Journal of
Risk and Financial Management

MDPI

Article

Examining U.S. Millennial Retirement Plan Participation Decisions: The Roles of Employer Contributions and Automatic Enrollment

Thomas Korankye [1,*], Blain Pearson [2] and Yi Liu [3]

[1] Personal and Family Financial Planning Program, University of Arizona, Tucson, AZ 85721, USA
[2] Department of Finance and Economics, Coastal Carolina University, Conway, SC 29526, USA; bpearson@coastal.edu
[3] Department of Accounting and Finance, St. John Fisher University, Rochester, NY 14618, USA; yliu@sjfc.edu
* Correspondence: korankye@arizona.edu

Abstract: This study examines how automatic enrollment and employer contribution provisions relate to the retirement plan participation decisions of Millennials using data from the 2018 U.S. Financial Industry Regulatory Authority's (FINRA) Millennial Investment Study. The analysis controls for various factors such as total debt, household income, risk tolerance, and investable assets. The findings underscore the notion that automatic enrollment and employer contribution provisions are associated with an increased likelihood of participation in retirement plans among Millennials. The empirical results reveal that the absence of auto-enrollment, lack of employer-matching contributions, or communication inadequacies are fundamental reasons for Millennials' non-participation in employer retirement plans. These findings have important implications for employer retirement plan design and the effectiveness of their communication strategies.

Keywords: financial decision making; automatic enrollment; employer contributions; millennials; retirement plans; retirement savings

JEL Classification: G51; G53

Citation: Korankye, Thomas, Blain Pearson, and Yi Liu. 2024. Examining U.S. Millennial Retirement Plan Participation Decisions: The Roles of Employer Contributions and Automatic Enrollment. *Journal of Risk and Financial Management* 17: 52. https://doi.org/10.3390/jrfm17020052

Academic Editor: Thanasis Stengos

Received: 22 December 2023
Revised: 21 January 2024
Accepted: 25 January 2024
Published: 30 January 2024

1. Introduction

Retirement savings are an essential element for financial security and well-being for older individuals. The life-cycle theory of savings and consumption suggests that individuals attempt to smooth lifetime consumption by saving during their working years and drawing down their wealth during retirement. This implies that individuals' failure to save for retirement would negatively affect consumption smoothing over the life cycle. The potential consequences could be catastrophic for individual and household well-being, especially when considering the widespread trend of rising life expectancies (U.S. Census Bureau 2012). Poterba (2014) emphasizes the importance of retirement savings, indicating that a person's inability to achieve higher retirement savings during work-life expectancy could jeopardize their ability to maintain their retirement lifestyle. Further, retirement savings are essential to the extent that those who fail to determine the adequate financial resources needed before retirement could experience a lower (higher) likelihood of financial satisfaction (financial insecurity) in later life (Pearson et al. 2023).

Saving for retirement can be facilitated by employer-sponsored retirement plan participation, particularly defined benefit (DB) and defined contribution (DC) plans. Unlike DC plans, DB plans offer a defined and guaranteed retirement benefit, typically calculated based on factors such as salary, age, and years of service. This provides employees with an understanding of their guaranteed employer-sponsored retirement income. Despite the seemingly guaranteed nature of DB plans to employees, U.S. employers have increasingly

adopted DC plans in recent years, mostly because of the onerous administrative workload and high costs associated with DB plans. Unfortunately, DC plans often exhibit lower participation rates in retirement saving plans compared with DB plans (Benartzi 2012). This could be attributed to the inherent uncertainties and individual responsibilities DC plans entail. DC plans place the onus on employees to make participation, savings rate, and asset allocation decisions. It also requires participants to bear market risks, actively manage their retirement asset portfolio, and decide on withdrawal strategies. Among others, this complexity and perceived risk can deter some individuals from participating despite the autonomy it provides. To overcome the non-participation problem, several studies recommend crafting DC plans with design features such as auto-enrollment and employer contributions (Benartzi 2012; Thaler and Benartzi 2004; Benartzi and Thaler 2007; Choi et al. 2004; Falk and Karamcheva 2023; Goda and Manchester 2013; Madrian and Shea 2001; Munnell et al. 2001; Pereira and Afonso 2020).

The current study examines Millennials' non-participation in employer-sponsored retirement plans from the perspectives of automatic enrollment and employer contributions using data from the U.S. Millennial Investment Study. The Pew Research Center defines Millennials as those born between 1981 and 1996 (Dimock 2019). This study focuses on Millennials because the National Institute of Retirement Security reports that nearly two-thirds of employed Millennials do not have retirement savings (Brown 2018). This phenomenon makes them more likely to experience retirement insecurity in later life (Pearson et al. 2023). The Millennial focus is also noteworthy because de Bassa Scheresberg et al. (2014) report that Millennials are the largest generation in U.S. history: young, educated, multicultural, economically active, burdened with debt, and less financially literate. The unique characteristics of Millennials, as outlined by de Bassa Scheresberg et al. (2014), provide additional rationale for conducting a focused analysis of their engagement in retirement plan participation.

The current study addresses a gap in the existing literature, particularly in the context of Millennials, where studies on retirement plan participation decisions are limited. One research article that discusses Millennials' retirement saving decisions is Yao and Cheng (2017). In their study, Yao and Cheng (2017) use data from the 2013 Survey of Consumer Finances to examine Millennials' retirement saving behavior, including individual retirement accounts (IRAs) and DC plans. They identified several factors, including risk tolerance, assets, retirement saving motive, household income, age, education, and self-employment, as predictors of Millennials' saving behavior.

The present study is comparable with the research conducted by Yao and Cheng (2017), as it specifically examines the retirement preparations of the Millennial generation. However, the current study distinguishes itself from Yao and Cheng's (2017) and makes three significant contributions to the existing body of literature. First, this study focuses on employer-sponsored retirement plans, such as 401(k)s and 403(b)s, rather than all-around savings for retirement. Second, we revisit automatic enrollment and employer contribution provisions, which are believed to influence participation decisions but have not been examined sufficiently among studies involving Millennials' retirement savings. This study's interest is to discover the extent to which their non-availability prevents retirement plan uptake among Millennials. Specifically, this study compares the participation decisions of Millennials whose employers provide auto-enrollment to their counterparts who report that their employers do not offer auto-enrollment. This study follows the pattern just described to examine employer contributions as well.

Lastly, this study extends the analysis by incorporating a sensitivity analysis that includes other year groups. The additional strategy allows this study to ascertain whether the observed effects of auto-enrolment and employer matching provisions on retirement plan participation among Millennials are consistent across different generational cohorts, specifically Generation X (Gen X, that is, those born between 1965 and 1980) and Baby Boomers (individuals born between 1946 and 1964). Such cross-generational comparison

is crucial to understand if the behavioral responses to these retirement plan features are unique to Millennials or are reflective of broader generational trends in retirement planning.

The findings of this study are positioned to have practical implications for employers, Millennials themselves, and financial educators. Employers interested in promoting financial security and retirement preparedness among Millennial employees could find the results helpful in designing their retirement plans. The findings could encourage Millennials to consider these features as a part of their total employer compensation. Financial educators can utilize the results by encouraging employers to institute retirement plans that include these features. Finally, the outcomes of the sensitivity analysis could offer significant implications for policymakers and employers in tailoring retirement plans that resonate across generations.

2. Literature Review and Hypothesis

Retirement plan design is known to be one of the mechanisms that employers can use to influence the retirement savings participation, contribution, and asset-allocation decisions of their employees (Benartzi and Thaler 2007; Choi et al. 2004; Thaler and Benartzi 2004). Some of the design features of retirement plans include automatic enrollment, default investment options, a default saving rate, planned yearly contribution rate increases, employer matching, plan eligibility, borrowing ability, and vesting rules (Thaler and Benartzi 2004; Mitchell and Utkus 2006). The current review focuses on the retirement plan design features of automatic enrollment and employer matching.

2.1. Automatic Enrollment

Automatic enrollment involves enrolling employees by default in a voluntary retirement plan and allowing those who choose not to participate in the retirement plan to actively elect to opt out (Carroll et al. 2009). This approach is the reverse of standard enrollment (Choi et al. 2004). In standard enrollment, employees are allowed to make active decisions to participate in the voluntary retirement plan. This way, eligible individuals who fail to participate would remain outside the plan.

Automatic enrollment has received considerable research attention in the retirement-planning literature. Using data from employees in a vast Fortune 500 corporation in the United States, Madrian and Shea (2001) show that the institution of automatic enrollment increased the participation rates of new employees by 86 percentage points. In comparison, the authors demonstrate that prior to the implementation of automatic enrollment, only 49 percent of eligible employees participated in the company's 401(k) plan. Similarly, Choi et al. (2004) used administrative data from employees in three companies in the United States to assess the impact of automatic enrollment adoption on 401(k) participation rates. They show that adopting automatic enrollment increased the participation rates of newly hired employees by approximately 96 percentage points, representing 50 percent more than participation rates under standard enrollment.

Based on evidence from the literature, this study posits that automatic enrollment is associated positively with retirement plan participation behavior. This hypothesis has theoretical foundations. For instance, auto-enrollment leverages the principle of behavioral economics, specifically the concept of status quo bias and inertia. The status quo bias represents the tendency for individuals to do nothing to alter their current state of affairs even when better alternatives are available (Pompian 2012). Where status quo bias exists, inertia and procrastination tend to be some of the likely outcomes (Choi et al. 2002; Madrian and Shea 2001). According to Choi et al. (2002), many employees readily pursue "the path of least resistance" and would likely take the fewest steps to change the existing condition. Thus, individuals are more likely to stick with default options due to the cognitive effort required to make an active decision to opt-out.

2.2. Employer Matching Contributions

In addition to automatic enrollment, an employer match is also another important feature in retirement plan design. By definition, an employer match represents the payments made by an employer as a top-up to the contributions from an employee's paycheck (Dalton et al. 2016). The literature documents that the provision of an employer match provides an incentive for employees to enroll in 401(k) plans (Bassett et al. 1998; Clark et al. 2014; Dworak-Fisher 2011; Hansen 1999; Mitchell et al. 2005).

Hansen (1999) finds that the number of participants in 401(k) retirement plans with an employer match exceeds the number of participants in 401(k) plans without an employer match. Similarly, in a study involving 7218 new employees of a large financial institution in the United States, Clark et al. (2014) find that the likelihood of enrolling in a company's 401(k) plan is 25 percent higher among eligible employees than those who are ineligible for a match. Using administrative data from several large corporations in the United States, Choi et al. (2002) also find that the availability of an employer match may positively influence 401(k) participation rates. Again, Even and Macpherson (2005) ascertain that offering an employer match increases the likelihood of participating in a 401(k) by 0.328.

Given the findings from existing studies, this study hypothesizes that the likelihood of enrolling in a retirement plan is anticipated to be higher among eligible employees who have access to an employer match. In theory, employer matching could serve as a financial incentive for employees to contribute to their retirement plans. Two economic concepts from standard economic theory that could partly explain the change in participation behavior are income and substitution effects. These two concepts are often used to explain how individuals react to changes in their income (income effects) or the price of goods (substitution effects) (Mankiw 2014).

From the perspective of income effects, when an employer offers matching contributions to a retirement plan, it essentially increases the employee's potential income (Chetty et al. 2014). This additional income can make the employee feel wealthier. By feeling wealthier, the employee might be more inclined to participate in the retirement plan, perceiving the match as a value-added benefit that enhances their long-term financial security (Madrian and Shea 2001). With the substitution effect, the 'price' of contributing to a retirement plan effectively decreases when an employer provides a match. The employee attains more retirement savings for each dollar they contribute, making saving for retirement more attractive compared with other uses of their income (Thaler and Sunstein 2008). Thus, the substitution effect is expected to lead to increased participation in the retirement plan. Employees may recognize that their contributions are more 'valuable' because of the employer match, making it a more appealing option compared with other financial decisions, such as spending or saving in a non-matched account (Benartzi and Thaler 2007).

3. Method

3.1. Data

The dataset for the current study comes from the 2018 Millennial Investment Study by FINRA Investor Education Foundation, CFA Institute, and Zeldis Research Associates. This study surveyed 2800 U.S. investors, comprising 1800 Millennials, 500 Gen X, and 500 Boomers. To qualify for the survey, the respondent must be an investor in financial assets who serves as the primary decision-maker or shares equally in financial decisions for themselves or their families. Given the present study's focus, the sample is limited to employed Millennials whose employer offers a retirement plan, excluding pensions. This provides a maximum sample size of 961 Millennials for this study. The analyses apply survey weights to make inferences about the U.S. national population.

3.2. Dependent Variable

The dependent variable is participation in an employer's retirement plan. The study measures this variable using the question, "Do you participate in your current employer's

retirement plan (for example, 401(k), 403(b), 457)?" A "yes" response is coded as 1; otherwise, 0.

3.3. Explanatory Variables

Given this study's objectives and data constraints, it uses two primary explanatory variables, comprising automatic enrollment and employer contribution availability. To assess automatic enrollment, this study uses the survey question, "Does your employer auto-enroll employees in the retirement plan, meaning that unless you choose to opt out, you automatically participate in your company's retirement plan?" The responses include "yes," "no," and "unsure." This study creates a dummy variable for each category and sets the "yes" response category as the reference group. Similarly, the survey assesses employer contribution provisions based on the question, "Does your employer provide a contribution into your retirement plan (either a match or straight contribution)?" The categorical responses include "yes," "no," and "unsure." This study creates a dummy variable for each category, setting the "yes" response as the reference group.

In addition to the key explanatory variables, this study includes several controls based on the life-cycle theory of savings and consumption. They include age, gender, education, number of children, homeownership, ethnicity, race, marital status, household income, total debt, self-employment status, confidence with investing, risk tolerance, financial advisor use, and investable assets. These variables are also included in this study because previous studies (e.g., Yao and Cheng 2017; Korankye 2023; Korankye et al. 2023; Liu et al. 2023a, 2023b) show their relevance in determining financial behavior, including retirement saving decisions.

Age, number of children, and total debt are measured as continuous variables. Gender (female), homeownership, ethnicity (Hispanic), race (White), marital status (married), self-employment status, financial advisor use, having retirement saving goal, and investing confidence (very and extremely confident) are measured as dichotomous variables, with an affirmative response set to 1, 0 otherwise. Educational attainment, household income, risk tolerance, and investable assets are measured as categorical variables. The categories of educational attainment are some college, associate degree, bachelor's degree or higher, with the reference group being high school or less. Household income is categorized into incomes from US$50,000 to less than US$100,000, US$100,000 to less than US$150,000, and US$150,000 or more. The reference group is income below US$50,000. Risk tolerance is measured using the question, "How would you best describe your risk tolerance for investing?" This study categorizes the responses into willingness to take some risks and willingness to take considerable risks in exchange for above-average reward. The reference group is risk-averse. Investable assets include the respondent's banking, investment, and retirement accounts, except the value of one's home. The categories range from US$50,000 to US$150,000 and over, with the reference category being assets below $50,000.

3.4. Model

This study uses the two-block logistic regression models below to estimate the effects of automatic enrollment and employer contribution on retirement plan participation. It uses the logit model due to the dichotomous nature of the dependent variable. The two-block model allows this study to examine whether the influential roles of auto-enrollment and employer contributions on retirement plan participation decisions change after accounting for employee characteristics.

$$\Pr(Y = 1) = \Phi(\beta_0 + \beta_{AE} AE_i + \beta_{EC} EC_i) \quad (1)$$

$$\Pr(Y = 1) = \Phi(\beta_0 + \beta_{AE} AE_i + \beta_{EC} EC_i + \beta_k Control_i) \quad (2)$$

where Y is the outcome variable indicating the decision to participate in an employer-provided retirement plan. AE_i and EC_i represent automatic enrollment and employer

contribution for person I, respectively. $Control_i$ is a matrix of the control variables. The βs are the parameters to be estimated through odds ratios.

3.5. Test for Multicollinearity

In the analytical approach, this study examined multicollinearity among the explanatory variables through the computation of Variance Inflation Factors (VIFs). According to the guidelines proposed by Vittinghoff et al. (2012), a VIF greater than 10 is considered problematic, signaling potential issues with multicollinearity. However, the specific analysis revealed VIF values consistently below 5, indicating multicollinearity is not a concern within our model. This signals that the explanatory variables provide unique and relevant information to the model without being affected by multicollinearity.

4. Results

4.1. Descriptive Statistics

Table 1 reports the descriptives and the *t*-tests for Millennials participating in employer retirement plans against those who are not participating. The table shows that 93% participate in employer retirement plans. One may attribute the high participation rate to the sample comprising Millennials with investments in financial assets. This suggests that people with an investment appetite will likely participate.

Table 1. Descriptive Statistics: Millennials Sample.

	Overall	**Yes**	**No**	
Dependent Variable:				
Retirement plan participation	0.9278			
Key Explanatory Variables:				
Auto-enrollment				
Yes	0.5313	0.5529	0.2549	***
No	0.3402	0.3257	0.5271	***
Unsure	0.1284	0.1215	0.2180	*
Employer Contributions				
Yes	0.8468	0.8729	0.5111	***
No	0.1200	0.1010	0.3643	***
Unsure	0.0332	0.0261	0.1245	**
Control Variables:				
Age	30.548	30.589	30.014	
Female	0.4784	0.4805	0.4514	
Education				
High school or less	0.0313	0.0281	0.0723	
Some college, no degree	0.0786	0.0757	0.1146	
Associate degree	0.0545	0.0513	0.0948	
Bachelor's degree or higher	0.8356	0.8448	0.7183	*
Number of children	0.6912	0.6826	0.8010	
Homeownership	0.5824	0.5905	0.4777	*
Ethnicity (Hispanic)	0.1627	0.1645	0.1398	
Race (White)	0.7547	0.7534	0.7716	
Marital status (married)	0.4870	0.4866	0.4931	
Household income				
Less than $50,000	0.1832	0.1758	0.2780	
$50,000 to < $100,000	0.4311	0.4275	0.4779	
$100,000 to < $150,000	0.2640	0.2677	0.2162	
$150,000 or more	0.1217	0.1290	0.0279	***
Total debt	40,421	42,094	18,929	***
Self-employed	0.0185	0.0140	0.0767	
Investing confidence(1 = Yes)	0.7950	0.7907	0.8502	

Table 1. *Cont.*

	Overall	Yes	No
Risk tolerance			
Risk-averse	0.1707	0.1640	0.2562
Some risks	0.6148	0.6211	0.5337
Considerable risks	0.2145	0.2149	0.2101
Financial advisor (1 = Yes)	0.4218	0.4147	0.5118
Investable assets			
Less than $50,000	0.3753	0.3716	0.4237
$50,000 to < $100,000	0.2906	0.2911	0.2845
$100,000 to < $150,000	0.1295	0.1306	0.1156
$150,000 or more	0.1864	0.1881	0.1645
Retirement saving goal (1 = Yes)	0.4360	0.4371	0.4216

Means are shown. Yes = Participate, and No = Does not participate in employer retirement plan. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. $N = 902$.

The table also shows that about 53% of the Millennials have auto-enrollment retirement plans, 34% have none, and 13% are unsure. The *t*-tests indicate that the percentage of Millennials with auto-enrollment participating in employer retirement plans (55%) is more than those who do not participate (25%). For Millennials with "no auto-enrollment," a more significant percentage do not participate in employer retirement plans (53% versus 33%). Similarly, for Millennials who provide an "unsure" response, a more significant percentage do not participate in employer retirement plans (22% versus 12%).

Regarding employer contributions, Table 1 shows that nearly 85% of Millennials report the availability of employer contributions at their workplace. Only 12% and 3% report "no" and "unsure," respectively. The *t*-tests indicate that Millennials with employer contributions who participate in employer retirement plans (87%) exceed those who do not participate (51%). For Millennials with "no" employer contributions, the majority do not participate in an employer retirement plan (36% versus 10%). Similarly, for Millennials who provide an "unsure" response to the employer contribution question, most do not participate in employer retirement plans (12% versus 3%).

4.2. Empirical Results

Table 2 contains the empirical results for the logistic regression estimates of retirement plan participation on automatic enrollment and employer contributions. Model 1 is the restricted model, containing only the main explanatory variables. Model 2 contains all the explanatory variables, including the control variables. The results from Model 1 show that Millennials whose employers do not auto-enroll employees are 0.33 times less likely to participate in the employer-provided retirement plan relative to those whose employer auto-enrolls employees. Millennials who are unsure whether the employer provides auto-enrollment are 0.28 times less likely to enroll in a retirement plan than those whose employer auto-enrolls employees. Those whose employer does not offer a match/straight contribution are 0.16 times less likely to participate in a retirement plan. Relative to Millennials with employer contributions, those who are unsure about employer contributions are 0.09 times less likely to participate in an employer-provided retirement plan.

After including control variables in Model 2, the sizes of the odds ratios change for automatic enrollment and employer contributions, but statistical significance levels and direction of the relationships are unchanged. Specifically, the odds ratio for "no auto-enrollment" and "unsure" changes to 0.25 and 0.18, respectively. For employer contributions, the odds ratio for "no" and "unsure" adjusts to 0.1485 and 0.1402, respectively.

4.3. Sensitivity Analysis

This study performs two sensitivity analyses to assess generational differences in retirement plan participation behaviors: one encompassing Millennials, Gen X, and Boomers (Table 3) and another focusing on Gen X and Boomers (Table 4). This approach allows

this study to investigate the generalizability of Millennial-specific findings to older generations. The results indicate similar patterns across the full sample and the Gen X and Boomers cohort. Specifically, employed individuals demonstrate a lower likelihood of participating in employer-provided plans in scenarios of "no auto-enrollment," "unsure about auto-enrollment," "absence of employer contribution," or "unsure regarding employer contribution availability." The only divergence occurs with "unsure about auto-enrollment," where the results for Gen X and Boomers are negative but statistically insignificant (p-value > 0.10). These findings highlight the critical role of automatic enrollment and employer contributions in decision-making processes across diverse age groups in the context of employer-provided retirement plans.

Table 2. Logistic Regression Estimates of Retirement Plan Participation on Automatic Enrollment and Employer Contributions: Millennials Sample.

	Model 1 Odds Ratio	**Model 2 Odds Ratio**
Main Explanatory Variables:		
Auto-enrollment (Ref.: Yes)		
No	0.3253 ***	0.2537 ***
	(0.1042)	(0.0944)
Unsure	0.2780 ***	0.1776 ***
	(0.1141)	(0.0820)
Employer contribution (Ref.: Yes)		
No	0.1593 ***	0.1385 ***
	(0.0480)	(0.0438)
Unsure	0.0921 ***	0.1402 ***
	(0.0440)	(0.0663)
Other Explanatory Variables:		
Included control variables	No	Yes
Observations	961	902

Exponentiated coefficients; Standard errors in parentheses. *** $p < 0.01$. Control variables, as shown in Table 1, are included in Model 2, but the results are not shown. The number of observations in Models 1 and 2 differs due to missing values in some of the control variables.

Table 3. Logistic Regression Estimates of Retirement Plan Participation on Automatic Enrollment and Employer Contributions: Full Sample for Sensitivity Analysis.

	Model 1 Odds Ratio	**Model 2 Odds Ratio**
Main Explanatory Variables:		
Auto-enrollment (Ref.: Yes)		
No	0.2912 ***	0.2487 ***
	(0.0777)	(0.0772)
Unsure	0.3891 **	0.2788 **
	(0.1336)	(0.1126)
Employer contribution (Ref.: Yes)		
No	0.1565 ***	0.1415 ***
	(0.0365)	(0.0350)
Unsure	0.0612 ***	0.0773 ***
	(0.0235)	(0.0291)
Included control variables	No	Yes
Observations	1515	1448

Exponentiated coefficients; Standard errors in parentheses. ** $p < 0.05$, *** $p < 0.01$. Control variables, as shown in Table 1, are included in Model 2, but the results are not shown. The number of observations in Models 1 and 2 differs due to missing values in some of the control variables.

Table 4. Logistic Regression Estimates of Retirement Plan Participation on Automatic Enrollment and Employer Contributions: Gen X and Boomers for Sensitivity Analysis.

	Model 1 Odds Ratio	**Model 2 Odds Ratio**
Main Explanatory Variables:		
Auto-enrollment (Ref.: Yes)		
No	0.3075 **	0.2656 **
	(0.1470)	(0.1539)
Unsure	0.7301	0.5154
	(0.4729)	(0.3667)
Employer contribution (Ref.: Yes)		
No	0.1430 ***	0.0845 ***
	(0.0530)	(0.0408)
Unsure	0.0194 ***	0.0095 ***
	(0.0137)	(0.0066)
Included control variables	No	Yes
Observations	554	546

Exponentiated coefficients; Standard errors in parentheses. ** $p < 0.05$, *** $p < 0.01$. Control variables, as shown in Table 1, are included in Model 2, but the results are not shown. The number of observations in Models 1 and 2 differs due to missing values in some of the control variables.

5. Conclusions

The findings suggest that the non-availability of automatic enrollment and employer contribution provisions partly explain the decision of Millennials not to participate in employer retirement plans. In addition, the findings indicate that Millennials who may not be aware that their employer's retirement plan auto-enrolls employees or offers a match/straight contribution are less likely to participate. The findings are consistent with earlier studies, which show that automatic enrollment and employer contributions are essential features for employers to consider in designing their retirement plans (Thaler and Benartzi 2004; Benartzi and Thaler 2007; Benartzi 2012; Choi et al. 2002; Goda and Manchester 2013).

The findings also align with the hypotheses of this study and can be explained in the light of theory. For auto-enrollment, the research findings suggest that the absence of automatic enrollment in employer retirement plans could be a significant factor in the low participation rate among Millennials. This aligns well with the theory of status quo bias and inertia from behavioral economics. The theory posits that individuals tend to stick with the default or current state due to the effort required to make a change. In this context, if the default option is not being enrolled in a retirement plan, Millennials are likely to remain in that state. The 'path of least resistance' for them is to do nothing, which, in this case, means not participating in the retirement plan. This behavior is a manifestation of the status quo bias and the inertia to change, even if the alternative (participating in the plan) could be more beneficial in the long run.

Regarding employer matching, the research findings also highlight that a lack of awareness about employer-matching contributions could reduce Millennials' likelihood of participating in retirement plans. The theories of income and substitution effects from standard economic theory provide a useful framework for understanding this. The income effect suggests that employer matching can be perceived as an increase in potential income, making the employee feel wealthier and more inclined to contribute to the retirement plan. This perceived increase in wealth enhances the value of participating in the retirement plan, as it aligns with their long-term financial security goals. On the other hand, the substitution effect makes contributing to a retirement plan more attractive due to the 'lower price' of saving for retirement. Each dollar contributed is effectively worth more due to the employer's matching, making it a more appealing financial decision compared with other alternatives such as spending or saving in a non-matched account. This effect leads to an increased participation rate as employees recognize the added value of their contributions.

Retirement plans encourage employees to save towards the decumulation phase of the life cycle, minimizing the risk of falling into abject poverty and becoming a burden on others in later life. The findings suggest the need for employers interested in the lifelong financial security of employees to consider incorporating automatic enrollment and a match/straight contribution in retirement plan designs. The government policy also could offer incentives to employers who offer auto-enrollment and matching contributions to their employees in the form of tax credits/rebates.

Another approach to increase participation in employer-sponsored retirement plans would be to implement mandatory auto-enrolment legislation. By making participation the default option, more employees are likely to become involved. Additionally, regulations that mandate a minimum level of employer contribution could motivate employees to participate.

Some employees' unawareness of automatic enrollment/employer contributions in their workplace suggests a communication gap between employees and the organizations concerned. Thus, employers may need to consider communicating their retirement plan features to their employees more clearly and precisely. As the shift from DB to DC continues (Iekel 2021), employers interested in the welfare of their employees should have increased responsibility in ensuring employees have the financial literacy to manage their plans for retirement or provide resources that help employees navigate their retirement preparation. For instance, as a part of an employee's benefits package, employers could offer outsourced financial advisory services or retirement planning tools to help employees traverse their retirement plans. In addition, employers could incorporate information about their retirement plans in the appointment letters of employees. This information could be reiterated during the orientation sessions for new recruits. Potential employees should be encouraged to inquire about employer retirement plans and their associated features during the interview and contract-signing stages. Current financial educators/advisors need to explain the features of employer retirement plans to clients. They also are encouraged to motivate their clients to ask questions about employer retirement plans in their prospective/new workplace. Ultimately, financial education has a pivotal role to play in enabling employees to appreciate the relevance of participating in retirement plans to safeguard their future financial security.

While the findings of this study shed light on the role of automatic enrollment and employer contribution provisions on the retirement plan participation of Millennials, it is important to acknowledge certain limitations. This study's dataset does not include data on key factors such as financial literacy, DB plans, and specific eligibility requirements such as job tenure and vesting schedules, which might also play a role in explaining non-participation decisions. Furthermore, the scope of this study is confined to Millennials who have investments in financial assets and whose employers offer a retirement plan. This means the findings may not be generalizable to all Millennials, particularly those without such investments or employer-sponsored plans.

Despite these limitations, the findings from the current research reinforce those from previous studies about the significant role of automatic enrollment and employer contributions in influencing employees' decisions to participate in retirement plans. The absence of these features in a retirement plan could lead to missed opportunities for Millennials and potentially other employee groups to enhance their long-term financial security. This study underlines the importance of fundamental aspects in retirement plan design, specifically, the provision of automatic enrollment and employer matching, to better support the retirement planning decisions of employees to ensure adequate retirement nest egg.

Author Contributions: Conceptualization, T.K.; methodology, T.K., B.P. and Y.L.; software, T.K.; validation, T.K., B.P. and Y.L.; formal analysis, T.K., B.P. and Y.L.; resources, T.K., B.P. and Y.L.; data curation, T.K.; writing—original draft preparation, T.K. and B.P.; writing—review and editing, T.K., B.P. and Y.L.; visualization, T.K., B.P. and Y.L.; All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding. The APC was funded by the Journal of Risk and Financial Management.

Data Availability Statement: Publicly available datasets were analyzed in this study. This data can be found here: https://www.finrafoundation.org/files/millennials-investment-study-data (accessed on 13 October 2018).

Conflicts of Interest: The authors declare no conflict of interest.

References

Bassett, William F., Michael J. Fleming, and Anthony P. Rodrigues. 1998. How workers use 401 (k) plans: The participation, contribution, and withdrawal decisions. *National Tax Journal* 51: 263–89. [CrossRef]

Benartzi, Shlomo. 2012. *Save More Tomorrow: Practical Behavioral Finance Solutions to Improve 401 (k) Plans*. New York: Penguin.

Benartzi, Shlomo, and Richard H. Thaler. 2007. Heuristics and biases in retirement savings behavior. *The Journal of Economic Perspectives* 21: 81–104. [CrossRef]

Brown, Jennifer E. 2018. Millennials and Retirement: Already Falling Short. National Institute on Retirement Security. Available online: https://www.nirsonline.org/reports/millennials-and-retirement-already-falling-short/ (accessed on 12 March 2022).

Carroll, Gabriel D., James J. Choi, David Laibson, Brigitte C. Madrian, and Andrew Metrick. 2009. Optimal defaults and active decisions. *The Quarterly Journal of Economics* 124: 1639–74. [CrossRef]

Chetty, Raj, John N. Friedman, Søren Leth-Petersen, Torben Heien Nielsen, and Tore Olsen. 2014. Active vs. Passive Decisions and Crowd-Out in Retirement Savings Accounts: Evidence from Denmark. *The Quarterly Journal of Economics* 129: 1141–219. [CrossRef]

Choi, James J., David Laibson, and Brigitte C. Madrian. 2004. Plan design and 401 (k) savings outcomes. *National Tax Journal* 57: 275–98. [CrossRef]

Choi, James J., David Laibson, Brigitte C. Madrian, and Andrew Metrick. 2002. Defined contribution pensions: Plan rules, participant choices, and the path of least resistance. *Tax Policy and the Economy* 16: 67–113. [CrossRef]

Clark, Robert L, Jennifer A. Maki, and Melinda S. Morrill. 2014. Can Simple Informational Nudges Increase Employee Participation in a 401 (k) Plan? *Southern Economic Journal* 80: 677–701. [CrossRef]

Dalton, James F., James F. Dalton, and Randal R. Cangelosi. 2016. *Retirement-Planning and Employee Benefits*. Alpharetta: Money Education (Me).

de Bassa Scheresberg, Carlo, Annamaria Lusardi, and Paul J. Yakoboski. 2014. *College-Educated Millennials: An Overview of Their Personal Finances*. New York: TIAA-CREF Institute and the Global Financial Literacy Excellence Center, pp. 1–38.

Dimock, Michael. 2019. Defining Generations: Where Millennials End and Generation Z Begins. *Pew Research Center.* Available online: https://www.pewresearch.org/short-reads/2019/01/17/where-millennials-end-and-generation-z-begins/ (accessed on 18 January 2024).

Dworak-Fisher, Keenan. 2011. Matching matters in 401 (k) plan participation. *Industrial Relations: A Journal of Economy and Society* 50: 713–37. [CrossRef]

Even, William E., and David A. Macpherson. 2005. The effects of employer matching in 401 (k) plans. *Industrial Relations: A Journal of Economy and Society* 44: 525–49. [CrossRef]

Falk, Justin, and Nadia S. Karamcheva. 2023. The impact of an employer match and automatic enrollment on the savings behavior of public-sector workers. *Journal of Pension Economics and Finance* 22: 38–68. [CrossRef]

Goda, Gopi S., and Colleen F. Manchester. 2013. Incorporating employee heterogeneity into default rules for retirement plan selection. *Journal of Human Resources* 48: 198–235. [CrossRef]

Hansen, Fay. 1999. 401 (k) how good is yours? *Management Review* 88: 55–59.

Iekel, John. 2021. Dramatic DB to DC Shift, Graphically. *National Association of Plan Advisors (NAPA).* Available online: https://www.napa-net.org/news-info/daily-news/dramatic-db-dc-shift-graphically (accessed on 18 January 2024).

Korankye, Thomas. 2023. Student loan debt in retirement: Identifying the correlates and implications for policy, practice and research. *Managerial Finance, ahead-of-print*. [CrossRef]

Korankye, Thomas, Blain Pearson, and Hossein Salehi. 2023. The nexus between investor sophistication and annuity insurance ownership: Evidence from FINRA's National Financial Capability Study. *Managerial Finance* 49: 398–419. [CrossRef]

Liu, Yi, Sarah D. Asebedo, and Blain Pearson. 2023a. Personality, financial risk-taking attitude, and older individuals' stock investment decisions. *Financial Planning Review* 6: e1171. [CrossRef]

Liu, Yi, Thomas Korankye, and Blain Pearson. 2023b. Personality traits and student loan holding for self and for children among baby boomers. *Journal of Financial Counseling and Planning* 34: 415–29. [CrossRef]

Madrian, Brigitte C., and Dennis F. Shea. 2001. The power of suggestion: Inertia in 401 (k) participation and savings behavior. *The Quarterly Journal of Economics* 116: 1149–87. [CrossRef]

Mankiw, Gregory N. 2014. *Principles of Economics*. Boston: Cengage Learning.

Mitchell, Olivia S., and Stephen P. Utkus. 2006. How behavioral finance can inform retirement-plan design. *Journal of Applied Corporate Finance* 18: 82–94. [CrossRef]

Mitchell, Olivia S., Stephen P. Utkus, and Tongxuan Yang. 2005. *Turning Workers into Savers? Incentives, Liquidity, and Choice in 401 (k) Plan Design (No. w11726)*. Cambridge: National Bureau of Economic Research.

Munnell, Alicia H., Annika Sunden, and Catherine Taylor. 2001. What determines 401 (k) participation and contributions. *Social Security Bulletin* 64: 64–75. [CrossRef] [PubMed]

Pearson, Blain, Thomas Korankye, and Yi Liu. 2023. Retirement Planning, Retirement Insecurity, and Financial Satisfaction. *The Journal of Retirement* 11: 1–13. Available online: https://www.pm-research.com/content/iijretire/early/2023/10/20/jor20231145 (accessed on 14 November 2023).

Pereira, Antonio G., and Luís E. Afonso. 2020. Automatic enrollment and employer match: An experiment with the choice of pension plans. *Revista de Gestão* 27: 281–99. [CrossRef]

Pompian, Michael M. 2012. *Behavioral Finance and Wealth Management How to Build Investment Strategies That Account for Investor Biases*, 2nd ed. Wiley Finance Series; Hoboken: Wiley.

Poterba, James M. 2014. Retirement security in an aging population. *American Economic Review* 104: 1–30. [CrossRef]

Thaler, Richard H., and Cass R. Sunstein. 2008. *Nudge: Improving Decisions about Health, Wealth, and Happiness*. New Haven: Yale University Press.

Thaler, Richard H., and Shlomo Benartzi. 2004. Save more tomorrow™: Using behavioral economics to increase employee saving. *Journal of Political Economy* 112: S164–S187. [CrossRef]

United States Census Bureau. 2012. *Statistical Abstract of the United States: 2012*, 131st ed.; The National Data Book. Lanham: Bernan Press. Available online: https://www.census.gov/library/publications/2011/compendia/statab/131ed.html (accessed on 18 March 2022).

Vittinghoff, Eric, David V. Glidden, Stephen C. Shiboski, and Charles E. McCulloch. 2012. *Regression Methods in Biostatistics Linear, Logistic, Survival, and Repeated Measures Models*, 2nd ed. New York: Springer.

Yao, Rui, and Guopeng Cheng. 2017. Millennials' retirement saving behavior: Account ownership and balance. *Family and Consumer Sciences Research Journal* 46: 110–28. [CrossRef]