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Millennials' Retirement Saving Behavior: Account Ownership and Balance

Abstract

Millennials is the largest population in the United States. Compared with their parents and grandparents, they have to shoulder more responsibilities to prepare financially for retirement. It is critical for Millennials to begin saving and investing for their retirements early in their careers. Few studies analyzed this generation's retirement saving behavior. Using data from the 2013 Survey of Consumer Finances, this study is among the first ones to examine the state of Millennials' retirement savings, including retirement account ownership and balance. Results show that only 37.2% of Millennials had any kind of account earmarked for retirement; and among those with a retirement account, the average accumulated amount was \$21,333. Factors that affected retirement saving behavior included age; education; total household income and assets; job tenure; self-employment; having a retirement saving motive; having a defined benefit plan; overspending; and risk tolerance. This study provided initial insights that can help financial planners and educators, as well as policymakers understand Millennials' current retirement savings behavior and help them achieve a financially comfortable retirement.

Key words: Defined Contribution plan, IRA, Millennial, Retirement, Saving

Introduction

Millennials, those born between 1982 and 2000 (U.S. Census Bureau, 2015), accounted for more than 25% of the U.S. population in 2015, and as the nation's largest generation, they outnumbered Baby Boomers by approximately 0.5 million in 2016 (Fry, 2016). There may appear to be sufficient time for these 83.1 million individuals to save for retirement. However, unlike their parents and grandparents, Millennials have to shoulder more responsibilities to prepare financially for retirement. For example, the number of pension plans available for private sector employees has declined in recent decades (Boivie, 2011) as employers transition to offering defined contribution (DC) plans versus defined benefit (DB) plans (US Department of Labor, 2016). In 1998, more than half (292) of the Fortune 500 firms offered DB plans; however, in 2015, only 99 firms still did so (Geisel, 2016). With DC plans, Millennial participants face potential investment risks and uncertain plan funding decisions, and lack investment expertise as well. All of these changes have made it more difficult for them to save for retirement. In addition, future payouts on the part of Social Security have become uncertain (Social Security Board of Trustees, 2017), as Baby Boomers in particular have begun to withdraw from the system (Oakley & Kenneally, 2013). Thus, the Social Security Trust Fund will be reduced severely, and may be depleted completely in 2034 (Social Security Board of Trustees, 2017). As a result, the financial outlook for retirement in today's workforce is a concern.

In addition to the shift in financial responsibilities, the increasing longevity and current low interest rate economic environment has made it more challenging for Millennials to prepare for retirement (Genay & Podjasek, 2014). The life expectancy in the U.S. has increased substantially in the past century from 54.5 in 1915 to 78.8 in 2015 (National Center for Health Statistics, 2017). Although retirement was not a financial concern until just a few decades ago,

with the increasing life expectancy, it has become very important now. In addition, the expected return on fixed-income investments in any retirement portfolio is low in the current economic environment, in which both short-term and long-term interest rates are low (Bams, Schotman, & Tyagi, 2016). Thus, those who do not have sufficient money saved for retirement are unlikely to be able to maintain a financially comfortable life during retirement.

A large proportion of American workers do not save enough for retirement. Munnell, Webb, and Hou (2014) reported that more than half of working-age Americans had not saved enough to be able to maintain their pre-retirement standard of living during retirement. More than half (52%) of individuals aged 55 and older in the U.S. do not have retirement savings in DC plan accounts or IRAs. In addition, half (50%) of individuals aged 65 and older rely on Social Security as their primary source of retirement income (Jeszeck, Collins, Glickman, Hoffrey, & Grover, 2015).

Given the conditions above, it is critical for Millennials to begin saving and investing for their retirements early in their careers. As DC plans become a more important source of retirement income, the burden of securing an adequate standard of living in retirement has shifted to individuals. Unlike DB plan participants, individuals who are eligible to participate in a DC plan face important decisions, including whether and to what degree to participate. Opening a retirement account is the first step in saving for retirement. More importantly, the amount accumulated in the account is a key factor in realizing adequate retirement savings. Because of the power of compounding on investment returns, DC plan balances can be reduced considerably by only a small decrease in regular contributions (Yao, Ying, & Micheas, 2013) and jeopardize one's retirement savings goals. Thus, strategic and disciplined savings and investments have become more important than ever.

Although many prior studies have analyzed the retirement savings behavior of the Baby Boomer generation, very few have focused on Millennials' retirement preparation. Using the 2013 Survey of Consumer Finances (SCF) dataset, this study analyzed Millennials' ownership of, and asset balances in accounts earmarked for retirement purposes, such as Individual Retirement Accounts (IRAs) and DC plans. Factors that contributed to account ownership and account balances were examined as well. The findings will help financial planners, educators, and policymakers understand Millennials' current retirement savings behavior, which is the first step in helping them build adequate retirement wealth.

Literature Review

Few prior studies, with the exception of several surveys conducted by financial institutions have examined factors that affect Millennials' retirement savings. The industry reports agreed that a significant proportion of Millennials are not saving for retirement. According to the Pentegra Millennial Saving Survey (Pentegra Retirement Services, 2017), only 37% of the respondents born between 1980 and 2000 saved at least 5% of their salary for retirement. The reason for this savings inadequacy was due to the increasing cost of living and debt payments, which reduced the amount of money available for retirement planning. The 2016 Wells Fargo Millennial Study (Wells Fargo, 2016) found that 41% of the 1,000 working respondents (including working full time and part time) aged between 22 and 35 had not yet started saving for retirement. The reason was again the debt payments. This study also concluded that low income was one of the main reasons for not saving for retirement. Low income females had even more difficulties to save for retirement than their male counterparts. The 2016 Fidelity Investments Millennial Money Study (Fidelity Investments, 2016) reported that among the 615 adults in the study, including 305 respondents aged between 25 and 35, 47% received financial

support from their parents; however, more than half (60%) had started putting money into retirement accounts. Although these results are descriptive in nature, they provide a general picture of Millennials' current retirement savings situation.

Few academic studies have examined Millennials' financial status, especially pertaining to their retirement savings. However, a review of literature that investigates factors that affect retirement savings for all age groups provided valuable insights for this study.

Retirement Account Ownership

Demographic Characteristics

Age has been a common variable examined in previous studies of retirement savings. The percentage of retirement account ownership was low among young adults. For example, only 20% of adults between the ages of 22 and 35 had IRAs and less than 40% had a DC plan (Knoll, Tamborini, & Whitman, 2012). Researchers agree that young people generally have a lower participation rate in retirement accounts than older adults (Bassett, Fleming, & Rodrigues, 1998; Hira, Rock, & Loibl, 2009; Honig & Dushi, 2010). For example, older respondents were found to be more likely to have DC plans and IRAs than young respondents (DeVaney & Zhang, 2001). After analyzing the 2008 Survey of Income and Program Participation, Ghilarducci, Saad-Lessler, and Bahn (2015) found that 42% of individuals aged 25 to 44 had a DC plan, compared to 47% of those aged 45 to 54.

Race/ethnicity also has been examined commonly in previous research on retirement account ownership. Empirical evidence has shown that White employees were more likely to have access to, and participate in retirement accounts than employees of color (Farrell & Shoag, 2016; Knoll et al., 2012; Rhee, 2013; Yuh & DeVaney, 1996). According to Rhee (2013), 62% of White employees had a retirement account, compared to only 54% of Black and 38% of

Latino employees. Results from Ghilarducci et al. (2015) showed that 48% of White households had DC plans compared to 44% of Asian, 41% of Black, and 28% of Hispanic households. In addition, 30.8% of Latino households had no retirement account assets (Rhee, 2013).

Compared to men, women are less likely to have retirement accounts (Sunden & Surette, 1998; Bajtelsmit, Bernasek, & Jianakoplos, 1999; Lusardi & Mitchell, 2007; Holden & Fontes, 2009). Hinz, McCarthy, and Turner (1997) found that the percentage of women with a retirement Thrift Savings Plan was much smaller than that of men. Many previous researchers explained that this likely is attributable to the fact that women more often have part-time and lower-paying jobs than men and, therefore, limited access to employer-sponsored retirement plans (Knoll et al., 2012).

Marital status was found to be closely related to retirement account ownership as well. Researchers have demonstrated that married households were more likely to have retirement accounts, including DC plans and IRAs (DeVaney & Zhang, 2001; Knoll et al., 2012; Lusardi & Mitchell, 2007). Evidence also has shown a positive relationship between education and retirement plan ownership (Carney & Gale, 2001; Hira et al., 2009; Lusardi & Mitchell, 2007; Yuh & DeVaney, 1996). For example, individuals with a bachelor's degree or higher were more likely to have DC plans than were those with an associate's degree (Farrell & Shoag, 2016). Employment (Hire et al., 2009) and job tenure (Bassett et al., 1998) have been shown to be positively correlated with retirement account ownership, including 401(k)s, IRAs, and Keogh accounts. Yuh and DeVaney (1996) found that self-employed workers were less likely to have and contribute to retirement accounts, as only 30.4% of such workers had retirement accounts compared to 44.4% of workers with other employment status.

Economic Status

Income is related positively to retirement account ownership. For example, 32.4% of individuals with incomes less than \$30,000 had IRAs, compared to 47.2% of those with incomes between \$50,000 and \$100,000. In addition, 45.4% of people with incomes less than \$30,000 had DC plans compared to 49.2% of those with incomes between \$50,000 and \$100,000 (Poterba & Wise, 1998). According to Ghilarducci et al. (2015), only 25% of low-income households had DC plans compared to 48% of middle-income households and 60% of high-income households. Low-income households also were less likely to save for retirement (Burke, Hung, & Luoto, 2015; Hershey, Jacobs-Lawson, McArdle, & Hamagami, 2007; Hira et al., 2009; Lusardi & Mitchell, 2007). Empirical results have shown that individuals with higher net worth were more likely to have Roth IRAs (Smith, Finke, & Huston, 2012).

Consulting with a financial planner when making saving and investment decisions was positively related to having a retirement account (Clark, d'Ambrosio, McDermed, & Sawant, 2003). It is likely that financial planners provide beneficial advice and improve clients' understanding of the importance of having retirement accounts (Van Rooij, Lusardi, & Alessie, 2011). According to Clark et al. (2003), the majority of their participants changed their savings behavior and either opened or contributed to retirement accounts after consulting with financial professionals. Home ownership, having a retirement saving motive, and longer job tenure influence retirement account ownership positively, in that research has found that homeowners were more likely to save for retirement (Xiao & Noring, 1994) and have retirement accounts (Bassett et al., 1998; Yuh & DeVaney, 1996). For example, 46.6% of homeowners had DC plans compared to only 27.1% of non-homeowners (Yuh & DeVaney, 1996). Individuals with longer job tenure also were more likely to have DC plans than those with shorter job tenure (Burke et al., 2015). Rhee (2013) found that 74% of White households that had DB plans also had an IRA

account or a DC plan. Among White households that did not have a DB plan, 66% had an IRA account or a DC plan. Retirement account ownership of non-White households followed the same pattern. Similarly, Yuh and DeVaney (1996) concluded that owning a DB plan had a positive effect on retirement account ownership after other factors were controlled. Further, households that did not overspend were more likely to own retirement accounts than those that spent more than or equal their incomes (DeVaney & Chiremba, 2005).

Respondents' Expectations

Having a retirement saving motive contributed positively to the likelihood of having a 401(k) plan (Xiao, 1997). Poor health status was found to prevent people from contributing to retirement accounts because high medical expenditures reduced their ability to save (Yilmazer & Scharff, 2014). Results from Yuh and DeVaney's (1996) study showed that individuals with excellent health and a higher risk tolerance were more likely to have DC plans. For example, 31.0% of respondents who were unwilling to take any financial risks had a DC plan, while 47.9% of those with some risk tolerance had such plans.

Retirement Account Balance

Demographic Characteristics

Evidence from an analysis of the 2013 Employee Benefit Research Institute's retirement database showed that older individuals had much higher average IRA balances than younger people (Copeland, 2015). The 65-74 age group had the largest amount of money saved in their IRA accounts and DC plans compared to those aged 45 to 54 and 55 to 64 (Rhee, 2013; Poterba, 2014). Minority households were found to be less likely than Whites to contribute to retirement plans (Hira et al., 2009). Compared to 37% of White households, approximately 62% of Black and 69% of Latino household held no assets in a retirement account. Black and Hispanic

households had significantly smaller amounts of retirement account savings than White households (Rhee, 2013). Further, on average, Whites saved three times more in their 401(k) accounts (\$120,000) than minority households (\$30,000).

Empirical evidence has shown that, on average, men have higher balances in their IRA accounts than women. After controlling for age and other factors, male respondents still had higher IRA account balances than females among all age groups from under 25 to over 70 (Copeland, 2015). According to Bajtelsmit et al. (1999), women tended to have smaller percentages of their wealth (27%) allocated in DC plans than men (35%). Previous research results were inconsistent regarding the effect of marital status on retirement account balance. Clark et al. (2006) concluded that married households were more likely to allocate more money to their DC plans than unmarried households. However, Bajtelsmit et al. (1999) obtained evidence that single males allocated more of their wealth to DC plans than married male respondents. In contrast, the same study also found that single females allocated a significantly smaller amount of their wealth to DC plans than married females.

Education was found to be related positively to retirement plan balances (Yuh & DeVaney, 1996), in that respondents with more education had more money saved in their IRAs (Poterba, Rauh, Venti, & Wise, 2006). According to Poterba et al. (2006), respondents who earned college or post-graduate degrees had, on average, saved four times as much in their IRAs (\$81,700) than those with a high school degree (\$20,400). Self-employment also was related negatively to retirement account balances (Yuh & DeVaney, 1996).

Economic Status

Prior research has concluded that, when job tenure was controlled, DC account balances were positively related to income (Burke, et al., 2015). For those who had 10 to 20 years of job

tenure, individuals with an income between \$80,000 and \$90,000 had 25% more in their 401(k) accounts than those with incomes between \$40,000 and \$50,000 (Holden & VanDerhei, 2003). DeVaney and Chiremba (2005) concluded that homeowners saved more money in retirement accounts than renters.

According to Yuh and DeVaney (1996), ownership of DB plans was correlated negatively with DC plan account balances. For instance, those who had a DB plan saved more than \$20,000 less in their DC plans than those who did not have a DB plan. Job tenure was related positively to 401(k) account balances (VanDerhei, Holden, Alonso & Copeland, 2008; Yuh & DeVaney, 1996). For example, among individuals in their 60s, 49% of those with greater than 30 years of service had saved over \$100,000 in their 401(k) account, while this percentage was 13% for those who had fewer than 10 years of service (VanDerhei et al., 2008). Overspending had a negative influence on retirement savings. Households that did not overspend had more money saved in retirement accounts than those who spent more than or equal their incomes (DeVaney & Chiremba, 2005).

Respondents' Expectations

Risk tolerance was found to affect DC plan contributions. Risk-averse investors accumulated less money in their retirement accounts (Neelakantan & Chang, 2010). Yuh and DeVaney's (1996) results showed that respondents who were unwilling to take any financial risks had only \$5,895 in retirement savings, compared to \$22,415 on the part of those with some risk tolerance. Receiving an inheritance increased the probability of having a higher balance in retirement accounts (Lusardi, 2003), and individuals in good health accumulated significantly more money in their 401(k) plans than those in fair or poor health (Burke et al., 2015).

Methodology

Data

This study used the dataset from the most recent 2013 SCF. The SCF is a cross-sectional survey conducted triennially and sponsored by the Board of Governors of the Federal Reserve System with support from the Statistics of Income Division of the Internal Revenue Service. The survey provides detailed information on households' demographic characteristics and financial situations, including information from their balance sheets.

The total sample size of the 2013 SCF public data is 6,015 households. Among married/partnered households, the SCF defined the head of the household to be the male in a mix-sex-couple household and the older person in a same-sex-couple household. In a household where the respondent was not the head, all data for the couple are switched. In this study, the couples involved are switched back in order to match the respondent and his/her responses. Among the 6,015 respondents, 986 are Millennials. With very rare exceptions, employees need to be at least 21 years old and complete one year of service with their current employer before they become eligible to contribute to a DC plan and individuals are eligible to contribute to their IRA accounts only if they have taxable compensation. Consequently, respondents who were not working currently were excluded from this study, which resulted in a sample size of 782.

Dependent Variables

Dependent variables in this study included retirement account ownership and account balances. Those two dependent variables were employed in a Heckman two-step model. In the first step, retirement account ownership was coded 1 if the respondent had a DC and/or an IRA account and 0 if the respondent had neither account. In this study, IRA accounts included traditional IRAs, Roth IRAs, and roll-over IRAs. DC plans included Keogh; 401(k); 403(b); Thrift savings; 457; profit sharing; deferred-compensation; Simplified Employee Pension, and

Savings Incentive Match Plan for Employees, as well as money purchase and stock purchase plans. In the second step, the retirement account balance was defined as the sum of the balances in IRA accounts and DC plans. This variable is log-transformed due to its right skewness.

Independent Variables

The independent variables in this study included: 1) respondents' demographic characteristics; 2) economic characteristics of the respondents' households, and 3) the respondents' expectations. Respondents' demographic characteristics included age; race/ethnicity; gender; marital status; education, and employment status. Age was included as a continuous variable. Respondents' race/ethnicity included White (reference group), Black, Hispanic, and other (including Asian, American Indian/Alaska Native, and Native Hawaiian/Pacific Islander). Gender included male and female (reference group). Marital status included married and unmarried (reference group). Respondents' education level was grouped into four categories: high school diploma or below (reference group); some college; bachelor's degree, and graduate or professional degree. Employment status included self-employed (reference group) and employed by someone else.

Economic characteristics included total household annual income; total household assets; total household liabilities; homeownership; respondents' defined benefit plan ownership; respondents' job tenure; use of financial planners; comparison of respondents' current and normal income, and whether the household overspent. The distributions of total household annual income, total assets, and liabilities were skewed positively, and using a natural logarithm helped the variables fit the model better; therefore, income, assets, and liabilities were log-transformed. Homeownership, defined benefit plan ownership, use of financial planners, and overspending were coded 1 for yes and 0 for no (reference group). Job tenure included less than

one year (reference group) and at least one year. Comparison of current and normal household income was categorized as current income more than normal income, about the same, and less than normal (reference group). In the second step, the total amount of retirement account balance was subtracted from total assets and the difference was included as an independent variable instead of total assets. This variable was also log-transformed due to its skewness.

Respondents' expectations included saving motives; expectation about future U.S. economy; expectation of receiving a transfer of assets in the future (e.g., inheritance); respondents' self-perceived risk tolerance, and self-perceived health condition. Saving motive was coded 1 if the respondent reported saving for retirement and 0 otherwise (reference group). Expectation about future U.S. economy was categorized as future economy better than, about the same, and worse than current economy (reference group). Expecting to receive a transfer of assets in the future, including a substantial inheritance, was coded 1 for yes, 0 for no (reference group). Respondents' self-perceived risk tolerance included no (reference group), average, and high (above average and substantial) risk tolerance. Respondents self-perceived health condition was defined as excellent, good, fair, or poor (reference group).

Data Analyses

The complexity of the SCF data arises from the sample design, multiple imputation of missing data, and issues related to confidentiality and disclosure. The sample consists of a standard, geographically-based random sample and a list sample that oversamples wealthy households. The oversampling procedure provides more precise wealth estimates (especially for assets held rarely) and a method to correct for the higher rate of non-responses among wealthy households. This study used weights recommended by the Federal Reserve in the descriptive analysis to combine information from the two samples and determine estimates for the full

population. To address the issue of missing data in the survey responses, the SCF incorporates five estimates that allow an estimate of the uncertainty attributable to this type of nonresponse (Ackerman, Fries, & Windle, 2012). In the multivariate analysis, this study used the “repeated-imputation inference” method (Kennickell & Woodburn, 1999) to include all five estimates, and the 999 bootstrap replicate weights provided by the SCF to compute estimates of sampling variance that address the confidentiality and disclosure concerns.

Retirement saving consists of two steps: 1) whether to own a retirement account, and 2) how much to save in it. Since whether to have a retirement account is a choice and those who do not have an account would have a zero balance, which introduces a potential sample selection bias for the second step. This study adopted Heckman’s (1979) two-step estimation to correct for the potential sample selection bias. In the first step, the individual decides whether to own a retirement account:

$$y_{1i} = \beta_{10} + \beta_{1i}x_{1i} + \varepsilon_{1i} \quad (1)$$

where y_{1i} denotes ownership of retirement accounts (IRAs, DC plans, or both) and x_{1i} denotes the vector of factors that contribute to the decision to own retirement accounts. We adopted a Probit model to analyze factors that affect the likelihood of having a retirement account. In the second step, the individual decides how much to save in the retirement account:

$$y_{2i} = \beta_{20} + \beta_{2i}x_{2i} + \lambda + \varepsilon_{2i} \quad (2)$$

where y_{2i} denotes the amount of savings in the retirement accounts owned (log transformed), x_{2i} denotes the vector of factors that contribute to the amount of retirement savings, and λ denotes the inverse Mills ratio. We used an ordinary least squares (OLS) model to estimate factors that affect the balance in the retirement accounts. By considering the potential selection bias, the inverse Mills ratio (λ) was calculated in the first step and included in the second step. To

improve the selection equation, an exclusionary variable that compared respondents' current and normal income was employed in this step.

Results

Sample Characteristics by Retirement Account Ownership

Table 1 reports Millennial respondents' characteristics by their retirement account ownership. More than a third (37.2%) had at least one retirement account (IRA, DC plan, or both). Respondents who had retirement accounts were about two years older than on average than those who did not have any retirement account (average ages of 28.8 and 26.7, respectively). A higher percentage of White respondents (41.3%) had retirement accounts than Black (34%) and Hispanic (23.7%) respondents. However, 61.7% of respondents of other races owned a retirement account. A higher percentage of male (40.6%) and married (43.7%) respondents had a retirement account than female (35.8%) and unmarried respondents (32.5%), and the percentage of retirement account ownership was higher for more educated respondents. For example, 65.2% of graduate or professional degree holders had a retirement account, while only 18.9% of respondents with a high school diploma or less did. The overwhelming majority (93.4%) of respondents were employed by someone else, and their rate of retirement account ownership was more than twice (39.8%) that of self-employed respondents (17.6%).

Respondents with higher incomes also had a higher percentage of retirement accounts. For example, 11.3% of those with an income less than \$16,000 had retirement accounts, while 66.5% of those with an income equal to or greater than \$60,000 had such accounts. The relationship between retirement account ownership and household assets and liabilities followed the same pattern. The retirement account ownership rate was higher for respondents who owned

a home, had a DB plan, consulted with a financial planner when making saving and investment decisions, had job tenure longer than 1 year, and did not overspend.

Approximately half (50.1%) of respondents expected the U.S. economy to be better in the future, while the remainder expected it to be about the same (16.8%), or worse (33.1%).

Approximately two-fifths of those who expected the economy to be better (40.0%) or worse (40.3%) had a retirement account. Respondents who expected to receive a substantial asset transfer, such as an inheritance, had a higher (40.9%) rate of retirement account ownership than those who did not have such an expectation (37.6%). Respondents who had a motive to save for retirement, had a higher level of risk tolerance, and were in better health also had a higher rate of retirement account ownership.

Sample Characteristics by Retirement Account Balance

Table 2 presents a descriptive analysis of Millennial respondents' retirement account balances. Overall, the distribution of retirement saving amounts was skewed to the right, with a mean of \$21,333 and median of \$8,050. Individuals of other races/ethnicities saved the greatest amount (\$28,797). Males accounted for 55.1% of the sample with positive retirement savings and saved more than twice (\$27,595) the average amount females saved (\$13,656). On average, married individuals saved more (\$26,651) than unmarried individuals (\$14,264). Self-employed individuals accounted for only 3.0% of the sample with positive retirement savings. However, they saved an average of more than four times (\$77,531) as much as those who worked for someone else (\$18,499).

Respondents with a higher household income had a greater amount saved in their retirement accounts. For example, respondents with a household income of \$60,000 or higher saved an average of \$32,942, while those with a household income less than \$16,000 saved

\$4,553. The distribution of retirement savings by household assets followed the same pattern. Millennials with less than \$190 in total liabilities saved the greatest amount in their retirement accounts (\$34,157).

Respondents who were homeowners (\$27,571); had a DB plan (\$22,010); used a financial planner (\$36,953); had worked for the current employer for at least a year (\$23,108); received a normal income (\$23,224), and did not overspend (\$22,402) had greater average retirement savings than renters (\$16,995); had no DB plan (\$21,260); did not use financial planners (\$18,513); had worked for the current employer for less than a year (\$5,380); received an income lower than normal (\$11,913), and overspent (\$9,832). Respondents who had a higher average retirement savings also included those who had a retirement saving motive; expected the economy to be better in the future; did not expect to receive large asset transfers; had a high level of risk tolerance, and were in good health.

Multivariate Analyses of Retirement Account Ownership and Balance

Step 1: Results from Probit Analysis – Retirement Account Ownership

Results from multivariate analyses are reported in Table 3. Results from Step 1 are marginal effects and results from Step 2 are coefficients. Consistent with prior literature (Bassett et al., 1998; Hira et al., 2009; Knoll et al., 2012), older Millennials had a higher probability of having a retirement account than their younger counterparts. Each year increase in age increased the probability of having a retirement account by 15.5%. Millennials with a graduate or professional degree had a 24.5% greater probability of owning a retirement account than those with a high school diploma or less. This is consistent with results from previous research (Yuh et al., 1996; Carney et al., 2001; Lusardi et al., 2007; Hira et al., 2009). Also consistent with prior

research (Hire et al., 2009), those who worked for someone else had a 29.4% greater probability of owning a retirement account than self-employed respondents.

A positive relationship was found between total household assets and retirement account ownership, which was consistent with Smith, Finke and Huston's (2012) findings. A one unit increase in log (assets), which is a 172% ($e-1=172\%$) change in total household assets, increased the probability of having a retirement account by 9.1%. Homeownership was negatively related to retirement account ownership. Compared with renters, homeowners were 14.1% less likely to have a retirement account. Probability of having a retirement account was 9.9% higher for those using financial planners when making saving and investment decisions and 8.6% lower for those who overspent in the past year. Compared to those who did not have a retirement saving motive, those who did were 7.4% more likely to have retirement accounts.

Step 2: Results from OLS Analysis – Retirement Account Balance

The last column in Table 3 reports OLS analysis results of the natural log of the total balance of retirement accounts for those who had at least one retirement account. One year increase in age increased the retirement account balance by 12.5% ($e^{0.118} - 1$). Retirement account balance was 52.9% lower for Black respondents than White respondents. Similarly, being married, having a graduate or professional degree, and working for someone else negatively affected the amount saved in retirement accounts. One percentage increase in total household income increased the retirement account balance by 0.06%. Every percent increase in total household assets other than retirement account assets and total household liabilities decreased the retirement account balance by 0.44% and 0.11%, respectively. Homeownership, using financial planners, job tenure, having a retirement savings motive, and having a good health positively contributed to the total balance in Millennial respondents' retirement accounts.

Discussion and Implications

This paper used data from the 2013 SCF to examine the state of Millennials' retirement savings, including retirement account ownership and balance. Multivariate regression analyses indicated that some factors that affected other generations also affected Millennials in the same way. In summary, age; education; total household assets; using financial planners; and having a retirement saving motive were significantly and positively related to Millennials' retirement account ownership, while self-employment, homeownership and overspending had negative effects on retirement account ownership in this generation. Age, self-employment, total household income, home ownership, using financial planners, job tenure, having a retirement saving motive, and good health had a positive effect on the dollar amount saved in accounts earmarked for retirement. Being Black, being married, having an advanced degree, total households assets other than retirement assets, and total household liabilities negatively contributed to retirement account balance.

It is worrisome that only 37.2% of working Millennials had a retirement account. Race and marital status did not affect retirement account ownership. However, among those who do have an account, Blacks saved significantly less than Whites after controlling for other variables. Future research should explore whether this difference in retirement savings was due to race in and of itself or whether other factors mediated this relationship. Married couples had a significant less amount saved than their unmarried counterparts. One possible reason may be that married couples have different types of expenses that affected their retirement savings. Future research may direct attention to retirement adequacy of married couples. It is interesting to note that compared to respondents with a high school diploma or below, advanced-degree holders were more likely to have a retirement account but saved a smaller amount in the account even

after holding current job tenure. It is likely that advanced-degree holders are more likely than less-educated respondents to hold a job that sponsor a retirement plan. It is also plausible that less-educated respondents change jobs more often; so holding current job tenure constant, they have saved more from previous employment. It is also interesting that “other” race had the greatest portion of retirement account ownership but this group did not differ from Whites in terms of retirement account ownership or balance after controlling other variables. In the public dataset, this group include Asians and several other racial/ethnic groups other than Whites, Blacks, and Hispanics. Individuals in this group come from many different cultures. Treating them as a homogeneous group is problematic and does not generate meaningful results. Many previous articles excluded this group from analysis for this reason. However, given our relatively small sample size, excluding them would further restrict our sample size. This is the limitation of this study.

Among self-employed individuals, only 17.6% had a retirement account of any kind. It is understandable that because of its cost and complexity, it may be burdensome to have a DC plan. On the other hand, not having an IRA at minimum will likely have a negative effect on retirement security. Self-employed individuals may perceive that their businesses are their retirement plan (Coughlin, 2017). Monetizing a small business for retirement, however, may not be easy or even practical. Experts have projected that only 20-30% of the businesses on the market will sell successfully (Biery, 2017). Self-employed individuals who did have at least one retirement account saved considerably more than those who worked for someone else. Because self-employed individuals hold a riskier job, it is plausible that those who do have retirement accounts recognized this nature of their job so they saved more to buffer this job uncertainty.

Total household assets other than retirement account assets and total household liabilities negatively affected retirement account balance. Millennials with a higher balance in these assets and liabilities had less money to save for their retirement. Homeowners were less likely to own retirement accounts; however, among those who did have such accounts, homeowners saved significantly more. It is likely that some homeowners treat part of their home equity as their retirement so they are less likely to have retirement accounts. However, among those who have retirement accounts, some renters are saving for the down payment for a home so they have less money available to save for retirement.

Among Millennials who had no DB plan, 62.4% also had neither an IRA nor DC plan. Historically, DB plans have provided additional retirement resources to previous generations, but only 8.9% of working Millennials have one. As a result, most Millennials who do not have a DB plan will have to shoulder more of the responsibility in preparing financially for retirement. Therefore, this generation should participate in DC plans and/or open an IRA to help fund their retirements. On the other hand, those without a DB plan who did have an IRA and/or a DC plan had a comparable amount saved in their retirement plans.

Millennials with no risk tolerance had the lowest proportion having a retirement account. This level of risk tolerance limits them to products that do not provide high returns. To compensate for the amount that does not come from investment earnings, these individuals not only should have retirement accounts but must contribute more to take advantage of the tax advantages of these accounts. It is interesting to note that neither retirement account ownership nor balance varied significantly by gender in the early stage of Millennials' careers. Future research should follow this generation and monitor whether factors related to their retirement savings behavior change over time and how they continue to prepare for retirement.

This study is among the first to examine the financial well-being, specifically, the state of Millennials' retirement savings, of the biggest population in the United States. This study provided initial insights that can help financial planners and educators, as well as policymakers understand Millennials' current retirement savings behavior. The results suggested that financial education about saving for retirement is necessary. Beginning to save early in their careers would allow the power of compounding to work in favor of Millennial savers. Saving in an account that is earmarked for retirement purposes would not only help Millennials accumulate retirement wealth, but also would allow them to take advantage of tax preferences associated with retirement savings. Thus, strategic and disciplined savings would help Millennial workers achieve a financially comfortable life during retirement, and policies that encourage working Millennials to prepare for retirement should be considered.

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Table 1 Sample Characteristics by Retirement Account Ownership

	Retirement Account Ownership		
	Yes	No	Total
Overall Percentage	37.2	62.8	100.0
Respondent's Demographic Characteristics			
Age (mean)	28.8	26.7	100.0
Race/ethnicity			
White***	41.3	58.7	63.9
Black***	34.0	66.0	15.8
Hispanic***	23.7	76.3	15.7
Other***	61.7	38.3	4.6
Gender			
Male**	40.6	59.4	52.0
Female**	35.8	64.2	48.0
Marital status			
Unmarried***	32.5	67.5	48.2
Married***	43.7	56.3	51.8
Education			
High school diploma or below***	18.9	81.1	30.6
Some college***	34.3	65.7	32.8
Bachelor's degree***	54.7	45.3	24.7
Graduate or professional degree***	65.2	34.8	11.9
Employment status			
Work for someone***	39.8	60.2	93.4
Self-employed***	17.6	82.4	6.6
Household's Economic Status			
Total household income			
<\$16,000***	11.3	88.7	23.5
\$16,000 - \$32,999***	24.9	75.1	23.6
\$33,000 - \$59,999***	45.5	54.5	25.7
≥\$60,000***	66.5	33.5	27.1
Total household assets			
<\$7,500***	11.2	88.9	22.5
\$7,500 - \$21,499***	26.9	73.1	23.0
\$21,500 - \$125,999***	44.8	55.2	25.1
≥\$126,000***	62.6	37.4	29.3
Total household liabilities			
<\$190***	21.6	78.4	23.0
\$190 - \$14,999***	26.2	73.8	23.2
\$15,000 - \$77,789***	34.3	65.8	24.7
≥\$77,790***	63.7	36.3	29.1
Home ownership			
Yes***	55.3	44.7	33.8

No***	29.6	70.4	66.2
Have defined benefit plan(s)			
Yes**	45.9	54.1	8.9
No**	37.6	62.4	91.1
Use financial planner			
Yes***	63.4	36.6	9.0
No***	35.8	64.2	91.0
Job tenure			
Less than 1 year***	23.8	76.2	15.6
At least 1 year***	29.8	70.2	84.4
Overspent			
Yes***	20.3	79.7	15.6
No***	41.5	58.5	84.4
Respondent's Expectations			
Have retirement as a saving motive			
Yes***	53.8	46.2	23.4
No***	33.6	66.4	76.6
Expectation of future U.S. economy			
Better***	40.0	60.0	50.1
About the same***	29.2	70.8	16.8
Worse***	40.3	59.7	33.1
Expected to receive heritage			
Yes	40.9	59.1	20.4
No	37.6	62.4	79.6
Risk tolerance level			
No risk***	25.8	74.2	37.6
Average***	40.8	59.2	38.6
High***	53.9	46.1	23.8
Health condition			
Excellent***	43.0	57.0	33.1
Good***	37.9	62.1	50.3
Fair/Poor***	30.2	69.8	16.7

NOTE: * $p < .05$; ** $p < .01$; *** $p < .001$. Chi-square test for independence was statistically significant. Analysis of the 2013 Survey of Consumer Finances; weighted result; original sample size = 782; numbers in percentages.

Table 2 Sample Characteristics by Retirement Account Balance

	Weighted Percentage	Mean Dollars	Median Dollars
Overall	100.0	21,333	8,050
Respondent's Demographic Characteristics			
Race/ethnicity			
White	68.9	24,298	10,000
Black	14.0	8,014	3,000
Hispanic	9.7	13,033	6,600
Other	7.4	28,797	11,000
Gender			
Male	55.1	27,595	10,000
Female	44.9	13,656	5,920
Marital status			
Unmarried	40.9	14,264	5,440
Married	59.1	26,651	10,000
Education			
High school diploma or below	15.1	24,619	7,450
Some college	29.4	15,145	5,000
Bachelor's degree	35.3	24,530	8,300
Graduate or professional degree	20.3	21,819	12,000
Employment status			
Work for someone	97.0	18,499	8,000
Self-employed	3.0	77,531	19,000
Household's Economic Status			
Total household income			
<\$16,000	6.9	4,553	1,450
\$16,000 - \$32,999	15.3	5,382	2,300
\$33,000 - \$59,999	30.6	17,325	7,250
≥\$60,000	47.1	32,942	15,000
Total household assets (excluding retirement account assets)			
<\$7,250	7.7	4,106	2,300
\$7,250 - \$20,499	15.6	7,684	3,000
\$20,500 - \$125,800	28.3	15,949	6,800
≥\$125,801	48.4	34,556	19,000
Total household liabilities			
<\$190	13.0	34,157	10,000
\$190 - \$14,999	15.9	10,457	3,500
\$15,000 - \$77,789	22.1	16,716	5,000
≥\$77,790	49.0	23,807	13,000
Home ownership			
Yes	48.8	27,571	13,000
No	51.2	16,995	5,000
Have defined benefit plan(s)			

Yes	89.3	22,010	10,000
No	10.7	21,260	8,000
Use financial planner			
Yes	14.9	36,953	8,800
No	85.1	18,513	8,000
Job tenure			
Less than 1 year	9.7	5,380	1,000
At least 1 year	90.3	23,108	10,000
Current income vs. normal income			
Higher	7.9	20,841	10,000
About the same	77.5	23,224	8,500
Lower	14.6	11,913	2,900
Overspent			
Yes	8.4	9,832	1,650
No	91.6	22,402	9,000
Respondent's Expectations			
Have retirement as a saving motive			
Yes	32.9	23,839	12,000
No	67.1	20,122	7,700
Expectation of future U.S. economy			
Better	52.4	23,577	9,900
About the same	34.8	18,695	8,100
Worse	12.8	19,544	3,500
Expected to receive heritage			
Yes	21.8	19,494	10,000
No	78.2	21,832	8,000
Risk tolerance level			
No risk	25.4	11,520	2,500
Average	41.1	19,442	10,000
High	33.5	31,068	11,000
Health condition			
Excellent	49.7	19,278	6,900
Good	31.2	25,687	12,000
Fair/poor	19.2	16,907	5,000

NOTE: Analysis of the 2013 Survey of Consumer Finances; weighted result; original sample size= 291.

Table 3 Probit Analysis of Retirement Account Ownership and OLS analysis of Retirement Account Balance

Variable	Step 1: Ownership Marginal Effect	Step 2: Log(Balance) Coefficients
Intercept	-	24.543***
Respondent's Demographic Characteristics		
Age	0.155***	0.118*
Race/ethnicity (reference category = White)		
Black	0.056	-0.753**
Hispanic	-0.077	0.543
Other	0.036	0.251
Gender (reference category = female)	-0.031	-0.061
Marital status (reference category = unmarried)	0.020	-0.290*
Education (reference category = high school diploma or below)		
Some college	0.122	-0.693
Bachelor's degree	0.110	-0.303
Graduate or professional degree	0.245**	-1.879*
Employment status (reference category = self-employed)	0.294***	-4.067***
Household's Economic Status		
Log (total household income)	0.003	0.060*
Log (total household assets)	0.091***	-
Log (total household assets excluding retirement account assets)	-	-0.448*
Log (total household liabilities)	0.005	-0.112***
Home ownership	-0.141***	1.242***
Have defined benefit plan(s)	-0.095	0.775
Use financial planner	0.099*	1.223***
Job tenure (reference category = less than 1 year)	0.073	0.646**
Current income vs. normal income (reference category = lower)		
Higher	-	0.301
About the same	-	0.511
Overspent	-0.086*	0.823
Respondent's Expectations		
Saving for retirement	0.074*	0.604**
Expectation of future U.S. economy (reference category = worse)		
Better	0.017	0.177
About the same	0.047	-0.159
Expected to receive heritage	-0.004	0.357
Risk tolerance level (reference category = no risk)		
Average	0.061	-0.306
High	-0.027	0.412
Health condition (reference category = fair or poor health)		
Excellent	0.007	0.346
Good	-0.023	0.557*

Lambda

-4.937***

NOTE: * $p < .05$; ** $p < .01$; *** $p < .001$. Analysis of the 2013 Survey of Consumer Finances.