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Abstract

In 1995, the Social Security Administration started sending out the annual Social Security Statement. It contains information about the worker's estimated benefits at the ages 62, 65, and 70. I use this unique natural experiment to analyze the retirement and claiming decision making. First, I find that, despite the previous availability of information, the Statement has a significant impact on workers' knowledge about their benefits. These findings are consistent with a model where workers need to gather costly information in order to improve their retirement decision. Second, I use this exogenous variation in knowledge to analyze the optimality of workers' decisions. Several findings suggest that workers do not change their retirement behavior: i) Workers do not change their expected age of retirement after receiving the Statement; ii) monthly claiming patterns do not show any change after the introduction of the Social Security Statement; iii) workers do not become more sensitive to Social Security incentives after receiving the Statement. More research is needed to establish whether workers are already behaving optimally or they are not, but the information contained in the Statement is not sufficient to improve their retirement behavior.

Keywords: social security statements, retirement expectations, retirement behavior, social security incentives
JEL classification codes: H55, J26

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1 Introduction

Many older workers know little about their retirement benefits and do not plan ahead.[1] In order to help workers make provisions for their retirement, the Social Security Administration (SSA) introduced the Social Security Statement in 1995. The Statement is a concise record of past earnings and a summary of estimated benefits as a function of different retirement ages. It is mailed to all workers paying payroll taxes, typically three months before their birthday. While in 2008 the cost of sending an individual Statement was only about 36 cents, but because of the number of statements sent each year, the total cost is 53 million dollars (SSAB, 2009). This paper evaluates whether sending the Statement increased workers' knowledge and influenced retirement behavior.

In 1995 the SSA was required to mail the annual Statement—then named the Personal Earnings and Benefit Estimate Statement—to all workers age 60 and older and in later years it has been sent according to the following (year, age) combinations: (1996, 58+), (1997, 53+), (1998, 47+), (1999, 44+), (2000, 25+). This stepwise introduction allows me to identify the effect of the Statement based on the interaction between age and year. Using The Health and Retirement Survey (HRS) data, I find that workers aged 55 to 64 who received the Statement and had not previously contacted SSA regarding their benefits are 20 percentage points (50 percent) more likely to be able to provide an estimate of their future benefits than workers that did not receive the Statement.

While these are very large effects, if workers were behaving optimally this additional information would not substantially change workers' retirement or saving behavior. On the other hand, some workers might just be procrastinating: the cost of becoming informed and learning the optimal retirement age and savings are borne upfront, while the corresponding utility gains are received only sometime later. Workers with high discount rates should, therefore, seek information later. For these workers, the Social Security Statement might actually induce changes in behavior. I use three different ways to measure changes in behavior. First, I look at whether workers are more likely to update their retirement plans upon receiving a Statement. Then, I check whether workers change their actual claiming behavior. Finally, I see whether workers are more likely to respond to the retirement incentives provided by the Social Security benefit formula after receiving a Statement.[2]

I find no evidence that receiving the first Statement induces workers to update their expectations. Social Security claiming patterns also show no change upon the introduction of the Statement. Retirement decisions do not become more sensitive to Social Security incentives. Overall, the results suggest that either workers were already behaving optimally or that the additional information provided by the Statement isn't sufficient to improve uniformed workers' retirement choices.

[1] See among others, Bernheim and Levin (1989), Gustman and Steinmeier (2001), Chan and Stevens (2008), Lusardi and Mitchell (2006), Lusardi and Mitchell (2007).

[2] The administrative records are used to compute retirement incentives (see, for example, Coile and Gruber, 2007, Liebman et al., 2009, Panis et al., 2002).

2 Literature review

2.1 Retirement Behavior

Standard economic theory assumes that all agents base their retirement decisions on forward-looking variables. Krueger and Meyer (2002) provide a comprehensive survey of studies that have modeled retirement behavior. These studies typically assume implicitly that workers know their future benefits as a function of their retirement age and are able to compare future streams of benefits. Empirical evidence, however, suggests that these are strong assumptions. When asked, only around 50 percent provide an estimate of their expected Social Security benefits.[3] Gustman and Steinmeier (2001) show that less than 30 percent of respondents are able to estimate their future benefits to within about $1,500 per year. Moreover, Lusardi and Mitchell (2006) show that financial illiteracy is widespread among older Americans. Only half of the age 50+ respondents can correctly answer two simple questions regarding interest compounding and inflation. Is it then reasonable to assume those same respondents are able to compute their retirement incentives, which typically involve relatively complex calculations?

Despite very little knowledge about retirement incentives, the fact that people seem to respond to incentives when making their retirement decisions has been called by Chan and Stevens (2008) an "important empirical puzzle in the retirement literature." Gustman and Steinmeier (2001) try to test the robustness of retirement models when a measure of knowledge about benefits is added to the retirement regression. They find that explicitly controlling for knowledge does not affect workers' responsiveness to changes in the present value of the stream of Social Security benefits from postponing retirement, which are also called accruals. Chan and Stevens (2008) go one step further and analyze how the interaction of knowledge and accruals affects workers' decisions. The authors find that responsiveness to pension incentives is entirely driven by the 20 percent of workers who perceive them correctly.[4] The validity of using measures of knowledge in the regressions, however, is questionable as knowledge is endogenous: workers gather information when they approach their expected retirement age. Most workers contact the SSA in order to learn about their future Social Security benefits. Once they do so, the data show that they become more likely to provide a benefit estimate, and their estimate becomes more precise.[5] This is not surprising. The SSA's benefit formula is complicated, and workers would have a hard time trying to calculate their expected benefits without the SSA's help. But this additional information is only valuable if individual workers can use it and are unconstrained with respect to their retirement choice, i.e. workers who face health problems or have liquidity constraints tend to retire as soon as possible. Consistent with this, I find that wealthier and healthier workers are significantly more likely to get informed. A more puzzling finding is that even after controlling for labor market experience, occupation, wealth, and health, black workers and workers with low levels of education are significantly less likely to know their benefits. One possible explanation for this persistent gap is that these workers are also more likely to be financially illiterate (Lusardi and Mitchell, 2006).

[3] See Bernheim and Levin (1989), Gustman and Steinmeier (2001). In my sample that focuses on workers aged 55 and above, two-thirds of workers are able to provide an estimate.

[4] They do not find any link between knowledge and Social Security accruals, which they consider a result of data limitations. A limitation of their test, and as a matter of fact, of mine as well, is that they can measure if workers correctly perceive their Social Security benefits, but not if they correctly compute their forward-looking Social Security incentives, like the present-discounted stream of benefits.

[5] Gustman and Steinmeier (2001) show that having contacted the SSA is the strongest predictor for being knowledgeable about Social Security benefits.

2.2 The Social Security Statement

Economists have not studied the introduction of statements, apart from the Government Accountability Office's (GAO) evaluation of their understandability.[6] Therefore, Jackson (2005) concluded that: "Given the importance of Social Security benefits to so many Americans, it is surprising how little academic attention has been given to the content and implications of Social Security benefits" and "what is clear is that the Social Security Statement is one of the most important communication that the federal government sends out to the general public each year, and as such the document deserves much more attention from public official and academic writers than it has received to date." According to the GAO reports the overall public reaction to receiving an unsolicited Statement has been favorable. The reports cite a nationally representative survey in which, as predicted by Bernheim (1987), "the majority of the respondents indicated they were glad to receive their Statements and 95 percent of them said the information provided was helpful to their families." The April 2005 report finds that 66 percent of workers remember receiving a Statement (unfortunately they do not provide this number by age groups), and that 90 percent of those who remember receiving a Statement say that they remember the amount of estimated Social Security benefits. The results of a Gallup survey revealed that individuals who had received a Statement had a significantly increased basic understanding of Social Security, and understanding of some important basic features of Social Security: the amount of Social Security benefits depends on how much people earned; Social Security pays benefits to workers who become disabled; Social Security provides benefits to dependents of workers who die (see http://www.ssa.gov/.) According to the 2004 Retirement Confidence Survey, 80 percent of workers use retirement benefit Statements (not necessarily only Social Security Statements) and 20 percent find them the most helpful tool in retirement and claiming decision making (Helman and Paladino, 2004). Jackson analyzes the content of the Social Security Statement, and reports how because of various cognitive biases workers may misinterpret the value of their benefits. He then suggests that including the present discounted value of Social Security benefits may facilitate the comparison with other sources of income and minimize labor market distortions.

3 Exogenous Variation in Knowledge

3.1 The Phasing In Schedule of the Statement

The administration started sending the Statements in 1995. The main purpose is to inform the public about benefits under SSA programs, to aid in financial planning, and to ensure the worker's earnings records are complete and accurate. The Statement contains expected Social Security benefits at the early (62), the normal (usually 65, though increasing since 2003), and the late (70) retirement age as well as the worker's entire earnings history. The Statement also informs workers about spouse's benefits, survivors' benefits, and disability benefits.[7] The Statement does not report the present discounted value of these benefits, also called the Social Security Wealth (SSW).

[6] See GAO/T-HEHS-96-210, GAO/HEHS-97-19, GAO/HEHS-98-228, GAO/T-HEHS-00-101, GAO-05-192 on www.gao.gov.

[7] In the Appendix provide a sample of the Social Security Statement. Earlier versions of the Statement can be found in reports by the GAO, although they changed little over time.

The SSA was required to mail the annual Statement—then named the Personal Earnings and Benefit Estimate Statement—to all workers age 60 and older. In later years it has been sent according to the following (year, age) combinations: (1996, 58+), (1997, 53+), (1998, 47+), (1999, 44+), (2000, 25+). Workers usually receive their Statement one month before their birthdays.[8] This seems to be a good timing since 65 percent of all workers claim immediately after their birthdays (15 percent of the claims occur in January and the remaining workers tend to claim uniformly across the year). Later I show that apart from age and year no other observable characteristics of workers are able to predict the receipt of a Statement. Conditional on age and year effects it is as if it was randomly assigned. With precise information on the date of the HRS surveys and on the date of birth of the respondents and with internal documents of the SSA, I reconstruct the exact same schedule used by the Social Security Administration to send out the letters. Table 1 shows the fraction of workers who over the years would have received a Statement, based on a hypothetical sample (where age and year of birth are uniformly distributed). Later I will exploit the fact that workers of the same age (in years) may or may not receive a Statement in the same year.

3.2 The Statement's Impact on Workers' Knowledge About Benefits

Assuming that getting informed is costly, a worker will acquire new information about his retirement benefits when, based on his prior $f(B)$ over the whole distribution of his retirement benefits (which are function of the retirement age $B = (B(62), ..., B(70))$ he/she believes that the expected gains of information outweigh the cost of information, c. Retirement affects utility through its consequences on consumption and leisure. Defining the retirement decision as $R \in \{0, 1\}$, it's optimal to gather information as long as

$$\int max_R U[R(B)]f(B)dB - max_R \int U[R(B)]f(B)dB > c. \quad (1)$$

Intuitively, information matters when better knowledge about the benefits can influence retirement or consumption, in other words, when variation in benefit patterns generate variations in utility $U[R(B)]$. If, for example, the prior is such that the worker strongly believes that it is optimal to retire as soon as possible, it might not be optimal for him to collect additional information. Factors that can generate such a boundary solution are high discount rates, high disutility from work (like health issues), high mortality, and low risk aversion. Moreover, workers need to be able to evaluate their retirement incentives, which are complicated functions of their benefits and of their family status. Financially illiterate workers, unable to compute those incentives, might also choose not to get informed.

The main effect of the Statement is to considerably reduce c, which should help workers to make better retirement choices. But if workers select into the unknowledgeable state changes in retirement behavior are expected to be lower than in a situation where knowledge was randomly assigned. It is important to note that workers have always had the option to ask the SSA to compute their expected benefits (it would usually take 4 to 6 weeks to receive an estimate). Before the Statements started circulating according to the HRS around 50 percent of the respondents would contact the SSA by age 62. Before analyzing the effect of the Statement it is therefore important to analyze the selection issue (calling the SSA for a benefit estimate).[9]

[8] In 2000 the SSA started sending the Statement three months before the worker's birthday.

[9] See Appendix A for a description of the data and for the corresponding summary statistics.

Column (1) in Table 2 shows that, apart from age (multiplied by 1/2 for a reason that will be clear shortly), the two strongest predictors for contacting the SSA are the level of education and race. Having less than a high school degree and being black, reduce the probability of contacting the SSA by 14 and 11 percentage points. Consistent with the theory wealthier workers, therefore workers that are less likely to be liquidity constraint, are more likely to contact the SSA (column 2). The effects are very large. Compared to workers that are in the first wealth quartile, workers with wealth above the median are 17 to 19 percentage points more likely to contact the SSA. Healthy workers are, compared to workers in fair and poor health, more likely to contact the SSA. Health and wealth do also capture around 30 percent of the differences that in the first column were attributed to race and education.

In column (3) I additionally control for the subjective life–expectancy and for labor market experience.[10] While more experienced workers are significantly more likely to contact the SSA, the coefficient on the subjective life-expectancy is not significant. Since the SSA's actuarial adjustments for postponing retirement are based on the average life-expectancy workers with a low subjective life–expectancy should be less likely to get informed if they know that they should follow the simple rule of retiring and claiming the benefits as soon as possible. On the other hand, workers with a high life–expectancy should do the opposite, claim as late as possible (70). Checking for non-linearities does reveal that workers in the first and the last quartile of the distribution of subjective life–expectancy are less likely to get informed, but the effects are not significant.[11]

Around 35 percent of workers age 65 receive a private pension. The incentives of getting informed might differ by whether workers receive a pension or participate in a defined benefit or defined contribution plan, both because pensions change the liquidity constraint and because pensions change the overall retirement incentives. Receiving a pension and participating in a pension plan do not significantly change the probability of contacting the SSA, even when I focus on those who do not yet receive a pension income.[12]

In column (5) I control for the respondents financial planning time horizon, information available from the HRS's first wave. How far in advance workers are planning is certainly related to their time preference. Consistent with this I find that the longer the planning time horizon the more likely it is workers contact the SSA. It is important to notice that even after controlling for health, wealth, mortality, and proxies of time preference workers without a high school degree and black workers are 10 percentage points less likely to contact the SSA. In the last column I additionally control for occupation fixed effects. While this reduces by another 30 percent the differences across levels of education, the coefficient on race drops by only 1 percentage point.

Summing up, workers who didn't contact the SSA before the introduction of the Statement tend to be younger, with lower levels of education, single, black, in poor health, poor, with fewer labor market experience, and less likely to plan many years in advance. Next I show that these workers are more likely to improve their knowledge about their benefits upon receiving a Statement, which is consistent with the idea that information is costly.

[10]The subjective life–expectancy is measured as the self-reported probability of surviving age 75 divided by the implied probability from the Vital Statistics life tables that someone of the respondent's age and gender will live to be 75.

[11]Results available upon request.

[12]The sample size is lower because the information on whether the respondent receives a pension isn't available in the first wave.

3.3 The Effect of the Statement on Workers' Knowledge about Retirement Benefits

In all six available waves of the HRS (1992–2002), workers are asked about their expected retirement age and their expected Social Security benefits.[13] In the absence of any informational cost we would expect the Statement to have a negligible effect on workers' knowledge.

Column (1) in Table 3 shows the effect of the Statement on the probability of reporting Social Security benefits,[14] estimated using a linear probability model. I control for age, age squared, year, gender, level of education, marital status, race, and labor market experience (number of years with positive earnings). When I control for a quadratic term of age and a linear term for years the introduction of the Statement reduces the probability of not reporting an estimate by 4.29 percentage points. Controlling for age, year, and wealth and health fixed effects (column 2) doesn't alter the effects, apart from being less significant. This 15 percent drop in the probability of being uniformed can be interpreted as an average treatment effect. Being black and not having a high school degree are both very strong predictors for not knowing the future amount of the benefits.

In order to evaluate the effect of the Statement on workers who didn't contact the SSA before receiving the Statement I need to control for the fact that some workers would have shown an improvement even without the Statement (they would have contacted the SSA). Define the event "contacting SSA" as $C \in \{0,1\}$ and "not being able to provide an estimate" as $N \in \{0,1\}$. I need to estimate the improvement in $\Pr(N=1)$ that would have happened independently of the Statement $T \in \{0,1\}$:

$$\Pr(N_t = 1 | C_{t-2} = 0, T = 0) - \Pr(N_{t-2} = 1 | C_{t-2} = 0, T = 0). \tag{2}$$

Having in mind that I'm always conditioning on $T = 0$, by the law of total probability:

$$\begin{aligned}\Pr(N_t = 1 | C_{t-2} = 0) = &\Pr(N_t = 1 | C_t = 0) \Pr(C_t = 0 | C_{t-2} = 0) \\ &+ \Pr(N_t = 1 | C_t = 1) \Pr(C_t = 1 | C_{t-2} = 0).\end{aligned} \tag{3}$$

One way to estimate $\Pr(C_t = 1 | C_{t-2} = 0)$ is to use the cross–sectional information using age as a measure of time. Our estimate of $\Pr(C_t = 1 | C_{t-2} = 0)$ is going to be equal to the coefficient on age$\times 1/2$ from Table 2. Age is multiplied by $1/2$ in order to estimate the probability over a 2-year period (the HRS is biennial). When I control for sex, education, race and marital status the estimate is 0.0832 with a standard deviation of 0.0054.

Although I don't know $\Pr(N_t = 1 | C_t = 1) = E(N_t | C_t = 1)$ and $\Pr(N_t = 1 | C_t = 0) = E(N_t | C_t = 0)$ for the years after 1994, I can estimate these probabilities using data from the 1992 and 1994 waves assuming that the probability of contacting SSA and the effects from contacting SSA wouldn't have changed over time. Given these assumptions the overstatement of the effect of the Statement for workers who didn't contact SSA is approximately equal to 2.4 percentage points (30 percent) when using data up to 1996:

$$[E(N_{t-2} | C_{t-2} = 1) - E(N_{t-2} | C_{t-2} = 0)] P(C_t = 1 | C_{t-2} = 0) = 0.30 \times 0.08. \tag{4}$$

[13] The actual benefits are computed using the administrative records that are linked to the HRS. Using actual benefits reported in later waves gives very similar results.

[14] The dependent variable is equal to one when workers respond that they "don't know" their Social Security benefits. The very few workers who refuse to respond are not included in the regressions.

I estimate a regression model with known probabilities of misclassification of the variable C in order to use the whole data set and reach a similar conclusion. Defining C^* as the true event and C as the misclassified one, the true effect of the Statement for group x is proportional to the misclassified one

$$\begin{aligned} &[E\left(N|C=0,T=x\right)-E\left(N|C=1,T=x\right)] \\ =&\left[E(N|C^*=0,T=x)-E(N|C^*=1,T=x)\right] \\ &\times \Pr\left(C^*=0|C=0\right), \quad x=0,1 \end{aligned} \tag{5}$$

where the factor of proportionality is the probability of correctly classifying $1-C$. Controlling for other X's, it can be shown that the estimated true effect of the Statement is equal to $\widehat{\beta}_{11}$ in the following linear model:[15]

$$\begin{aligned} N=&\beta_{00}+\beta_{01}\left(1-C\right)\Pr\left(C^*=0|C=0,X\right)+\beta_{10}T_1 \\ &+\beta_{11}\left(1-C\right)\Pr\left(C^*=0|C=0,X\right)T_1+X'\gamma+\epsilon. \end{aligned} \tag{6}$$

This is the specification used from column (4) on, where I interact the probability of not having contacted the SSA and the post–Statement variable. This way I measure the treatment effect on the treated, and indeed the entire effect of the Statement is concentrated among those who never contacted the SSA (60 percent of the sample). Column (4) shows that not having contacted the SSA increases the initial probability of not reporting an estimate in the pre–Statement period by 26 percentage points, a very large effect. Notice also that this additional variable captures half of the effect of being black and reduces the differences due to the level of education. This means that blacks and workers with low levels of education are not only less likely to contact SSA in order to get informed, but are also less likely to get informed using other channels.

For those that don't contact the SSA, the Statement reduces the probability of not reporting an estimate by 11 percentage points, approximately one third of the initial difference. Columns (5) and (6) show that controlling for age and year fixed effects and for health and wealth does not change the estimated effects of the Statement.[16]

The effect on knowledge could be different at different ages, and thus could have very different effects on retirement behavior. The effect of the Statement might be concentrated at younger ages, just anticipating the information, with small potential of changing retirement behavior. In order to capture how the Statement can differently affect different age groups, the first column in Table 4 reports for each age the fraction of workers who have contacted the SSA. Since almost all workers claim by age 65, the table is truncated at age 64. Most workers contact the SSA when they are close to retirement. Around 30 percent call in their 50s, while an additional 20 percent call when they approach the early retirement age.

In the remaining columns of Table 4, I analyze how at different ages the probability of

[15]In order to control for the variation that is due to the first step, I can either use a modified version of Murphy and Topel (1985)'s two-step estimator that accounts for the panel structure (dependence over time), or I can simply bootstrap clusters of individuals and than run the first and second step. Since doing so has negligible effects on the standard errors (mainly due to the precision of the estimate of $\Pr(C_t=1|C_{t-2}=0,X)$), the analysis is carried out conditional on the estimate from the first stage.

[16]The results are not different when, disregarding an endogeneity problem, I also control for the time left from the expected retirement date (results available upon request).

reporting a benefit estimate changes upon receiving a Statement.[17] The sample is split into those who did and those who didn't contact the SSA (using again a model with misclassification errors and known probabilities of misclassification). Among those who contacted the SSA there is a clear reduction in the probability of not reporting an estimate as I approach the early retirement age. There is no such pattern for those who didn't contact the SSA in the pre–Statement period. In the post–Statement period, there is a clear improvement around the early retirement age. The effect of the introduction of the Statement can be seen by looking at the $Pre - Post$ columns. There are 2 $Pre - Post$ columns, the first does not control for other regressors (gender, education, experience, and veteran status), the other does. Among those who contacted the SSA the differences are not significantly different from zero. On the other hand, among workers who didn't contact the SSA, the Statement reduced the fraction by around 10 percentage points up to age 58 and 20 percentage points afterwards. In relative terms, the effect around the early retirement age is to reduce the fraction of workers that are unable to provide a benefit estimate by almost one half.[18] After age 58 the differences are significant at the 1 percent level (except at age 64 where the sample size is also very small).

Next, I analyze whether the Statement improves the estimates of those who provide an estimate. Figure 1 shows the density of the forecast error (the difference between the expected and the actual benefits) for those workers who did and didn't contact the SSA.[19] [20] Errors seem to be approximately distributed symmetrically around zero, which suggests that, on average, there is no prediction bias. In the pre-Statement period (solid line) the variability of the errors for workers who didn't contact the SSA is much larger than for those who contacted the SSA; this difference seems to disappear once the Statement is introduced (dashed line). As before, this change in the distribution of the error term is likely to be upward biased by the fact that some workers would have contacted the SSA in the absence of the Statement.

I can judge the expected improvement that is not attributable to the Statement (dotted line) by plotting the corresponding pre-Statement density, substituting, with probability equal to the probability of contacting the SSA over a two-year period, workers who didn't contact the SSA with workers who contacted the SSA.[21]

In Table 5, I test whether the distributional differences in Figure 1 are significant. For workers who didn't contact the SSA I use the pre–Statement density that controls for the expected improvements (dashed line). Most of the improvement seems to lie within one standard deviation from the mean, which is why I test if the ratio of the pre–Statement to the post–Statement variance is larger than one, truncating the error at ±$1000, ±$500, and ±$300.[22] The p-value of this one-sided test for those who didn't contact the SSA is zero for the $1000

[17] I performed a similar analysis using instead of age the expected number of remaining years from retirement, and the results were very similar.

[18] The effect at even earlier ages are small. Workers in their 40s and early 50s are only 3-6 percentage points more likely to provide an estimate as a consequence of receiving the Statement (results available upon request). This casts some doubt on the utility of sending the Statements to young workers that seem to show little interest for them.

[19] Benefits are expressed in 2003 dollars using the CPI. I take into account that actual Social Security benefits refer to the year before the interview. Results using the relative forecast error are similar.

[20] Note that to highlight the distributional differences I truncated the distribution of the error at ±$1000 (3 percent of the sample).

[21] These graphs use only information up to 1996 and therefore the probability is simply equal to 8 percent.

[22] The reason to use truncated values is that variances are highly sensitive to outliers. Without truncation the variance of the error is even larger in the pre–Statement period. In the HRS, respondents can report weekly, monthly, biyearly, and yearly values. The big discrepancies seem to be due to the few observations with measurement errors in the variable that reports this "frequency" variable.

truncation and close to zero as I concentrate the analysis to errors that are closer to the median. For those who contacted the SSA I can reject the hypothesis that the variance decreased after the introduction of the Statement. It is worth noting that although the variance of the forecast error decreased for those who were previously uninformed, similarly to what I observed before for the probability of reporting an estimate, their post Statement errors are still larger compared to the other group.

The above analysis suggests that thanks to the Statement some workers became more knowledgeable about their Social Security benefits. The workers for whom I observe an improvement didn't contact the SSA before. The profile of those workers is consistent with the idea that information is costly. Controlling for various factors reduces the difference due to educational and gender by about one third. While the remaining differences could be due to different preferences over leisure, another possible reason might be financial illiteracy.[23] Lusardi and Mitchell (2006) show that black workers and workers with low levels of education are significantly less likely to respond correctly to simple questions about compound interest, inflation, and portfolio management.

The important lesson is that the free availability of information is not sufficient to get informed. Obtaining information seems to be costly and might prevent workers who think that information is of little value to become knowledgeable. Stimulating workers by directly providing them with information reduces that cost and has the predictable effect of improving workers' knowledge. In the next section, I test whether and how the new information affects workers' retirement decisions.

4 The Effect of the Statement on Retirement and Social Security Benefit Claiming Behavior

The additional information provided by the Statement can influence workers' behavior in many ways. There may be a "surprise" effect: workers who overestimated their expected Social Security benefits should react by working and saving more, while those who underestimated their benefits should do the opposite. Although changes in labor supply may also happen at the intensive level (hours), I focus on changes at the extensive level (participation). Since forecast errors are approximately symmetrically distributed around zero, these changes may go in both directions. Also, as over time the age at which workers received their first Statement decreases, I should expect these "surprise" effects to weaken. In addition, even if the decision of becoming informed is the sole product of a maximization process with costly information, at the margin the Statement should strengthen the link between Social Security incentives and retirement.

Because of liquidity constraints and the earnings test (ET), the retirement decision is strongly related to the claiming decision. According to the HRS data, half of the time the monthly self-reported retirement date and the monthly self-reported claiming date are not more than 12 months apart from each other. When the difference between the two dates is larger than one year, the difference is mainly due to early retirement. Among those who retire at or after age 62, 75 percent claim and retire within a year.

Before moving to the analysis, let me mention the other major Social Security reforms that happen around the time of the introduction of the Statement and might have changed workers' retirement and claiming behavior. One important reform is the 2000 earnings test

[23] Another explanation may be that some workers prefer to procrastinate O'Donoghue and Rabin (1999).

removal for workers above the normal retirement age (usually 65). Earnings of Social Security beneficiaries above the earnings test threshold, up to their benefit amount, are taxed away at a 50 percent rate between age 62 and 65, and, before 2000, at a 33 percent rate between 65 and 69. Although the earnings tax is only that high for myopic workers, the reason being that benefits that are taxed away increase future benefits at an almost actuarially fair rate through the so-called recomputation, workers seem to be sensitive to the tax. The removal had the effect of increasing the fraction of workers who claim their Social Security benefits at the normal retirement age, the age at which the tax was removed (Mastrobuoni, 2006).

The other two reforms changed the benefit formula. In response to an earlier "crisis" in Social Security financing two decades ago, the US Congress implemented both a reduction in the Normal Retirement Age (NRA) of two months per year for cohorts born in 1938 and afterward, and, staring in 1986, an increase in the delayed retirement credit (DRC),[24] that is the actuarial adjustment to the benefits when retirement is postponed beyond the normal retirement age. The DRC has been increased by half a percent every other year from its original 3 percent. It will reach its final value of 8 percent for workers born in 1943 or later.

4.1 The Effect of the Statement on Workers' Expected Claiming Behavior

Before looking at the actual retirement and claiming behavior, I analyze whether at the time Statements are sent out workers change their retirement plans.[25] I would expect workers to be more likely to change their expectations when they receive their first Statement, and less likely afterwards. Using the panel structure of the HRS, I estimate the effect of the Statement on the probability that the expected claiming age stays constant.[26] All regressions include age fixed effects, levels of education, marital status and race. I also control for a linear time trend and for the 2000 earnings test removal. In Table 6, I report the marginal effects of the Statement on the probability of keeping the same expected claiming age. The first column allows for just a one-time effect, which is small and not significantly different from zero. Column (2) shows that those who did not contact the SSA are significantly more likely to change their expected claiming age.[27] The estimates in both of these columns are contaminated by the fact that the first Statement should have the opposite effect than subsequent Statements. In column (3), I include an indicator variable equal to one when the person already received a Statement in the previous wave. The coefficient has a positive sign, meaning that receiving a second Statement increases the probability of maintaining the same expected age, though the effect is not significant. In column (4), I interact both Statement effects with the "No SSA contact" dummy. Both, the effect of the first Statement and the effect of additional Statements is not significantly different for the two groups.

Workers may not pay attention to the first Statement they receive, so there is a potential measurement error problem. This may explain why the effects are generally small and not significant. This measurement error problem is less salient when analyzing actual claiming. In the next section I analyze detailed data on claiming patterns around the introduction of the

[24] See Mastrobuoni (2009).

[25] Chan and Stevens (2004) use these data to estimate a model of expected retirement.

[26] I tried to replicate the same analysis with respect to the expected retirement age, though only a few workers are asked about their expected retirement date, and so the sample size was too small to estimate any effect.

[27] I control for the fact that contacting SSA is endogenous by estimating the model using the probabilities of misclassification in same manner as when I dealt with the probability of providing a benefit estimate.

Statement.

4.2 Social Security Claiming Patterns

Most workers claim at the "Early" and the "Normal" retirement (Lumsdaine et al., 1996). One possible explanation is that workers use that age as a focal point. Another surprising fact that cannot be easily explained by the incentives is that the grand majority of workers claim their benefits immediately after their birthdays. If the Statement improves workers' understanding of the Social Security incentives they should become less likely to claim at these particular ages.

On the other hand, the Statement emphasizes the benefits the workers would get at 62, at the NRA, and at age 70, the age after which no more actuarial adjustments are made. Workers might thus tend to focus on those ages even more. Figure 2 to 4 show the probability of retiring within a month of the 62nd birthday, within a month of the Normal Retirement Age, and within a month of the 70th birthday, both, before and after the introduction of the Social Security Statement based on SSA's Master Beneficiary Records (1 percent of all retirees). All the Figures show that there is a tendency for people to claim the benefits in January, but there is no discontinuity in the claiming patterns when the Statements are introduced. The only remarkable change is the increase in the probability of claiming at the NRA following the elimination of the ET for cohorts born after 1935.

It might still be that workers changed their claiming behavior due to the Statements, but that these changes cancel out in the aggregate due to the symmetry around zero of the benefits' forecast errors. The next step is to evaluate the impact that the Statement had on retirement using individual data.

4.3 Social Security Incentives

Postponing retirement by one year can generate considerable changes in SSW (the SSW accrual). Positive accruals generate an incentive to work. Figure 5 shows that there are two pronounced retirement rate spikes: at the early retirement age (ERA) and at the normal retirement age (NRA). Around 17 percent of people retire at the age of 62, and among those who do not claim before age 65, 20 percent retire at age 65. Some factors can partially explain this clustering: large disutility from work and/or a large discount rate (ERA spike) and discontinuities in the actuarial adjustment rates (NRA spike) (Lumsdaine et al., 1996, Panis et al., 2002). Phelan and Rust (1997) attribute part of the 62-spike to liquidity constraints and part of the 65-spike to lock-in effects due to Medicare when workers lack alternative health insurance in retirement.[28]

In order to analyze whether the Statement makes workers more responsive to Social Security incentives I first need to compute these incentives. Thus I need to forecast earnings and compute

[28]Their explanation is at odds, however, with the evidence from the 1961 change in the early retirement age from 65 to 62. While the ERA has changed suddenly, the spike in retirement has moved very slowly (over 30 years, Burtless (1999)). Based on this evidence, Axtell and Epstein (1999) suggest that spikes may not be entirely the product of rational decision making but resemble some herd behavior. Additional support for a behavioral explanation of the spikes is provided by the recent increase in the NRA suggested by the 1983 Greenspan Commission. Mastrobuoni (2006) shows that the entire 65-spike at which the workers claim their Social Security benefits moved together with NRA. This contradicts the Medicare explanation as the Medicare eligibility at age 65 remained unchanged. The Social Security Statement contains the advice that, "even if you do not retire at age 65, be sure to contact Social Security three months before your 65th birthday to enroll in Medicare."

future benefits as a function of the retirement age. Below I briefly review the main provisions of the benefit formula and the assumptions needed to compute the Social Security Wealth.

I compute the Social Security benefits $B_t(a)$ for each retirement age using the same assumptions used by the SSA to provide an estimate in the Statement. The Statement assumes that if the worker doesn't retire he/she is likely to earn the same amount he/she earned last year (or the year before if last year's earnings are zero). In other words, real earnings are assumed to follow a random walk, so that the previous year's earnings are the best predictor for future earnings. This assumption is not very different from Coile and Gruber (2001), who assume that real earnings are expected to grow by one percent. Every year, benefits are then computed as a function of age (from age 55 to 70) and as a function of the retirement age (from the worker's actual age to age 70). The benefit rules are held constant, and it is assumed that promised benefits are going to be paid. Workers who retire before age 62 are assumed to claim at age 62.

I do not model the spouse's retirement decision, and I assume that the spouse claims at the earliest possible age.[29] The Statement explains what spouse benefits, and survivors benefits are, but it doesn't provide an estimate of these benefits. I estimate retirement models with and without taking into account these additional benefits and the results are generally very similar. I define a spouse as "independent" when his/her own benefits at age 62 are larger than 50 percent of her spouse's benefits at age 62.

Benefits are a function of the weighted average of the highest 35 years of average wage-indexed earnings, called the AIME. Since workers tend to have lower earnings at the beginning of their career than at the end working an additional year normally increases future benefits even at age 62, which generates an additional incentive to work. However, Table 7 shows that between age 55 and 61 the increase in Social Security benefits is modest. Its median ranges between 1 percent and 2 percent. Starting at age 62 instead, the increase is substantial. An 8 percent actuarial adjustment has to be added to the median 1 percent increase that is due to current earnings. Looking at benefits only doesn't take into account that working an additional year means that benefits are not collected in that year, and that Social Security taxes are paid on the additional earnings up to the maximum taxable threshold. This is clearly stated in the Statement but the Statement does not provide workers with estimates of this intertemporal trade-off. This is why later in the regression I use the simple increase in the benefits as the most naive form of Social Security incentives.

More forward-looking incentives depend on the number of years that workers, and possibly their spouses, expect to collect benefits. It also depends on their discount rate. The SSW is a function of time t and retirement age a:

$$SSW_t(a) = PDV_t(B(a)) = \sum_{t=s}^{T} \beta^{t-s} p_t(s) B_t(a) \tag{7}$$

Following the literature I use a real discount rate of 3 percent ($\beta = 1.03$).[30] $B_t(a)$'s are expressed in 2003 dollars using the CPI, and the conditional probabilities of survival, $p_t(s)$, are based on

[29] Most of the times it is age 62, which also represents the median claiming age.

[30] There is some evidence that discount rates may actually be larger than 3 percent (Samwick, 1998). On the other hand, Blinder et al. (1981) argue that in the absence of borrowing constraints it is more appropriate to use a real interest rate instead, which can be assumed to be very low (they use 1 percent). I follow the mainstream literature and use a 3 percent discount rate, though the reduced form model estimated controlling for age seems to be robust to the use of different discount rates. The reason is that controlling for age the effect of the accrual is mostly identified by the accrual's cross-sectional variation within age, while the use of different discount rates generates mainly large differences across age.

the SSA's cohort-specific life tables.[31] In a second set of regressions, that are available upon request because the results are very similar, I correct the probabilities of survival for the ratio between the subjective probability of surviving age 75 and the same probability taken from the life tables.[32]

Because I lack precise information on dependent children, the benefits include dependent benefits and survivors' benefits, related only to the spouse. In that case $p_t(s)$ is a column vector where the entries are: the probability that only the worker survives, the probability that only his wife survives, and the probability that both survive. $B_t(a)$ is a row vector containing the worker's own benefits, the survivors's benefits, and the sum of the worker's own benefits and the dependent spouse's benefits.

The Social Security accrual is the expected gain in SSW from waiting an additional year before retiring and claiming Social Security benefits,[33]

$$ACC_t(a) = SSW_t(a+1) - SSW_t(a), \tag{8}$$

while the peak-value (PV) Coile and Gruber (2001) is the difference between the maximum SSW and the current SSW,

$$PV_t(a) = \max_x SSW_t(x) - SSW_t(a). \tag{9}$$

Retirement decisions based on PV's and ACC's differ whenever ACC's are not monotonic relative to the retirement age. I also compute relative incentives, $ACC_t(a)/SSW_t(a)$, and $PV_t(a)/SSW_t(a)$. For this reason the sample is restricted to workers with positive Social Security Wealth. If workers are below age 62 and retire the Social Security Wealth is equal to the Social Security Wealth they will get at age 62 discounted to their age.

The remaining columns of Table 7 show accruals with and without dependent benefits and with and without taking Social Security payroll taxes into account. I compute the accrual net of Social Security taxes, $tW_t(a)$, assuming, like in Diamond and Gruber (1998), that workers bear the entire payroll tax, t (12.4 percent since 1990). Since I do not observe income I do not attempt to try to simulate income taxes, though in the regressions the different tax treatment of Social Security benefits should in part be absorbed by the coefficient on earnings.[34]

Table 7 shows that there is heterogeneity in accruals (in thousands) over age and within age from postponing retirement. Part of it is due to the eligibility to different types of benefits (i.e., dependent spouse's benefits). Differences in earnings histories, current earnings, and Social Security rules account for the rest. Individuals, especially men, who evaluate the future streams of Social Security benefits taking only their own benefits into consideration (either because they have no dependents, or because their spouses are better off by claiming their own

[31]The life tables are prepared by the Office of the Chief Actuary in the Social Security Administration. Projected death rates and life tables are based on Alternative II forecasts for the 1998 Trustees report (taken from the Berkeley Mortality Database). To compute total Social Security benefits (including spouse's benefits and survivors' benefits) when using the tables I'm implicitly assuming that the couple's individual mortalities are independent.

[32]The RAND version of the HRS contains this variable, called "rliv75r."

[33]I assume that workers claim and retire in the same year.

[34]If a beneficiary files a federal tax return as "an individual," ("a couple") and the combined income is between \$25,000 and \$34,000 (\$32,000 and \$44,000) in 2004, he or she pays taxes on 50 percent of the Social Security benefits. If the combined income is more than \$34,000 (\$44,000), up to 85 percent of the Social Security benefits are subject to income tax.

benefits) generally face negative or null increases in SSW from additional work. The summary statistics of all the different incentives used are shown in Table 8.

4.4 The effect of the Statement on Retirement Behavior

4.4.1 A Measurement Error Model of Optimal Retirement Behavior

Reduced form models of retirement have been used extensively in the retirement literature. Coile and Gruber (2002) estimate a probit reduced form model of retirement that incorporates forward-looking Social Security incentives. Their concept is based on the Option Value model of Stock and Wise (1990), a model that resembles a dynamic programming model although it introduces some important simplifications. As shown in Table 7, accruals tend to be decreasing with age *except* between ages 61 and 62. Since workers may be forward-looking and incorporate future accruals in their retirement decisions Coile and Gruber (2002) and numerous papers that follow their approach use the peak value as the main measure of Social Security incentives. All of these papers use reduced form PV probits, and assume a constant coefficient on the PV.[35]

I estimate the following linear probability model,

$$R_i = \alpha_i ACC_i + \beta' \tilde{x}_i + \epsilon_i, \tag{10}$$

where R is equal to one when workers report being retired and zero otherwise, ACC is some sort of Social Security incentive to retie, and $\tilde{x}$ denotes the other regressor, including the earnings (y).[36] The model estimates hazard rates as workers are excluded from the sample once they retire.

First, I assume that α_i is constant across people and independent of the Statement $T \in \{0, 1\}$, while later I allow α_i to vary between the pre and the post-Statement period:

$$\alpha_i = \alpha_0 + \alpha_1 T_i. \tag{11}$$

α_0 is the effect of the accrual for workers in the pre–Statement period.

Substituting α_i into Eq. (10) I get,

$$R_i = [\alpha_0 + \alpha_1 T_i] ACC_i + \beta' \tilde{x}_i + \epsilon_i. \tag{12}$$

In this setup, α_1 represents the difference between the post– and the pre–Statement period in the marginal effect of a unit ($1,000) increase in the accrual on the probability of retirement:

$$\alpha_1 = \frac{\partial P\left(R=1\right)}{\partial ACC}|_{T_i=1} - \frac{\partial P\left(R=1\right)}{\partial ACC}|_{T_i=0}. \tag{13}$$

In order to control for changes in retirement behavior that may be due to the earnings test (ET), I include the average ET tax.[37] The higher the average tax, the higher the incentive for

[35] Gustman and Steinmeier (1986), instead, use a more structural approach and assume that workers respond differently to incentives depending on their health, age, and year of birth.

[36] Results based on probit regressions are very similar.

[37] The average ET tax is $t_{ET} = min(benefits, (earnings - ETthreshold) \times marginaltax)/benefits$. When earnings are below the ET threshold, the marginal tax and the average tax are zero. Special rules apply the

a worker to stop working altogether. Table 13 in the Appendix shows the summary statistics for the sample used in the regressions.

All regressions control for the worker's own SSW, the SSW of the spouse, the labor force status of the spouse, age dummies, year, year squared, a post–Statement dummy, the level of education, marital status, the own and the spouse's real AIME at age 55, subjective health status dummies, the difference in age relative to the spouse, a no children in the household dummy, veteran status, experience, occupation and industry dummies, and forecasted earnings.

If the researcher observes the true accrual ACC, but workers base their decisions on their perceived and sometimes mismeasured accrual $\widehat{ACC}$, the estimated effect will be downward biased (relative to workers' actual intentions). The bias will be higher the higher the variance of measurement error $Var(\widehat{ACC} - ACC)$. If the Statement allows workers to get a better estimate of their actual Social Security incentives *and* this better estimate is used to make better retirement decision, the variance would decrease, reducing this "classical-type" measurement error bias. The coefficients in the post-Statement period would thus in absolute value be larger than in the pre-Statement period.

4.4.2 Results

Let me first discuss the sample that I use for the regressions. The Statement has been sent out in phases, depending on the age, the fiscal year, and the date of birth of workers. This means that workers born in the same year might have started receiving a Statement in different years. I exploit these discontinuities in the phasing in to select a sample of age in years/year of birth combinations were *at least some, but not all* individuals in an age in years/year of birth group receive a Statement. Table 9 shows the age/year of birth combinations for the whole HRS linked to the SSA records. The combinations that have at least some but not all workers receiving a Statement are shown in bold. Of this sample 56 percent of individuals receive a Statement. Table 10 shows that controlling for age dummies, year, and year squared almost all other regressors do not on average differ between the pre and the post-Statement period.[38] This shows that the treatment and control group have on average similar characteristics.

Table 11 shows the results for a constant α_i. Each column represents a different Social Security incentive. The first column shows the results for the ratio between the earliest benefits the worker would receive retiring in the following year and the earliest benefits would receive retiring immediately. In order to estimate this kind of incentives workers do not have to compute present discounted values. Most of the information needed to compute this incentive is available in the Statement. Increasing the benefits by 1 percentage point decreases the self-reported retirement hazard by 0.537 percentage points. Using the percentage accrual (ACC/SSW) or the percentage accrual net of Social Security contributions gives surprisingly similar results. The coefficient on the accrual tells us that a \$1,000 increase in the accrual decreases the hazard rate of retiring by 0.337 percentage points, while a similar increase in the peak value decreases the hazard rate of retiring by 0.0757 percentage points.[39]

first year a worker claims his benefits. Under these rules, a worker can use a monthly test amount. If he/she claims and retires during the year, he/she can get a full Social Security check for any whole month he/she is retired, regardless of his yearly earnings. Since I do not have information on monthly earnings I cannot control for this case, which is why the average tax may be measured with some error.

[38] Around 5 percent of the coefficients should turn out to be significant even if the true effect was zero.

[39] Panis et al. (2002) estimate a similar regression, though they use a probit and the PV and find a marginal effect of 0.7 percent for the accrual.

The coefficient on the SSW and on the spouse's SSW is not significant. Next, I estimate Eq. 12, allowing k to be different between the pre and the post-Statement period. Table 12 shows only the coefficients related to retirement incentives, this time interacted with the post-Statement dummy. All the coefficient on the interaction are negative, but none is significant. Statistically I cannot rule out that the Statement did not have any impact on workers' retirement behavior. Also the coefficients on the SSW show an absolute increase in the post-Statement period, but again not significantly different from zero.

5 Conclusions

There is empirical evidence that a worker's retirement decision responds to forward-looking retirement incentives. These incentives depend on current and future earnings, and on retirement benefits. Social Security benefits, which represent the most important source of retirement income, are a complicated function lifetime earnings. It is generally assumed that workers know their benefits and are able to compute their retirement incentives.

In order to understand whether this is a reasonable assumption I analyze workers' knowledge. Contacting the SSA represents the single most important channel through which workers learn about their future benefits. I model the probability of contacting the SSA and find evidence that is consistent with the existence of considerable costs of collecting (and processing) information about Social Security benefits: Workers who, for various reasons (health, liquidity, etc.), face simple retirement decisions are less likely to contact the SSA. Additional evidence confirming this result comes from the 1995 introduction of the Social Security Statements. These Statements, which contain an estimate of the worker's benefits if he/she retires at age 62, 65, and 70, generate an exogenous variation in the cost of obtaining information. Upon receiving a Statement workers are more likely to be able to provide a benefit estimate and their benefit estimate tends to be more precise. Controlling for the endogeneity of the decision to contact the SSA, I find that the whole improvement is concentrated among those workers who don't contact the SSA.

Then I turn to study how this additional information affects workers' retirement behavior. The introduction of the Statement doesn't improve the overall responsiveness to the retirement incentives. While this might at first seem disappointing given the 36 cents per Statement spent by the SSA, it might either mean that workers are already behaving optimally, with the marginal workers having only very small additional benefits from getting informed, or that the information contained in Statement is not sufficient to improve workers' retirement behavior.[40] This calls for additional research. Moreover, the Statement might still improve the workers' ability to smooth consumption over time. This possibility also needs to be researched. One way to improve the information required to make better retirement decisions is to provide forecasted benefits at all 9 possible claiming ages, instead of just at 62, at the NRA, and at 70. Moreover, the Statement provides workers with information about their benefits, but it does not calculate a worker's SSW. If this weakens the beneficial effect of the Statement, a possible addition to the Statement could be a table that helps workers calculate their SSW. Since the SSA cannot possibly use individual–specific mortality rates, one easy way to circumvent this problem would be to construct a two-way table that contains "suggested" retirement ages as a function of a worker's expected own and spouse's life–expectancy.

[40] The Social Security Statement experiment is certainly not as straightforward as providing consumers with tax-inclusive prices to detect their salience (Chetty et al., 2009).

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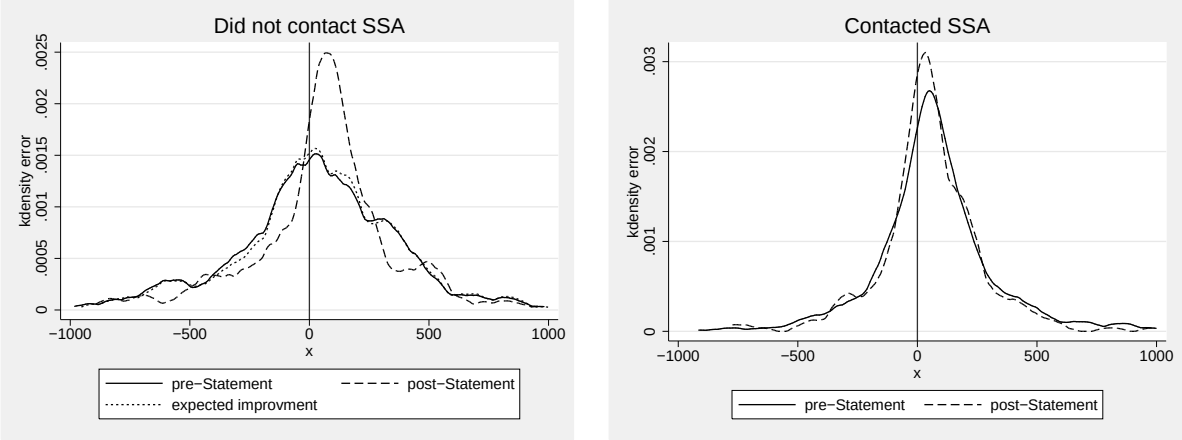

Figure 1: Monthly forecast error. Epanechnikov kernel estimate using a $35 bandwidth. *Sample:* HRS 1992-1996, age 55-65.

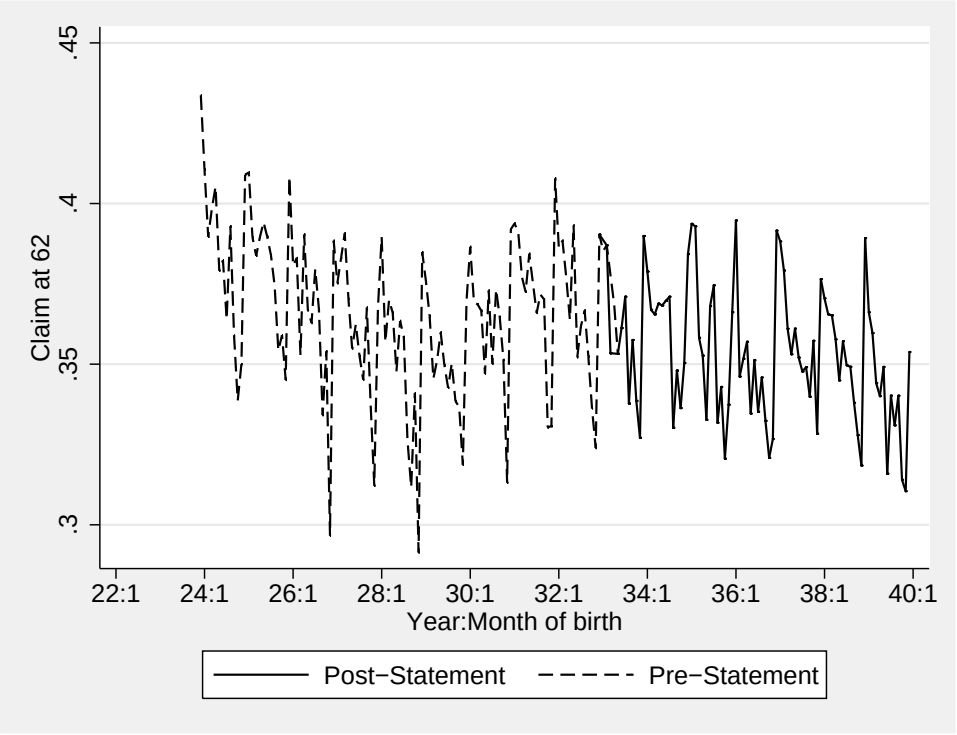

Figure 2: Probability of Retiring at Age 62

Notes: Probability of retiring within a month of the 62nd birthday. Source: Master Beneficiary records.

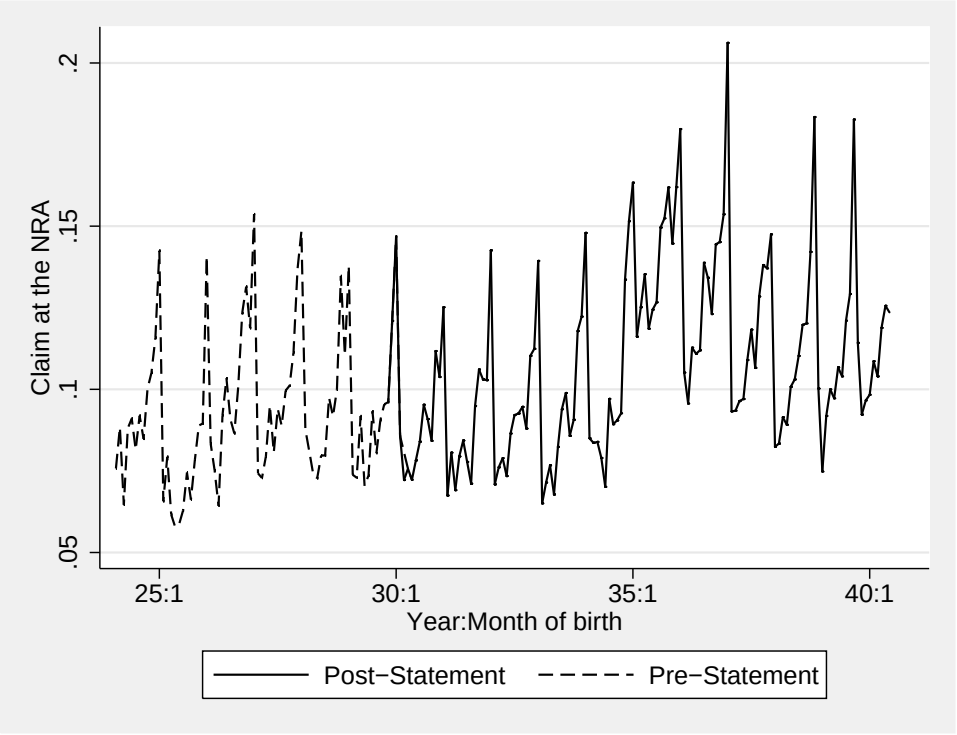

Figure 3: Probability of Retiring at the NRA

Notes: Probability of retiring within a month of the NRA. Source: Master Beneficiary records.

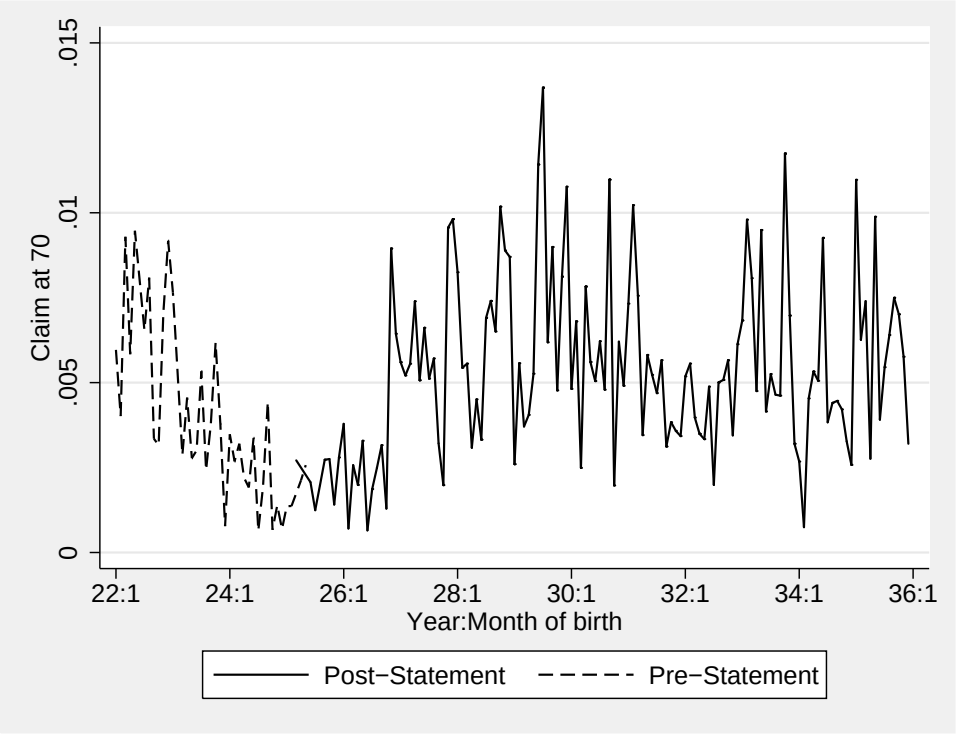

Figure 4: Probability of Retiring at Age 70

Notes: Probability of retiring within a month of the 70th birthday. Source: Master Beneficiary records.

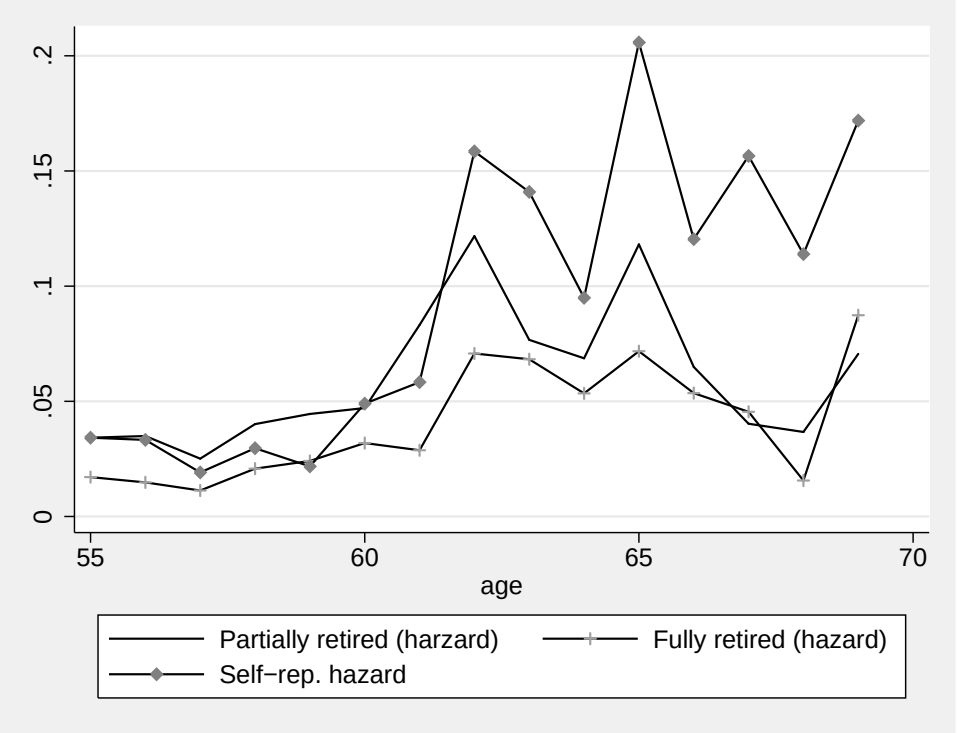

Figure 5: Retirement hazards

Notes: Partial retirement represents a drop of earnings of at least 50 percent. For full retirement earnings need to drop to zero. Source: HRS merged with administrative records.

Table 1: The Phasing in of the Social Security Statement:
Fraction of Workers Receiving a Statement

	1994	1995	1996	1997	1998	1999
46	0	0	0	0.06	0.32	
47	0	0	0	0.10	0.85	1
48	0	0	0.00	0.10	0.85	1
49	0	0	0.00	0.10	0.85	1
50	0	0	0.00	0.10	0.85	1
51	0	0	0.00	0.10	0.85	1
52	0	0	0.04	0.21	0.85	1
53	0	0.00	0.08	0.85	1	1
54	0	0.00	0.08	0.85	1	1
55	0	0.00	0.08	0.85	1	1
56	0	0.00	0.08	0.85	1	1
57	0	0.10	0.22	0.85	1	1
58	0	0.15	0.89	1	1	1
59	0	0.19	0.89	1	1	1
60	0	0.75	1	1	1	1
61	0	0.75	1	1	1	1
62	0	0.75	1	1	1	1
63	0	0.75	1	1	1	1
64	0	0.75	1	1	1	1

Source: Internal documents of the Social Security Administration.

Table 2: Linear probability model of contacting the SSA.

		(1)	(2)	(3)	(4)	(5)	(6)
$(age-55)\times 1/2$		8.66***	8.16***	7.32***	6.79***	7.75***	7.37***
		(0.80)	(0.80)	(0.88)	(1.13)	(1.22)	(1.26)
Female		1.52	1.62	5.68*	10.16***	0.13	-0.53
		(2.59)	(2.55)	(2.94)	(3.59)	(4.01)	(4.36)
Below high school		-14.86***	-10.68***	-9.80***	-6.11	-14.19***	-12.97***
		(2.85)	(2.92)	(3.08)	(3.94)	(3.82)	(3.93)
Some college		6.43**	6.05*	5.31	9.33**	-1.28	-2.30
		(3.17)	(3.16)	(3.23)	(3.77)	(4.25)	(4.43)
College		11.60***	9.79***	10.91***	11.94***	8.24**	6.99
		(3.12)	(3.18)	(3.23)	(3.90)	(4.05)	(4.51)
Single		-4.52	-2.15	-0.81	-1.49	-1.69	0.72
		(5.45)	(5.58)	(5.81)	(7.67)	(7.97)	(7.95)
Black		-11.35***	-7.73**	-6.15*	-8.93*	-2.94	-5.78
		(3.42)	(3.37)	(3.70)	(4.61)	(4.67)	(4.71)
Self–r. health:	very good		2.17	1.53	2.32	0.30	-0.83
			(2.69)	(2.74)	(3.71)	(3.82)	(3.90)
	good		3.31	2.83	3.25	2.36	1.54
			(2.86)	(2.95)	(3.95)	(3.91)	(4.02)
	fair		4.27	6.54	7.27	5.96	6.24
			(3.85)	(4.26)	(5.59)	(5.80)	(5.90)
	poor		-11.40*	-13.47**	0.35	-27.19***	-25.06***
			(6.02)	(6.16)	(9.32)	(5.72)	(6.07)
Wealth percentiles:	25-50		10.58***	10.15***	11.28***	7.78**	8.52**
			(2.71)	(2.82)	(3.87)	(3.81)	(3.95)
	50-75		18.98***	18.54***	17.56***	18.42***	18.00***
			(3.04)	(3.15)	(4.05)	(4.32)	(4.46)
	75-100		17.05***	17.24***	13.64***	20.32***	21.52***
			(3.38)	(3.46)	(4.34)	(4.61)	(4.86)
Subjective P_{75}				-1.77	0.28	-4.83	-6.08
				(3.03)	(3.96)	(4.00)	(4.15)
Experience				0.51***	0.53***	0.45**	0.39**
				(0.14)	(0.18)	(0.19)	(0.19)
Financial time horizon	few months					-13.39**	-14.39**
						(6.41)	(6.63)
	year					-10.72	-9.44
						(6.69)	(6.99)
	few years					-10.56*	-11.74**
						(5.64)	(5.84)
	5-10 years					-5.72	-7.23
						(5.72)	(5.94)
Receives a pension					6.94		
					(4.30)		
Pension on current job					2.41		
					(2.80)		
Occupation dummies		no	no	no	no	no	yes
Observations		5466	5466	4990	2018	2346	2190
R-squared		0.12	0.14	0.14	0.14	0.16	0.18

Notes: Clustered (by individual) standard errors in parentheses. *Sample:* HRS 1992-1994, age 55-65. The excluded categories are workers with a high school (HS) degree, in excellent health, with net wealth in the first quartile, and a financial time horizon of more than 10 years. The subjective probability of surviving until age 75, P_{75}, is divided by the implied probability from the Vital Statistics life tables that someone of the respondent's age and gender will live to be 75.

Table 3: Linear probability (in percent) model of being unable to provide a benefit estimate.

	(1)	(2)	(3)	(4)	(5)	(6)
	Does not report and expected Social Security benefit amount					
Post–Statement	-4.29**	-4.30	-4.75*	-0.19	5.58	5.83
	(1.87)	(2.82)	(2.82)	(2.24)	(4.83)	(4.86)
No SSA contact				26.19***	26.73***	25.67***
				(2.62)	(2.59)	(2.59)
Post× no SSA c.				-10.93***	-11.58***	-11.81***
				(3.06)	(3.06)	(3.04)
Female	5.78***	5.61***	6.27***	6.15**	5.97**	6.27**
	(1.97)	(1.96)	(1.94)	(2.49)	(2.48)	(2.45)
Below HS	11.55***	11.46***	8.79***	10.09***	9.90***	7.70**
	(2.26)	(2.26)	(2.28)	(2.97)	(2.97)	(3.01)
Some college	-0.44	-0.52	-0.13	-1.62	-1.58	-1.51
	(2.03)	(2.03)	(2.03)	(2.44)	(2.44)	(2.42)
College	-0.18	-0.40	1.31	0.84	0.59	1.71
	(2.01)	(2.01)	(2.06)	(2.40)	(2.39)	(2.43)
Single	4.55	4.68	3.14	7.24	7.00	4.59
	(4.19)	(4.18)	(4.15)	(6.44)	(6.43)	(6.48)
Black	13.10***	13.27***	11.00***	9.74***	9.75***	8.17**
	(2.75)	(2.76)	(2.75)	(3.43)	(3.47)	(3.43)
Wealth	no	no	yes	no	no	yes
Health	no	no	yes	no	no	yes
Age effects	no	yes	yes	no	yes	yes
Year effects	no	yes	yes	no	yes	yes
Observations	5311	5311	5311	3196	3196	3196
R-squared	0.054	0.058	0.067	0.103	0.108	0.116

Notes: The non-numbered column reports the sample means. The excluded educational category is high school. Clustered (by individual) standard errors in parentheses; Bootstrapping (using 200 rep.) the standard errors by individual to account for both clustering, and also for the variation due to the first-step estimation of the probabilities of misclassification of contacting the SSA has negligible effects on the standard errors (results available upon request). * significant at 5 percent; ** significant at 1 percent. *Sample:* HRS 1992-2002, age 55-65.

Table 4: Linear probability (in percent) model of not being able to provide a Social Security benefits estimate by age.

	Contacted	Contacted SSA			Did not contact SSA		
Age	SSA	Pre-SSS	Pre-Post	Pre-Post	Pre-SSS	Pre-Post	Pre-Post
55	0.28	21.18***	-5.20	-5.49	50.78***	-7.39	-4.95
		(3.80)	(10.00)	(9.98)	(2.90)	(9.82)	(9.88)
56	0.31	17.54***	3.84	4.32	52.33***	-0.25	-0.27
		(3.63)	(9.28)	(9.30)	(3.05)	(8.75)	(8.65)
57	0.30	19.36***	-5.13	-4.16	47.49***	10.86	12.50**
		(3.23)	(6.13)	(6.08)	(2.71)	(6.61)	(6.32)
58	0.42	22.53***	-11.58***	-10.24**	52.53***	-9.08*	-7.76
		(3.37)	(4.39)	(4.50)	(3.67)	(4.92)	(4.89)
59	0.42	19.07***	1.17	4.50	56.81***	-17.48***	-15.36***
		(3.32)	(4.37)	(4.39)	(3.62)	(4.49)	(4.49)
60	0.39	15.04***	-4.36	-1.84	57.11***	-14.43***	-12.35**
		(3.05)	(3.59)	(3.81)	(4.04)	(4.83)	(5.01)
61	0.55	9.94***	4.06	7.89**	57.50***	-23.22***	-19.20***
		(2.29)	(2.97)	(3.29)	(4.53)	(5.09)	(5.14)
62	0.59	12.15***	-0.84	3.19	57.14***	-24.88***	-21.07***
		(3.17)	(3.96)	(4.21)	(5.93)	(6.69)	(6.97)
63	0.66	11.59***	0.35	3.21	52.63***	-20.56**	-17.09*
		(3.87)	(4.62)	(4.81)	(8.12)	(8.79)	(8.84)
64	0.67	14.29	-0.89	-1.73	33.33**	4.44	1.50
		(9.38)	(9.81)	(9.51)	(15.76)	(16.30)	(16.39)
Other Xs			no	yes		no	yes

Notes: The first column reports the fraction contacting the SSA. "Pre" columns report the fraction of workers who do not provide an estimate during the Pre–Statement period. Pre–Post columns report changes in the probability of providing a benefit estimate. Fractions are computed separately for workers who contacted (first three columns) and those who didn't contact the SSA (last three columns). Clustered (by individual) standard errors in parentheses. Bootstrapping (using 200 rep.) the standard errors by individual to account for both clustering, and for the variation due to the first-step estimation of the probabilities of misclassification of contacting the SSA has negligible effects on the significance level (results available upon request). * significant at 5 percent; ** significant at 1 percent. *Sample:* HRS 1992-2002, age 55-64.

Table 5: Variance ratio test

	Did not contact SSA			Contacted SSA		
	Standard Dev.		p-value	Standard Dev.		p-value
	Pre-SSS	Post-SSS	Pre/Post	Pre-SSS	Post-SSS	Pre/Post
Forecast error truncated at:						
$\|e\| < \$1000$	477.24	330.26	0.000	626.15	759.22	1.000
	[625]	[265]		[779]	[254]	
$\|e\| < \$500$	226.93	204.17	0.032	182.42	171.40	0.125
	[518]	[232]		[701]	[240]	
$\|e\| < \$300$	154.04	136.24	0.026	129.02	123.14	0.211
	[398]	[196]		[610]	[213]	

Notes: Standard deviation of the errors and p-value of a variance ratio test with null-hypothesis $H_0 : V_{pre}/V_{post} < 1$. Estimates control for the improvement in the standard deviation of the forecast error that is independent of the Statement by using the dashed line version of Figure 1 for the pre-Statement period. Since variances are highly sensitive to outliers I test the null using three truncated versions of the forecast error. Numbers of observations in square brackets. *Sample:* HRS 1992-1996, age 55-65.

Table 6: Marginal effects (in percent) on the probability of keeping the same expected age of claiming.

	P(same expected claiming age)			
	(1)	(2)	(3)	(4)
Post-statement	0.77	-0.02	1.06	0.25
	(3.05)	(3.94)	(3.18)	(4.44)
Post-st. × No SSA cont.		0.43		0.15
		(4.21)		(4.48)
Additional statement			1.44	0.00
			(2.93)	(4.84)
Add. st. × No SSA cont.				0.68
				(5.28)
No SSA contact		-7.02**		-7.02**
		(3.25)		(3.25)
ETdummy	-3.10	-0.92	-3.21	-0.82
	(3.46)	(4.54)	(3.46)	(4.79)
Year	-0.46	0.36	-0.69	0.28
	(0.83)	(1.04)	(0.97)	(1.52)
Observations	3624	2524	3624	2524
Mean	66.78	67.23	66.78	67.23
R-squared	0.025	0.036	0.025	0.036

Notes: The marginal effects are estimated using a linear probability model. I additionally control for age, age squared, education, marital status, race, and veteran status. Clustered (by individuals) standard errors in parentheses; * significant at 5 percent; ** significant at 1 percent. *Sample:* HRS 1992-2002, age 55-65.

Table 7: Median expected growth rates of Social Security benefits and social security wealth as a function of age.

	B(t+1)/B(t)-1	Accruals=SSW(t+1)-SSW(t)					
		Own Benefits		Own+Dependent spouse			
		Median		Median		75th percentile	
		Pre-tax	After-tax	Pre-tax	After-tax	Pre-tax	After-tax
55	1.36	1.25	-0.92	1.41	-0.65	2.76	0
56	1.06	0.99	-0.65	1.14	-0.44	2.54	0
57	0.94	0.86	-0.64	0.99	-0.39	2.53	0
58	0.71	0.65	-0.55	0.73	-0.3	2.39	0
59	0.53	0.51	-0.37	0.57	-0.17	2.29	0
60	0.4	0.36	-0.3	0.39	-0.12	2.18	0
61	0.26	0.19	-0.18	0.21	-0.02	2.11	0
62	8.71	1.66	0.72	2.79	1.37	8.69	6.22
63	7.87	0.27	-0.42	1.58	0.59	6.61	4.09
64	7.22	-0.8	-1.7	0.25	0	3.76	1.86
65	5.94	-3.72	-4.42	-2.08	-2.85	0	-0.89
66	5.25	-5.48	-6.04	-3.87	-4.66	-1.41	-2.16
67	4.94	-7.05	-7.6	-5.78	-6.5	-2.59	-3.26
68	4.43	-8.45	-8.97	-7.59	-8.34	-4.09	-4.63
69	4.18	-9.66	-10.23	-9.38	-9.87	-5.05	-5.48

Notes: The After-tax columns represent the changes in SSW net of Social Security payroll taxes, assuming that workers carry the whole tax burden. *Sample:* HRS 1992-2002 linked to administrative data.

Table 8: Summary statistics of Social Security Incentives

Variable	**Mean**	**Std. Dev.**	**N**
Yearly percentage increase in benefits (in %)	4.004	3.537	31563
Percentage accrual, 3%, single	0.05	2.592	31563
Percentage accrual, 3%, joint	0.523	2.526	31563
Accrual, 3%, single ($1,000)	-0.534	3.907	33118
Accrual, 3%, joint ($1,000)	0.592	5.124	33118
Percentage after-tax accrual, 3%, single	-1.468	2.279	31563
Percentage after-tax accrual, 3%, joint	-0.758	2.238	31563
After-tax accrual, 3%, single ($1,000)	-2.65	4.035	33118
After-tax accrual, 3%, joint ($1,000)	-1.524	4.969	33118
Peak value, 3%, single ($1,000)	3.003	8.833	33118
Peak value, 3%, joint ($1,000)	10.117	18.45	33118
Social Security Wealth, 3%, joint ($100,000)	1.747	1.115	33118
Spouse SSW at age 62 ($100,000), 3%	0.34	0.557	33118
Forecasted real earnings (maximum) ($1,000)	17.064	24.012	33118

Table 9: Sample size

	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69
1922															4
1923														5	19
1924													9	19	**29**
1925												7	20	**23**	**22**
1926											6	25	38	**35**	34
1927										12	41	**50**	**44**	44	41
1928									24	83	**97**	**90**	**80**	74	98
1929								20	**88**	**104**	**79**	78	82	104	109
1930							39	128	**146**	**126**	**119**	115	145	153	163
1931						91	314	**347**	**292**	278	279	310	253	254	240
1932					87	344	**384**	**323**	311	295	329	262	269	251	203
1933				84	312	**351**	**282**	267	265	289	251	266	235	180	208
1934			108	355	**402**	**343**	332	328	342	306	321	284	226	266	148
1935		97	379	**429**	**354**	**336**	334	381	318	320	294	239	274	151	
1936	102	408	**443**	**374**	**358**	351	402	334	327	324	277	311	190		
1937	323	483	**405**	**391**	376	411	349	360	340	283	323	184			
1938	187	**396**	**370**	**362**	390	348	357	332	272	316	176	1			
1939	239	**379**	**379**	414	367	378	340	296	325	182	2				
1940	**150**	**368**	418	369	381	350	289	349	200						
1941	**232**	431	390	402	362	291	351	213	3						

Notes: The treatment and control sample is shown in bold and is made of age-year of birth combinations in which some, but not all individuals received a Social Security statement. 56 percent of this sample received a statement.

Table 10: Randomization Test

	Pre-Statement		Post-pre Statement	
	Average	SE	Average	SE
Female	0.331***	(0.0301)	-0.0120	(0.0176)
Married	0.954***	(0.0133)	0.00436	(0.00751)
Spouse in inactive	0.304***	(0.0292)	-0.0247	(0.0182)
Independent spouse	0.691***	(0.0291)	-0.00227	(0.0170)
Experience	34.06***	(0.473)	-0.382	(0.308)
No kids	0.0460***	(0.0114)	0.0197**	(0.00810)
Black	0.0876***	(0.0179)	-0.0139	(0.0115)
High school	0.348***	(0.0302)	-0.00623	(0.0176)
Some college	0.178***	(0.0245)	-0.00429	(0.0152)
College	0.292***	(0.0284)	0.0177	(0.0158)
Veteran	0.310***	(0.0292)	-0.0198	(0.0178)
SR health status: very good	0.383***	(0.0304)	-0.0182	(0.0180)
SR health status: good	0.223***	(0.0258)	-0.0273	(0.0170)
SR health status: fair	0.0698***	(0.0157)	0.0143	(0.0113)
SR health status: poor	0.00390	(0.00407)	-0.00732*	(0.00407)
Average ET tax	0	0	-0.000131	(0.000140)
Spouse's age-own age	-0.0514	(0.0767)	0.164***	(0.0555)

Notes: Each line represents a different regression of the "row" variable regressed on year, year squared, age dummies, and the Statement dummy (the Post-pre column). Clustered (by individual) standard errors in parentheses; * significant at 5 percent; ** significant at 1 percent. *Sample:* HRS linked to administrative data.

Table 11: Linear probability model of retirement.

	(1)	(2)	(3)	(4)	(5)
	Self-reported retirement hazard (in percent)				
Yearly percentage increase in benefits	-0.537***				
	(0.170)				
Percentage accrual		-0.554***			
		(0.178)			
Accrual			-0.337*		
			(0.204)		
Percentage after-tax accrual				-0.599**	
				(0.257)	
Peak value					-0.0757***
					(0.0250)
Social Security Wealth	1.052	1.666	2.152	1.759	0.736
	(2.019)	(1.992)	(2.077)	(1.993)	(2.013)
Spouse SSW at age 62	0.600	0.655	0.694	0.600	0.556
	(0.765)	(0.764)	(0.766)	(0.765)	(0.764)
Forecasted real earnings	-0.0152	-0.0143	-0.0182	-0.0568***	-0.0115
	(0.0156)	(0.0155)	(0.0178)	(0.0151)	(0.0162)
Female	2.367*	2.407*	2.226*	2.427*	2.708**
	(1.253)	(1.250)	(1.243)	(1.249)	(1.263)
Married	-1.105	-1.153	-1.179	-1.129	-1.199
	(1.538)	(1.537)	(1.534)	(1.539)	(1.537)
Spouse is not active	2.622***	2.649***	2.636***	2.658***	2.525***
	(0.643)	(0.643)	(0.644)	(0.644)	(0.641)
Independent spouse	0.503	0.796	0.947	0.360	-1.904
	(2.120)	(2.108)	(2.136)	(2.126)	(2.258)
Experience	0.0348	0.0347	0.0419	0.0379	0.0392
	(0.0363)	(0.0364)	(0.0363)	(0.0365)	(0.0363)
No children	-0.981	-0.964	-0.950	-0.992	-1.033
	(1.208)	(1.210)	(1.209)	(1.207)	(1.207)
Black	0.441	0.424	0.492	0.472	0.512
	(0.920)	(0.919)	(0.919)	(0.920)	(0.921)
High school	-0.0822	-0.104	-0.0237	-0.0413	-0.0268
	(0.787)	(0.787)	(0.788)	(0.787)	(0.788)
Some college	1.448	1.444	1.524	1.509	1.515
	(0.964)	(0.964)	(0.965)	(0.965)	(0.964)
College	1.795	1.823	1.922	1.868	1.896
	(1.202)	(1.203)	(1.204)	(1.203)	(1.203)
Veteran	0.341	0.354	0.330	0.311	0.368
	(0.706)	(0.706)	(0.706)	(0.706)	(0.707)
Average forecasted ET tax	8.854	7.025	23.93	24.40	-22.74
	(104.8)	(104.9)	(105.7)	(105.5)	(105.2)
Spouse age-own age	-0.734**	-0.740**	-0.750**	-0.730**	-0.744**
	(0.342)	(0.342)	(0.342)	(0.342)	(0.343)
N.obs	6359	6359	6359	6359	6359
R-squared	0.064	0.064	0.064	0.064	0.064

Notes: All Social Security incentives are expressed in real 2003 dollars. All regressions additionally control for real AIME, spouse's real AIME, age dummies, year, year squared, industry and occupation dummies, and self-reported health dummies. Clustered (by individual) standard errors in parentheses; * significant at 5 percent; ** significant at 1 percent. *Sample:* HRS linked to administrative data.

Table 12: Pre-Post Statement model of retirement.

	(1)	(2)	(3)	(4)	(5)
	Self-reported retirement hazard				
Yearly percentage increase in benefits	-0.453**				
	(0.202)				
interacted with the Statement	-0.164				
	(0.219)				
Percentage accrual		-0.450*			
		(0.236)			
interacted with the Statement		-0.185			
		(0.301)			
Accrual			-0.226		
			(0.265)		
interacted with the Statement			-0.175		
			(0.274)		
Relative after-tax accrual				-0.542	
				(0.333)	
interacted with the Statement				-0.113	
				(0.371)	
Peak value					-0.0729**
					(0.0290)
interacted with the Statement					-0.00672
					(0.0347)
Social Security Wealth	0.920	1.588	1.922	1.718	0.643
	(2.082)	(2.066)	(2.151)	(2.071)	(2.133)
interacted with the Statement	0.147	0.0851	0.234	0.0816	0.146
	(0.770)	(0.784)	(0.817)	(0.784)	(1.004)
Forecasted real earnings (maximum)	-0.0148	-0.0143	-0.0190	-0.0565***	-0.0110
	(0.0155)	(0.0155)	(0.0178)	(0.0151)	(0.0162)
Statement	-0.592	-0.719	-0.879	-0.994	-0.925
	(1.501)	(1.548)	(1.446)	(1.443)	(1.463)
N.obs	6359	6359	6359	6359	6359
R-squared	0.070	0.071	0.070	0.070	0.070

Notes: Additional controls as in Table 11. Clustered (by individuals) standard errors in parentheses, * significant at 5 percent; ** significant at 1 percent. *Sample:* HRS linked to administrative data.

A Data

I use the Health and Retirement Survey (HRS) to evaluate how the Statement affects workers' knowledge about their future benefits, and to evaluate what determines whether workers are informed even before receiving the Statement. The data are then matched to administrative records from the SSA to evaluate the effect of the Statement on retirement decisions.

The HRS is a longitudinal, biennial, nationally representative survey of older Americans. I use waves 1 to 6 (1992–2002), and restrict the analysis to workers older than age 55 and younger than age 70 who are not receiving Social Security disability benefits. I also restrict the sample to workers who are in the labor force in 1992, and drop workers from the sample if they die. I restrict the analysis to workers born between 1922 and 1941.[41] Workers are matched with their spouses' information. Some workers have expected benefits that are smaller than half of the benefits of their spouse. These workers are excluded from the analysis since they are better off by claiming for their spouses' benefits, and are unlikely to respond to changes in their own SSW. Table 13 in the Appendix shows the summary statistics for the HRS sample used in the regressions.

Table 13: Summary statistics

Variable	Mean	Std. Dev.	N
Age	61.571	3.723	33118
Female	0.344	0.475	33118
Married	0.973	0.163	33118
Work experience	38.141	9.974	33118
No children	0.033	0.179	33118
Black	0.102	0.302	33118
High School	0.325	0.469	33118
Some college	0.207	0.405	33118
College	0.225	0.417	33118
veteran	0.374	0.484	33065
SR health: very good	0.347	0.476	33118
SR health: good	0.315	0.465	33118
SR health: fair	0.119	0.323	33118
SR health: poor	0.025	0.156	33118
Independent spouse	0.688	0.463	33118
Spouse's age-own age	-0.515	3.113	33118
Real AIME	2243.795	1316.625	33118
Spouse's real AIME	1065.013	1288.846	33118

[41] Some further deletions are made mostly for reasons of miscellaneous data inconsistencies.

Figure 6: The Social Security Statement

Your Estimated Benefits

To qualify for benefits, you earn "credits" through your work— up to four each year. This year, for example, you earn one credit for each $900 of wages or self-employment income. When you've earned $3,600, you've earned your four credits for the year. Most people need 40 credits, earned over their working lifetime, to receive retirement benefits. For disability and survivors benefits, young people need fewer credits to be eligible.

We checked your records to see whether you have earned enough credits to qualify for benefits. If you haven't earned enough yet to qualify for any type of benefit, we can't give you a benefit estimate now. If you continue to work, we'll give you an estimate when you do qualify.

What we assumed— If you have enough work credits, we estimated your benefit amounts using your average earnings over your working lifetime. For 2004 and later (up to retirement age), we assumed you'll continue to work and make about the same as you did in 2002 or 2003. We also included credits we assumed you earned last year and this year.

We can't provide your actual benefit amount until you apply for benefits. **And that amount may differ from the estimates stated below because:**

(1) Your earnings may increase or decrease in the future.

(2) Your estimated benefits are based on current law. **The law governing benefit amounts may change.***

(3) Your benefit amount may be affected by **military service, railroad employment or pensions earned through work on which you did not pay Social Security tax. Visit *www.socialsecurity.gov/mystatement* to see whether your Social Security benefit amount will be affected.**

Generally, estimates for older workers are more accurate than those for younger workers because they're based on a longer earnings history with fewer uncertainties such as earnings fluctuations and future law changes.

These estimates are in today's dollars. After you start receiving benefits, they will be adjusted for cost-of-living increases.

▼ *Retirement

You have earned enough credits to qualify for benefits. At your current earnings rate, if you stop working and start receiving benefits..

At age 62, your payment would be about...	$882 a month
If you continue working until...	
your full retirement age (67 years), your payment would be about...	$1,278 a month
age 70, your payment would be about...	$1,594 a month

▼ *Disability

You have earned enough credits to qualify for benefits. If you became disabled right now,

Your payment would be about...	$1,169 a month

▼ *Family

If you get retirement or disability benefits, your spouse and children also may qualify for benefits.

▼ *Survivors

You have earned enough credits for your family to receive survivors benefits. If you die this year, certain members of your family **may** qualify for the following benefits.

Your child...	$911 a month
Your spouse who is caring for your child...	$911 a month
Your spouse, if benefits start at full retirement age...	$1,215 a month
Total family benefits cannot be more than...	$2,233 a month

Your spouse or minor child may be eligible for a special one-time death benefit of $255.

▼ Medicare

You have enough credits to qualify for Medicare at age 65. Even if you do not retire at age 65, be sure to contact Social Security three months before your 65th birthday to enroll in Medicare.

*** Your estimated benefits are based on current law. Congress has made changes to the law in the past and can do so at any time. The law governing benefit amounts may change because, by 2042, the payroll taxes collected will be enough to pay only about 73 percent of scheduled benefits.**

We based your benefit estimates on these facts:

Your name...	Wanda Worker
Your date of birth...	May 5, 1963
Your estimated taxable earnings per year after 2003...	$35,051
Your Social Security number (only the last four digits are shown to help prevent identity theft)...	XXX-XX-2004

Help Us Keep Your Earnings Record Accurate

You, your employer and Social Security share responsibility for the accuracy of your earnings record. Since you began working, we recorded your reported earnings under your name and Social Security number. We have updated your record each time your employer (or you, if you're self-employed) reported your earnings.

Remember, it's your earnings, not the amount of taxes you paid or the number of credits you've earned, that determine your benefit amount. When we figure that amount, we base it on your average earnings over your lifetime. If our records are wrong, you may not receive all the benefits to which you're entitled.

- **Review this chart carefully** using your own records to make sure our information is correct and that we've recorded each year you worked. You are the only person who can look at the earnings chart and know whether it is complete and correct.

  Some or all of your earnings from **last year** may not be shown on your *Statement*. It could be that we still were processing last year's earnings reports when your *Statement* was prepared. Your complete earnings for last year will be shown on next year's *Statement*. **Note:** If you worked for more than one employer during any year, or if you had both earnings and self-employment income, we combined your earnings for the year.

- **There's a limit on the amount of earnings on which you pay Social Security taxes each year.** The limit increases yearly. Earnings above the limit will not appear on your earnings chart as Social Security earnings. (For Medicare taxes, the maximum earnings amount began rising in 1991. Since 1994, **all** of your earnings are taxed for Medicare.)

- **Call us right away** at **1–800–772–1213** (7 am.–7 pm. your local time) if any earnings for years **before last year** are shown incorrectly. If possible, have your W-2 or tax return for those years available. (If you live outside the U.S., follow the directions at the bottom of page 4.)

Your Earnings Record at a Glance

Years You Worked	Your Taxed Social Security Earnings	Your Taxed Medicare Earnings
1979	474	474
1980	1,123	1,123
1981	1,983	1,983
1982	3,293	3,293
1983	4,461	4,461
1984	5,600	5,600
1985	6,950	6,950
1986	8,813	8,813
1987	10,941	10,941
1988	12,803	12,803
1989	14,520	14,520
1990	16,308	16,308
1991	17,920	17,920
1992	19,655	19,655
1993	20,534	20,534
1994	21,730	21,730
1995	23,155	23,155
1996	24,838	24,838
1997	26,806	26,806
1998	28,720	28,720
1999	30,824	30,824
2000	33,060	33,060
2001	34,237	34,237
2002	35,051	35,051
2003	Not yet recorded	

Did you know... Social Security is more than just a retirement program? It's here to help you when you need it most.

You and your family may be eligible for valuable benefits:

- When you die, your family may be eligible to receive survivors benefits.
- Social Security may help you if you become disabled— even at a young age.
- It is possible for a young person who has worked and paid Social Security taxes in as few as two years to become eligible for disability benefits.

Social Security credits you earn move with you from job to job throughout your career.

Total Social Security and Medicare taxes paid over your working career through the last year reported on the chart above:

Estimated taxes paid for Social Security:		Estimated taxes paid for Medicare:	
You paid:	$24,723	You paid:	$5,820
Your employers paid:	$24,723	Your employers paid:	$5,820

Note: You currently pay 6.2 percent of your salary, up to $87,900, in Social Security taxes and 1.45 percent in Medicare taxes on your entire salary. Your employer also pays 6.2 percent in Social Security taxes and 1.45 percent in Medicare taxes for you. If you are self-employed, you pay the combined employee and employer amount of 12.4 percent in Social Security taxes and 2.9 percent in Medicare taxes on your net earnings.

Some Facts About Social Security

About Social Security and Medicare...

Social Security pays retirement, disability, family and survivors benefits. Medicare, a separate program run by the Centers for Medicare and Medicaid Services, helps pay for inpatient hospital care, nursing care, doctors' fees, and other medical services and supplies to people age 65 and older, or to people who have been receiving Social Security disability benefits for two years or more. Your Social Security covered earnings qualify you for both programs.

Here are some facts about Social Security's benefits:

- **Retirement**– If you were born before 1938, your full retirement age is 65. Because of a 1983 change in the law, the full retirement age will increase gradually to 67 for people born in 1960 and later.

  Some people retire before their full retirement age. You can retire as early as age 62 and take your benefits at a reduced rate. If you continue working after your full retirement age, you can receive higher benefits because of additional earnings and special credits for delayed retirement.

- **Disability**– If you become disabled before full retirement age, you can receive disability benefits after six months if you have:
  - enough credits from earnings (depending on your age, you must have earned six to 20 of your credits in the three to 10 years before you became disabled); and
  - a physical or mental impairment that is expected to prevent you from doing "substantial" work for a year or more, *or* result in death.

- **Family**– If you're eligible for disability or retirement benefits, your current or divorced spouse, minor children, or adult children disabled before age 22 also may receive benefits. Each may qualify for up to about 50 percent of your benefit amount. The total amount depends on how many family members qualify.

- **Survivors**– When you die, certain members of your family may be eligible for benefits:
  - your spouse age 60 or older (50 or older if disabled, or any age if caring for your children younger than age 16); and
  - your children if unmarried and younger than age 18, still in school and younger than 19 years old, or adult children disabled before age 22.

  If you are divorced, your ex-spouse could be eligible for a widow's or widower's benefit on your record when you die.

Receive benefits and still work...

You can continue to work and still get retirement or survivors benefits. If you're younger than your full retirement age, there are limits on how much you can earn without affecting your benefit amount. The limits change each year. When you apply for benefits, we'll tell you what the limits are at that time and whether work would affect your monthly benefits. When you reach full retirement age, the earnings limits no longer apply.

Before you decide to retire...

Think about your benefits for the long term. Everyone's situation is different. For example, be sure to consider the advantages and disadvantages of early retirement. If you choose to receive benefits before you reach full retirement age, your benefits will be permanently reduced. However, you'll receive benefits for a longer period of time.

To help you decide when is the best time for you to retire, we offer a free booklet, *Social Security—Retirement Benefits* (Publication No. 05-10035), that provides specific information about retirement. You can calculate future retirement benefits on our website at *www.socialsecurity.gov* by using the *Social Security Benefit Calculators*. There are other free publications that you may find helpful, including:

- *Understanding The Benefits* (No. 05-10024)– a general explanation of all Social Security benefits;
- *How Your Retirement Benefit Is Figured* (No. 05-10070)– an explanation of how you can calculate your benefit;
- *The Windfall Elimination Provision* (No. 05-10045)– how it affects your retirement or disability benefits;
- *Government Pension Offset* (No. 05-10007)– explanation of a law that affects spouse's or widow(er)'s benefits; and
- *When Someone Misuses Your Number* (No. 05-10064)– what to do if you're a victim of identity theft.

We also have other leaflets and fact sheets with information about specific topics such as military service, self-employment or foreign employment. You can request Social Security publications at *www.socialsecurity.gov* or by calling us at **1-800-772-1213**.

If you need more information—Visit *www.socialsecurity.gov/mystatement* on the Internet, contact any Social Security office, call **1-800-772-1213** or write to Social Security Administration, Office of Earnings Operations, P.O. Box 33026, Baltimore, MD 21290-3026. If you're deaf or hard of hearing, call TTY 1-800-325-0778. If you have questions about your personal information, you must provide your complete Social Security number. If your address is incorrect on this *Statement*, ask the Internal Revenue Service to send you a Form 8822. We don't keep your address if you're not receiving Social Security benefits.

Para solicitar una *Declaración* en español, llame al 1-800-772-1213.