individual obtained a hardship withdrawal. Though the answers of both these questions are not mutually exclusive, analyzing results from both of these questions can add to the robustness of results. The 2009 dataset only records whether an individual took out a hardship withdrawal.

Following the analysis of Amromin and Smith (2003), various "shock" variables (e.g., income drop, unpaid health bills, student loans, unpaid home mortgages, and number of financial dependents) are included in the models to control for adverse events that could potentially affect withdrawal likelihoods. The 2012 and 2015 datasets contain information on whether the respondent has student loans, have experienced a drop in income in the past year, has a mortgage and, a includes a question about unpaid health bills. Answers from these questions can be used to capture income shocks that can be introduced in the statistical model. The 2009 dataset does not include the question about unpaid health bills and the question recording student loans but includes the questions on income drop and having a mortgage.

Unfortunately, it is not possible to ascertain from any of the datasets, the type of account (whether ESP or IRA) from which money is withdrawn from. Further, the datasets also do not collect information on what the money withdrawn from the retirement account was used for, or the amount withdrawn. In addition, when funds become available in the case of job separation or change, for ESP accounts, those individuals have the option to withdraw. Thus, those with ESPs who change jobs/are terminated from jobs are more likely to withdraw, simply because they have the option to withdraw. ESP accounts like 401 (K) plans may or may not have specifications for hardship withdrawals as well.

To account for the different retirement plan rules, samples of individuals with different types of retirement accounts are examined separately across all years for which data is collected. The dataset does contain information on the type of plan that respondents have. First, the dataset for each year was conditioned to include only unretired individuals, younger than 55 years of age. Since older individuals

are not subject to withdrawal restrictions and since funds from retirement accounts are intended to sustain retired individuals, both retired respondents and respondents older than 55 years of age were dropped from the sample. In 2009, 3650 individuals reported having both types of retirement plans, 6325 reported only having ESP accounts and 806 individuals reported having only IRA accounts. In 2012, 2820 individuals report having both ESPs and individual retirement accounts while 6405 respondents report not having any type of retirement account. In addition, 4882 respondents only have ESP accounts and 642 respondents report only having IRAs. For 2015, the conditioned sample consists of 3878 individuals with both retirement accounts, 712 individuals with just IRA accounts and 5229 individuals with only ESP accounts.

<Insert Table 2>

Tables 3 present weighted descriptive statistics for all three years by the type of retirement account. As seen through this table, the average financial literacy score for respondents in all three samples across the three years, is around 3 points out of the 5 possible points. Most respondents are able to answer question 1 (savings question) and question 4(mortgage question) correctly. The largest proportions of respondents in all three sample types by retirement account, across all three years, are white, full time employees, with no financially dependent children, and are between the ages of 35 and 54.

For individuals with IRAs, both samples (IRA only sample and ESP and IRA sample) contain a majority of males across all three years. Most of the respondents with only ESPs and with both type of retirement accounts are married. Furthermore, the greater part of respondents who have both IRAs and ESPs earn between $100,000 and $150,000 annually, while most respondents in the other two samples earn between $50,000 and $75,000, annually, across all three years.

For all three retirement samples, the proportion of the sample who reported experiencing an income drop and the percent of the sample who report having a mortgage, have both declined from 2009 to 2012, and further, from 2012 to 2015. The number of people reporting having student loans have increased from 2012 to 2015. Though the percentage of respondents indicating having unpaid health bills

have increased from 2012 to 2015 for the sample of respondents with both retirement accounts, it has slightly declined from 2012 to 2015 for the other two samples.

For individuals who only have IRAs, about 13 percent of the sample indicate taking out a hardship withdrawal in 2009 and 2012 and about 11 percent of the sample report taking out a hardship withdrawal in 2015. About 17 percent of the sample in 2012 and 11 percent of the sample in 2015 report receiving some type of withdrawal income in the IRA only sample. About 17 percent of the ESP and IRA sample report taking out a hardship withdrawal in 2012 and 2015. In this same sample, only 8 percent indicated receiving a hardship withdrawal for 2009. 18 and 19 percent of the ESP and IRA sample indicate receiving general withdrawal income in 2012 and 2015, respectively. For individuals with only ESPs, 4 percent of the sample report having received hardship withdrawals in 2012 and 2015, and about 5 percent report receiving a hardship withdrawal in the year 2009. About 12 percent of this sample indicate obtaining general income from withdrawing early from retirement accounts in 2012 and 10 percent of the sample report receiving withdrawal income in 2015.

<Insert Table 3>

Probit Model and Results

The general forms of the two probit models that are estimated for all three samples, divided across retirement accounts, for the 2012 and 2015 the datasets are as follows:

$$Model\ 1:\ P\ (Withdrawal = 1|\boldsymbol{x}) = F\ (\boldsymbol{x\beta})$$

$$Model\ 2:\ P\ (Hardshipwithdrawal = 1|\boldsymbol{x}) = F\ (\boldsymbol{x\beta})$$

In the preceding model, "Withdrawal" is a dummy variable indicating whether the respondent obtained income by withdrawing money from retirement accounts and "HardshipWithdrawal" is a dummy variable indicating whether the respondent obtained a hardship withdrawal from retirement accounts. For both models, "*F" is* the normal Cumulative Distribution Function (CDF) for the probit model, and "$\boldsymbol{\beta}$*" is the* vector of coefficients to be estimated. In both cases, "**x**" includes a financial literacy score, demographic variables (such as age, gender, race, income level, employment status, education

level, and, marital status), and dummy variables indicating an income drop within the past year, having student loans, having a home mortgage, and having unpaid medical bills. For the 2009 dataset, since there is no question about receiving income from general withdrawals, only the second model is run for the three samples. The models computed using the 2009 datasets also do not include information on unpaid health bills and having student loans, due to the limitations in the data.

As probit models are fitted through maximum likelihood estimations and are nonlinear, it is hard to interpret the coefficients ($\boldsymbol{\beta}$) directly from the model. Hence, weighted marginal effects are reported in the tables. All of the independent variables, except for the financial literacy score, are dummy variables. The marginal effect for each dummy variable gives the change in the likelihood of the dependent variable, when said dummy variable changes from zero to one, with all other variables held at their means. For continuous variables, the marginal effect is calculated by taking the partial derivative of the likelihood function, with respect to the variable, which is computed at the mean.

Results for 2009 NFCS dataset

Table 4 reports the marginal effects for Model 2, computed for the 2009 dataset. The first column in Table 4 reports weighted marginal effects for respondents who only have IRAs. Since these accounts are not bound to jobs and have virtually no withdrawal restrictions, except for penalties and taxes, financial literacy would have a large impact on withdrawal likelihoods—this is supported by the results. Answering one more question correctly on the financial literacy quiz decreases the probability of receiving hardship withdrawals by approximately 2 percentage points for the IRA only sample. Similarly, answering a financial literacy question correctly decreases the likelihood of a hardship withdrawal in the sample of those with both retirement accounts by 1.9 percentage points. In ESP only sample, financial literacy appears not to be significant. Again, these results mirror our reasoning, since ESPs have properties that may or may not allow for hardship withdrawals, offer withdrawals with job changes, etc., Hence, the likelihood of taking out money from employer provided plans could be driven by factors other than financial literacy.

Similar to the findings in the paper Amromin and Smith (2003), experiencing a large income drop within the past 12 months significantly increases the likelihoods of hardship withdrawals across all years. It is also interesting to note that none of the income variables are significant in the 2009 dataset across all three samples. This outcome is probably due to the fact that wealth levels, other forms of investments, and spending cannot be gauged from the simply looking at income levels of respondents.

<Insert Table 4 here>

Results for 2012 NFCS dataset

The first set of columns in Table 5 report weighted marginal effects of Model 1 and Model 2 of respondents who only have IRAs.. Answering one more question correctly on the financial literacy quiz decreases the probability of receiving withdrawal income by 3 percentage points (Model 1) and it reduces the event of hardship withdrawals by approximately 2 percentage points (Model 2). Similar to the 2009 results and past research, experiencing a large income drop within the past 12 months significantly increases the likelihoods of withdrawals for both models. Additionally, having an unpaid medical expense also enhances the probability of withdrawing from retirement accounts. In Model 2, having student loans increases the likelihood of taking out hardship withdrawals by 10.6 percentage points. These findings are all quite expected, when considering the initial hypothesis—adverse outcomes can affect any type of household but, financially literate households can better cope and sustain expenses without delving into their retirement savings, preretirement.

For the IRA only sample, in Model 1, having three children, surprisingly, is negative and significant, when compared to the omitted group of individuals with no children. Nevertheless, when all of the dependent variables indicating financial dependents are tested jointly for significance using a Wald test, results show that these variables taken together are not different from zero. Similar to results from 2009, in the IRA only sample, none of the income variables are significant in Model 1. This outcome is again, probably due to the fact that wealth levels, other forms of investments, and spending cannot be gauged from the dataset. In Model 2 for the IRA only sample, however, individuals who make between $15,000 and $25,000 annually are more likely to take out hardship withdrawals when compared to

individuals who have an annual income between $50,000 and $75,000 (the omitted group). Unexpectedly, in Model 2, those making between $25,000 and $35,000 annually are less likely to take out a hardship withdrawal when compared to the same omitted group. This results is also probably is due to the fact that spending and wealth levels cannot be controlled for in the model.

As hypothesized, for the ESP only sample, financial literacy does not have an effect on generally obtaining withdrawal income, as withdrawals could be related to job status. As seen through Model 2 for this sample, as hypothesized, financial literacy does have an effect on the likelihood of hardship withdrawals. In fact, answering one more question correctly on the financial literacy quiz decreases the likelihood of obtaining a hardship withdrawal from retirement accounts, pre-retirement, by 0.46 percentage points. This affect, however, is probably underestimated due to the fact that some ESPs may not have hardship withdrawal options.Further, having unpaid medical bills and experiencing a large drop in income in the past year increases the likelihood of incurring a hardship withdrawal by approximately 3 percentage points in the ESP only sample for 2012.

The last set of columns in Table 5 depicts weighted marginal effects for the sample of respondents with both IRA and ESP accounts in the 2012 dataset. For this sample as well, financial literacy is negative and significant in explaining both types of withdrawals. An individual decreases the chance of receiving withdrawal income from retirement accounts and taking out hardship withdrawals as he or she increases their financial knowledge. This result, however, is conditioned on whether the ESP accounts in the sample offer hardship withdrawals or on whether the individual changes their job status and thus procures the withdrawals. Nevertheless, the financial literacy variable is significant at the 1 percent alpha level for both models in this sample. In addition, as seen with the IRA sample, having unpaid medical bills and experience a large drop in income positively affect both withdrawal probabilities.

In either model for the ESPIRA sample from 2012, being male, relative to female, being 18-34 years of age relative to the omitted older group and having a child, relative to having no financially dependent children, increase the likelihood of withdrawals. In model 2, all binary variables indicating

financial dependents are positive and significant, indicating that those households with children are more likely to take out hardship withdrawals, compared to those households without children. Additionally, in both models, whites are less likely to withdraw, pre-retirement, compared to those in other races. In model 2, those who reported being part-time employees were less likely to withdraw compared to full time employees, probably because part-time ESPs may not offer hardship withdrawals. Model 2 also shows that individuals with annual incomes less than $15,000 are more likely to withdraw when compared to individuals with annual incomes between $50,000 and $75,000. It is puzzling to see that for this sample, individuals who annually make more than $150,000 are more likely to have made hardship withdrawals than individuals who annually make between $50,000 and $75,000 (the omitted income group in this model). This counterintuitive result is again, probably because it is not possible to control for spending, or wealth levels in the data.

<Insert Table 5 here>

Results for 2015 NFCS dataset

For all models estimated using the 2015 dataset, financial literacy is negative and significant. As viewed with the earlier data, the strongest effects of financial literacy are noted in the samples with IRA accounts. Answering one more question correctly on the financial literacy quiz, reduces the likelihood of general withdrawals by 2 percentage points in the IRA only sample, reduces the likelihood of general withdrawals by 4 percentage points in the ESP and IRA sample, and reduces the likelihood of hardship withdrawals by 2 percentage points in IRA only sample and by 4 percentage points in the ESP and IRA sample. Results capturing income shocks also mirror predictions and earlier results—the income drop variable is significant across all models and having a negative health shock and reporting student loans is positive and significant across most models. Jointly testing the significance of the variables indicating the number of children in each household, determines that these variables are insignificant taken together and it is important to take the significance results on the different income variables with a grain of salt, since we cannot control for spending or aggregate wealth levels in the model.

<Insert Table 6 here>

Conclusions and Implications

Early studies on financial literacy examined the effect of financial literacy on retirement planning in the United States (Lusardi and Mitchell 2007a, 2007b). Since then, the importance of financial literacy has been established in accumulating wealth, stock market participation, financial management skills (Kimball and Shumway 2006; Christelis et. al 2010; van Rooij et. al 2011; Hilgert, Hogarth and Beverly 2003). In addition, the lack of financial literacy has been associated with high cost borrowing, having costlier mortgages, borrowing from 401(K) accounts (Lusardi and Tufano 2009; Moore 2003; Utkus and Young 2011; Stango and Zinman 2009). This papear studies the effect of financial literacy on the mirror image of saving for retirement—dissaving from already amassed retirement funds. The results from this analysis show that the least financially literate are more likely to withdraw from retirement funds, before actually reaching retirement status, *ceterus paribus*.

The theory of inter-temporal consumption decisions assumes that individuals are able to weigh their present and expected future consumption options before making consumption and saving decisions. Further, the models related to withdrawing from retirement accounts explain this behavior with individuals comparing current and expected future marginal tax rates. Previous literature and the current analysis show, however, that individuals are not financially literate about even the most basic financial concepts. In fact, for all of the three samples of the NFCS dataset analyzed in this paper across all three years, the average score on the financial literacy quiz is around three points out of a possible five point questionnaire.

How then can these individuals function under the inter-temporal utility maximization framework and compare marginal taxes? Withdrawal models in other studies include shock variables and show that withdrawal decisions may be instigated by unexpected negative shocks to the household (Amromin and Smith 2003). Consistent with previous research, consumption smoothing variables, like experiencing a

large drop in income, is significant in both withdrawal models estimated in this analysis across different retirement accounts and years. Financial literacy, however, continues to be statistically significant in all the relevant models estimated in this study depicting withdrawal decisions.

Of course, withdrawing money from retirement accounts before reaching retirement age is not always a mistake. Whether individuals, however, who struggle with basic financial literacy concepts, can make an informed decision to withdraw after weighing their options is questionable. The strong, significant negative effect of financial literacy on explaining the models of withdrawal likelihoods suggest that at least for some households, financial literacy is a key omitted variable in the to date research pertaining to the decision to withdraw funds, pre-retirement. This result is further supported by the fact that more financially literate individuals are more likely to have other forms of savings such as emergency funds that they could use instead of dipping in to their retirement savings(de Bassa Scheresberg 2013; Hilgert et. al 2003).

Although the NFCS dataset lacks in certain information, after controlling for a myriad of other demographic and socio-economic variables, financial knowledge is still found to be robustly significant in explaining the model for dissaving. The effect of financial literacy is strong, even after general education levels and various negative shocks to the household are taken into account. Consistent with research that models the decision to acquire financial literacy (Lusardi, Michaud and Mitchell 2011, 2013; Japelli and Padula 2013; Delavande, Rohwedder, and Willis 2008), this result suggests that financial literacy is a specific type of human capital investment that is different from general educational attainment. How can we increase financial literacy that has been proven to be a key element in explaining, among other things, saving for retirement and now, dissaving before retirement? Financial education programs or government regulations are plausible answers that need further investigation.

This topic too would benefit from further research by using other datasets to answer this question[5] and check for robustness of results. It should be noted however, that most data sets and research dealing

with withdrawal decisions use tax panel data that do not include any financial literacy measures. In addition, data sets with financial literacy questions usually ask few questions about withdrawals. It may also be beneficial to answer this research question using data from other countries with similar withdrawal options and retirement plans to the United States to confirm whether financial literacy makes a significant difference.

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Table 1: Description of variables

Variable name	Description
male	Gender is male
Age18to24	Between 18 and 24 years of age
Age25to34	Between 25and 34 years of age
Age35to44	Between 35 and 44 years of age
Age45to54	Between 45and 54 years of age
White	Respondent is white
HSorLess	Highest level of education is HS graduate or less
SmeColge	Highest level of educ is some college
collegemore	Respondent either completed college or is a post grad
Married	Respondent married
Single	Respondent is single
Div/Sep/Wid	Respondent is divorced/seperated or widower
child1	1 financially depen child in the HH
child2	2 financially depen child in the HH
child3	3financially depen child in the HH
MORE4child	>=4 financially depen child in the HH
Nochild	NO financially depen child in the HH
Selfemploy	Respondent is self employed
Fulltime	Respondent is employed fulltime
Parttime	Respondent is employed part time
NotinLF	Respondent is not in the labor force (student/homemaker/disabled)
Unemployed	Respondent is unemployed
inc1	Annual income up to $15K
inc2	Annual income between $15-25K
inc3	Annual income between $25-35K
inc4	Annual income between $35-50K
inc5	Annual income between $50-75K
inc6	Annual income between $75-100K
inc7	Annual income between $100-150K
inc8	Annual income over $150K+
Incomedrop	Respondent experienced a large drop in income in the past year
Unpdhlthbills	Respondent has unpaid health bills
Stdntloan	Respondent has student loans
HomeOwner	Respondent owns their home
hmemortgage	Respondent has a mortgage on their home
Q1correct	Respondent answered first financial literacy question correctly
Q2correct	Respondent answered second financial literacy question correctly
Q3correct	Respondent answered third financial literacy question correctly
Q4correct	Respondent answered fourth financial literacy question correctly
Q5correct	Respondent answered fifth financial literacy question correctly
FinLit	Number of questions answered correctly on financial literacy quiz

Withdrawal	Respondent obtained a withdrawal within the last year
HardshipWithdrawal	Respondent obtained a hardship withdrawal within the last year

Table 2: Sample Division across years

	IRA only	ESP only	ESP & IRA
2009	806	6325	3650
2012	642	4882	2820
2015	712	5229	3878

Table 3: Weighted Averages for Samples across Years

	IRA only sample			ESP only sample			ESP & IRA sample		
Variable	2009	2012	2015	2009	2012	2015	2009	2012	2015
Male	.5729	.5473	.5666	.4844	.4749	.4768	.5472	.5917	.5766
Age18–24	.1316	.1592	.1993	.0919	.0754	.0812	.0459	.0624	.0656
Age25–34	.2014	.2572	.2494	.2817	.2971	.3121	.2282	.2585	.2683
Age35–44	.2535	.2283	.2068	.3214	.3001	.3026	.3357	.2856	.3146
Age45–54	.4134	.3552	.3444	.3051	.3274	.3040	.3902	.3935	.3515
White	.6952	.6332	.5809	.6559	.6165	.6316	.6915	.6086	.6379
HSorLess	.2116	.2813	.2383	.2860	.3136	.2210	.1221	.1614	.1395
SmeColge	.4552	.3487	.2781	.4278	.3883	.3213	.3507	.2839	.2271
Collegemore	.3332	.3699	.4836	.2862	.2981	.4577	.5272	.5546	.6334
Married	.4517	.4088	.4055	.6316	.6254	.6218	.7043	.6921	.6896
Single	.4082	.4704	.4898	.2487	.2672	.2816	.2071	.2376	.2445
Div/Sep/Wid	.1401	.1208	.1047	.1197	.1074	.0965	.0886	.0702	.0658
Child1	.1722	.1754	.1676	.2138	.2296	.2153	.2009	.2335	.2397
Child2	.1676	.1294	.1538	.2155	.2129	.2258	.2241	.2490	.2498
Child3	.0535	.0512	.0464	.0952	.0966	.0990	.1004	.0809	.0876
MORE4Child	.0259	.0281	.0325	.0597	.0543	.0489	.0379	.0429	.0416
NoChild	.5807	.6159	.5996	.4158	.4067	.4109	.4367	.3937	.3813
Selfemploy	.2315	.2114	.1645	.0562	.0392	.0374	.0957	.0950	.0889
Fulltime	.4077	.4147	.4186	.6373	.6660	.6900	.6669	.6904	.7147
Parttime	.1071	.1008	.1614	.0779	.0834	.0789	.0690	.0698	.0689
NotinLF	.1581	.1900	.1775	.1512	.1624	.1595	.1194	.1052	.1052
Unemployed	.0956	.0831	.0780	.0774	.0490	.0342	.0489	.0397	.0221
inc1	.0905	.0985	.1156	.0363	.0323	.0246	.0155	.0214	.0152
inc2	.1409	.0999	.0971	.0776	.0726	.0608	.0261	.0269	.0280
inc3	.1160	.1065	.1242	.1204	.1132	.0994	.0473	.0464	.0480
inc4	.1695	.1718	.1518	.1892	.1783	.1789	.1096	.0892	.1043
inc5	.1853	.2173	.2225	.2734	.2710	.2747	.2031	.2133	.2179
inc6	.1262	.1467	.1185	.1579	.1607	.1696	.2025	.2079	.2052
inc7	.0968	.1112	.1319	.1061	.1228	.1401	.2381	.2267	.2459
inc8	.0747	.0481	.0384	.0391	.0490	.0519	.1577	.1682	.1353
updhlthbills		.2120	.1789		.3262	.2548		.2116	.2295
stdntloan		.2614	.2747		.2928	.3548		.2862	.3552
Incomedrop	.4618	.3442	.2795	.4021	.2831	.2128	.3107	.2755	.2539
hmemortgage	.4228	.3689	.3129	.5095	.4702	.4649	.6656	.6559	.6343
Q1correct	.8457	.8135	.7590	.8173	.8119	.7982	.8792	.8216	.8050
Q2correct	.7144	.6670	.6186	.6561	.6169	.5679	.7641	.6749	.6240
Q3correct	.3509	.3296	.3072	.2774	.2629	.2451	.4049	.4112	.3846
Q4correct	.8018	.8144	.7338	.8218	.8279	.8200	.8879	.8841	.8586
Q5correct	.6215	.5969	.5099	.5546	.4947	.4420	.7291	.6536	.5986
FinLit	3.33	3.22	2.93	3.13	3.01	2.87	3.67	3.45	3.27
hardshipwithdrawal	.1341	.1329	.1091	.0507	.0427	.0374	.0792	.1699	.1749
withdrawal		.1672	.1111		.1177	.0997		.1789	.1929
Observations	806	642	712	6325	4882	5229	3650	2820	3878

Table 4: 2009 Regression Results Across all three samples

	IRA only	ESP only	ESP&IRA
FinLit	-0.0228**	-0.0022	-0.0192***
	(0.011)	(0.003)	(0.003)
Incomedrop	0.1019***	0.0427***	0.1142***
	(0.027)	(0.008)	(0.015)
homemortgage	0.0156	0.0037	0.0174**
	(0.027)	(0.007)	(0.009)
male	-0.0497*	0.0139**	0.0256***
	(0.028)	(0.007)	(0.009)
age18–24	0.0376	-0.0120	0.0601*
	(0.054)	(0.013)	(0.033)
age25–34	0.0252	0.0002	0.0051
	(0.039)	(0.008)	(0.012)
age35–44	-0.0258	-0.0044	-0.0050
	(0.029)	(0.008)	(0.010)
White	-0.0088	-0.0216***	-0.0553***
	(0.030)	(0.008)	(0.013)
HSorLess	-0.0231	0.0039	-0.0215**
	(0.030)	(0.008)	(0.009)
collegemore	-0.0685***	-0.0024	-0.0213**
	(0.024)	(0.007)	(0.010)
Single	0.0445	-0.0015	-0.0026
	(0.039)	(0.010)	(0.011)
divorcedSepWid	0.0675	0.0218*	-0.0110
	(0.050)	(0.012)	(0.016)
child1	-0.0274	0.0138	0.0072
	(0.034)	(0.010)	(0.013)
child2	0.0063	0.0233**	0.0239*
	(0.046)	(0.011)	(0.014)
child3	0.0339	0.0362**	0.0225
	(0.067)	(0.017)	(0.018)
MORE4child	0.0401	0.0095	0.0764**
	(0.083)	(0.015)	(0.037)
Parttime	-0.0351	-0.0079	-0.0015
	(0.036)	(0.010)	(0.019)
Selfemploy	-0.0066	-0.0174*	0.0130
	(0.036)	(0.010)	(0.015)
NotinLF	0.0300	-0.0067	0.0011
	(0.042)	(0.009)	(0.013)
Unemployed	0.0927	0.0080	-0.0072
	(0.063)	(0.012)	(0.015)
inc1	0.0468	-0.0085	0.0464
	(0.065)	(0.014)	(0.041)
inc2	-0.0171	-0.0048	0.0234
	(0.041)	(0.013)	(0.034)
inc3	0.0469	-0.0071	0.0026
	(0.053)	(0.010)	(0.019)
inc4	0.0123	0.0107	0.0346

	(0.045)	(0.010)	(0.023)
inc6	-0.0040	-0.0068	0.0152
	(0.048)	(0.009)	(0.015)
inc7	0.1182	0.0040	-0.0096
	(0.075)	(0.012)	(0.012)
inc8	-0.0515	0.0013	0.0226
	(0.049)	(0.022)	(0.020)
Pseudo R^2	0.1461	0.0543	0.2149
Observations	806	6325	3650

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table 5: 2012 Regression Results Across all three samples

	IRA only		ESP only		IRA&ESP	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
FinLit	-0.0301**	-0.0197*	-0.0036	-0.0046**	-0.0249***	-0.0371***
	(0.012)	(0.011)	(0.004)	(0.002)	(0.007)	(0.005)
updhlthbills	0.0819*	0.0571*	0.0954***	0.0344***	0.1334***	0.1918***
	(0.044)	(0.035)	(0.014)	(0.008)	(0.027)	(0.029)
Incomedrop	0.0734*	0.1026***	0.0444***	0.0318***	0.2005***	0.1735***
	(0.039)	(0.034)	(0.013)	(0.008)	(0.026)	(0.026)
hmemortgage	0.0447	0.0115	0.0076	0.0114	-0.0028	0.0265*
	(0.036)	(0.027)	(0.012)	(0.007)	(0.018)	(0.015)
stdntloan	0.0641	0.1061***	0.0066	0.0053	0.0296	0.0400**
	(0.042)	(0.039)	(0.012)	(0.007)	(0.021)	(0.018)
male	0.0696**	0.0196	-0.0061	0.0067	0.0479***	0.0628***
	(0.031)	(0.023)	(0.012)	(0.007)	(0.017)	(0.014)
Age18–24	-0.0025	-0.0138	0.0041	0.0013	0.1695***	0.1672***
	(0.053)	(0.039)	(0.024)	(0.014)	(0.063)	(0.061)
Age25–34	0.1042*	-0.0394	-0.0007	-0.0057	0.0579**	0.0729***
	(0.055)	(0.031)	(0.015)	(0.008)	(0.025)	(0.024)
Age35–44	0.1284**	0.0332	0.0243*	0.0012	0.0078	-0.0128
	(0.056)	(0.038)	(0.014)	(0.007)	(0.021)	(0.018)
White	-0.0102	0.0027	-0.0177	-0.0060	-0.0426**	-0.0401**
	(0.033)	(0.026)	(0.012)	(0.007)	(0.018)	(0.016)
HSorLess	0.1518***	0.0476	0.0001	0.0043	0.0164	0.0467*
	(0.055)	(0.040)	(0.014)	(0.008)	(0.026)	(0.024)
SmeColge	0.0906**	0.0198	-0.0033	0.0137*	-0.0194	-0.0169
	(0.044)	(0.033)	(0.013)	(0.008)	(0.020)	(0.017)
Single	0.0691*	0.0619*	0.0118	-0.0068	-0.0224	-0.0104
	(0.040)	(0.034)	(0.015)	(0.008)	(0.023)	(0.020)
DivSepWid	0.0806	0.0520	0.0124	0.0111	0.0174	0.0222
	(0.068)	(0.053)	(0.018)	(0.010)	(0.032)	(0.033)
Child1	0.0181	0.0397	0.0062	0.0092	0.0503**	0.0719***
	(0.044)	(0.039)	(0.014)	(0.009)	(0.025)	(0.026)
Child2	0.0247	0.0857	0.0060	0.0070	-0.0183	0.0567**
	(0.052)	(0.056)	(0.016)	(0.010)	(0.022)	(0.025)
Child3	-0.0750**	0.0277	0.0195	0.0106	0.0131	0.0684*
	(0.036)	(0.065)	(0.021)	(0.012)	(0.035)	(0.041)
MORE4Child	0.0082	0.3053*	0.0279	0.0147	0.0701	0.1305**
	(0.099)	(0.173)	(0.026)	(0.016)	(0.055)	(0.058)
Parttime	0.1421*	-0.0236	-0.0064	-0.0174**	-0.0582**	-0.0238
	(0.078)	(0.033)	(0.019)	(0.007)	(0.024)	(0.020)
Selfemply	0.0173	0.0362	0.0177	-0.0107	-0.0264	-0.0160
	(0.043)	(0.036)	(0.029)	(0.011)	(0.024)	(0.021)
NotinLF	-0.0227	-0.0506*	-0.0222	-0.0133	-0.0225	-0.0083
	(0.044)	(0.028)	(0.016)	(0.009)	(0.026)	(0.024)

Unemply	0.0859	-0.0289	0.0043	0.0134	-0.0198	0.0078
	(0.082)	(0.038)	(0.025)	(0.016)	(0.038)	(0.036)
inc1	0.0669	0.1332	-0.0049	-0.0003	0.0107	0.1872*
	(0.077)	(0.084)	(0.031)	(0.018)	(0.069)	(0.096)
inc2	0.0660	0.1377*	-0.0333*	-0.0099	0.0607	-0.0003
	(0.078)	(0.079)	(0.020)	(0.010)	(0.053)	(0.038)
inc3	-0.0529	-0.0619**	-0.0262	0.0065	-0.0355	0.0466
	(0.042)	(0.028)	(0.018)	(0.013)	(0.033)	(0.043)
inc4	-0.0601	-0.0153	-0.0013	0.0052	0.0073	0.0186
	(0.041)	(0.038)	(0.015)	(0.009)	(0.032)	(0.031)
inc6	0.0584	0.0272	-0.0104	-0.0085	-0.0195	0.0139
	(0.063)	(0.050)	(0.016)	(0.008)	(0.024)	(0.025)
inc7	0.0269	0.0215	0.0448**	0.0103	-0.0116	0.0118
	(0.062)	(0.048)	(0.021)	(0.011)	(0.025)	(0.024)
inc8	0.1539	0.0035	-0.0033	-0.0213***	0.0324	0.0663**
	(0.113)	(0.059)	(0.025)	(0.008)	(0.032)	(0.033)
Pseudo R^2	0.2193	0.2363	0.0460	.0760	0.2426	0.4358
Observations	642	642	4882	4882	2820	2820

Table 6: 2015 Regression Results Across all three samples

	IRA only		ESP only		ESP & IRA	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
FinLit	-0.0224***	-0.0190***	-0.0144***	-0.0031*	-0.0441***	-0.0385***
	(0.007)	(0.007)	(0.004)	(0.002)	(0.005)	(0.004)
updhlthbills	-0.0026	0.0543**	0.0675***	0.0378***	0.1776***	0.1949***
	(0.029)	(0.027)	(0.013)	(0.008)	(0.024)	(0.024)
Incomedrop	0.0658**	0.0837***	0.0941***	0.0526***	0.1565***	0.1565***
	(0.030)	(0.031)	(0.014)	(0.009)	(0.022)	(0.019)
hmemortgage	0.0368	0.0003	0.0031	0.0110**	0.0052	0.0217*
	(0.027)	(0.015)	(0.010)	(0.005)	(0.016)	(0.012)
stdentloan	0.0410	0.0357	0.0325***	0.0183***	0.0539***	0.0562***
	(0.029)	(0.022)	(0.010)	(0.005)	(0.017)	(0.013)
male	0.0327	0.0286**	0.0086	0.0073	0.0089	0.0471***
	(0.022)	(0.014)	(0.010)	(0.005)	(0.015)	(0.011)
Age18to24	0.1415**	0.1294**	0.0070	-0.0065	0.0618	0.0733*
	(0.064)	(0.063)	(0.021)	(0.008)	(0.041)	(0.038)
Age25to34	0.1145**	0.0857*	0.0202	-0.0029	0.0375*	0.0528***
	(0.050)	(0.045)	(0.013)	(0.006)	(0.021)	(0.020)
Age35to44	0.0519	0.0310	0.0021	0.0048	-0.0114	0.0072
	(0.044)	(0.032)	(0.012)	(0.006)	(0.018)	(0.015)
White	-0.0095	-0.0313*	0.0012	-0.0150***	-0.0661***	-0.0448***
	(0.021)	(0.016)	(0.010)	(0.005)	(0.016)	(0.013)
HSorLess	0.0109	-0.0056	0.0043	-0.0024	0.0235	-0.0183
	(0.030)	(0.019)	(0.013)	(0.006)	(0.023)	(0.014)
SomeCollege	0.0134	0.0420	0.0226**	0.0010	-0.0117	-0.0337***
	(0.028)	(0.027)	(0.011)	(0.005)	(0.019)	(0.012)
Single	-0.0902***	-0.0727***	0.0136	0.0100	-0.0325*	-0.0125
	(0.031)	(0.023)	(0.013)	(0.007)	(0.018)	(0.014)
DivrcedSepWd	0.0336	0.0081	0.0067	0.0100	-0.0295	-0.0262
	(0.044)	(0.029)	(0.016)	(0.009)	(0.027)	(0.019)
Child1	0.0172	0.0005	0.0144	-0.0018	0.0358*	0.0284*
	(0.032)	(0.021)	(0.013)	(0.006)	(0.021)	(0.017)
Child2	0.0293	0.0744*	0.0198	0.0039	0.0487**	0.0502**
	(0.037)	(0.039)	(0.014)	(0.006)	(0.022)	(0.020)
Child3	0.0115	-0.0265*	0.0140	0.0016	0.0218	0.0325
	(0.051)	(0.015)	(0.018)	(0.008)	(0.031)	(0.024)
MORE4Child	-0.0441	-0.0302**	0.0072	-0.0048	0.0275	0.0488*
	(0.044)	(0.013)	(0.023)	(0.010)	(0.039)	(0.030)
Parttime	-0.0039	-0.0124	0.0294	0.0114	-0.0077	0.0010
	(0.030)	(0.019)	(0.019)	(0.009)	(0.029)	(0.023)
Selfemploy	-0.0187	-0.0118	-0.0058	0.0125	0.0092	0.0340
	(0.028)	(0.018)	(0.021)	(0.014)	(0.028)	(0.027)

NotinLF	0.0193	0.0134	-0.0321***	-0.0096*	-0.0250	-0.0007
	(0.038)	(0.028)	(0.012)	(0.006)	(0.023)	(0.019)
Unemployed	0.0561	-0.0287*	0.0161	-0.0082	0.0432	0.1012
	(0.059)	(0.016)	(0.027)	(0.008)	(0.054)	(0.081)
inc1	-0.0681***	-0.0442***	-0.0090	0.0228	0.0302	0.1290
	(0.021)	(0.012)	(0.029)	(0.022)	(0.064)	(0.082)
inc2	0.0419	0.0054	-0.0383***	-0.0136**	0.0313	0.0435
	(0.054)	(0.032)	(0.014)	(0.006)	(0.052)	(0.041)
inc3	-0.0164	-0.0101	-0.0252*	-0.0005	0.0662	0.0478
	(0.033)	(0.022)	(0.014)	(0.008)	(0.048)	(0.040)
inc4	0.0114	0.0198	-0.0264**	-0.0030	0.0249	0.0231
	(0.038)	(0.030)	(0.012)	(0.006)	(0.031)	(0.024)
inc6	-0.0164	0.0417	0.0121	0.0147	0.0167	0.0411**
	(0.029)	(0.040)	(0.014)	(0.009)	(0.021)	(0.019)
inc7	-0.0272	0.0067	0.0051	-0.0012	-0.0024	-0.0057
	(0.030)	(0.029)	(0.016)	(0.008)	(0.021)	(0.015)
inc8	0.0156	0.0485	0.0336	0.0232	0.0325	0.0099
	(0.060)	(0.060)	(0.027)	(0.017)	(0.028)	(0.020)
Pseudo R^2	0.1526	0.3226	0.0745	0.1479	0.2974	0.5107
Observations	712	712	5229	5229	3878	3878

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$