CENTER FOR
RETIREMENT
RESEARCH
AT BOSTON COLLEGE

November 2007, Number 7-17

DO FINANCIAL LITERACY AND MISTRUST AFFECT 401(k) PARTICIPATION?

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Introduction

The private pension landscape has changed dramatically over the past quarter century, with a decisive shift away from traditional defined benefit plans toward defined contribution plans, primarily 401(k)s. Under the typical 401(k), individuals are responsible for making their own retirement saving decisions. The first, and most important, decision is whether to participate in the plan. As many as one-third of participants choose not to join, sparking concern about their retirement security.[1]

Many researchers have explored why employees fail to participate in 401(k)s. Potential reasons include economic factors, such as insufficient income, as well as behavioral explanations, such as procrastination. Meanwhile, recent efforts to understand financial decision-making more broadly have focused on the role of financial literacy. And researchers attempting to understand banking and other financial relationships have drawn attention to the role of mistrust in influencing individuals' choices.[2]

This *brief* extends the issues of financial literacy and mistrust to the domain of 401(k) participation during a period of rapid change in the nature of the participation decision. The trend towards automatic enrollment raises intriguing questions: Are quitters (of automatic enrollment plans) fundamentally different from non-joiners (of voluntary plans)? Do economic reasons help explain the variations between the two types of savers — or are broader questions of financial literacy or mistrust important as well?

Perhaps not surprisingly, this analysis finds that financial literacy improves savings behavior in both types of 401(k) plans. Meanwhile, mistrust of financial institutions appears to be very important in influencing savings behavior in automatic enrollment plans, with participants more likely to opt out if they lack trust. Perhaps what is most striking is that the impact of literacy and mistrust on saving is even stronger than that from income.

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Data and Definitions

This section describes the data sources used in the analysis of 401(k) participation rates. It also defines financial literacy and mistrust, the two key factors examined in this *brief*.

The Data

This study uses administrative and survey data from three 401(k) plans.[3] Plan A is a voluntary enrollment plan. Plans B and C are automatic enrollment plans. As expected, the automatic enrollment plans have higher new-hire participation rates than the voluntary enrollment plan — with participation rates of 84 percent (Plan B) and 78 percent (Plan C) versus 64 percent (Plan A).[4]

Perhaps the most notable difference in the characteristics of the employees is that employees in Plan A, the voluntary enrollment plan, have a much higher average income — $70,000, compared with $38,000 for Plan B and $34,000 for Plan C.[5] Given that workers with higher incomes are generally more likely to participate in 401(k)s, this disparity in income makes the higher new-hire participation rates under automatic enrollment for Plans B and C even more striking.

To obtain information on financial literacy and mistrust, the authors surveyed a random subset of the employees through the market research firm Greenwald Associates. For the most part, the 817 survey respondents have very similar characteristics to the overall sample and to their respective plans. The respondents were separated into four categories: 1) voluntary plan, participant; 2) voluntary plan, non-participant; 3) automatic enrollment plan, participant; and 4) automatic enrollment plan, non-participant. Overall, there are over 225 respondents in each category, except automatic enrollment non-participants where the sample size is 62.

Financial Literacy

The financial literacy measure used in this study is derived from an eight-question quiz that included three basic financial knowledge questions and five questions related to 401(k) plan knowledge.[6] Based on their responses, individuals were separated into a 'low' literacy group (0-5 correct answers) and a 'high' literacy group (6-8 correct answers). Overall, 42 percent of survey respondents are in the low literacy group. Table 1 shows that non-participants in both types of plans are much more likely to be in the low literacy group than participants.

Table 1. Percent of Individuals with 'Low' Financial Literacy, by Plan Type and Participation Status

Type of plan	Low literacy
Voluntary enrollment	**38 %**
Participants	22
Non-participants	57
Automatic enrollment	**49**
Participants	43
Non-participants	73

Note: Survey respondents were asked eight questions covering both general financial knowledge and the features of their employer's 401(k) plan. The 'low' literacy group answered five or fewer questions correctly.
Source: Authors' calculations.

Overall, the respondents demonstrated a strong understanding of the concepts of time value of money and basic compounding. Ninety seven percent recognized that savings should start early so that "your money earns more and builds up faster over time." Sixty seven percent of respondents understood that you could lose money in a stock fund. A similar percentage knew that stock mutual funds offer higher expected long-term growth compared to savings accounts, CDs, and insurance policies.

With respect to knowledge of their firm's 401(k) plans, almost all active participants knew they were participating. On the other hand, non-participants in both types of plans often thought they were participating when they were not. The confusion for those in the voluntary plan might have been caused by the fact that employees receive a four percent employer contribution annually whether they make elective employee contributions or not. However, the large percentage (23 percent) of non-participants in the automatic enrollment plan answering 'not sure' or 'yes' is more puzzling.

Mistrust

To measure mistrust, survey respondents were asked how they feel about the following statement: "For the most part, financial institutions are trustworthy." Low trust participants are those who answered 'disagree' or 'strongly disagree,' and high trust participants are those answering 'neither agree nor disagree,' 'agree,' 'strongly agree,' or 'no response.'

Overall, 14 percent of survey respondents are in the low trust group. Table 2 shows that non-participants in automatic enrollment plans are much more likely to be in the low trust group than any of the other respondents.

Table 2. Percent of Individuals with 'Low' Trust, by Plan Type and Participation Status

Type of plan	Low trust
Voluntary enrollment	**13 %**
Participants	11
Non-participants	15
Automatic enrollment	**15**
Participants	12
Non-participants	26

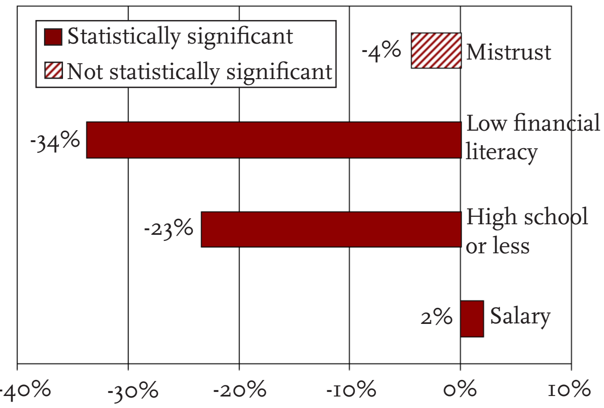
Note: Survey respondents were asked to respond to the statement: "For the most part, financial institutions are trustworthy." The 'low' trust group answered either 'disagree' or 'strongly disagree.'
Source: Authors' calculations.

The Impact of Financial Literacy and Mistrust on 401(k) Participation

To test the influence of financial literacy and trust on 401(k) participation, a probit regression was used. The regression analysis also included standard demographic variables used in previous research, such as education and income.

Similar to prior research on voluntary enrollment plans, this study finds that increases in salary and education increase the probability of participation (see Figure 1a). With respect to automatic enrollment, past research has shown that it tends to equalize enrollment across demographic groups.[7] Therefore, we expect that demographic variables will not be significant in this regression. The results are consistent with this expectation (see Figure 1b).

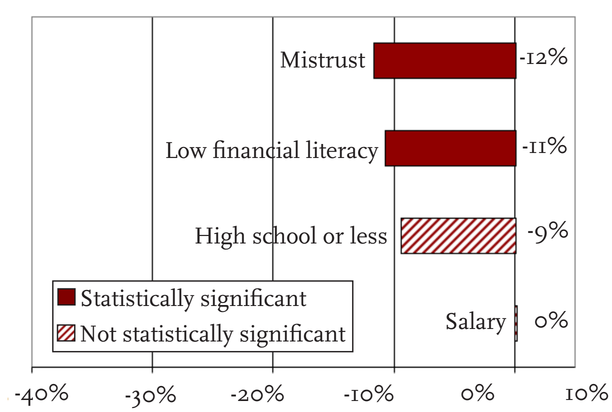
Figure 1a. Marginal effects of Selected Variables on 401(k) Participation in Voluntary Enrollment Plan



Note: The marginal effect for the salary variable is for a $10,000 increase from the mean salary.
Source: Authors' calculations.

The measures of financial literacy and trust described above are then added to the equations. The results are striking. As shown in the figures, an individual with low literacy is 34 percent less likely to participate in a voluntary plan and 11 percent less likely to participate in an automatic enrollment plan. Mistrust is not important in the voluntary plan but very important in the automatic enrollment plan; an individual with low trust is 12 percent less likely to participate. In both regressions, the effects of literacy

Figure 1b. Marginal Effects of Selected Variables on 401(k) Participation in Automatic Enrollment Plans



Note: The marginal effect for the salary variable is for a $10,000 increase from the mean salary.
Source: Authors' calculations.

and mistrust (where significant) are stronger than those from an additional $10,000 in income from the mean salary: an indication of the importance of behavioral explanations for saving behavior.

What can explain the difference in the impact of mistrust for non-participants in voluntary and automatic enrollment plan types? One possibility is that, in voluntary enrollment plans, procrastination may have more influence on non-participation than mistrust. In contrast, someone who quits an auto-enrollment plan is not a procrastinator because they must take action not to participate. What drives them to opt out of their 401(k) plan could be low trust or low literacy.

Conclusion

Prior research on 401(k) participation has focused on the importance of economic variables, such as income, or behavioral biases, such as procrastination. This *brief* highlights the importance of two other factors — financial literacy and mistrust — in 401(k) participation, and assesses their impact in both voluntary and automatic enrollment arrangements.

The results show that financial literacy strongly affects participation in both types of plans, while mistrust plays an essential role in determining quit rates in automatic enrollment plans. The marginal effects of both financial literacy and mistrust appear substantial, especially when compared with the responsiveness of 401(k) participation to income.

These findings underscore the notion that 401(k) participation is driven by a complex set of economic and behavioral factors. And they highlight the importance of ongoing efforts at 401(k) education in the workplace. By increasing financial literacy, increased employee education is likely to enhance voluntary 401(k) participation and reduce quit rates in automatic enrollment plans. Moreover, in automatic enrollment plans, the findings suggest that promoting knowledge of the benefits of the plan at the time of automatic enrollment may reduce quit rates. The findings also suggest that employers confronting high quit rates in automatic enrollment plans may wish to consider efforts to reduce employee mistrust of financial institutions, perhaps as part of ongoing communications about the plan and its features.

Endnotes

1 Using data from the Federal Reserve's *Survey of Consumer Finances* (SCF), Munnell and Sundén (2006) find that 26 percent of those eligible for 401(k)s did not participate in 2001 and 21 percent did not participate in 2004. Various surveys by other organizations have found this figure to vary between 20 percent and 35 percent in recent years, depending on how it is measured. See, for example, Profit Sharing Council of America (2006), Hewitt Associates (2006) and Vanguard (2007).

2 For a full discussion of the literature, see Agnew, et al. (2007).

3 For a full description of the methodology, see Agnew, et al. (2007).

4 The plans were selected because they had similar features and the plan sponsors operated in similar industries. All three offer employer matches and individual fund investment options ranging from 11 to 14 funds. In addition to individual fund choices, Plans A and C also offer pre-mixed life cycle portfolios. Administrative data, including employee demographics and certain plan features, were extracted from Vanguard recordkeeping systems under restricted access conditions in May-June 2006. The analysis in all three plans is limited to relatively new hires because Plan B and Plan C did not institute automatic enrollment until very recently and the feature did not apply to existing non-participating employees.

5 This difference in income may stem from corresponding differences in educational levels. Plan A employees were much less likely to have only a high school education or less and much more likely to have completed at least some post-graduate work.

6 For a list of the questions and an analysis of responses to individual questions, see Agnew et al. (2007).

7 Madrian and Shea (2001).

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The Center for Retirement Research at Boston College was established in 1998 through a grant from the Social Security Administration. The Center's mission is to produce first-class research and forge a strong link between the academic community and decision makers in the public and private sectors around an issue of critical importance to the nation's future. To achieve this mission, the Center sponsors a wide variety of research projects, transmits new findings to a broad audience, trains new scholars, and broadens access to valuable data sources. Since its inception, the Center has established a reputation as an authoritative source of information on all major aspects of the retirement income debate.

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The research reported herein was pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Retirement Research Consortium. The findings and conclusions expressed are solely those of the authors and do not represent the views of SSA, any agency of the Federal Government, or the Center for Retirement Research at Boston College.