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Will They Take the Money and Work? An Empirical Analysis of People's Willingness to Delay Claiming Social Security Benefits for a Lump Sum

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Non-Technical Summary

The Social Security Trustees' Reports have strongly emphasized the need for reforms to help enhance the solvency of the nation's old age income system. A potentially useful approach would be to encourage older Americans to defer retirement, since this could generate additional contributions to the system. Requiring workers to delay retirement by raising Social Security retirement ages is an unpopular policy, as demonstrated by protests around the world in the last decade. This paper examines an alternative approach to encourage, but not require, delayed claiming by providing an incentive to do so. Specifically, we investigate whether replacing the Social Security's current annuitized delayed retirement credit with a lump sum payment could induce workers to voluntarily defer claiming of their Social Security benefits, and possibly to work more.

Under today's Social Security rules, the *Status Quo*, an eligible individual is permitted to claim his retirement benefits as early as age 62, or as late as age 70. His monthly benefit payment depends on his lifetime earnings history and claiming age. That is, his benefits are reduced if he claims prior to his Full Retirement Age (FRA), or incremented if he delays claiming beyond the FRA. As an example, for a worker born in 1960 or later, deferring claiming benefit from age 62 to the FRA of 67 will entitle him to an increase of monthly benefits of around 43 percent. Claiming at age 70 would result in 77 percent higher monthly benefits for life. Despite such rewards for delayed claiming, Americans' average claiming age is around the age of 63.5, resulting in much lower benefit payments than people could receive for further delays.

Our previous theoretical work used a life cycle portfolio choice and labor supply model[1] to show that rational consumers would optimally delay claiming their benefits if given a chance to receive their delayed retirement credits as a lump sum payment. In our new research, we test this hypothesis by empirically evaluating who and how much people might defer claiming for a lump sum in lieu of a higher monthly payment for life. To this end, we designed and implemented a survey module for RAND's American Life Panel (ALP) and used it to assess how people might actually respond to having access to the actuarial present value of the benefit increases resulting from longer work lives.

We begin by computing for each respondent (based on his past earnings) how much his anticipated monthly Social Security benefits would be if he were to claim at each age from 62 to 70, which are, respectively, the earliest and the latest claiming ages under the *Status Quo* rules. Given this information, we then asked each individual to indicate his expected claiming age (i.e., the *Status Quo* claiming age). Next we presented the respondent with two alternative scenarios, and we again asked him to report his expected claiming ages under each option.

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[1] Chai, J., R. Maurer, O. S. Mitchell, and R. Rogalla. (2013). "Exchanging Delayed Social Security Benefits for Lump Sums: Could This Incentivize Longer Work Careers?" NBER Working Paper No. 19032.

In one case, he was told to assume that he would receive lifelong monthly income in the amount of his age-62 Social Security benefit from his claiming date on, irrespective of when he actually claimed. This benefit would be paired with a lump sum payable as of his claiming date (i.e., the *Lump Sum* claiming age), where the amount is equal to the actuarial present value of his delayed retirement credit under the current system. In the other case, he was told to assume that his monthly benefit would be adjusted upward for delayed claiming until he attained his FRA as under the *status quo*. For claiming ages later than that, his monthly benefit would be fixed at the FRA level, and he would receive a lump sum payable as of his claiming date (i.e., the *Delayed Lump Sum* claiming age) equal to the present value of the delayed retirement credit after the Full Retirement Age. Moreover, in each scenario we asked the respondent to record how much additional work he would engage in, depending on the specific scenario.

Our results demonstrate that people would voluntarily work longer if offered an actuarially fair lump sum instead of the delayed retirement extra benefit under the current Social Security rules. The measured delays in claiming average about half a year if the lump sum were to be paid on claiming post age 62, and by about two-thirds of a year if the lump sum were only paid to those claiming later than their FRA. Individuals most responsive to these incentives proved to be those who would have claimed earliest under the *Status Quo*. We also found that people would voluntarily work about one-quarter of the delay in claiming time in the *Lump Sum* scenario, whereas they would work almost half of the additional time in the *Delayed Lump Sum* scenario. Our results are robust to controls for factors such as respondents' wealth, health, trust in the system, and indebtedness. We also showed that those who are more financially literate and who mistrust Social Security's resilience are likely to delay claiming more; the indebted would also delay claiming to obtain the lump sums.

Our findings will interest policymakers seeking ways of reforming Social Security without raising costs or cutting benefits, while enhancing the incentives to delay retirement. This is because we confirm that people would voluntarily claim later, and extend their work effort, due to the lump sum options examined here. In other words, some workers would pay Social Security payroll taxes longer, which would help the system's finances. Moreover, incentivizing longer work lives may well be associated with better mental and physical health at older ages, so a lump sum option is worthy of serious policy attention.

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Will They Take the Money and Work?
An Empirical Analysis of People's Willingness to Delay Claiming Social Security Benefits for a Lump Sum

Abstract

This paper investigates whether exchanging the Social Security delayed retirement credit, currently paid as an increase in lifetime annuity benefits, for a lump sum would induce later claiming and additional work. We show that people would voluntarily claim about half a year later if the lump sum were paid for claiming any time after the Early Retirement Age, and about two-thirds of a year later if the lump sum were paid only for those claiming after their Full Retirement Age. Overall, people will work one-third to one-half of the additional months, compared to the *status quo*. Those who would currently claim at the youngest ages are likely to be most responsive to the offer of a lump sum benefit.

KEYWORDS: Annuity, lump sum, Social Security, delayed retirement, lifetime income, pension

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Against the backdrop of global population aging, policymakers around the world are actively seeking ways to reform their nations' Social Security systems by encouraging delayed retirement. Many countries have done so by requiring raising retirement ages and cutting benefit payouts, but this is usually a politically fraught process.[1] By contrast, the present paper explores an alternative approach to encourage delayed claiming by offering people a lump sum. That is, we investigate whether exchanging the Social Security delayed retirement credit -- currently paid in form of an increased annuity benefit -- for an actuarially fair lump sum payment would induce people to voluntarily delay claiming and work longer.

Under the Social Security system's rules currently in effect, i.e., the *status quo*, an eligible individual can claim retirement benefits as early as age 62 or as late as age 70.[2] His monthly benefit paid for life depends on his earnings history and his claiming age, with a reduction if he claims prior to his Full Retirement Age (FRA), and an increment for deferring claiming after that age. For someone born in 1960 or later, for example, deferring the benefit from age 62 to his FRA of 67 would entitle him to an increase in monthly benefits of around 43 percent (see Table 1 below).[3] Deferring claiming to age 70 would imply a 77 percent increase in lifetime monthly benefits.

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[1] See Brown (2012) and Turner (2009) for a survey of retirement age changes and benefit adjustments around the world.

[2] That is, the delayed retirement credit computation stops after age 69. This abstracts from any possible benefit recomputation that could take place if the individual were to work after that age (see http://www.socialsecurity.gov/OP_Home/handbook/handbook.07/handbook-0722.html)

[3] For additional information on the *status quo* benefit formula, see http://www.ssa.gov/retirement/retirement.htm. The Social Security delayed retirement credit was intended to be actuarially fair at the time the law was passed; this was consistent with average mortality tables at the time, as well as a 2.9% real assumed interest rate. In this paper we assume the same real interest rate. As Shoven and Slavov (2012) note, in such a case the delayed retirement credit will be better than actuarially fair for most people, thus embodying additional incentives to defer retirement.

Despite these rewards for delayed retirement, a large share of Americans claims benefits and stops working around age 62.[4] Several authors have offered behavioral explanations for this phenomenon, arguing for instance that people are persuaded to claim early due to behavioral framing considerations (e.g., Brown, Kapteyn, Luttmer, and Mitchell 2013). By contrast, here we build on our previous theoretical paper on life cycle portfolio choice and claiming behavior (Chai, Maurer, Mitchell and Rogalla 2013). There we demonstrated that rational consumers would, in fact, optimally delay claiming their benefits when offered the chance to receive their delayed retirement credits as a lump sum payment, instead of an increase in lifetime annuity benefits. The present study seeks to put that hypothesis to a test by empirically evaluating who and how much people might defer claiming for a lump sum in lieu of a higher monthly payment for life.

To do so, we have developed a survey of U.S. residents within the framework of RAND's American Life Panel (ALP) and used it to assess how people might actually respond to having access to the present value of the benefit increases resulting from longer work lives. We first compute each respondent's anticipated monthly Social Security benefit if he claimed at each age from 62 to 70, which are, respectively, the earliest and the latest claiming ages under the *status quo* system rules. Then given this information, we ask each individual to report his expected claiming age (i.e., the *Status Quo claiming age*). Next, we present each respondent with two alternative scenarios, and we again ask him to report his expected claiming age under both options. In one case, he is told to assume that he would receive lifelong monthly income in the amount of his age-62 Social Security benefit from his claiming date on, irrespective of when he actually

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[4] Several studies have examined claiming patterns under the existing Social Security rules; see Gustman and Steinmeier (2005); Chai, Horneff, Maurer, and Mitchell (2011); Chai, Maurer, Mitchell, and Rogalla (2013) and Shoven and Slavov (2012). Other authors have taken a behavioral finance perspective to examine whether people might be willing to give up some of their benefit stream in exchange for a lump sum; however they do not link this to continued work; see Brown, Kapteyn, and Mitchell (2013).

claimed. This benefit would be paired with a lump sum payable as of his claiming date (i.e., the *Lump Sum claiming age*), where the amount is equal to the actuarial present value of his delayed retirement credit, i.e. the increase in lifetime retirement benefits generated by claiming after age 62. In the other case, he is told to assume that his monthly benefit would be adjusted upward for delayed claiming, until his FRA as under the *status quo*. For claiming ages later than that, his monthly benefit would be fixed at the FRA level, and he would receive a lump sum payable as of his claiming date (i.e., the *Delayed Lump Sum claiming age)* equal to the present value of the delayed retirement credit after the Full Retirement Age.[5] Moreover, in each scenario we ask the respondent to record how much additional work he would engage in, depending on the specific scenario.

Our findings show that people would voluntarily work longer if they were offered an actuarially fair lump sum instead of a delayed retirement annuity under Social Security. The delays in claiming are about half a year on average if the lump sum is paid on claiming after age 62, and about two-thirds of a year if the lump sum is paid only for those claiming after their Full Retirement Age. Moreover, those most responsive to these incentives turn out to be those who would claim early under the *status quo*. We also find that people would voluntarily work about one-third of the delay in claiming time in the *Lump Sum* scenario, whereas they would work almost half of the additional time in the *Delayed Lump Sum* scenario. To the extent that workers can be incentivized to voluntarily delay retirement in exchange for lump sums, they will also pay Social Security payroll taxes for additional years which could help the system's solvency. Moreover, there is some

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[5] This scenario is not the same as the "File and Suspend" approach currently permitted under Social Security rules (www.socialsecurity.gov/retire2/suspend), where a worker can file for a benefit at or after the FRA, and suspend his payment. Later, he can then retroactively begin his benefit payment as of the filing data and receive a lump sum for benefits foregone. This is not equivalent to our scenario because the "File and Suspend" lump sum is backward-looking and it is not related to the delayed claiming adjustment that we focus on here.

evidence suggesting that continued labor force participation results in improved physical and mental health among the elderly, which could improve both individual quality of life as well as the financial status of healthcare systems such as Medicare and Medicaid (Sahlgren 2013).

In the Social Security context, we are not the first to suggest that lump sum benefits could be used to replace the delayed retirement credit under Social Security (Orszag 2001; Fetherstonhaugh and Ross 1999). Nevertheless, neither previous study examined how the claiming decision differs from the work effort decision, nor did they examine which individuals might be more likely to change behavior given the opportunity to take a lump sum. Here we do both, using a nationally representative sample of the American population to test hypotheses.

Study Design

We use the American Life Panel (ALP) to implement our field experiment designed in a survey setting. This is a nationally representative sample of 6,000 households regularly interviewed over the Internet.[6] We designed and implemented our module on a subset of 2,451 respondents, age 40-70, in which we ask them a number of questions regarding their economic and demographic status. Following Brown, Kapteyn, and Mitchell (2013), we then take the respondents through a set of earnings history questions and feed these into a benefit calculator provided by SSA.[7] This generates each individual's "Primary Insurance Amount" (PIA), which is the monthly benefit amount for life (adjusted for inflation) that he would receive if he were to

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[6] One of many advantages the ALP has over other online panels is that it provides respondents who lack Internet access with either a laptop and Internet access, or a so-called WebTV that allows them to use their television to participate in the survey. That improves the nationally representative nature of the panel. More on how ALP respondents are recruited is available on the American Life Panel website: https://mmicdata.rand.org/alp/index.php/.

[7] Specifically, we ask the respondent his age when he started working and divided the remaining years into subperiods; in each of these, we asked average earnings and years when the respondent did not work for pay. This generated a constructed earnings history which could be fed into the SSA calculator, which is available on the SSA's website at http://www.socialsecurity.gov/OACT/anypia/anypia.html. For additional details see Brown, Kapteyn, and Mitchell (2013a).

claim at his FRA. To compute benefits for earlier or later claiming ages, we apply SSA's actuarial adjustment factors. Specifically, claiming prior to the FRA results in a benefit reduction of 5/9 percent per month for the first 36 months, and 5/12 percent per month thereafter until age 62. Claiming after the FRA boosts benefits by 8/12 percent per month up to age 70. One's FRA depends one's birth year: it is age 66 for workers born 1943-1954, rising gradually to age 67 for the 1960 and later birth cohorts. Table 1 depicts the impact of claiming age on Social Security benefits, for someone whose FRA is currently age 67.

Table 1 here

Having done so, we ask each individual the following question to survey his expected claiming behavior under the *status quo* rules: [8,9]

> In the next few questions, we are going to ask you to make a number of choices about Social Security benefits. Please assume that all amounts shown are after tax (that is, you don't owe any tax on any of the amounts we will show you). Think of any dollar amount mentioned in this survey in terms of what a dollar buys you today (because Social Security will adjust future dollar amounts for inflation).
>
> For the sake of these questions, **assume that you are currently age 62 and single**. You are thinking about when to claim your Social Security benefit.
>
> The Social Security system allows you to claim your benefit anytime between age **62** and **70**. On average, the Social Security system will neither lose nor make money no matter when people claim their benefit. If you claim your benefit at age **62**, you will receive an estimated monthly amount of ${*SocSec62benest*}[10] for life.
>
> Please answer the following questions about the choice you would make.
> Now imagine you have the following choice:
>
> **Either**
>
> - You can claim your Social Security benefit at age **62** and receive that $ {*SocSec62benest*} monthly payment for life.
>
> **Or**
>
> - You can claim your Social Security benefit at a later age and receive a **higher monthly payment** from that age on for life.

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[8] Brown, Kapteyn, and Mitchell (2013) report that respondent expectations about claiming ages and actual claiming behavior are highly correlated in the Health and Retirement Study (HRS).

[9] See Figures A1-A4 in the Appendix for screenshots of the questions as presented to the participants.

[10] The variable {*SocSec62benest*} represents our estimate of each respondent's estimated lifelong monthly social security benefit when claimed at age 62. We calculate this by adjusting the PIA back to age 62 from his FRA, using the appropriate adjustment factors which depend on his year of birth (see http://www.ssa.gov/oact/quickcalc/earlyretire.html).

> Assume that you are free to choose your work effort (hours per week) until you claim your benefit. Based on this information, at what age would you plan to claim your Social Security benefit?

The respondent is asked to click his mouse on a scale that represents the alternative claiming ages in monthly steps from age 62 to age 70. When he clicks on the scale, he is then shown his selected claiming age as well as the corresponding monthly benefit he will receive for life from age onward. Finally, he has the opportunity to change that selected claiming age or submit his response.[11]

Subsequently, we ask each respondent about his expected claiming ages under the two alternative monthly benefit/lump sum scenarios described above. To this end, we compute what his benefits would be at alternative claiming ages, along with the actuarially fair lump sums.[12] In the *Lump Sum case*, if the individual were to defer claiming from age 62, he would receive a lump sum at his claiming date plus monthly benefits in the amount of his age-62 benefit from said date for life. We present each respondent with the following question to elicit his claiming age under this scenario:

> Next we would like to show you some different questions about Social Security claiming choices. As before, please assume that all amounts shown are after tax, and think of any dollar amount in terms of what a dollar buys you today. Again, on average, the Social Security system will neither lose nor make money no matter when benefits are claimed.

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[11] If a respondent indicated he believed he would never receive Social Security because of a short earnings history (fewer than 10 years), we used HRS data to impute to him a PIA for someone with similar age, sex, and education, and marital status as in Brown, Kapteyn, Luttmer, and Mitchell (2013). If the respondent indicated he thought that the system would not be around to pay him benefits, we asked him to assume it would for the purposes of the analysis.

[12] Specifically, the lump sum is calculated as the actuarial present value at the claiming age of the increased lifelong monthly retirement benefits - based on cohort-specific FRA factors according to the current Social Security rules - relative to the benefits by claiming at age 62 (or at the FRA in case of the *Delayed Lump Sum* scenario). Annuity factors are derived using the mortality probabilities used in the Social Security's Trustees Report (SSA 2013). These are transformed into unisex rates assuming 1,000 females for 1,050 males in every birth cohort (Bell, Bye and Winters 2008). We convert yearly to monthly rates assuming constant number of deaths per months. The interest rate to discount future payments is 2.9% p.a. in compliance with the interest rate of the intermediate cost scenario in the Social Security's Trustees Report (SSA 2013).

> Please continue to assume that you are currently age 62 and single. You are still thinking about when to claim your Social Security benefit.
>
> Now, imagine that you had the following choice:
>
> **Either**
>
> - You can claim your Social Security benefit at age **62** and receive that ${*SocSec62benest*} monthly payment for life.
>
> **Or**
>
> - You can claim your Social Security benefit at a later age and receive the same monthly payment of ${*SocSec62benest*} from that age on for life, **plus an additional lump sum payable at that later claiming age**.
>
> Assume that you are free to choose your work effort (hours per week) until you claim your benefit. Based on this information, at what age would you plan to claim your Social Security benefit?

Again, the respondent is shown the monthly benefit and the lump sum amount corresponding to the claiming age selected, and he can change or submit his selection.

For the *Delayed Lump Sum case*, the respondent is told he would be entitled to *status quo* benefit increments if he delays claiming to his Full Retirement Age. If he defers claiming beyond that age, he will receive both the FRA benefit stream for life plus a lump sum equivalent to the actuarial present value of the delayed retirement credit under the *Status Quo* scenario. The specific language used to evaluate the claiming age in this case is as follows:

> Next we would like to show you some different questions about Social Security claiming choices. As before, please assume that all amounts shown are after tax, and think of any dollar amount in terms of what a dollar buys you today. Again, on average, the Social Security system will neither lose nor make money no matter when benefits are claimed.
>
> Please continue to assume that you are currently age 62 and single. You are still thinking about when to claim your Social Security benefit.
>
> Now, imagine that you had the following choice:
> **Either**
>
> - You can claim your Social Security benefit at age **62** and receive that ${*SocSec62benest*} monthly payment for life.
>
> **Or**
>
> - You can claim your Social Security benefit at a later age and receive **a higher monthly payment** from that age onward for life. This benefit will rise as you delay claiming up to a maximum of ${*SocSecFRAbenest*}[13] if you claim at your full retirement age. However, if you claim your benefit after your full retirement age, you will receive that monthly payment of ${*SocSecFRAbenest*} for life, **plus an**

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[13] The variable {*SocSecFRAbenest*} represents our estimate of the respondent's lifelong monthly Social Security benefit when claimed at the FRA.

> **additional lump sum payable at your later claiming age**.
>
> Assume that you are free to choose your work effort (hours per week) until you claim your benefit. Based on this information, at what age would you plan to claim your Social Security benefit?

As before, the respondent is shown the monthly benefit and the lump sum amount corresponding to the claiming age selected, and he can change or submit his final selection.

An illustrative case of benefit/lump sum combinations attainable under the *Status Quo* scenario and the two Lump Sum alternatives appears in Table 2. Here the monthly benefit payable to a respondent who will claim at age 62 is assumed to be $1,500. Under the *Status Quo* scenario (column 1), delaying claiming to age 63 will boost monthly benefits to $1,607. If he defers until age 70, monthly benefits will mount to $2,657. By contrast, under the *Lump Sum* scenario (column 2), claiming at age 63 will result in the same monthly benefit of $1,500, along with a lump sum equal to $20,208 at age 63. In this scenario, when deferring to age 70, the monthly benefit would continue to remain constant at $1,500. The lump sum payable at age 70, however, would amount to almost $178,000. The *Delayed Lump Sum* alternative for the same illustrative individual is presented in Column 3. As claiming is delayed, monthly benefits increase as under the *Status Quo* (Column 1) up to the Full Retirement Age, while the lump sum payment is zero. When claiming at age 70, the individual receives monthly benefits equal to the FRA benefits of $2,143 plus a lump sum of around $79,000.

Table 2 here

In each case we also ask how much the respondent would work under that claiming alternative. Specifically, the wording is as follows:

> Given that choice, about how many hours per week, on average, would **you plan to work** from age **62** to your claiming age at {*ClaimAgeString_Del_LSFRA*}[14]?

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[14] The variable {*ClaimAgeString_Del_LSFRA*} represents the claiming age under the *Delayed Lump Sum* scenario chosen by the respondent.

Once more, the respondent is asked to click his mouse on the scale representing the average weekly work hours to his claiming age. On clicking, the respondent is shown his selected weekly work effort, as well as the corresponding number of months of full-time work until his claiming age; we compute months of full-time work by multiplying the weekly hours by the number of weeks until his selected claiming age. As before, the respondent can change his selection before submitting his final answer.

In the survey, each respondent is first asked to select a claiming age under the *Status Quo* scenario. Next we randomly assign respondents in terms of whether they first see the *Lump Sum* or the *Delayed Lump Sum* alternative. Randomization in this form allows us to compare how claiming ages would change across the *Status Quo* and both lump sum scenarios, as well as to control for framing effects across respondents.[15]

Results for Changes in Claiming Ages

In this section, we describe respondents' claiming ages under the *Status Quo*, along with the patterns under the two alternative scenarios. In each case we report how many months post age-62 the individual selected as his target. The distribution of claiming ages is depicted in Figure 1. Here the box plots denote the 25th and 75th percentiles, with the intermediate lines in each case reflecting the median; the dots indicate the mean claiming age. Claiming ages under the *Status Quo* (top bar) range from 24 and 71 months past age 62; the mean is 45 months. When people can receive part of their benefit as a lump sum instead of monthly payments, the distribution shifts to the right, as shown by the second bar. Now people would claim 49.6 months beyond age 62 on

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[15] For a more in-depth analysis of how framing affects peoples' perceptions of claiming ages, see Brown, Kapteyn, and Mitchell (2013) and Brown, Kling, Mullainathan, and Wrobel (2008).

average, and the difference to the mean claiming age under *Status Quo* is statistically significant at the 1% level. Moreover, the claiming age distribution is compressed on the left, implying that those who would have claimed quite young are also most likely to delay claiming when the lump sum becomes available. Less change is evident on the right side of the bar, suggesting that those claiming later under the status quo would change their behavior less. The final bar illustrates the pattern of claiming ages when the lump sum is available only to those who claim after their Full Retirement Age. The mean again rises, now to 53.3 months past age 62, with the difference vs. the *Lump Sum* scenario being significant at the 1% level. In other words, the most substantial behavioral change in claiming ages occurs if people were to be given benefit increments up to the FRA, as now, and post-FRA, a lump sum instead of monthly benefit increments.

Figure 1 here

To provide an idea of the sizes of the lump sums involved, Figure 2 reports the 25th, 50th, and 75th percentiles along with the mean values of lump sums payable given peoples' desired claiming age patterns. Under the *Lump Sum* scenario, the mean lump sum would be $73,000, with a median of $64,500; at the 25th percentile, this amount would almost equal $32,000, and the 75th percentile value exceeds $105,000. Under the *Delayed Lump Sum* scenario, because people who delay receive higher monthly benefits, the lump sums payable for deferring past the FRA are lower, averaging $22,500, with a median of about $1,600. At the 25th percentile the value is zero, and it is just over $37,500 at the 75th percentiles. All of these values reflect the actuarially neutral calculations computed for each individual's desired claim age.

Figure 2 here

Table 3 provides additional detail on claiming ages for the *Status Quo* and our two lump sum alternatives, analyzing average claiming behavior for different demographic groups. Factors we use to differentiate respondents include proxies for their anticipated longevity including age, sex, and marital status (Smith and Waitzman 1997; Zick and Smith 1991); education (Brown, Hayward, Karas Montez, Hummer, Chiu, and Hidajat 2012); and subjective life expectancy (Hurd and McGarry 2002, Hurd, Smith, and Zissimopoulos 2004).[16] As discussed above, our respondents indicate that they intend to claim 45 months post age-62 in the *Status Quo* setting, on average. Splitting the sample by demographics, we find that men, singles, those younger than age 62, and the better-educated all select higher claiming ages than their counterparts. Additionally, people with optimistic estimates of their remaining life expectancy compared to standard mortality tables also select later claiming ages.[17] Results for the two lump sum scenarios tell the same story, where all groups boost their claim ages. Moreover, claim ages are consistently the highest under the *Delayed Lump Sum* scenario.

Table 3 here

Thus far, we have focused on showing how claiming ages change depending on the treatment people see, and by their demographic characteristics. Next we adopt a multivariate regression framework to examine how individuals with particular characteristics might change their behavior under the two lump sum policy alternatives, holding other factors constant. Results are presented in Table 4. The three left columns report patterns for the change in claiming ages (in months) when people see the *Lump Sum* scenario versus the *Status Quo*; the right three columns compare claiming ages from the *Delayed Lump Sum* alternative versus the *Status Quo*. For each dependent variable, the first model (columns 1 and 4) includes only those factors summarized in Table 3 (sex, marital status, age, education, and whether the individual is optimistic regarding his

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[16] While respondents' current health status can also proxy for longevity expectations, we do not include this in our list of controls as it is highly correlated with subjective life expectancy in our data.

[17] Variable descriptions appear in Table A1 in the Appendix.

life expectancy). The second model (columns 2 and 5) adds a control for the respondent's claiming age selected under the *Status Quo* scenario. This permits us to test whether the lump sum policy alternatives are likely to incentivize early versus late claimers under the current scenario to delay claiming. In the third model (columns 3 and 6), we add an additional control for whether the respondent sees the Lump Sum treatment first (versus the *Delayed Lump Sum* treatment), as well as economic covariates: wealth (French 2005); our estimate of the respondent's age-62 Social Security benefit; whether the respondent had some other annuity; an indicator for long job tenure; and a dummy variable indicating the respondent had liquidity constraints (*High Debt*). Additionally we have indicators of peoples' attitudes and preferences including risk aversion, planning horizon, financial literacy, and an indicator that the respondent was confident in the Social Security system's sustainability (c.f., Lusardi and Mitchell 2007, and Brown, Kapteyn, and Mitchell 2013).[18]

Table 4 here

Turning to results in column 1, respondent age is positive and statistically significant, meaning that a 60-year old would claim about three months later (20*0.134) when the lump sum is available, compared to a 40-year old (*ceteris paribus*). This finding is compatible with empirical evidence for time-inconsistent discounting noted by Dohmen, Falk, Huffman, and Sunde (2010, 2012), who showed that people facing a short time horizon were more impatient than those facing payoffs in a more distant time period. This effect becomes insignificant in column 2, however, when we control on respondents' claiming age under the *Status Quo*. This is partly because peoples' ages and claiming ages are correlated (0.14). But interestingly, the Claiming Age SQ term is highly significant and negative, implying that those who claim early under the *Status Quo* would

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[18] Table A1 in the Appendix describes how we constructed these controls in greater detail.

delay claiming the most under the new policy. Column 2 also shows a positive and significant relationship between the difference in claiming ages and peoples' optimism regarding their life expectancy: that is, people who expect to live longer will claim later, since they are more likely to live to receive the lump sum at the later age. On average our respondents underestimate their probability of living to later ages by 14% compared to life tables;[19] accordingly, a respondent who predicted his probabilities accurately would be anticipated to claim about one month later (0.14*7.142).[20]

Overall, our estimated effects are robust to the inclusion of the additional controls in column 3 of Table 4. There we show that the order by which the two lump sum alternatives are shown to the responded has significant impact on the claiming ages chosen, indicating a potential anchoring effect. If the respondent first sees the *Lump Sum* scenario the difference between his expected claiming ages under the *Lump Sum* alternative and the *Status Quo* scenario is almost 4 months smaller than in case the *Lump Sum* scenario was shown second. This change in claiming ages is comparable in magnitude to the average *Status Quo* versus *Lump Sum* difference. The *Lump Sum* scenario provides a substantial lump sum relatively early. Consequently, the respondent might delay claiming by only a bit. By contrast, those who see the *Delayed Lump Sum* alternative first tend to anchor initially on a higher claiming age and smaller lump sum amount. Accordingly, when presented with the regular *Lump Sum* scenario second, the respondent delays claiming more, although not as long as in the *Delayed Lump Sum* setup.

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[19] See Table A1.

[20] Interestingly, the system's finances could benefit under the *Lump Sum* scenario, since people expecting to live longer than average indicate that they would delay claiming instead of taking an early lifetime annuity based on population rather than optimistic mortality tables (holding all else constant). It must be recalled that, in this analysis, people may not choose between the *Status Quo* versus the *Lump Sum* scenario.

We also find that persons reporting being debt-constrained say they will defer claiming by almost two months given the *Lump Sum* alternative (42 percent of the mean *Status Quo* versus *Lump Sum* difference). Respondents who indicate they are more risk averse also claim later, by about a month per standard deviation above the mean risk aversion level. This might be due to a preference for a larger lump sum of known amount compared to a higher annuity with an uncertain length of payment. Financial literacy is statistically significant, positive, and quantitatively important: that is, when presented with the *Lump Sum* option, someone with no financial knowledge would delay claiming less than the most financially literate individual, by about 3.288 months. This finding is compatible with results in Brown, Kapteyn, Luttmer, and Mitchell (2013), who showed that financially illiterate persons have a difficult time comparing annuities versus lump sums.[21] Turning to the Political Trust variable, those having the most confidence in the Social Security system defer claiming less (by 2.556 months), a sensible finding in that they value the lump sum less than their more skeptical peers, who seek to cash out of the Social Security system as much as possible and as early as possible.

The next three columns of Table 4 replicate the previous analysis, but this time the dependent variable measures the change in claiming age from the *Status Quo* to that selected in the *Delayed Lump Sum* alternative. Interestingly, age is no longer significant in column 4. Since most respondents in our sample are younger than the FRA, they tend to more heavily discount the lump sum that will be paid far in the future under the *Delayed Lump Sum* option. By contrast, when they were offered early lump sum payments in the previous scenario, they were more impatient. This is compatible with the time-inconsistent discounting referred to above (Dohmen,

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[21] Several prior studies have examined the links between cognitive abilities and financial decision making; see Fang, Keane, and Silverman (2008) for Medigap purchase; Agarwal and Mazumder (2013) on the use of credit; and McArdle, Smith, and Willis (2011) and Banks, O'Dea, and Oldfield (2010) on retirement wealth accumulation.

Falk, Huffman, and Sunde 2012). Other results in columns 5 and 6 are quite comparable in terms of signs, significance levels, and magnitudes of estimated coefficients, though financial literacy now has a somewhat larger impact.

Overall, we conclude that offering people lump sums in lieu of higher annuity payments from Social Security would induce reasonably substantial delays in claiming ages, by about half a year on average if the lump sum were paid on claiming, and by about two-thirds of a year if the lump sum were only payable for benefits claimed after the Full Retirement Age. Those deferring claiming the most under both scenarios are also those who would take their Social Security benefits early under the *Status Quo* scenario. Interestingly, only a few factors seem to differentiate those particularly sensitive to the lump sum offers, including financial literacy which is associated with a larger claiming delay, and confidence in the program's sustainability. Additionally, the most indebted would also delay claiming to obtain the lump sums. Finally, people's delayed claiming patterns do not differ by wealth levels, the presence of other annuities, Social Security benefit amounts, planning horizons, or expected investment returns.

Results for Changes in Work Effort

Having established that people will delay claiming more under both lump sum alternatives than under the *Status Quo* scenario, we next turn to an examination of whether people will simply delay their benefit take-up dates, or whether they will continue to work in the interim. To this end, we report in Figure 3 the distribution of full-time work effort under the *Status Quo* versus the two lump sum scenarios. As before, the box plots represent the 25th and 75th percentiles, with the intermediate line in each case reflecting the median; the dots reflect the mean months of full-time work post-age 62 under each case. The top bar, representing full-time work months beyond age 62 under the *Status Quo*, ranges from 2 to 53 months (median 32). The mean is 34.8 months. The second bar, by contrast, shows that the distribution shifts to the right under the *Lump Sum* scenario, when people can receive part of their benefit stream as a lump sum instead of as a monthly payment. Now, on average, people indicate they will work 36.2 full-time months (median 35) beyond age 62; this difference of 1.4 months is significant at the 10% level. Moreover, the work effort distribution is now compressed on the left, implying that those who would work least under the *Status Quo* are also most likely to work more when the lump sum becomes available. Less change is evident on the right side of the bar, indicating that individuals who would have worked more under the *Status Quo* case would exhibit smaller increments in work effort. The final bar illustrates the pattern of work effort under the *Delayed Lump Sum* scenario, where a lump sum is available only to those who claim after their FRA. Mean work effort again rises, now to 39 months post-age 62, 3.9 months more than under the *Status Quo* and 2.5 months more than under the *Lump Sum* case. These differences are significant at the 1% level.

Figure 3 here

Additional detail on work patterns under the *Status Quo* and two lump sum cases is provided in Table 5, where we again report the number of months of full-time work post age-62 overall (row 1), and also by respondents' demographic characteristics, i.e. sex, marital status, age, education, and whether people were optimistic regarding self-assessed life expectancy. A first point to note is that, under the *Status Quo*, men, singles, those younger than age 62, and the better-educated all spend more time working than their counterparts. Moreover, those who are optimistic about their life expectancy would also elect to expend more work effort. Second, results under both lump sum scenarios are similar, where all groups boost their work effort. Moreover, work effort is consistently the highest under the *Delayed Lump Sum* scenario.

Table 5 here

Turning to a multivariate regression framework, Table 6 helps us test whether respondents having particular characteristics differentially change their work patterns under the two lump sum policy alternatives, holding other factors constant. The three left-hand columns in Table 6 report estimates of the impact of factors shaping changes in work effort (in full-time months) when people see the *Lump Sum* versus the *Status Quo* scenarios; the three right columns compare work effort in the *Delayed Lump Sum* versus the *Status Quo* scenarios. For each dependent variable, the first model (columns 1 and 4) includes only those factors summarized in Table 5 (sex, marital status, age, education, and whether the individual is optimistic regarding his life expectancy). The second model (columns 2 and 5) adds a control for the respondent's work effort selected under the *Status Quo* scenario. This permits us to test whether and which lump sum policies will incentivize people exerting modest work effort under the current system to devote more effort to employment. In the third model (columns 3 and 6), we add an additional control for whether the respondent saw the *Lump Sum* treatment first (versus the *Delayed Lump Sum* treatment), as well as economic covariates (wealth, age 62 benefit, whether the respondent had some other annuity, an indicator for long job tenure, and a dummy variable indicating the respondent had high debt). As before, we also control for indicators of attitudes and preferences, including risk aversion, planning horizon, financial literacy, and an indicator that the respondent was confident in the Social Security system's sustainability (see Table A1 in the Appendix for further detail).

Table 6 here

Results in column 1 show that respondent age is positive and significant; the estimated coefficient implies that a 60-year old would work three months longer (20*0.153) than a 40-year old (*ceteris paribus*). The age effect loses significance in columns 2 and 3, however, after we control on the *status quo* work level. The Total Work SQ term is negative and highly statistically significant, indicating that those who work less under the *Status Quo* would work more under the new policy, and the coefficient is robust to the inclusion of our additional controls in column 3. We also see that, if the respondent is first presented with the *Lump Sum* scenario entitling him to a substantial lump sum relatively early, his work effort is 1.6 months less than when he sees the *Delayed Lump Sum* scenario first. This confirms our earlier finding that respondents shown the *Delayed Lump Sum* scenario first are incentivized to work more.

The other results in column 3 confirm many of the findings from the equivalent column in Table 4, in that only a few factors differentiate people who are most sensitive to the lump sum offers. Once again, given a lump sum, respondents who are very confident in the program's sustainability increase their work effort less than those who distrust the system. Wealthy individuals will also exert less additional work effort, but the risk averse and the debt-constrained increase work more when offered a lump sum versus the base case. Finally, people's change in work effort patterns do not differ depending on the presence of other annuities, Social Security benefit amounts, planning horizons, or expected investment returns. Results are rather similar in columns 4-6 of the table, but often coefficient magnitudes are somewhat smaller while having similar signs and significance levels. Those with most wealth are least likely to increase their work effort in the *Delayed Lump Sum* case, as they can self-finance the waiting period before claiming the lump sum.

Overall, then, providing a lump sum option in lieu of higher annuity payments from Social Security would induce respondents to work more: by about 1.4 months when the lump sum is paid for claiming after age 62, and by 3.9 months if the lump sum is payable only for benefits claimed after the Full Retirement Age. Relating these estimates to the findings in the previous section, we conclude that people would voluntarily work about one-third of the additional months of delayed claiming time in the *Lump Sum* scenario vs. the *Status Quo*, and half the additional delay time in the *Delayed Lump Sum* scenario vs. the *Status Quo*.

Conclusions and Implications

The primary contribution of this paper is to employ empirical microeconomic data to examine how individuals would respond to the chance to exchange part of their Social Security annuities for a lump sum. We do so to test our hypothesis from a stochastic life-cycle model commonly used to study annuitization decisions. In our nationally representative sample of Americans, we show that people would voluntarily work longer, on average, if they were offered an actuarially fair lump sum instead of a delayed retirement annuity under Social Security. Our prior theoretical work predicted that they would do so, and our empirical analysis using the ALP reinforces those predictions.

We show that giving people lump sums in lieu of higher annuity payments from Social Security induces reasonably substantial delays in claiming ages, by about half a year on average if the lump sum is paid for claiming after age 62, and by about two-thirds of a year if the lump sum is payable only for claiming after the Full Retirement Age. Interestingly, those who are most responsive to these incentives prove to be those who would claim early under the *status quo*. Moreover, financial literacy and mistrust in the retirement program's sustainability are associated with greater claiming delays; and the indebted would also delay claiming to obtain the lump sums. Claiming delays do not differ across wealth levels, whether people have other annuities, the level of their Social Security benefit amounts, their risk aversion or planning horizons, or the investment returns they expect on investments. Additionally, we show that people would work one-third to one-half of the additional months, compared to the *status quo*.

Our findings will interest policymakers seeking ways of reforming Social Security without raising costs or cutting benefits, while enhancing the incentives to delay retirement. Boosting Social Security system solvency without cutting benefits appears to be feasible, by offering a fair lump sum in place of the current delayed retirement credit. As, we have shown, people would voluntarily extend their work effort due to the lump sum options examined here. This implies that some workers would pay Social Security payroll taxes for more years. At the same time, given the well-established decline in average labor income toward the end of the work life, the additional work period might add little to the lifetime earnings history on which Social Security benefits are based. Hence the overall solvency of the system could be enhanced. Additionally, from a macroeconomic perspective, incentivizing longer work lives could also offer additional economic resources to help cover the costs of population aging (National Research Council 2012), and working longer may well be associated with better mental and physical health (Rohwedder and Willis 2009).

In terms of future research directions: our policy experiment was designed to be cost-neutral to the Social Security system. That is, our approach has the virtue of not imposing additional solvency concerns on the system nor imposing wealth transfers on the next generation. It remains to be seen whether people might also be willing to delay claiming and work longer for smaller-than-actuarially-fair lump sums, which would enhance the system’s sustainability.

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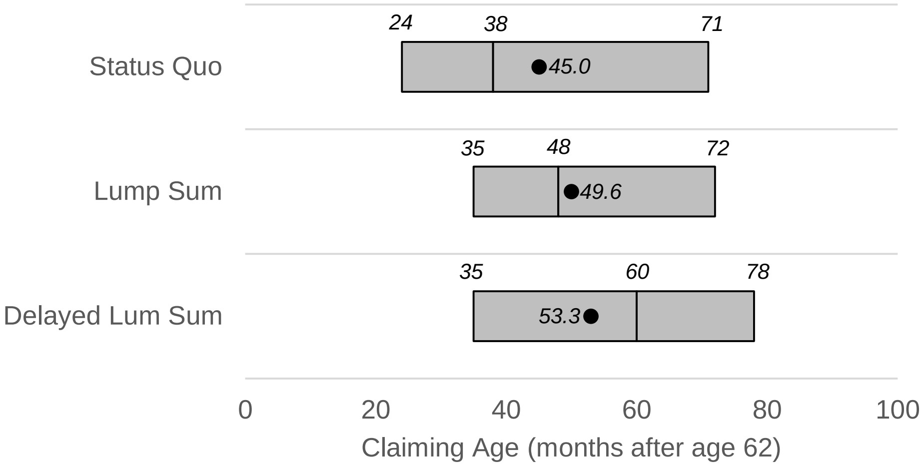
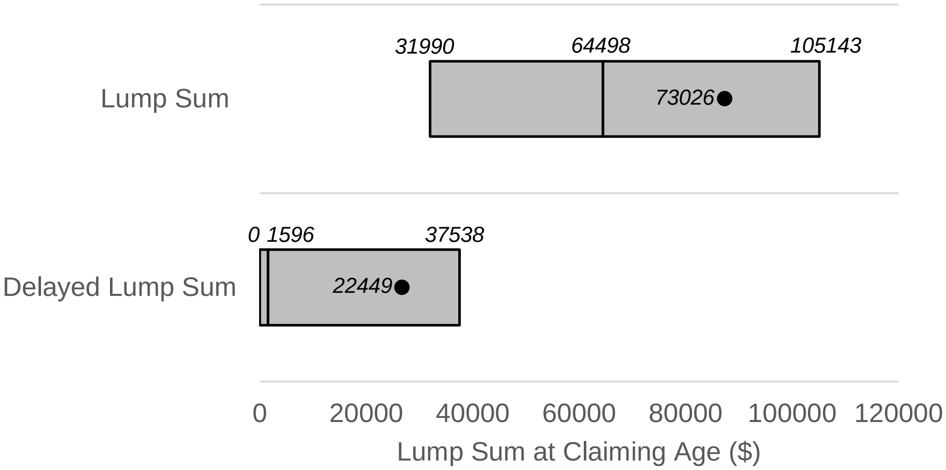
Figure 1: Distribution of Claiming Ages: Status Quo vs. Two Lump Sum Alternatives



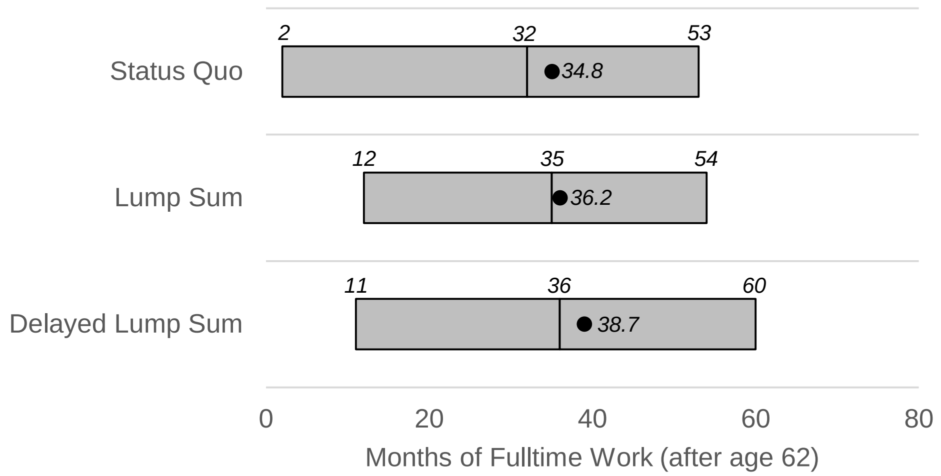
Notes: Boxes represent the 25% and the 75% quantiles of claiming ages, with the intermediate lines at the medians. Black dots represent the mean claiming ages, with differences between the means in the two Lump Sum alternatives and the mean in the Status Quo scenario significant at the 1% level.

Figure 2: Distribution of Lump Sum Payments under Two Lump Sum Alternatives



Notes: Boxes represent the 25% and the 75% quantiles of lump sum payments at the claiming ages, with the intermediate lines at the medians. Black dots represent the mean lump sums.

Figure 3: Distribution of Total Work Effort: Status Quo vs. Two Lump Sum Alternatives



Notes: Boxes represent the 25% and the 75% quantiles of months of fulltime work (after age 62), with the intermediate line at the median. Black dot represents the mean number of months of fulltime work, with differences between the mean in the Lump Sum (Delayed Lump Sum) alternative and the mean in the Status Quo scenario significant at the 10% (1%) level.

Table 1: Delayed Claiming Boosts Monthly Social Security Benefits: Status Quo

Claiming Age	Monthly Benefit: (% of PIA)	Boost with 1 year delay (%)	Cumulative boost compared to age 62 (%)
62	70		
63	75	7.14	7.14
64	80	6.67	14.29
65	86.67	8.34	23.81
66	93.33	7.70	33.33
67	100	7.15	42.86
68	108	8	54.29
69	116	7.41	65.71
70	124	6.90	77.14

Notes: Full Retirement Age (FRA): 67; PIA = Primary Insurance Amount. Source: www.ssa.gov.

Table 2: Illustrative Benefit Impact of Delayed Claiming: Status Quo vs. Two Lump Sum Alternatives

	(1) Status Quo	(2) Lump Sum			(3) Delayed Lump Sum		
Claiming Age	Monthly Benefit	Monthly Benefit	+	Lump Sum	Monthly Benefit	+	Lump Sum
62	1,500	1,500	+	0	1,500	+	0
63	1,607	1,500	+	20,208	1,607	+	0
64	1,714	1,500	+	39,382	1,714	+	0
65	1,857	1,500	+	63,887	1,857	+	0
66	2,000	1,500	+	86,963	2,000	+	0
67	2,143	1,500	+	108,589	2,143	+	0
68	2,314	1,500	+	133,427	2,143	+	28,090
69	2,486	1,500	+	156,480	2,143	+	54,428
70	2,657	1,500	+	177,723	2,143	+	78,988

Notes: Full Retirement Age (FRA): 67, Assumed Social Security Benefit at Age 62: $ 1,500. Status Quo refers to the current Social Security system (column 1). Lump Sum (column 2) holds the monthly benefits constant at all claiming ages; the lump sum amount payable at the claiming age in that row is the actuarial present value of the difference in monthly benefits between the Status Quo and those paid in the Lump Sum scenario. Delayed Lump Sum (column 3) increases monthly benefits to the FRA with no lump sum payment; thereafter monthly benefits are constant and the lump sum is the actuarial present value of the difference in monthly benefits between the Status Quo and the FRA benefit. Source: Authors' calculations.

Table 3: Mean Claiming Ages (Months after Age 62) under Status Quo and Two Lump Sum Alternatives

	%	(1) Status Quo	(2) Lump Sum	(3) Delayed Lump Sum
Overall Sample	100	45.0	49.6	53.3
Sex				
Male	41.1	46.2	50.2	53.7
Female	58.9	44.0	49.2	53.0
Marital Status				
Married	60.0	43.7	48.8	52.3
Non Married	40.0	46.8	50.7	54.8
Age				
< 62	72.5	46.6	50.7	54.8
62-70	27.5	40.7	46.7	49.4
Education				
HS Dropout	4.2	39.8	45.8	47.6
HS Graduate	16.1	34.8	40.0	44.1
More than HS	79.7	47.3	51.7	55.4
Life Expectancy Assessment				
Optimistic	33.5	53.9	57.5	60.7
Pessimistic	66.5	40.4	45.6	49.6

Notes: For variable descriptions see Appendix. N = 2451. Source: Authors' calculations.

Table 4: How Expected Claiming Ages Change given Two Lump Sum Alternatives

	Lump Sum			Delayed Lump Sum		
	(1)	(2)	(3)	(4)	(5)	(6)
Demographic						
Male	-1.25	-0.89	-1.478*	-1.441	-1.153	-1.690*
	(0.916)	(0.836)	(0.888)	(0.899)	(0.849)	(0.902)
Married	1.436	-0.055	-0.581	0.973	-0.216	-0.382
	(0.920)	(0.842)	(0.877)	(0.903)	(0.855)	(0.892)
Age	0.134**	-0.056	0.016	0.07	-0.082	0.007
	(0.055)	(0.051)	(0.056)	(0.054)	(0.052)	(0.057)
Education (yrs)	-0.235	0.243	0.081	-0.237	0.144	0.071
	(0.181)	(0.167)	(0.185)	(0.178)	(0.169)	(0.188)
Optimistic Life Exp.	-2.127	7.142***	7.074***	-1.795	5.603***	6.288***
	(1.872)	(1.759)	(1.783)	(1.839)	(1.786)	(1.813)
Experimental						
Claiming Age SQ		-0.298***	-0.306***		-0.238***	-0.246***
		(0.013)	(0.014)		(0.014)	(0.014)
Saw Lump Sum First			-3.772***			-2.223***
			(0.806)			(0.820)
Economic						
Wealth 50-100K			1.037			-0.686
			(1.381)			(1.404)
Wealth 100K+			-0.267			-1.627
			(1.081)			(1.099)
Other Annuity			-0.384			-0.933
			(0.887)			(0.902)
Benefit at Age 62			0.374			0.902
			(1.074)			(1.092)
Long Tenure (10y+)			-0.499			-2.369
			(1.720)			(1.749)
High Debt			1.925**			1.859**
			(0.894)			(0.909)
Attitudes/Preferences						
Risk Aversion			1.074**			0.936**
			(0.426)			(0.433)
Long Term Planner			0.868			-0.11
			(0.877)			(0.892)
Risky Investing			-0.226			-0.631
			(1.320)			(1.342)
High Expected Return			1.351			-0.273
			(1.258)			(1.279)
High Spending			-0.048			0.408
			(1.203)			(1.223)
Financial Literacy			3.288**			4.708***
			(1.527)			(1.553)
High Political Trust			-2.556***			-3.020***
			(0.860)			(0.874)
R-squared	0.005	0.172	0.192	0.004	0.114	0.133

Notes: Dependent variable is the difference between the claiming ages in the Lump Sum vs. the Status Quo scenario (in months). Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. N = 2451. Missing values controlled. See Appendix for variable descriptions. Source: Authors' calculations.

Table 5: Mean Months of Fulltime Work (after Age 62) under Status Quo and Two Lump Sum Alternatives

	%	(1) Status Quo	(2) Lump Sum	(3) Delayed Lump Sum
Overall Sample	100	34.8	36.2	38.7
Sex				
Male	41.1	38.5	40.0	42.3
Female	58.9	32.2	33.6	36.1
Marital Status				
Married	60.0	32.7	34.8	36.9
Non Married	40.0	37.9	38.4	41.3
Age				
< 62	72.5	35.9	36.5	39.5
62-70	27.5	32.0	35.4	36.6
Education				
HS Dropout	4.2	29.5	33.5	34.9
HS Graduate	16.1	27.3	28.3	30.9
More than HS	79.7	36.6	38.0	40.4
Life Expectancy Assessment				
Optimistic	33.5	43.5	44.7	46.5
Pessimistic	66.5	30.4	32.0	34.7

Notes: Variable Descriptions see Appendix. N = 2451. Source: Authors' calculations.

Table 6: How Total Work Effort Changes given Two Lump Sum Alternatives

	Lump Sum			Delayed Lump Sum		
	(1)	(2)	(3)	(4)	(5)	(6)
Demographic						
Male	-0.129	1.048	0.632	-0.164	0.718	0.281
	(0.728)	(0.689)	(0.733)	(0.710)	(0.689)	(0.728)
Married	1.620**	0.096	0.125	0.954	-0.188	0.084
	(0.731)	(0.695)	(0.725)	(0.713)	(0.695)	(0.720)
Age	0.153***	0.052	0.121	0.097**	0.021	0.109**
	(0.044)	(0.042)	(0.046)	(0.043)	(0.042)	(0.046)
Education (yrs)	-0.261*	-0.028	-0.039	-0.317**	-0.142	-0.112
	(0.144)	(0.136)	(0.152)	(0.140)	(0.136)	(0.151)
Optimistic Life Exp.	0.39	6.052***	6.598***	-0.01	4.232***	5.082***
	(1.488)	(1.439)	(1.467)	(1.451)	(1.439)	(1.456)
Experimental						
Total Work SQ		-0.201***	-0.207***		-0.151***	-0.159***
		(0.011)	(0.012)		(0.011)	(0.012)
Saw Lump Sum First			-1.614**			-1.432**
			(0.665)			(0.660)
Economic						
Wealth 50-100K			-0.413			-2.203*
			(1.138)			(1.130)
Wealth 100K+			-1.947**			-3.214***
			(0.892)			(0.886)
Other Annuity			0.170			-0.414
			(0.732)			(0.727)
Benefit at Age 62			1.135			1.358
			(0.886)			(0.880)
Long Tenure (10y+)			-1.153			-3.114**
			(1.419)			(1.409)
High Debt			1.576**			1.755**
			(0.737)			(0.732)
Attitudes/Preferences						
Risk Aversion			0.827**			1.036***
			(0.350)			(0.348)
Long Term Planner			0.454			0.500
			(0.723)			(0.718)
Risky Investing			0.137			-1.195
			(1.087)			(1.080)
High Expected Return			0.540			-0.312
			(1.037)			(1.030)
High Spending			0.649			0.233
			(0.993)			(0.986)
Financial Literacy			0.994			2.855**
			(1.259)			(1.250)
High Political Trust			-1.701**			-2.027***
			(0.709)			(0.704)
R-squared	0.008	0.119	0.133	0.005	0.071	0.098

Notes: Dependent variable is the difference between the number of months of fulltime work in the Lump Sum vs. the Status Quo scenario. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. N = 2451. See Appendix for variable descriptions. Source: Authors' calculations.

Online Appendix – Tables and Figures

Table A1: Variable Descriptions

Variable Name	Variable Description	Mean	Median
Claiming Age SQ	Claiming Age in Status Quo scenario (in months after age 62)	45.0	38
Claiming Age LS	Claiming Age in Lump Sum scenario (in months after age 62)	49.6	48
Claiming Age DLS	Claiming Age in Delayed Lump Sum scenario (in months after age 62)	53.3	60
Diff LSSQ	Difference between claiming age in Lump Sum and Status Quo scenario (Claiming Age LS - Claiming Age SQ)	4.6	0
Diff DLSSQ	Difference between claiming age in Delayed Lump Sum and Status Quo scenario (Claiming Age DLS - Claiming Age SQ)	8.4	0
Lump Sum LS	Lump sum payment (in $) R receives in Lump Sum scenario at claiming age (Claiming Age LS)	73026	64498
Lump Sum DLS	Lump sum payment (in $) R receives in Delayed Lump Sum scenario at claiming age (Claiming Age DLS)	22449	1596
Work Hours SQ	Weekly work hours in Status Quo scenario (0 for Claiming Age SQ = 0)	24.5	30
Total Work SQ	Months of fulltime work in Status Quo scenario (0 for Claiming Age SQ = 0)	34.8	32
Work Hours LS	Weekly work hours in Lump Sum scenario (0 for Claiming Age LS = 0)	24.8	27
Total Work LS	Months of fulltime work in Lump Sum scenario (0 for Claiming Age LS = 0)	36.2	35
Work Hours DLS	Weekly work hours in Delayed Lump Sum scenario (0 for Claiming Age DLS = 0)	24.2	25
Total Work DLS	Months of fulltime work in Delayed Lump Sum scenario (0 for Claiming Age DLS = 0)	38.7	36
Diff LSSQ Work	Difference between months of full-time work in Lump Sum and Status Quo scenario (Total Work LS - Total Work SQ)	1.4	0
Diff DLSSQ Work	Difference between months of full-time work in Delayed Lump Sum and Status Quo scenario (Total Work DLS - Total Work SQ)	3.9	0
Male	= 1 if R is male; 0 else	0.41	0
Married	= 1 if R is married; 0 else	0.60	1
Age	R's age	55.6	56
Education (yrs)	R's years of education	14.6	14
Optimistic Life Exp.	Difference between R's subjective and his objective[22] probability of living to target age [75, 80, 85], for Rs age [<65, 65-69, 69+]	-0.14	-0.109
Saw Lump Sum First	= 1 if R saw Lump Sum alternative first; 0 if R saw Delayed Lump Sum alternative first	0.50	1
Wealth 50-100K	= 1 if R's household financial wealth is between $50,000 and $100,000; 0 else	0.11	0
Wealth 100K+	= 1 if R's household financial wealth is above $100,000; 0 else	0.42	0
Other Annuity	= 1 if R is/will be receiving any pension other than Social Security now/in the future; 0 else	0.51	1
Benefit at Age 62	R's estimated monthly Social Security benefit at age 62 ($ ’000)	1.194	1.153
Long Tenure (10y+)	= 1 if R worked for pay more than 10 yrs; 0 else	0.93	1
High Debt	= 1 if R would use 50%+ of additional $10,000 to pay off credit card/other debt; 0 else	0.37	0
Risk Aversion	Standardized (mean 0, std 1) risk aversion index, calculated as described in the online appendix of Brown/Kapteyn/Luttmer/Mitchell (2013).	0.0	-0.007
Long Term Planner	= 1 if R makes financial plans for next 5 yrs and more; 0 else	0.40	0
Risky Investing	= 1 if R would invest 50%+ in stocks/real estate; 0 else	0.89	1
High Expected Return	= 1 if R expects investment return of 7%+; 0 else	0.12	0
High Spending	= 1 if R would use 50%+ of additional $10,000 to spend; 0 else	0.15	0
Financial Literacy	Percentage of financial literacy questions answered correctly	0.75	1
High Political Trust	= 1 if R is somewhat/very confident in the Social Security system’s sustainability; 0 else	0.55	1

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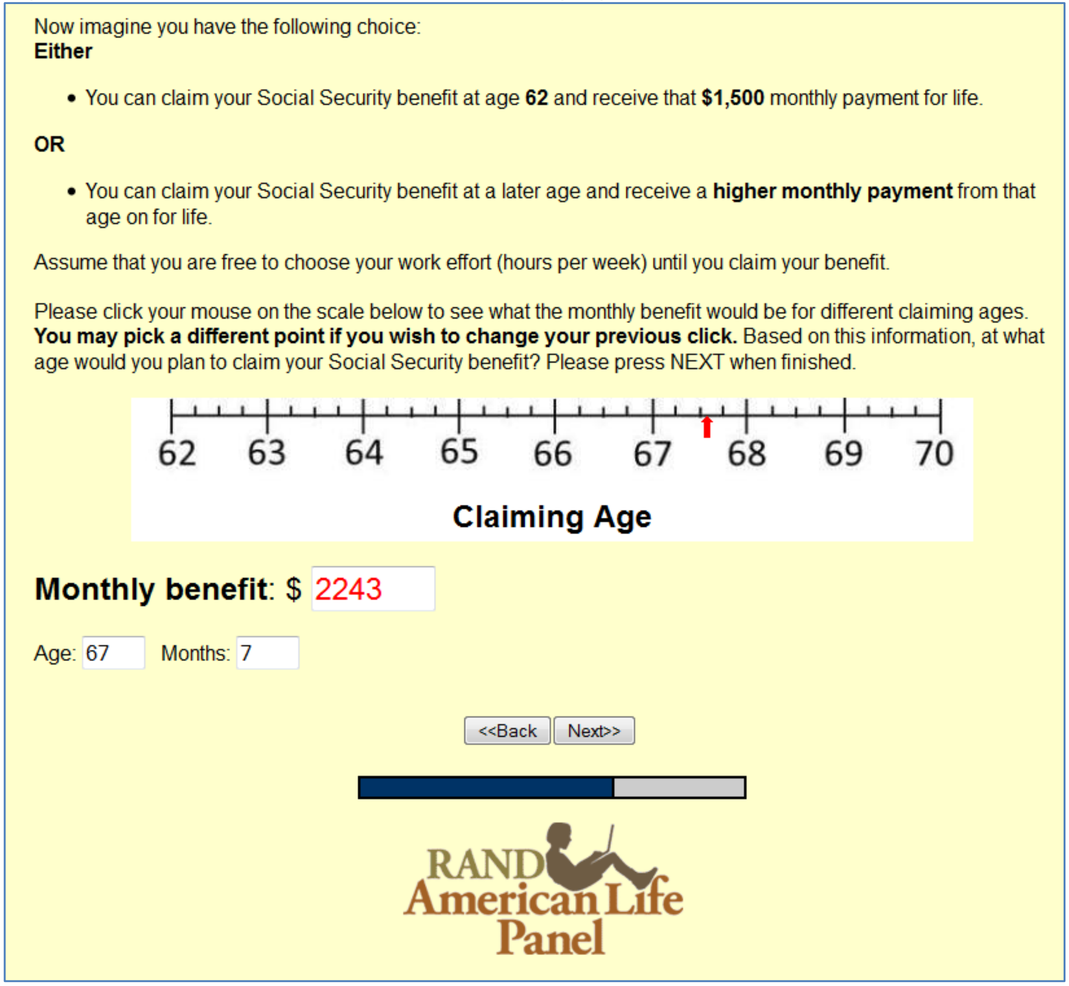
[22] Objective survival probability based on the Alternative 2 mortality probabilities used in the SSA's 2013 Trustees Report (Social Security Administration 2013).

Figure A1: Online Survey Screen Shot – Claiming Age under Status Quo



Now imagine you have the following choice:
Either

- You can claim your Social Security benefit at age **62** and receive that **$1,500** monthly payment for life.

OR

- You can claim your Social Security benefit at a later age and receive a **higher monthly payment** from that age on for life.

Assume that you are free to choose your work effort (hours per week) until you claim your benefit.

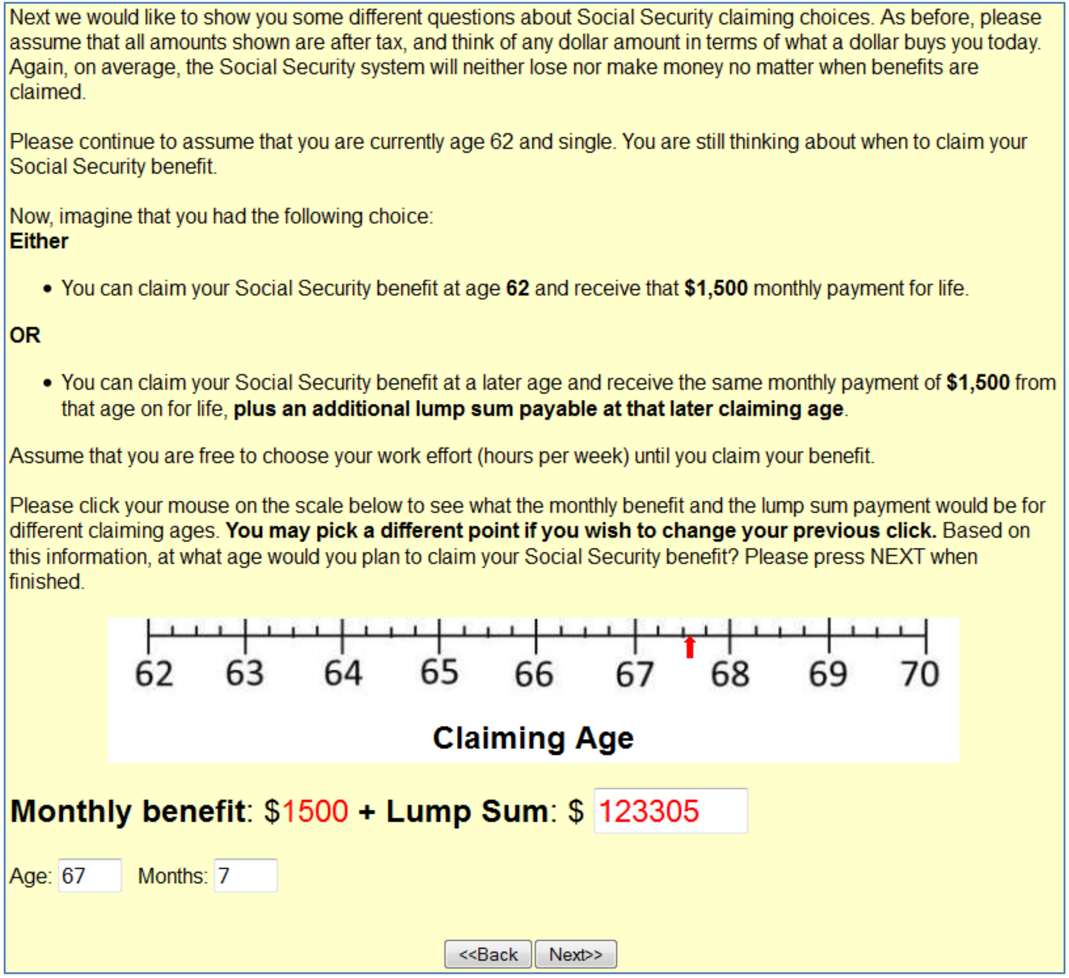
Please click your mouse on the scale below to see what the monthly benefit would be for different claiming ages. **You may pick a different point if you wish to change your previous click.** Based on this information, at what age would you plan to claim your Social Security benefit? Please press NEXT when finished.

Monthly benefit: $ 2243

Age: 67 Months: 7

Notes: Exemplary screen shot of survey as seen by respondent after selecting his claiming age (here 67 and 7 months) in the *Status Quo* scenario. Prior to selecting an age, the text boxes for monthly benefits, age and months show no entry and the red arrow on the scale is not shown.

Figure A2: Online Survey Screen Shot – Claiming Age under Lump Sum Scenario



Next we would like to show you some different questions about Social Security claiming choices. As before, please assume that all amounts shown are after tax, and think of any dollar amount in terms of what a dollar buys you today. Again, on average, the Social Security system will neither lose nor make money no matter when benefits are claimed.

Please continue to assume that you are currently age 62 and single. You are still thinking about when to claim your Social Security benefit.

Now, imagine that you had the following choice:
Either

- You can claim your Social Security benefit at age **62** and receive that **$1,500** monthly payment for life.

OR

- You can claim your Social Security benefit at a later age and receive the same monthly payment of **$1,500** from that age on for life, **plus an additional lump sum payable at that later claiming age**.

Assume that you are free to choose your work effort (hours per week) until you claim your benefit.

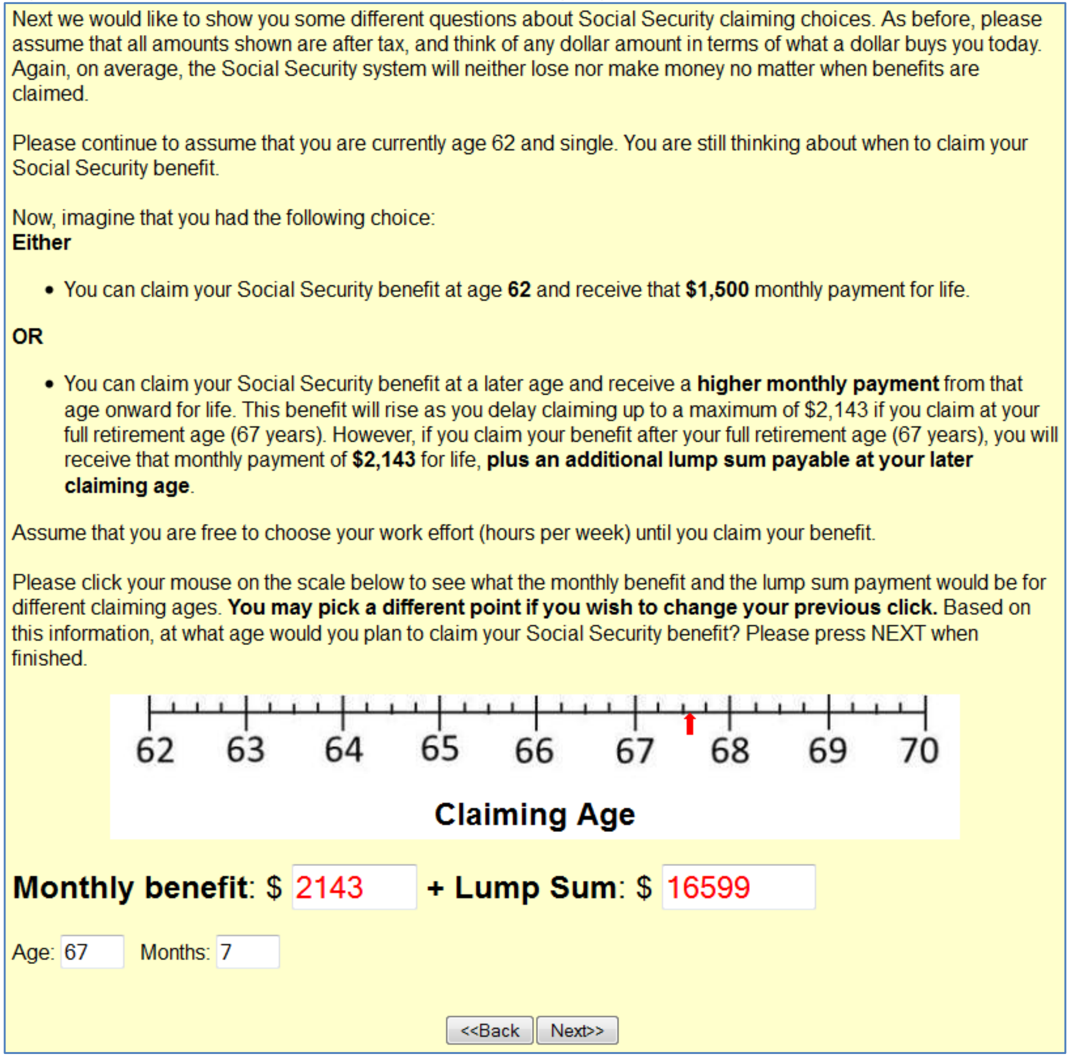
Please click your mouse on the scale below to see what the monthly benefit and the lump sum payment would be for different claiming ages. **You may pick a different point if you wish to change your previous click.** Based on this information, at what age would you plan to claim your Social Security benefit? Please press NEXT when finished.

Monthly benefit: $1500 + **Lump Sum**: $ 123305

Age: 67 Months: 7

Notes: Exemplary screen shot of survey as seen by respondent after selecting his claiming age (here 67 and 7 months) in the *Lump Sum* scenario. Prior to selecting an age, the text boxes for lump sum, age and months show no entry and the red arrow on the scale is not shown.

Figure A3: Online Survey Screen Shot – Claiming Age under Delayed Lump Sum Scenario



Next we would like to show you some different questions about Social Security claiming choices. As before, please assume that all amounts shown are after tax, and think of any dollar amount in terms of what a dollar buys you today. Again, on average, the Social Security system will neither lose nor make money no matter when benefits are claimed.

Please continue to assume that you are currently age 62 and single. You are still thinking about when to claim your Social Security benefit.

Now, imagine that you had the following choice:
Either

- You can claim your Social Security benefit at age **62** and receive that **$1,500** monthly payment for life.

OR

- You can claim your Social Security benefit at a later age and receive a **higher monthly payment** from that age onward for life. This benefit will rise as you delay claiming up to a maximum of $2,143 if you claim at your full retirement age (67 years). However, if you claim your benefit after your full retirement age (67 years), you will receive that monthly payment of **$2,143** for life, **plus an additional lump sum payable at your later claiming age**.

Assume that you are free to choose your work effort (hours per week) until you claim your benefit.

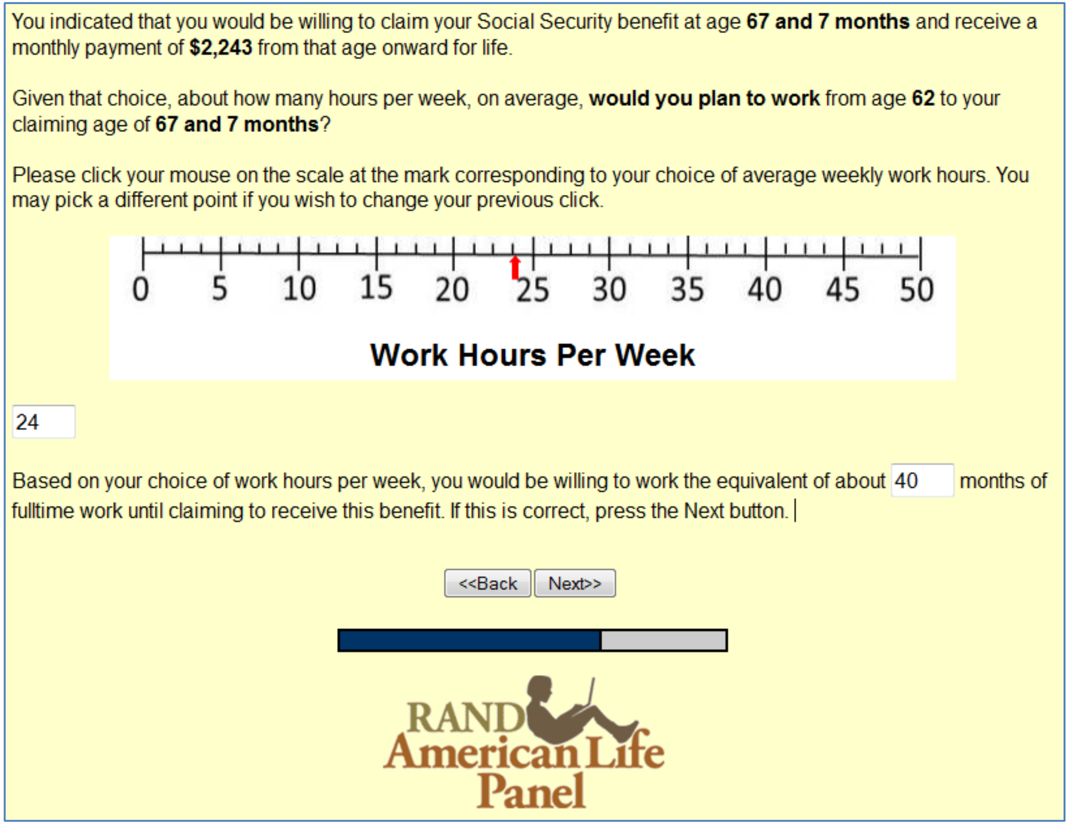
Please click your mouse on the scale below to see what the monthly benefit and the lump sum payment would be for different claiming ages. **You may pick a different point if you wish to change your previous click.** Based on this information, at what age would you plan to claim your Social Security benefit? Please press NEXT when finished.

Monthly benefit: $ 2143 **+ Lump Sum**: $ 16599

Age: 67 Months: 7

Notes: Exemplary screen shot of survey as seen by respondent after selecting his claiming age (here 67 and 7 months) in the *Delayed Lump Sum* scenario. Prior to selecting an age, the text boxes for lump sum, age and months show no entry and the red arrow on the scale is not shown.

Figure A4: Online Survey Screen Shot – Work Effort under Status Quo Scenario



You indicated that you would be willing to claim your Social Security benefit at age **67 and 7 months** and receive a monthly payment of **$2,243** from that age onward for life.

Given that choice, about how many hours per week, on average, **would you plan to work** from age **62** to your claiming age of **67 and 7 months**?

Please click your mouse on the scale at the mark corresponding to your choice of average weekly work hours. You may pick a different point if you wish to change your previous click.

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Based on your choice of work hours per week, you would be willing to work the equivalent of about 40 months of fulltime work until claiming to receive this benefit. If this is correct, press the Next button.

Notes: Exemplary screen shot of survey as seen by respondent after selecting his work effort (24 hours per week) in the *Status Quo* scenario (after having selected a claiming age of 67 years and 7 months on the previous screen). Prior to selecting a work effort, the text boxes show no entry and the red arrow on the scale is not shown. The corresponding question regarding work effort in the two lump sum alternatives had equal wordings and design.

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