

## **An analysis of financial preparation for retirement:**

### **A study of retirement preparation of men & women in their positive savings periods**

Yun Doo Lee\*

#### **Abstract**

This paper compares and contrasts gender differences in financial preparation for retirement between American men and women in their positive savings periods and the baby boomer generation who are in their age 46–59. Probit analysis was conducted using data from the 2013 Survey of Consumer Finances.

The findings indicate that for both sexes, work history (length of employment and number of weeks worked per year) has significantly positive effects on retirement plan eligibility but significantly negative effects on retirement plan contributions. For both sexes, excellent health has significantly positive effects on retirement plan eligibility and household size has significantly negative effects on retirement plan contributions. Also, the findings show that for both sexes, good health has significantly negative effects on adequacy of pension and Social Security income for retirement.

In addition, for men, married status is significantly positive and age as well as education is significantly negative on retirement plan eligibility while for women, insignificant. Besides, age and education are significant and positive on retirement plan contributions for men while significant and negative for women.

Finally, for men, age and education have significant and negative effects on adequacy of pension and Social Security income for retirement while for women, insignificant. Married status (household size) has significant and negative (positive) effects on adequacy of pension of Social Security income for women while insignificant for men. Also, for men, work history in length of employment in years (work history in number of weeks worked per year) has significant and positive (negative) effects on adequacy of pension and Social Security income for retirement while for women, insignificant.

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\* Yun Doo Lee is a Ph.D. student in the Department of Economics and Finance at the University of New Orleans

## 1. Introduction

This study analyzes gender differences in financial preparation for retirement. Previous research has shown similarities and differences between men & women in their thirties and fifties (Lawrence and Hassan, 2007). They conclude that for both sexes, age and education levels have significant and negative effects on retirement plan eligibility. Income, good health, and working history have significant positive effects for women in this age group.

Also, they report that for women, income and education have significant and positive effects on the decision to contribute to a pension plan; good health has significant positive effects in their thirties but insignificant in their fifties. In addition, they found that women in their early 50's are more likely to contribute to a pension plan compared to women in their late 50's.

In their positive saving periods, men and women have significantly greater chances of preparing for their retirement. Besides, when they are close to their retirement like forties or fifties, they have less time to prepare their retirement compared with their twenties or thirties. Also, in case of women, they will need greater wealth accumulation to support a longer retirement period due to their longer average life expectancy compared to men. Elerdt, Kosloski, and Deviney (2000) found that the closer the perceived proximity of retirement, the more

motivated workers were to engage in both formal and informal retirement planning activities. Otherwise, their consumption during the retirement years must be lower. Compounding the issue of greater longevities among women is that women tend to earn less and less likely to be covered by a pension plan as compared to men (Magenheim, 1993).

Several studies have used the life-cycle model of savings as a basis for analyzing the effects of various socio-demographic events on retirement economic well-being. According to the life-cycle model of savings, income does not necessarily flow into the family at the rate necessary to meet current expenditures. Thus, there will be periods in the life cycle when expenditures exceed income. Using longitudinal profiles from 1900-1974, Kotlikoff and Summers (1981) findings suggest that expenditures are parallel to income prior to age 45, resulting in relatively little savings. However, the findings indicate that there are positive savings between ages 45-60 and negative savings from age 60 onward.

The United States Census Bureau considers a baby boomer to be someone born during the demographic birth boom between 1946 and 1964. The generation can be segmented into broadly defined cohorts: one is called as the Leading-Edge Baby boomers as individuals born between 1946 and 1955 and the other is called the Late Boomers as individuals born between 1956 and 1964.

The Leading-Edge Baby boomers and the Late Boomers were in ages 58-67 and 49-57 as of the time of the 2013 Survey of Consumer Finances (the 2013 SCF) respectively. The retirement of the Baby boomer generation is in increase and, will increase stress on the Social Security system with Social Security eligibility starting in 2008 (Butrica, Iams & Smith 2003).

Thus, we research the retirement similarities and differences between men and women who are in both their positive savings periods and the baby boomers using the data from the 2013 SCF.

Previous studies have focused on the effect of factors such as age, health, marital status, work history, education, income, family/household composition and occupation on retirement savings over the life. However, none of these studies have focused specifically on retirement preparation or adequacy of men and women who are in both their positive savings periods and the baby boomers, which have more available savings as financial resources in their life cycle for preparation for their retirement. Also, we have recently experienced several economic recessions, which was very different from the previous periods.

Accordingly, this study aimed to assess the retirement preparation or adequacy of retirement income differences between men and women in both their ages 46-59 and the baby boomers after recent several economic

recessions. The purpose of this study is to compare and contrast the differences in retirement preparation or adequacy between men and women in their positive savings periods after economic recessions in relation to socio-demographic variables and work-related variables. The goal of the research is to address if any of these factors do indeed have an impact on the level of preparation or adequacy of retirement income.

Finally, the data is from the 2013 Survey of Consumer Finances. Compared to the previous Surveys of Consumer Finances, the 2013 version contains more detailed data regarding those who are in both their positive savings periods and the Baby boomers after recent several economic recessions

## **2. Literature review**

The economic preparation for retirement has long been the interesting issue for researchers. In general, the findings show that retirement plan participation increases with age, earnings, and education. Also, participation rates are higher for men, whites, and individuals who are married. Jahns (1976) found that those who planned more extensively for financial needs during retirement had the stronger financial security. Kim et al. (2005) reported that those who calculated their retirement fund needs had more savings while Hassan and Lawrence (2007) reported that those who planned for retirement were more

likely to contribute to the pension plans. In addition, some studies focused on the linkages of financial literacy and knowledge of people with economic preparation for retirement (Delavande et al., 2008 and Alessie et al., 2011) while others focused on the adequacy of economic resources in retirement (Hurd and Rohwedder, 2008) and the conceptual framework to describe the preparation for retirement (Denton et al., 1998). Andrews (1992) reported that retirement plan eligibility increases with age, earnings, family income, and tenure. In addition, gender, age, marital and family status, and income all interact in unique ways for those covered under defined benefit pensions versus those under defined contribution plans. Springstead and Wilson (2000) found that participants in retirement savings vehicles tend to be male, higher wage earners, older, full-time employees, and either white or nonblack minorities. Clark and Scheiber (1998) reported that plan characteristics and communication have the largest impact on employee participation and contribution so that employers can improve both plan participation rates and employee contribution levels by implementing a program to better inform employees about the details of the company retirement plan.

Using data from the 1989 Survey of Consumer Finances, Malroux and Xiao (1995a) reported that age, education, race, job tenure, and employment status have a significant effect on retirement preparation. Also, the authors

found that whites, preretirees between 31-59 with higher education, and homeowners are more likely to have retirement or pension plans. Conversely, self-employed and married pre-retirees are less likely to have retirement or pension plans. Regarding contribution rates, pre-retirees with higher education and longer job tenure are more likely to contribute to their pension plans. In contrast, whites, married pre-retirees, and respondents in good health are less likely to contribute to pension plans.

Single women tend to choose more conservative investment allocations in their retirement accounts than do single men. However, within married household, no significant gender differences in asset allocation were found (Lancaster and Raj: 2009). Men work for an average of 44 years while women work for an average 32 years (Hassan, Lawrence, and Haque, 2006). Every year that you work fewer months means less retirement income (Hassan, Lawrence, and Haque, 2006). Women on average are not as adequately prepared for retirement compared to men (Burkhauser and Duncan, 1989).

Glass and Kilpatrick (1998) reported that men are more likely to not only save more for retirement, but also invest in more aggressive financial mechanisms. Phua and McNally (2008) found that younger men were much less likely to be saving for retirement and they also made a much stronger distinction between preretirement planning and financial planning for retirement, whereas

older men saw these two forms of planning as more closely aligned. The older the individual is, the more likely that the individual will retire (Adam & Rau, 2004; Kim & Feldman, 2000; Wang et al, 2008) and their engagements in further employment become increasingly limited (Adams & Rau, 2004). Taylor and Geldhauser (2007) found that older workers from lower income brackets, which also have higher proportions of women and minorities, are less likely to engage in both informal and formal retirement planning. Traditionally, most older workers do not seriously start planning for retirement until very close to the actual retirement decision. However, Ekerdt (2004) has noted that retirement is no longer a concern only for the second half of life, especially given the precipitous shift of the risk of funding retirement from the employer to the individual employee. Thus, retirement planning needs to not only start sooner in one's life, but also the focus of retirement planning may need to be substantially different during various life phases (Phua & McNally, 2008).

Family is an important life domain that may influence retirement and employment status (Szinovacz, 2003). Specially, spouse's status, spousal support, and marital and dependent care status have been shown to be related to retirement decisions (Henkens, 1999; Henkens and van Solinge, 2002; Szinovacz, DeViney, and Davey, 2001). However, Wang et al. (2008) reported that family-

related variables such as marital status and quality were not related to retirement decisions.

Education has also been demonstrated to be related to retirement preparation (Von Bonsdorff, Shultz, Leskinen & Tansky, 2009). Highly educated individuals have more capacity and options in maintaining their life patterns because of their professional knowledge, and skills. Thus, they may have more opportunities to continue to work in their career field by engaging in consulting or other entrepreneurial roles (Ekerdt, Kosloski, & Deviney, 2000).

Health is another major factor that influences retirement preparation (Jet et al, 2007; Mutchler, Burr, Pienta, and Massagli, 1997; Shultz and Wang, 2007). Health problems might lead to constraints on an individual's ability to perform effectively or achieve continuity of life structure through further participation in the workforce. Consequently, employees with health problems will be more likely to retire (Barnes Farrell, 2003).

Kim and Moen (2001) found that unfavorable attitudes toward retirement were associated with absence of retirement planning and failure to seek information about retirement, which in turn were related to unsuccessful adaptation to retirement.

In average, working-age population aged 50–59 years old in Thailand had moderate economic preparation for retirement (Chansarn, 2013).

Based on from 1995 to 2007 Survey of Consumer Finance dataset, the proportion of the American households with retirement adequacy ranges from 44% in 1995 to 58% in 2007 with income stages (Kim, Hanna, and Chen 2014).

Income is a predictor of retirement plan preparation for women in their thirties. Women divorced, separated, or living with a partner, are more likely to contribute to their pension plan through work (Hassan & Lawrence, 2007). While the median married couple of approximately fifty-five years of age holds assets totaling nearly \$400,000, they still must engage in substantial saving to retire comfortably at age sixty-two (Mitchell and Moore, 1998). There really is a retirement savings crisis (Munnell, Webb, and Golub-Sass, 2007). Unless households begin to save more or work longer, the National Retirement Risk Index (NRRI)<sup>1</sup> will continue to increase as the Social Security Normal Retirement Age<sup>2</sup> rises to 67, the shift from defined benefit plans continues, retirement periods become longer with increased life expectancy, and the one-income couple virtually disappears. The combined effect of poor investment returns, lower interest rates, and the continuing rise in social security's Full

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<sup>1</sup> The National Retirement Risk Index (NRRI) shows the share of working households who are "at risk" of being unable to maintain their pre-retirement standard of living in retirement.

<sup>2</sup> The Social Security Normal Retirement Age (NRA) is the age at which retirement benefits (before rounding) are equal to the "primary insurance amount."

Retirement Age increased the NRRI from 44 percent in 2007 to 53 percent in 2010 (Alicia, Anthony, and Francesca, 2012)

However, some studies reported that Americans retirees who entered retirement in 1990s have been recognized to accumulate enough financial resources to support their retirement (Engen, Gale, and Uccello, and Laibson, 1999; Gustman and Steinneier, 1998). Fewer than 20 percent of households have less wealth than their optimal target Investment, and the wealth deficit of those who are under-saving is generally small (Scholz, Seshadri, and Khitatrakun, 2006).

Expenditures are parallel to income prior to age 45, resulting in relative savings. There is positive savings between ages 45-60 and negative savings from the 60 onward (Katlikoff and Summers, 1981). Burkhauser and Duncan (1989) found that family income peaked for individuals who began the 10 year period in their prime earnings years of 36 to 45 and then falls for the 46 to 55 year old group. The next period, 56 to 65, is when the most retirements occur. As expected, family income is lower for this group. Those beyond age 65 have the lowest incomes of all.

According to data from the Federal Reserve' the 2010 Survey of Consumer Finance (SCF), mean household net worth was \$498,800 and median household net worth was \$77,300 in 2010. The recession and slow recovery

more adversely affected the households in the bottom half of the wealth distribution than those further up the distribution. According to a June 2012 article in the Federal Reserve Bulletin, which presents data from the 2010 SCF, a sharp collapse in house prices was the main reason for the overall decrease in median household wealth between 2007 and 2010.

Perceptions of retirement and economic living standards were associated with financial preparedness. However, women were still economically disadvantaged compared to men, which impacted negatively on their financial preparations (Noone, Alpass, and Stephens, 2010).

### **3. Data and Methodology**

The data were obtained from the 2013 Survey of Consumer Finance (SCF) which is normally a triennial interview survey of U.S. families sponsored by Board of Governance of the Federal Reserve System with the cooperation of the U.S. Department of the Treasury. The survey collects information on families' total income before taxes for the calendar year preceding the survey. The data cover the status of families as of the time of the interview, including detailed information on their balance sheets and financial services as well as on their pensions, labor force participation and demographic characteristics. The SCF is expected to provide reliable information both on attributes that are broadly distributed in the population such as homeownership and on those that are highly

concentrated in a relatively small part of the population such as closely held businesses. To address these, the SCF is composed of two parts: a standard geographically based random sample and a special oversample of relatively wealthy families. Weights are used to combine information from the two samples to make estimates for the full population. In the 2013 survey, only 6,026 families were interviewed while in the 2007 survey, 6,492 families were interviewed. In order to accommodate for non-response error, missing data in the survey has been imputed five times using a multiple imputation technique which preserves all cases by replacing missing data with a probable value based on other available information before the survey data was released to the public. The information is stored in five separate imputation replicates (implicates) so that for the 6,026 families interviewed for the survey, there are 30,130 in the data set. Eleven observations were deleted for the public version of the data set for purposes of disclosure avoidance; thus, there are 30,075 records and 5,415 variables in the public data set for 6,026 families. The codebook provides more detail on the structure of the data set and the steps taken for disclosure avoidance.

With data from the 2013 SCF, we use probit analysis and the multiple regression models to observe the statistical significance of socio-demographic, work related variables on retirement savings, and attitudes about savings and

investing related variables, and financial assets related variables for a subsample of individuals ranging in age from 46–59 years.

The dependent variables for analysis were grouped into three categories: retirement plan eligibility (whether or not eligible to be included in any retirement plan), retirement plan contributions (whether or not contributions to any retirement plan are being made), and adequacy of pension and Social Security income for retirement (how rate adequacy of pension and Social Security income for retirement). The independent variables were also broken down into three categories: socio-demographic variables and work-related variables, and attitudes about saving and investing. Below is a description of the independent variables used in the study:

#### Socio-Demographic Variables

- Age of respondent (46–59 years)
- Gender
- Marital status (married, separated, divorced, widowed, never married)
- Household size (number of persons)
- Health (categories range from excellent to poor)
- Income (amount of income)
- Education (highest grade completed)

#### Work-Related Variables

- Length of employment (number of years)
- Number of weeks worked per year

Previous research has shown similarities and differences between men & women in their thirties and fifties regarding socio-demographic related variables and work related variable (Lawrence and Hassan, 2007). However, in this study, we use an additional dependent variable such as adequacy of pension and Social Security income with the more detailed data regarding those who are in both their positive savings periods and the Baby boomers after recent several economic recessions.

We hypothesize as follows:

Socio-demographic variables and work-related variables are statistically significant variables affecting eligibility for and contributing to a retirement plan for women and men age 46-59.

Socio-demographic variables and work-related variables are statistically significant variables affecting adequacy of pension and Social Security income for retirement.

#### **4. Findings & Conclusions**

The findings focus on the socio-demographic and work-related variables affecting whether or not individuals aged 46-59 are eligible to take part in their respective employer sponsored retirement plans. We also

discuss our findings regarding factors affecting an individual's decision to contribute to a retirement plan. Finally, we discuss our findings with regards to factors affecting on adequacy of the retirement income to receive or expect to receive from Social Security and job pensions.

Table 1 shows the descriptive statistics for individual who are eligible to participate in a retirement. Regarding this particular dependent variable, respondents were asked if they were eligible to be included in any retirement plan. The descriptive statistics indicate that men in both their positive savings periods and the baby boomer generation aged 46-59 have much higher reported income than women of the same age group. In addition, our findings indicate that men in this group have longer work histories (length of employment in years and number of weeks worked per year) and much bigger household size compared to women. In case of education, men in this group are almost similar to women.

Table 2 shows the probit regression for retirement plan eligibility. Regarding men and women in their positive savings periods, aged 46-59, the findings indicate that for both sexes, work history (length of employment and number of weeks worked per year) and marital status (widowed) have significantly positive effects on retirement plan eligibility. In case of household size and age\*education, the results indicate significantly positive effects for only

men. For men, married status (married and divorced) are significantly negative on retirement plan eligibility while for women, insignificant.

In addition, income has insignificant effects on pension plan eligibility for women in their age 46-59 compared with the previous study (Lawrence & Hassan, 2007). Although some results such as income indicate insignificant effects on retirement plan eligibility, our results tend to agree with the previous research in general. Income does not seem to play as a good predictor for retirement preparation after several economic recessions.

Table 3 shows the descriptive statistics for individuals who are contributing to a retirement plan through works. Respondents were asked if they make contributions to their pension plans. As in Table 1, the men in their age, 46-59 had much higher incomes and bigger household size compared to women. However, in case of work histories, in length of employment in years, men were similar to women but in number of weeks worked per year, men were shorter than women.

In Table 4, we present the probit analysis regarding individuals who are contributing to their retirement plans. Fortunately, the tests for the dependent variable did yield meaningful results for men and women.

The findings indicate that for both sexes, health (excellent and good) and household size has significantly positive effects on retirement plan contributions.

Those who are healthier have relatively less medical care throughout the course throughout of their lives so that their contributions to their retirement plan would increase. For example, for the years 2013 and 2014, people can contribute up to \$17,500 as an elective salary deferral to a 401(k) plan. Also, those who have bigger household members need to make more contributions toward retirement. Besides, marital status (divorced) is significant and negative effects on retirement plan contributions for men while significant and positive for women. In the other hand, age, education, work history (number of weeks of worked per year) show significant and negative effects for men while insignificant for women. Married status shows significantly negative effects on retirement plan contributions for both sexes.

Accordingly, for both sexes, health, household size, married status are meaningful as predictors of the contribution decision of individuals aged 46–59.

Table 5 illustrates the descriptive statistics for individuals who rate the adequacy on pension and Social Security income for retirement. Respondents were asked how they would rate the retirement income they receive or expect to receive from Social Security and job pensions. As in Table 1 and 3, the men in their positive periods, aged 46–59, had much higher incomes and bigger household size compared to women. Also, in case of work histories (length of

employment in years and number of weeks worked per year), men are longer than women.

In addition, even though not in Tables, in their responses regarding the question, men show 35.11 percent for “totally inadequate”, 22.27 percent for “inadequate”, 27.41 percent for “enough to maintain living standards”, 8.02 percent for “satisfactory” and 7.19 percent for “very satisfactory” respectively while women 36.70 percent, 18.81 percent, 28.35 percent, 8.13 percent, and 8.01 percent. Thus, men are just a little higher than women in inadequate including totally inadequate while men are a little lower than women in satisfactory including very satisfactory, which may be due to men’s better health and bigger household size than women.

Table 6 illustrates the probit regression regarding adequacy of pension and Social Security income for retirement. The findings show that for both sexes, health (excellent) and married status has significantly positive effects on adequacy of pension and Social Security income enough to maintain the living standard of both men and women in their positive savings periods and the baby boomer generation aged 46–59 for retirement. Individuals in excellent health may spend relatively less money in a nursing home and work longer and better, which causes more adequacy of pension and Social Security income. For men, household size and marital status (widowed) have significant and negative

effects while for women, insignificant. Age, education, length of employment of work history (number of weeks worked per year of work history) has significant and negative (positive) effects for women while insignificant for men. For men, widowed status has significant and negative effects while for women, insignificant. Also, for women, number of weeks worked per year has significant and positive effects while for men, insignificant.

The findings have policy implications for public policy makers. After the recent economic recession, income does not play the role as the predictor of retirement plan preparation and adequacy of pension and Social Security income for retirement. Rather, health (excellent) is a good predictor of retirement plan preparation because continuing work became one of important factors for retirement preparation since several economic recessions. Also, health (excellent) is a good predictor on adequacy of pension and Social Security income for retirement, which is related to less medical costs and longer work. In America, based on the 2013 SCF data, more women than men in the baby boomer generation aged 46-59 rate “totally inadequate” for pension and Social Security income for retirement. The healthier one lives, the better one can prepare for retirement.

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**Table 1**

Descriptive Statistics of Variables taken from the 2013 Survey of Consumer Finances Regarding Retirement Plan Eligibility  
 Data taken from the 2013 SCF available from the Federal Reserve System in cooperation with the Statistics of Income Division at the Department of Treasury were used to calculate the mean and standard deviation for the variables listed below

	Men age 46-59		Women age 46-59	
Variables	Mean	Standard Deviation	Mean	Standard Deviation
Length of employment in years	29	8	22	14
Household size	3	2	2	1
Income of Respondent	82651	98493	29782	21801
Education of Respondent in years	13.48	3.13	12.99	1.21
Number of weeks worked per year	51.58	2.47	50.83	3.49
Age *Education	703	172	685	62
Age*Income	4372495	5449081	1541221	1043611
Men age 46-59 n=239				
Women age 46-59 n=124				

**Table 2**

Probit Analysis of Factors Affecting Retirement Plan Eligibility  
 A probit two stage least squares procedure was employed using data taken for the 2013 SCF. The coefficient, marginal effects, and P valued of each of the independent variables tested in relation to the dependent variables, pension plans eligibility, are listed below.

Dependent Variable :Are you are eligible to be included in any plans?

Independent Variable	Men age 46-59			Women age 46-59		
	Coefficient	Marginal Effect	Value	Coefficient	Marginal Effect	Value
Length of Employment						
Respondent	<b>0.005635</b>	<b>0.0056354</b>	<b>0.0286**</b>	<b>0.004192</b>	<b>0.0041924</b>	<b>0.0518*</b>
Age						
Respondent	<b>-0.042175</b>	<b>-0.0421748</b>	<b>0.2131</b>	<b>0.011976</b>	<b>0.0119759</b>	<b>0.8712</b>
Marital Status						
Married	<b>-0.215852</b>	<b>-0.2158522</b>	<b>0.0649*</b>	0	.	.
Separated	<b>0.157069</b>	<b>0.1570690</b>	<b>0.3403</b>	<b>-0.243237</b>	<b>-0.2432374</b>	<b>0.0541*</b>
Divorced	<b>-0.188636</b>	<b>-0.1886364</b>	<b>0.0756*</b>	<b>0.088327</b>	<b>0.0883268</b>	<b>0.1985</b>
Widowed	<b>0.435190</b>	<b>0.4351902</b>	<b>0.0187**</b>	<b>0.240963</b>	<b>0.2409627</b>	<b>0.0023***</b>
Household size	<b>0.070212</b>	<b>0.0702124</b>	<b>0.0002***</b>	<b>-0.023080</b>	<b>-0.0230800</b>	<b>0.2492</b>
Income						
Respondent	<b>-0.000007878</b>	<b>-7.87836E-6</b>	.	<b>-0.000008394</b>	<b>-8.394207E-6</b>	.
Education of Respondent	<b>-0.195235</b>	<b>-0.1952354</b>	<b>0.1016</b>	<b>0.062429</b>	<b>0.0624286</b>	<b>0.8360</b>
Health						
Excellent	<b>0.154277</b>	<b>0.1542766</b>	<b>0.0059***</b>	<b>-0.473585</b>	<b>-0.4735852</b>	<b>0.0003***</b>
Good	.	.	.	<b>-0.328948</b>	<b>-0.3289477</b>	<b>0.0011***</b>
Number of weeks worked per year	<b>0.018258</b>	<b>0.0182585</b>	<b>&lt;.0001***</b>	<b>0.019823</b>	<b>0.0198229</b>	<b>&lt;.0001***</b>
Age*Education	<b>0.004048</b>	<b>0.0040485</b>	<b>0.0890*</b>	<b>-0.002762</b>	<b>-0.0027619</b>	0.6243
Age*Income	<b>0.000000144</b>	<b>1.4404983E-7</b>	.	<b>0.000000310</b>	<b>3.1012044E-7</b>	.

\*p<0.10\* p<0.05\*\* p<0.01\*\*\*

**Table 3**

Descriptive Statistics of Variables taken from the 2013 Survey of Consumer Finances Regarding Retirement Plan Contributions  
 Data taken from the 2013 SCF available from the Federal Reserve System in cooperation with the Statistics of Income Division at the Department of Treasury were used to calculate the mean and standard deviation for the variables listed below

Independent Variables	Men age 46-59		Women age 46-59	
	Mean	Standard Deviation	Mean	Standard Deviation
Length of employment in years	28.19	10	28.92	9
Household size	3	1	2	2
Income of Respondent	307651	1100118	57340	44359
Education of Respondent in years	14.78	2.27	14.63	2
Number of weeks worked per year	47.92	12.55	51.21	2.93
Age *Education	781	134	771	120
Age*Income	16366889	57788837	3014166	2328194
Men age 46-59 n=3906				
Women age 46-59 n=685				

**Table 4**

Probit Analysis of Factors Affecting Retirement Plan Contributions  
 A probit two stage least squares procedure was employed using data taken for the 2013 SCF. The coefficient, marginal effects, and P valued of each of the independent variables tested in relation to the dependent variables, pension plans contributions, are listed below.

Dependent Variable : Do you make contributions to this plan?

Independent Variable	Men age 46-59			Women age 46-59		
	Coefficient	Marginal Effect	Value	Coefficient	Marginal Effect	Value
Length of Employment						
Respondent	<b>0.000266</b>	<b>0.000266162</b>	<b>0.9631</b>	<b>-0.001251</b>	<b>-0.0012514</b>	<b>0.4551</b>
Age						
Respondent	<b>-0.134854</b>	<b>-0.1348537</b>	<b>0.0066***</b>	<b>0.024758</b>	<b>0.0247581</b>	<b>0.3211</b>
Marital Status						
Married	<b>-0.079234</b>	<b>-0.0792343</b>	<b>0.6082</b>	<b>-0.232807</b>	<b>-0.2328068</b>	<b>0.0873*</b>
Separated	<b>-0.056528</b>	<b>-0.0565279</b>	<b>0.4530</b>	<b>-0.390187</b>	<b>-0.3901874</b>	<b>&lt;.0001***</b>
Divorced	<b>-0.119284</b>	<b>-0.1192839</b>	<b>0.0005***</b>	<b>0.058587</b>	<b>0.0585866</b>	<b>0.0755*</b>
Widowed	<b>-0.050172</b>	<b>-0.0501718</b>	<b>0.4268</b>	<b>-0.182122</b>	<b>-0.1821225</b>	<b>0.0001***</b>
Household size	<b>0.044892</b>	<b>0.0448922</b>	<b>0.0508*</b>	<b>0.027681</b>	<b>0.0276811</b>	<b>0.0067***</b>
Income						
Respondent	<b>-0.000001117</b>	<b>-1.117215E-6</b>	.	<b>0.000000261</b>	<b>2.6130258E-7</b>	.
Education of Respondent	<b>-0.566591</b>	<b>-0.5665909</b>	<b>0.0012***</b>	<b>0.042499</b>	<b>0.0424990</b>	<b>0.6338</b>
Health						
Excellent	<b>0.870381</b>	<b>0.8703815</b>	<b>0.0037***</b>	<b>0.384960</b>	<b>0.3849596</b>	<b>&lt;.0001***</b>
Good	<b>0.475766</b>	<b>0.4757663</b>	<b>0.0014***</b>	<b>0.360514</b>	<b>0.3605136</b>	<b>&lt;.0001***</b>
Number of weeks worked per year	<b>-0.023047</b>	<b>-0.0230469</b>	<b>0.0009***</b>	<b>-0.005657</b>	<b>-0.0056573</b>	<b>0.2484</b>
Age*Education	<b>0.009625</b>	<b>0.0096247</b>	<b>0.0031***</b>	<b>-0.000578</b>	<b>-0.000577520</b>	<b>0.7319</b>
Age*Income	<b>2.3945738E-8</b>	<b>2.3945738E-8</b>	.	<b>-4.39951E-8</b>	<b>-4.39951E-8</b>	.

\*p<0.10\* p<0.05\*\* p<0.01\*\*\*

**Table 5**

Descriptive Statistics of Variables taken from the 2013 Survey of Consumer Finances Regarding adequacy of pension and Social Security income for retirement  
Data taken from the 2013 SCF available from the Federal Reserve System in cooperation with the Statistics of Income Division at the Department of Treasury were used to calculate the mean and standard deviation for the variables listed below

Independent Variables	Men age 46-59		Women age 46-59	
	Mean	Standard Deviation	Mean	Standard Deviation
Length of employment in years	25.08	13.71	17.16	15.57
Household size	2.95	1.44	1.91	1.35
Income of Respondent	227700	965294	31237	39422
Education of Respondent in years	14.27	2.64	13.50	2.64
Number of weeks worked per year	42.48	19.04	35.14	23.45
Age *Education	757	150	717	152
Age*Income	12093722	50885877	1643526	2067919
Men age 46-59 n=7055				
Women age 46-59 n=1760				

**Table 6**

Probit Analysis of Factors Affecting adequacy of pension and Social Security income for retirement. A probit two stage least squares procedure was employed using data taken for the 2013 SCF. The coefficient, marginal effects, and P valued of each of the independent variables tested in relation to the dependent variables, adequacy of pension and Social Security income for retirement are listed below.

Dependent Variable : How would you rate retirement income you receive (or expect to receive) from Social Security and job pensions?

Independent Variable	Men age 46-59			Women age 46-59		
	Coefficient	Marginal Effect	Value	Coefficient	Marginal Effect	Value
Length of Employment						
Respondent	0.000283	0.000283493	0.7007	-0.004857	-0.0048574	<.0001***
Age						
Respondent	-0.010920	-0.0109201	0.1958	-0.071494	-0.0714940	<.0001***
Marital Status						
Married	0.049987	68038932	0.0848*	0.546242	0.5462417	0.0036*** &
Separated	0.020342	0.0203417	0.7077	-0.038225	-0.0382248	0.4240
Divorced	-0.064734	-0.0647342	0.0106**	-0.130744	-0.1307438	<.0001***
Widowed	-0.111338	-0.1113377	0.0473**	-0.034787	-0.0347871	0.3519
Household size	-0.025030	-0.0250305	<.0001***	-0.012178	-0.0121778	0.1748
Income						
Respondent	-0.000000244	-2.44376E-7	.	-0.000016780	-0.000016780	.
Education of Respondent	-0.042962	-0.0429624	0.1583	-0.222890	-0.2228904	0.0006***
Health						
Excellent	0.220706	0.2207065	<.0001***	0.062432	0.1414313	0.0053***
Good	0.179799	0.1797985	<.0001***	0.062432	0.0624322	0.1617
Number of weeks worked per year	-0.000495	-0.000495470	0.3505	0.001716	0.0017161	0.0198**
Age*Education	0.000763	793018226	0.1870	0.004560	0.0045601	0.0002***
Age*Income	4.432647E-9	4.432647E-9	.	0.000000338	3.3788298E-7	.

\*p<0.10\* p<0.05\*\* p<0.01\*\*\*