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Can Information Change Personal Retirement Savings? Evidence from Social Security Benefits Statement Mailings[†]

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Does personalized, salient information on future retirement benefits affect current retirement savings? Traditional models of household savings related to the permanent income hypothesis (Friedman 1957) and life cycle (Ando and Modigliani 1963) assume that individuals accurately forecast future earnings, benefits, and consumption when making current savings decisions. Even in these fully rational models though, individuals require information about future earnings and benefits to make optimal decisions. Modern behavioral economic theories, meanwhile, posit that individuals may not be able to complete such complex forecasts or be willing to take the required actions to implement their plans. In this case, information might counteract individual behavioral biases related to bounded rationality (Kahneman 2003), procrastination (O'Donoghue and Rabin 2001), or hyperbolic discounting (Laibson 1997). In both cases, economic theory suggests that information might change savings behavior. However, if changing savings decisions is perceived to be too costly or complicated, information may have no influence on actual behavior (Choi, Laibson, and Madrian 2011; Hastings, Madrian, and Skimmyhorn 2013).

Our study focuses on the Social Security Administration's (SSA) quasi-experimental provision of information via benefits statements mailed to workers in the United States. Social Security is the most expensive social insurance program in the world, and the SSA annually undertakes the mailing of more than 150 million statements (Smith and Couch 2014a) at a cost exceeding $11 million (Walker 2017). We exploit the removal and reimplementation of the statement generated by budget cuts from 2011 to 2014 in three separate identification strategies. Each strategy approaches the question of "What is the effect of the SSA statement on savings?" in different ways. The first two strategies focus on young workers (aged 25) while the third studies a broader group (ages 25 through 55). To our knowledge, no previous studies have evaluated the effects of these statements on workers' retirement savings decisions, which seems the most important margin for evaluating the effects of the statements on these groups since these young workers cannot affect their withholding rates, their retirement age, or their benefits claiming age. Our research proves timely in light of very recent SSA announcements to again suspend paper statements due to cost concerns (Walker 2017). Our results are not a program evaluation, but they can inform policy decisions given concerns over cost and effectiveness.

I. Background on "The Statement"

The SSA began mailing "the statement" (previously, Personalized Earnings and Benefit Statements) to workers in select age groups in 1995. Prior to this date, statements were available to members of the public who requested them. Smith and Couch (2014a) review the statement's implementation, described as the largest customized mailing ever undertaken by a federal agency. The main statement is a few pages in length and its design has changed over

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time.[1] The current version (as of January 2017) includes: a commissioner's cover note, a table of estimated benefits (for retirement, disability, and family survivor programs), an explanation of the estimation method, a table of the workers' earnings record, a summary of Social Security and Medicare taxes paid over the working career, information on the importance of verifying the earnings record, an additional page of facts about Social Security benefits, and contact information for questions.

In 2000, the SSA added an insert entitled "Thinking of Retiring?" with targeted information for workers aged 55 and older (e.g., retirement age considerations, receiving benefits while working). In 2009, the SSA provided another insert entitled "What Young Workers Should Know about Social Security and Saving," with targeted information for 25–35-year-olds (e.g., reassurance about program longevity, encouragement to save outside Social Security).

SSA's purpose for the statement is to: (i) inform workers about their Social Security benefits; (ii) help workers plan for their financial future; and (iii) ensure that workers' earnings records are accurate (Smith 2015). Previous studies provide suggestive evidence that the statement increases recipients' knowledge (Smith and Couch 2014b; Mastrobuoni 2011), though there is no causal evidence on consequential behaviors. The SSA has also acknowledged that the statement is intended to affect individual retirement savings decisions in their literature (SSA 2011), public testimony by SSA Commissioners, and the statements' text.

We provide evidence on the first two SSA purposes by evaluating the effect of receiving the statement on individual retirement savings in their workplace, tax-advantaged savings accounts. Our sample includes Department of the Army civilian employees who save in the Thrift Savings Plan (TSP), which is the federal government's version of a 401(k). Importantly, we provide new evidence on the effects of targeted information for the retirement savings of younger workers, a previously unstudied topic. Relative to previous studies that have analyzed outputs (i.e., program knowledge or intentions), we exploit administrative data to analyze consequential outcomes on the margin (retirement savings) most likely to be affected by the statements for these younger groups.

[1] See https://www.ssa.gov/policy/docs/ssb/v74n2/v74n2p1.html for an example.

II. Empirical Strategy

Typically individuals receive their first statement in the mail three months prior to their twenty-fifth birthday, and annually thereafter. We exploit three natural experiments resulting from changes to this schedule: the suspension of all statements in 2011, a one-time mailing of the statement (including the young worker insert) to workers aged 25 in 2012, and the reintroduction of statements for workers aged 25, 30, 35, 40, 45, 50, and 55 in 2014. For each of our strategies, we regress a TSP outcome (i.e., the percentage of one's salary saved or an indicator for any savings, both in the six months following a birthday) on an indicator for receiving a statement and our control variables: gender, education, and job category.

Our first strategy uses the suspension of the statement in April of 2011. Here the treatment group consists of those turning 25 from January to June of 2011 and the control group consists of those turning 25 from July to December of 2011. The second time period we study is in 2012. From July to September of 2012, the SSA sent a one-time statement to those turning 25, and in October 2012 the SSA again suspended all mailings. As a result, those turning 25 from October to December of 2012 would receive the statement (treatment group), while those turning 25 from September 2011 to September 2012 or January 2013 to January 2014 would not (control group).

Our final strategy studies the effects of the statement on workers of more varied ages. In 2014 a SSA statement was sent to those turning exactly 25, 30, 35, 40, 45, 50, and 55. Those turning one of these ages in December of 2014 or later received the statement three months before their birthday. We test each of these age groups separately, where the treatment group consists of those who receive a statement in 2015 and the control group consists of individuals up to two years younger and two years older than those ages who did not receive a statement.

In Table 1 we provide summary statistics for the federal employees in each of our three samples. Just under 40 percent are female and around half of the first two samples have a college degree. Those in the third strategy (including all age

Table 1—Summary Statistics

	Strategy 1 (2011 termination)	Strategy 2 (temporary 2012 reintroduction)	Strategy 3 (reintroduction at 5 year age intervals)
Ages	25	25	23 to 57
Female (percentage)	36.2	38.9	37.6
Education			
High school grad (percentage)	26.9	27.2	34.2
Some college (percentage)	17.7	21.5	18.2
College (percentage)	49.3	44.6	28.4
Grad degree (percentage)	4.7	4.2	17.6
Savings rates			
Average TSP (percentage)	5.1	5.2	6.7
	(3.8)	(4.11)	(5.5)
Likelihood of saving (percentage)	87.3	90.72	88.5
Observations	2,198	3,512	77,998

Notes: Table 1 includes summary statistics for our three different strategies. Column 1 includes only those who turn 25 in 2011. Column 2 includes those who turn 25 between October 2011 and December 2013. Column 3 includes those who turn 23–55 in the first half of 2015. Savings rates are computed for the six months following someone's relevant birthday.

ranges) are more likely to be just a high school graduate. The average retirement savings rate in the TSP is around 5 percent for the first two samples and 8 percent for the third sample, and the probability of TSP participation is 87–91 percent. In online Appendix Table 1, we provide detailed summary statistics by those who do and do not receive the statement which suggest only small differences between the two groups.

III. Main Results

Table 2 presents our main results for all three analyses. Panel A shows the average effect on the percentage of salary saved in TSP during the six months after someone's birthday. Column 1 shows that those receiving the statement in 2011 have a 0.03 percentage point increase in their savings, which represents 0.5 percent of the control mean, and this effect is statistically insignificant. The 95 percent confidence interval rules out decreases in savings of 0.28 pp (5 percent of control mean) and increases in savings of more than 0.34 pp (6.6 percent). Column 2 shows that for those that received the statement in 2012, there is a larger effect of 0.13 pp (2.4 percent) that is also statistically insignificant. We can rule out decreases of more than 5.4 percent and increases of more than 10.2 percent. Columns 3–9 show the effects for various age groups. The only result which is statistically significant is for 30-year-olds, where a statement results in decreases in savings rates of 0.28 pp (5 percent). All other results are statistically insignificant with magnitudes less than 3 percent of the control mean.

We also evaluate potential extensive margin effects of the statements. Panel B shows the likelihood of saving in the TSP during the six months following statement receipt. Again, we find mostly statistically insignificant results with magnitudes amounting to less than 2 percent of the control mean. For those receiving the statement when they turn 40, we find a statistically significant decrease of 2 pp (2.3 percent) and for those that turn 45, we find a statistically significant increase of 1 pp (1.1 percent). Both are only significant at the 10 percent level and roughly what we might expect by chance.

We complete our analyses by gender in online Appendix Tables 2 and 3, and still find minimal effects. For males turning 55 the statement lowers savings rates by 0.49 pp (6 percent) and lower likelihood of saving at all by 2 pp (2.3 percent). Females at this age appear to increase their savings rates by 0.34 pp (4 percent), but the estimate is marginally statistically significant. These results are also no more than we might expect by chance given our multiple hypothesis tests.

Table 2—Main Results

	2011 termination (1)	2012 temporary re-introduction (2)	2015 reintroduction 25 (3)	30 (4)	35 (5)	40 (6)	45 (7)	50 (8)	55 (9)
Panel A. Average effect of statement (intensive margin)									
Treatment	0.03	0.13	−0.01	−0.28	−0.05	0.10	−0.17	−0.02	−0.19
	(0.16)	(0.21)	(0.22)	(0.12)	(0.10)	(0.12)	(0.11)	(0.11)	(0.11)
Observations	2,198	3,512	2,210	7,346	10,367	9,705	12,752	17,516	18,102
R^2	0.09	0.09	0.09	0.09	0.09	0.08	0.07	0.06	0.05
Control mean	5.09	5.19	5.52	5.88	5.74	5.78	6.20	7.23	8.10
Panel B. Likelihood of saving (extensive margin)									
Treatment	−0.01	0.01	0.02	−0.00	−0.00	−0.02	0.01	−0.01	−0.01
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Observations	2,198	3,512	2,210	7,346	10,367	9,705	12,752	17,516	18,102
R^2	0.04	0.03	0.05	0.02	0.03	0.03	0.03	0.03	0.03
Control mean	0.88	0.91	0.94	0.92	0.90	0.87	0.87	0.88	0.89

Notes: This table presents OLS regression coefficients for receiving a SSA statement on savings rates (panel A) and the probability of savings (panel B). Column 1 includes only those who turn 25 in 2011 (treatment group: those who turn 25 between January and June of 2011). Column 2 includes those who turn 25 between October 2011 and December 2013 (treatment group: those who turn 25 between October 2012 and December 2012). Columns 3–9 include those who turn 23–55 in the first half of 2015 (treatment group: those who turn 25, 30, 40, 45, 50, or 55 during that time). See Section II for more details on each sample. Savings rates are computed for the six months following someone's relevant birthday. All regressions control for gender, education, and job category. Heteroskedasticity robust standard errors are provided in parentheses.

IV. Robustness

To examine whether the statement influences people who were not currently saving into their retirement account to start saving, we examine a subset of those who had not previously saved in the TSP (during the six months prior to their birthday) in online Appendix Table 4. Again, we find minimal effects, with the exception of the 2012 treatment. In this group, those who received a statement have a 0.46 pp (75 percent) increase in their savings rate, but the result is only statistically significant at the 10 percent level. In panel B we find that the statement increases the likelihood of saving by 17 pp (on a mean of 16 percent).

To rule out differential savings rates or secular trends within calendar years, we estimate a difference-in-differences regression for our first strategy, where we also include individuals who turn 24 in 2011. The online Appendix Table 5 results reveal no statistically significant effects and very small economic effects (i.e., 0.08 pp for the savings rates and 2.5 pp on the extensive margin).

To rule out potential birth-month cohort effects for our second strategy, we restrict the control group to those who turn 25 in October to December of 2011 or 2013 and compare them to the treatment group who turn 25 in October December of 2012. The online Appendix Table 5 results reveal no statistically significant effects that are also very small in economic magnitude (0.25 pp for the savings rates and 1 pp on the extensive margin).

To rule out age differences as an explanation in our third strategy, we restrict the control group to individuals who are one year (versus two in the main analysis) older or younger than the treatment groups aged 25, 30, 35, 40, 45, or 55. The online Appendix Table 5 results are very similar to our main estimates with no statistically significant effects on the extensive margin and only one statistically significant effect of 0.28 pp (5 percent) decrease in savings for individuals aged 30. Taken together, these checks suggest that our results are not driven by inappropriate control groups.

Finally, we complete within-individual difference in difference regressions (using

savings before and after statements) for all three strategies and present the results in online Appendix Table 6. We find similarly small and statistically insignificant effects.

V. Discussion

We study the impact of receiving personalized information on future retirement benefits from Social Security on public sector workers' savings in an employer sponsored retirement account. We use the suspension and reintroduction of the statement in 2011 and 2012 to study the effect on 25-year-olds. We also study the reintroduction of the statement in late 2014 to measure effects on workers aged 25 to 55. In all three strategies and across the different age groups, we find few measurable impacts of the statements on retirement savings. Despite these results, our research does not speak to the cost effectiveness of the SSA statement given its multiple purposes and its very low (back of the envelope estimates using SSA figures on total annual cost and number mailed are less than $0.10 per statement) marginal cost.

The results may be surprising to those who believe that information should affect behavior, via rational individuals updating their savings rates, or less than fully rational individuals being impacted by timely, salient, credible and personalized information. Interestingly, in these ways the SSA statements, despite their age, appear to leverage recent behavioral findings in the social sciences. However, the results may be less surprising given general findings that information does not always affect behavior (see the introduction) and previous findings that the statements increase knowledge but do not change actual retirement behavior (Mastrobuoni 2011). Whether the lack of effects is due to design features, delivery challenges, the possibility that workers are already saving optimally, or the possibility that behavioral biases are much too strong to be overcome with a mailed letter deserves further study.

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