\

WHO OWN IRAs? EVIDENCE FROM THE 2004 SURVEY OF CONSUMER FINANCES

Texas Tech University

Hyrum Smith, CPA[1]

PhD Student

Texas Tech University

[1] Author Contact Information: Hyrum Smith, Doctoral Candidate, Texas Tech University, Division of Personal Financial Planning, Box 41210, Lubbock, TX 79409-1210; Phone: 806.742.5050; E-mail: hyrum.smith@ttu.edu

ABSTRACT:

Using a cost-benefit analysis within a life cycle theoretical framework and the 2004 SCF dataset, this study evaluates the household factors that are related to the likelihood of owning any IRA, pre-tax IRAs (i.e., traditional IRAs, Rollover IRAs, etc.) and after-tax Roth IRAs. In general, the results of this study found that age, education, income, investment debt, non-liquid financial assets, and being White Non-Hispanic or married were positively associated with IRA ownership, while consumption debt, having private mortgage insurance, and having children were negatively related. Encouraging policies that support payroll deduction IRA as well as educating younger, less educated, lower-income, and minority households of the benefits of IRA ownership can better ensure the benefits of IRAs are enjoyed by all.

Keywords: *IRA, SCF, retirement planning, retirement policy*

Introduction

Savings through retirement accounts outside a pension or qualified employment-based plan has been available for several years. Since legislation was passed in 1962, self-employed individuals have been permitted to save through tax-deferred Keogh instruments (Imrohoroglu, A., Imrohoroglu, S. & Joines, 1998). As part of the Employee Retirement Income Security Act (ERISA) of 1974, traditional Individual Retirement Accounts (IRAs) were created as a tax-deferred savings vehicle for those not covered by a qualified employment-based retirement plan (Holdren, Ireland, Leonard-Chambers & Bogdan, 2005). In 1978 Congress created the Simplified Employee Pension (SEP) IRA—an employer-based IRA. This coverage was further expanded through the Economic Recovery Tax Act of 1981, which permitted all individuals under age 70 ½, regardless of income, the ability to contribute to an IRA. The Tax Reform Act of 1986, however, introduced the phasing out of deductions from IRA contributions among higher-income households. In 1996, Congress introduced the Savings Incentive Match Plan for Employees (SIMPLE) IRA to increase retirement savings among small businesses and their employees.

In an effort to expand retirement opportunities further, Congress enacted the Taxpayer Relief Act of 1997, which introduced after-tax contribution arrangements through Roth IRAs and increased the income limits for IRA contribution eligibility. This was eventually followed by the Economic Growth and Tax Relief Reconciliation Act (EGTRRA) of 2001, which raised the IRA contribution limits. In addition, the Pension Protection Act of 2006 granted the ability to individuals over 70 ½ to make tax-free distributions from their IRAs to charitable organizations (Supper & Cocozza, 2007). In summary, while individual account arrangements have evolved slightly over the last 50 years, the underlying intention of Congress to increase retirement saving

through providing tax-favored accounts, especially among those with limited resources or access to qualified retirement plans at work, has remained relatively constant.

Has Congress' original intentions been satisfied? While much of the previous literature has studied whether the creation of IRAs has stimulated net savings at the aggregate national saving (Attanasio & DeLeire, 2002; Gale & Scholz, 1994; Venti & Wise, 1986), limited research has been performed over the type of households that hold IRAs. Bernstein (2005) analyzed the relationship between household debt and IRA ownership using the 2001 Survey of Consumer Finances. In doing so, Bernstein studied the tradeoff that households face between competing financial objectives, such as paying down credit, consumer, or real estate debt, and establishing IRA savings. However, given the recent changes in the IRAs that took effect after the EGTRRA of 2001 and the recent establishment of Roth IRAs, this paper seeks to extend upon Bernstein's work by looking in more detail at the typical household profile of those who own different IRAs. Specifically, the purpose of this study is to analyze the household factors that contribute to pre-tax (i.e., Traditional and Rollover IRAs, Keoghs, etc.) and after-tax Roth IRA ownership using the most recent 2004 Survey of Consumer Finances (SCF). The detailed demographic and retirement information of U.S. households found in the SCF provides the appropriate information to analyze the incidence of IRA ownership among households and whether Congress' original intentions are being met. Based on this analysis of household IRA ownership, this paper follows up with implications for financial counselors and planners.

<div align="center">**Literature Background**</div>

Household Factors of IRA Ownership

Various types of research have been performed around facets of owning an IRA, but limited studies have specifically sought to study household factors related to IRA ownership

<div align="center">4</div>

within a theoretical framework. For example, Vora (1996) researched the relatively short break-even period, on average, that a household faces for holding an IRA over an ordinary investment, even after considering partial withdrawal penalties.   In contrast, DeVaney and Zhang (2001) looked more specifically at household factors related to retirement saving and found that older households had larger amounts of defined contribution and IRA and Keogh plan savings, with mixed results for period and cohort effects.   More recent studies have presented descriptive statistics of trends in household IRA ownership. For example, Copeland (2002) found that IRA assets as a percentage of total retirement plan assets increased from 16% in 1990 to 22.1% in 2001. The Investment Company Institute (2001) reported that 42% of households owned IRAs as of May 2001, with 34% owning traditional IRAs, 12% Roth IRAs, and 8% owning employment provided IRAs (i.e., Simple, SEP, etc.).

The trend of increased IRA investments has continued in more recent years. Specifically, IRA assets reached $4.75 trillion at the end of 2007, which outpaced the $3.49 trillion in private-sector defined contribution plans (Salisbury, 2008). Rollover IRAs continue to grow as older employees roll over their defined contribution plans in anticipation of retirement, while contributions to Roth IRAs continue to increase. For instance, in 2002, while Roth IRAs accounted for just 3% of all IRA assets, contributions to Roth IRAs represented 31.2% of all contributions the same year (Copeland, 2007).   With the continued trend of shifting from defined benefits to defined contribution and self-directed retirement accounts, much of the responsibility for retirement preparation will rest upon individuals and households. However, descriptive statistics have shown that IRA owners tend to have higher income, as well as be older, more educated, married, and not of a minority background (Copeland, 2007; Copeland, 2008; Investment Company Institute, 2006).

In studying the relationship between household debt and IRA ownership using logistic regression analysis and the 2001 SCF, Bernstein (2005) also showed that household factors such as age, income, education, and being divorced or separated were negatively related to the likelihood of IRA ownership. Further, Bernstein was also able to show that variables, such as holding credit card balances or consumer loans greater than liquidity and holding higher loan-to-value amounts on real estate, were negatively related to the likelihood of IRA ownership. However, Bernstein defined IRA ownership as those who answered the question in the SCF of whether or not they had an IRA or Keogh. This paper seeks to extend upon Bernstein's study by using more of a theoretical framework to evaluate the household factors that are related to the likelihood of only pre-tax IRA ownership, only after-tax IRA ownership, and any IRA ownership.

Theoretical Framework

This study evaluates the incidence of pre-tax, after-tax, or any IRA ownership using a cost-benefit analysis within a life-cycle hypothesis framework. Since all households have limited resources available for current and future consumption, households must first decide whether to save in order to consume more in the future or not save or borrow in the present in order to consume more today. According to the life-cycle hypothesis (Ando & Modigliani, 1963), a household will seek to smooth consumption during a lifetime by transferring resources from life cycle periods where the resources are not demanded as much as in other periods. Specifically, a household chooses to save when the discounted marginal utility from consumption in future periods is greater than the marginal utility from consumption in the current period. Further, does a household borrow today to consume more or to invest in future retirement?

6

Even after facing this intertemporal consumption decision and choosing to save, a household faces additional tradeoffs in choosing the appropriate savings vehicle (one of which could be an IRA). For example, does a household pay down high-cost mortgage debt, save for short-term expenses, invest in a pension at work, invest in non-liquid financial assets, or invest in an IRA? In summary, at some point during the lifecycle, a household first had to have made the decision to save and then, second, determined that contributing to an IRA outweighed the opportunity costs of foregoing saving in alternative investments.

Conceptual Model

Table 1 presents a conceptual model with the hypothesized relationship between proposed life cycle, savings tradeoff, and other control variables.

{INSERT TABLE 1 HERE}

As shown, the life cycle variables of age and education are hypothesized to be positively related to savings in only pre-tax IRAs, only after-tax IRAs, and those with any IRA type. Specifically, as age increases, the likelihood also increases that a household has saved, or faced a period where the discounted marginal utility from consumption in a future period was greater than the marginal utility from consumption in the current period, also increases. One would expect a positive relationship between education, as a proxy for time preference (as well as intelligence), and savings. Further, one would expect debt used as leverage to invest in assets to be positively related to saving in tax-favored IRAs. In contrast, the life cycle variables of children and consumption debt are expected to be negatively related to the likelihood of IRA ownership. Specifically, having children in the home increases the household marginal utility from consumption, thus making it more likely that a household would rather consume than invest in an

IRA. Similarly, one would expect financing current consumption with debt, assuming all else constant, would decrease the likelihood of contributing to an IRA.

The savings tradeoff variables of having a pension at work, paying private mortgage insurance (which is a proxy for higher-cost mortgages), and having shorter-term foreseeable major expenses were all hypothesized to be negatively related to savings in only pre-tax IRAs, only after-tax IRAs, and those with any IRA type. These competing savings options represent substitutes and potentially higher opportunity costs to IRA ownership. While non-liquid financial assets (held outside a retirement account) also represent a substitute to IRA ownership, non-liquid financial assets also could act as a proxy for wealth. Thus, the expected negative effect from non-liquid financial assets acting as a substitute to IRAs could be offset by the expected positive effect from having more resources available for IRA contributions and ownership.

Introducing the control variables of income, marital status, and minority background allow us to account for other possible variations in IRA ownership. As discussed previously, income, being married, and not being of a minority background have all been shown to be positively related to IRA ownership (Copeland, 2007; Copeland, 2008; Investment Company Institute, 2006).

Methods

Data

The dataset used in this study was one implicate of the public use tape of the 2004 Survey of Consumer Finances (SCF). While this dataset is a cross-section survey and intentionally oversamples wealthier households, it was used due to the details it has on household income, wealth, retirement assets, and demographics to more appropriately evaluate IRA ownership. The

survey was administered to 4,519 households, although some respondents did not answer all the

questions.   Values to missing answers were imputed. While five implicates in the SCF were

prepared, only the first implicate was used in this study. Given the interest in evaluating IRA

ownership of all age groups, all household heads were considered in the samples. Samples were

later censored by the dependent variables of those owning only pre-tax IRAs, only after-tax

IRAs, and any IRA type. To deal with the oversampling of higher wealth households found in

the SCF, the variables were weighted using the SCF variable x42001 to obtain more

representative descriptive statistics.

<u>Empirical Model</u>

Given the binary nature of IRA ownership and in order to control for factors related to

different IRA ownership type and evaluate the factors related to ownership of different IRA

types, a binomial logistic regression model was utilized. The basic binomial logistic regression

can be expressed as follows:

$$\log (p/(1\text{-}p))=b_0 + b_1X_i ,$$

where p/(1-p) is the odds that a household owns a certain IRA type (depending on the dependent

variable being analyzed) with X_i representing a vector of independent variables representing

different household factors. A description of how the dependent and independent variables were

measured and coded using the 2004 SCF dataset follows.

Dependent Variables

Regarding owning an IRA, since households in the SCF were only asked "Do you (or

anyone in your family living there) have any Keoghs or IRAs?" and not whether they

specifically owned a traditional, rollover, employment-provided, or after-tax Roth IRA, the

reported balances were used to calculate different IRA ownership types. That is, households

9

were asked how much they held in Roth IRA, rollover IRA, regular or other, and Keogh accounts. Households were then determined to own any IRA if they had positive balance in the sum of all Keoghs, rollover IRAs, regular or other IRAs, and Roth IRA accounts. Pre-tax owners were determined by those who reported a positive balance in at least one pre-tax Keogh, rollover, regular or other IRA account but no balance in any after-tax Roth IRA accounts. Finally, households were considered after-tax owners if they held a positive balance in at least one Roth IRA account but no balance in any of the pre-tax related IRA accounts. As shown in Table 2, only 28.7% of the households represented in the study were estimated to own an IRA, 21% to own only pre-tax IRAs, and 4.4% to own only after-tax Roth IRAs. While not directly shown in Table 2, 3.3% of households represented were estimated to include *both* pre-tax IRAs and after-tax IRAs.

{INSERT TABLE 2 HERE}

Independent Variables

As discussed in the Conceptual Model section of the paper and shown in Table 2, the independent variables were classified into three variable types: life cycle variables, savings tradeoff variables, and control variables. The measurement and coding of the variables in the empirical model are shown in Table 3.

{INSERT TABLE 3 HERE}

In looking at the descriptive statistics in Table 2, age of the head of households that own no IRA appear to be lower to those that own any IRA or only pre-tax IRAs. This could be driven by the trend of older employees rolling over their defined contribution balances into IRA plans. This is consistent with Figure 1, which shows a large drop in the percentage of total retirement assets held in defined contribution plans at work from those groups aged 50-59 to aged over 60.

{INSERT FIGURE 1 HERE}

Much of this percentage drop can be explained by the offsetting increase in the percentage of total retirement assets held in pre-tax IRAs (which a large portion includes Rollover IRAs) between those groups aged 50-59 to aged over 60. Regarding education and as shown in Table 2, approximately 6 out of 10 head of households with any type of IRA hold a college degree, compared to approximately 3 out of 10 head of households with no IRA ownership. In addition, households with IRAs from the representatively weighted sample have means and medians of non-liquid financial assets and income much higher than households without IRAs. However, in order to control for the various effects of the different household characteristics, the binomial logistic regression model was used.

Findings and Discussion

Life Cycle Variables

Table 4 presents the results from the binomial logistic regression model. The likelihood that a household owns any IRA increases fairly monotonically with statistical significance as age increases with a slight relative drop from those aged 50-59 to those aged 60 or older. This is consistent with life cycle theory and as hypothesized earlier. In fact, for those with heads of households aged 50-59, the odds of a household owning any IRA is almost three and a half times as large as those under age 30. This pattern is also consistent across those households owning only pre-tax IRAs. However, it is interesting to note that, counter to our original hypothesis, the likelihood of only owning an after-tax Roth IRA decreases among the age 50-59 and age 60 or older age groups relative to those under 30. This might possibly be due to the fact that older households are likely to have rolled over defined contribution plans into traditional IRAs as well as the fact that Roth IRAs have only been around since 1998.

11

Consistent with our hypothesis that education is positively related to IRA ownership, the likelihood of owning any IRA steadily increases as highest education level increases. This same pattern exists among those only holding pre-tax related IRAs. In fact, for those head of households with at least a college degree, the odds that the household owns any IRA or only pre-tax IRAs is 3.89 and 2.27 times as large, respectively, as those without a college degree. None of the after-tax Roth IRA education coefficients were statistically significant, although the coefficient of having a college degree was positive.

As hypothesized, holding investment debt (in this case the log of) was slightly positively associated with IRA ownership across each IRA type, while the log of consumption debt was slightly negatively related to different IRA ownership type (although not statistically significant under the only after-tax IRAs regression). More analysis could be done to possibly break out separate components of investment and consumption debt, but these results provide some evidence that households with more investment debt are more likely to increase the likelihood of IRA ownership, but at a decreasing rate (and consumption debt vice versa). These results are consistent with the utility wealth function, where the utility from additional wealth increases but at a decreasing rate.

Consistent with our hypothesis, having at least one child is negatively related to the likelihood of owning any IRA and only after-tax IRA. However, the effect of having a child on only pre-tax IRA ownership was slightly negative but not statistically significant. It appears that in this case the disincentive to save from having a child in the home is offset by some other unknown effect, which future research could explore.

Savings Tradeoff Variables

Table 4 shows that the log of non-liquid financial assets is positively associated with the likelihood of owning any IRA, only pre-tax IRAs, or only after-tax Roth IRAs. Thus, the expected negative effect from non-liquid financial assets acting as a substitute to IRAs appears to have been offset by the expected positive effect from having more resources available for IRA contributions and ownership. Consistent with our hypothesis, currently having private mortgage insurance (PMI) on a home is negatively related to IRA ownership (although not significant under the only after-tax IRAs analysis). Thus, it appears that paying down a mortgage to avoid PMI is a fairly strong substitute to contributing to or owning an IRA. The negative coefficients related to having pension coverage at work were not statistically significant. Even more interesting, though, is the positive effect of having a foreseeable major expense within the next 5-10 years on owning any IRA (the coefficients for the other regressions were also positive but not statistically significant). This result was counter to the effect hypothesized, possibly due to households using IRAs to save for not only retirement but mid-term goals. For example, penalty free withdrawals can be made from IRAs for qualified higher education costs, or medical expenses before the age of 59 ½. Future research could try and segregate out the effects within this variable.

Control Variables

Table 4 shows that, consistent with the hypothesized directions, income, being married, and being White non-Hispanic is positively related to the likelihood of any IRA, only pre-tax IRAs, and only after-tax IRA ownership. However, the primary exception was that being married was not significantly related to owning only after-tax Roth IRAs. In addition, the relative likelihood of only after-tax IRA ownership increases with income percentile up until the

80th percentile, after which the likelihood remains positive but beings to decline. This contrasts the monotonic increase in the likelihood of owning any IRA or only pre-tax IRAs as income increases. This difference is likely due to the income phase out limits related to Roth IRAs imposed upon higher income tax payers combined with the fact the Roth IRAs had only been around for a few years when the survey was taken (giving less time for lower but soon to be higher income households the ability to contribute to a Roth IRA). In summary, the general positive relationship between income, being married, and being White Non-Hispanic is consistent with previous literature (Bernstein, 2005; Copeland, 2007; Copeland, 2008; Investment Company Institute, 2006).

Conclusions & Implications

Conclusion

While previous studies have primarily used descriptive statistics to evaluate the household factors related to IRA ownership, this paper extends upon the study of household debt and IRAs performed by Bernstein (2005) using the 2001 SCF. Using a cost-benefit analysis within a life cycle theoretical framework and the 2004 SCF dataset, this study evaluated the household factors that are not only related to the likelihood of owning any IRA, but also pre-tax (i.e., traditional IRAs, Simple IRAs, SEP IRAs, Keoghs, etc.) and after-tax Roth IRAs. In general, the results of this study found variables such as age, education, income, investment debt (i.e., mortgages, margin loans), being White Non-Hispanic, and married were positively associated with IRA ownership, while consumption debt (i.e., credit card, consumer loans, etc.) and having children were negatively related. The main exception to this was the negative relationship between older age groups and only Roth IRA ownership. In addition, having private mortgage insurance was negatively associated with the likelihood of IRA ownership, possibly

14

due to the increased opportunity cost of owning an IRA over paying down a high cost mortgage. In contrast to what was originally hypothesized, non-liquid financial assets were positively related to the likelihood of IRA ownership. While the household faces the hypothesized savings tradeoff between investing in an IRA or outside a retirement plan, the negative relationship created by this tradeoff is offset by the effect of having more financial wealth available for investments in IRAs.

Implications

Holden, Ireland, Leonard-Chambers, and Bogdan (2005) reported that the median financial assets of households owning IRAs were six times greater than households that do not own IRAs. Given the results that the younger, less educated, lower income, and minorities are less likely to own any IRAs, new policy and educational efforts should be considered. For example, Copeland (2002) noted that once individuals begin contributing to an IRA they are more likely to contribute in the future. Perhaps encouraging automatic IRA programs, such as discussed in a Government Accounting Office report that suggested offering tax credits to employers who increase the adoption of payroll deduction IRAs (Salisbury, 2008), especially among those workers that would benefit most. In addition to considering new policy, counselors and planners should ensure that younger, less educated, lower income, and minority households are fully aware of the total costs associated with foregoing IRA ownership. For example, a lower-income household might decide not to contribute to an IRA without considering the all the benefits, such as the retirement savings contribution credit. Planners and counselors can be aware of the costs and benefits of owning an IRA and help educate their clients so that they can make the decision with full information.

In addition, with the recent tax legislation that allows qualified retirement plan money to be rolled over into Roth IRAs beginning in 2008 (Internal Revenue Service, 2008) or withdrawal of the income limitation to Roth conversions in 2010, we are likely to see an increase in the likelihood of older households owning Roth IRAs. Financial planners can utilize IRA legislation updates such as these to help their clients more fully maximize lifetime consumption by saving in tax-deferred IRAs and tax-free growth Roth IRAs.

REFERENCES

Ando, A. & Modigliani, F. (1963). The "life cycle" hypothesis of saving: Aggregate implications and tests. *The American Economic Review*, *53,* 55-74.

Attanasio, O.P. & DeLeire, T. (2002). The Effect of Individual Retirement Accounts on Household Consumption and National Saving. *The Economic Journal, 112* (July), 504-538.

Bernstein, D. (2005). Household Debt and IRAs:Evidence from the Survey of Consumer Finances. *Financial Counseling and Planning, 15* (1), 63-72.

Copeland, C. (2002). IRA Assets and IRA Owners. *Employee Benefit Research Institute Notes, 23* (12), 1-9.

Copeland, C. (2007). 401(k)-Type Plans and Individual Retirement Accounts. *Employee Benefit Research Institute Notes, 28* (10), 1-13.

Copeland, C. (2008). The Number of Individual Account Retirement Plans Owned by American Families. *Employee Benefit Research Institute Notes, 29* (6), 6-10.

DeVaney, S.A. & Zhang, T.C. (2001). A Cohort Analysis Of The Amount In Defined Contribution And Individual Retirement Accounts. *Financial Counseling and Planning, 12* (1), 89-104.

Gale, W. G., & Scholz J.K. (1994). IRAs and household savings. *The American Economic Review*, *84,* 1233-1260.

Holdren, S., Ireland, K., Leonard-Chambers, V., & Bogdan, M. (2005). The Retirement Account at Age 30: A Retrospective. *Investment Company Institute Perspective, 11* (1), 1-24.

Investment Company Institute. (2001). IRA Ownership in 2001. *Investment Company Institute Research in Brief, 10* (3), 1-4.

Investment Company Institute. (2006). The Role of IRAs in Americans' Retirement Preparedness. *Investment Company Institute Research Fundamentals, 15*(1), 1-11.

Imrohoroglu, A., Imrohoroglu, S., & Joines, D.H. (1998). The Effect of Tax-Favored Retirement Accounts on Capital Accumulation. *The American Economic Review, 88* (4), 749-768.

Salisbury, D. (2008). Statement for the House and Means Committee Select Revenue Measures Subcommittee: The Role of Individual Retirement Accounts (IRAs) in the U.S. Retirement System.   Retrieved December 1, 2008, from, http://www.ebri.org/pdf/publications/testimony/t154.pdf.

Supper, W.J., & Cocozza, C.R. (2007). The Pension Protection Act of 2006. *Journal of Financial Planning,* January 2007, 38-41.

Venti, S. F. & Wise, D. A. (1986). Tax deferred accounts, constrained choice and estimation of Individual saving. *Review of Economic Studies*, *53,* 579-601.

Vora, P.P. (1996). Breakeven Periods For Individual Retirement Accounts With Partial Withdrawals. *Financial Counseling and Planning, 7*, 49-56.

Table 1: Hypothesized Relationship between Household Factors and IRA Ownership

	Dependent Variables		
	Any IRA	Pre-tax IRA	After-Tax IRA
Independent Variables			
Life Cycle Variables			
Age	+	+	+
Education	+	+	+
Investment Debt	+	+	+
Consumption Debt	-	-	-
Children	-	-	-
Savings Tradeoff Variables			
Private Mortgage Insurance	-	-	-
Non-Liquid Financial Assets	-/+	-/+	-/+
Short-term Savings Goal	-	-	-
Pension at work	-	-	-
Control Variables			
Income	+	+	+
Married	+	+	+
Minority	+	+	+

Table 2: Characteristics of Households with IRAs (by type) and without IRAs

	No IRA (n=2,719)	Any IRA (n=1,800)	Pre-tax IRA (n=1,446)	After-tax IRA (n=182)
Millions of households	79.9	32.2	23.6	5.0
% of households	71.3%	28.7%	21.0%	4.4%
Life Cycle Variables				
Age Mean	48.1	53.2	55.7	42.9
Age Median	46	53	56	42
High School Degree	33.7%	23.4%	24.2%	21.8%
Some College	19.9%	14.2%	14.0%	15.2%
College Degree	27.3%	59.2%	58.2%	59.3%
Investment Debt Mean	49,501	109,397	111,076	99,890
Investment Debt Median	0	58,000	50,000	85,000
Consumption Debt Mean	11,452	13,939	13,701	14,973
Consumption Debt Median	3,000	3,000	2,500	8,000
Have at least one child	45.2%	40.5%	39.9%	41.5%
Savings Tradeoff Variables				
Have Private Mortgage Insurance	8.9%	9.4%	8.9%	11.2%
Foreseeable Major Expense	51.9%	55.0%	53.8%	57.8%
Non-liquid Financial Assets Mean	40,393	239,348	287,647	65,534
Non-liquid Financial Assets Median	0	26,400	30,300	8,500
Other Pension Coverage	36.1%	51.0%	46.6%	63.7%
Control Variables				
Income Mean	49,055	123,153	132,513	90,599
Income Median	32,860	71,881	71,881	70,854
Married	52.4%	71.3%	71.9%	64.4%
White Non-Hispanic	67.2%	89.5%	89.2%	90.3%

Source: 2004 Survey of Consumer Finances.

The SCF variable x42001 was used to obtain unbiased estimates for the population.

Table 3: Coding of Variables

Independent Variables	Coding
Under 30 years of age	1 if age of head of household under 30 years of age; 0 otherwise
Age 30-39	1 if age of head of household 30 through 39; 0 otherwise
Age 40-49	1 if age of head of household 40 through 39; 0 otherwise
Age 50-59	1 if age of head of household 50 through 39; 0 otherwise
Age 60 or older	1 if age of head of household 60 or older; 0 otherwise
Income 0-20 percentile	1 if household income lies within 1st income quintile; 0 otherwise
Income 20-40 percentile	1 if household income lies within 2nd income quintile; 0 otherwise
Income 40-60 percentile	1 if household income lies within 3rd income quintile; 0 otherwise
Income 60-80 percentile	1 if household income lies within 4th income quintile; 0 otherwise
Income 80-90 percentile	1 if household income lies within 80-90th percentile; 0 otherwise
Income 90-100 percentile	1 if household income lies within 90th-100th percentile; 0 otherwise
Less than High School Degree	1 if head of household has less than a high school degree; 0 otherwise
High School Degree	1 if highest level of education of the head of household is a high school degree; 0 otherwise
Some College	1 if highest level of education of the head of household is some college; 0 otherwise
College Degree	1 if highest level of education of the head of household is a college degree; 0 otherwise
Other Pension Coverage	1 if either head of household or spouse/partner included in retirement plan; 0 otherwise
Log Non-liquid Financial Assets	Log of non-liquid financial assets (CDs, directly held mutual funds, stocks, bonds, savings bonds, cash value of life insurance, other managed and financial assets)
Have PMI	1 if household has a mortgage that carries PMI; 0 otherwise
At least one child	1 if household has at least one child that is financially dependent; 0 otherwise
Married	1 if head of household is married or living with a partner; 0 otherwise
White Non-Hispanic	1 of head of household reported being White and non-Hispanic; 0 otherwise
Short-Term Major Expense	1 if head of household reported a foreseeable major expense the next 5-10 years; 0 otherwise
Log Investment Debt	Log of investment debt (housing and other residential debt, margin loans)
Log Consumption Debt	Log of consumption debt (credit card, installment loans, loans from pensions, loans from life insurance, miscellaneous debt)

Table 4: Binominal Logistic Regression Models for IRA Ownership (by Type)

	Any IRA			Only Pre-Tax IRAs			Only After-Tax IRAs		
	Coefficients		Odds Ratio	Coefficients		Odds Ratio	Coefficients		Odds Ratio
Intercept	-4.483	***		-5.057	***		-4.381	***	
Life Cycle Variables									
Under Age 30 (reference)									
Age 30-39	0.59	**	1.85	0.831	**	2.32	0.196		1.26
Age 40-49	0.791	***	2.22	0.996	***	2.69	0.16		1.18
Age 50-59	1.248	***	3.48	1.645	***	5.12	-0.854	**	0.43
Age 60 or older	1.125	***	2.95	1.723	***	5.38	-1.251	***	0.28
Less than High School (reference)									
High School Degree	0.909	***	2.19	0.872	***	1.39	0.199		1.04
Some College	0.937	***	2.3	0.966	***	1.52	-0.021		0.88
College Degree	1.466	***	3.89	1.348	***	2.27	0.413		1.3
Log Investment Debt	0.033	***	1.03	0.021	***	1.02	0.032	**	1.03
Log Consumption Debt	-0.023	***	0.98	-0.017	**	0.98	0.004		1.01
At least one child	-0.264	**	0.8	-0.031		1	-0.778	***	0.47
Savings Tradeoff Variables									
Have PMI	-0.352	*	0.71	-0.336	*	0.72	-0.117		0.89
Foreseeable Major Expense	0.175	*	1.19	0.145		1.15	0.03		1.02
Log Non-liquid Financial Assets	0.079	***	1.08	0.071	***	1.07	0.035	*	1.03
Other Pension Coverage	-0.115		0.89	-0.165		0.85	-0.005		1
Control Variables									
Income 0-20 percentile (reference)									
Income 20-40 percentile	0.52	*	1.66	0.416		1.49	0.832		2.28
Income 40-60 percentile	1.194	***	3.23	0.907	***	2.41	1.511	**	4.43
Income 60-80 percentile	1.368	***	3.74	0.951	***	2.46	2.08	***	7.6
Income 80-90 percentile	1.497	***	4.26	1.076	***	2.79	1.783	**	5.62
Income 90-100 percentile	1.587	***	4.51	1.488	***	4.12	1.092	*	2.77
Married	0.419	***	1.51	0.469	***	1.59	-0.23		0.78
White Non-Hispanic	0.786	***	2.2	0.646	***	1.91	0.788	**	2.2
Pseudo R-Square	0.445			0.403			0.118		

Source: Logit model coefficients and odds ratios presented above estimated from the 2004 Survey of Consumer Finances.

*p<.05, **p<.01, ***p<.001

Figure 1:
Retirement Plan Assets By Age Group

Source: 2004 Survey of Consumer Finances.
The SCF variable x42001 was used to obtain unbiased estimates for the population.