Does Information Influence the Choice between Social Security Disability and Early Retirement Benefits?

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Preliminary and incomplete; Please do not circulate or cite without authors' permission.

November 2025

Abstract

The Social Security program provides retirement benefits to older individuals, as well as disability benefits largely to young and middle-aged individuals. However, people between the ages of 62 and full retirement age with a work-limiting disability may be able to choose between a disability benefit and an early (actuarially reduced) retirement benefit. Applying for a disability benefit requires more time and effort than applying for an early retirement benefit, but those who qualify generally receive a larger monthly benefit than they could obtain from the retirement program. In this paper, we examine the role of information in the choice between retirement and disability benefits for retirement-eligible individuals. Specifically, we examine whether their decision is influenced by the receipt of a Social Security statement providing information about the available benefits from both programs. We find that the probability of applying for disability benefits increases by 174 percent for who report a work-limiting health condition compared to their likelihood before receiving the statement, and much of this increase is through joint applications for both disability and early retirement benefits. This shows that providing information about these programs early in the 62 to full retirement age window nudges a larger share of people towards dealing with the administrative burden of applying for disability benefits in order to receive a larger financial payout, but also towards claiming early OAI benefits with a financial penalty if the application for disability benefits is denied.

Acknowledgements: We are grateful for comments and suggestions from Jody Schimmel Hyde, Stephanie Rennane, Phil Armour, and attendees at ASHEcon, WALES, APPAM, and SHESG. We also thank the University of Michigan for providing data linkage between HRS and Social Security Administration data.

I. Introduction

The Social Security retirement program represents the largest source of income for most older Americans. Under this program, Old Age Insurance (OAI) benefits for retired workers may be claimed starting at age 62, although individuals who choose to delay claiming receive an actuarial increase in their monthly benefit for each month of delay through age 70.[1] In addition, the Social Security Disability Insurance (DI) program provides benefits to young and middle-aged individuals who have disabilities that prevent them from working. While the population served by the DI program is younger than the population served by the OAI program, people between ages 62 and full retirement age (which has ranged from 65 for those born in 1937 and earlier to 67 for those born in 1960 or later) may be eligible to apply for both benefits, although they can only receive one at a time.

For individuals in this age range, the choice between OAI and DI benefits may be driven by administrative burden and also access to information. The DI program imposes a large administrative burden on applicants, who must show that they are unable to perform work due to their disability. In contrast, the application process for OAI is relatively straightforward for those who qualify based on age. Thus, people who are eligible to apply for both DI and OAI may opt to claim OAI only, which generally pays lower benefits but imposes a much smaller administrative burden.[2] While forgoing a DI application in favor of claiming an early OAI benefit could be a rational response to administrative burdens, it could also reflect a lack of understanding of the DI and OAI program benefits and their complex rules. We examine the impact of information provision – via mailings of the Social Security Statement, which provides personalized information on the OAI and DI benefits available at each age – on the choice

[1] OAI also includes benefits for dependent spouses that can be claimed starting at age 62, and the broader Social Security Old Age and Survivors Insurance (OASI) program includes benefits for survivors that can be claimed starting at age 60. In this paper, we focus on OAI benefits for retired workers who qualify based on their own earnings record.

[2] OAI benefits are also payable with minimal delay. However, individuals can apply for both benefits simultaneously, starting to receive an OAI benefit immediately and switching to the higher DI benefit if the application is approved. In addition, OAI benefits impose fewer restrictions on beneficiaries' earnings from work, which may make them more attractive to people who are only partially disabled.

between OAI and DI. Our identification strategy exploits plausibly exogenous policy-driven variation in the timing of Social Security statement mailings.

In recent decades, the Social Security Administration (SSA) has sent statements to future beneficiaries providing personalized projections of their OAI and DI benefit amounts at each age. There has been considerable policy-induced variation in the timing of these mailings based on year and birth cohort, and Armour (2020) shows that people are more likely to remember having received the statement the more recently it was sent. We exploit this arguably exogenous variation in timing to estimate how the probability of claiming DI and early OAI evolves in the months following receipt of a Social Security statement. Our main data source is the Health and Retirement Study (HRS), a panel survey of individuals aged 51 and older and their spouses. We merge the public-use version of the HRS with restricted-use administrative Social Security records that indicate the dates of application for DI and OAI benefits and whether a person's work history qualifies them for benefits. Our main estimation focuses on the subset of individuals who are between 62 and full-retirement age (FRA) and have not previously applied for DI or OAI, and we divide this sample by whether or not the individual self-reports a work-limiting health condition or is found to have a low work-ability index.

Our work contributes to the broader literature on the substitutability between OAI and DI benefits. GAO (1999) and Rutledge (2012) provide evidence of this substitutability by documenting a sharp drop in DI applications at age 62, the age at which reduced OAI benefits become available. Furthermore, Leonosio, Vaughan, and Wixon (2003) use simulation methods to estimate that around 12 percent of individuals receiving early OAI benefits would meet the criteria to qualify for either DI or Supplemental Security Insurance (SSI). There is substantial evidence that people tend to substitute towards enrolling in DI when DI benefits become more generous relative to OAI benefits (Duggan, Singleton and Song 2007; Li and Maestas 2008; Coe and Haverstick 2010), and this appears to be true specifically for individuals between the ages of 62 and 70 (Benítez-Silva and Yin 2014). We examine a different aspect of the substitutability between these two benefits by focusing on the role that information plays in driving individual choices.

We also contribute to the literature on the role that administrative costs and informational constraints play in both retirement planning and access to government benefits. For example, in a series of interviews, adults with disabilities who had not yet applied for disability benefits reported that they faced high transaction costs, perceived low approval rates, and informational barriers, including difficulty in finding eligibility details and relevant benefit information (Rabinovich et al., 2024). There is significant variation in knowledge about some OAI benefit features, although the reduction in retirement benefits due to claiming before FRA is relatively well understood by American adults aged 50 to 70 (Liebman and Luttmer 2012). However, educational attainment plays an important role, with 17 percent of non-college-educated individuals believing that there is no benefit reduction for early claims compared to 6 percent of college-educated individuals (Bairoliya and McKiernan 2022), and individuals with lower educational attainment being more likely to claim DI or early retirement compared to their more educated counterparts (Venti and Wise 2015).

Finally, we contribute to the literature on the impact of the Social Security statement. Prior research on this topic has shown that receiving a Social Security statement improves Social Security knowledge (Cook, Jacobs, and Kim 2010; Smith and Couch 2014; Mastrobuoni 2011; Seiter and Slavov 2023) and increases the likelihood of applying for DI benefits among those who have a work-limiting disability (Armour, 2018). There is also evidence that people aged 50 and above are particularly attentive to these statements, using them extensively for retirement planning and relying heavily on the information provided for financial decisions (Smith, 2015). However, while the statement significantly improved understanding of potential Social Security benefits among workers, especially those who had not interacted directly with the SSA, its influence on actual retirement behaviors, such as altering the age at which workers claim benefits, remains inconclusive (Sass, 2015). For example, Mastrobuoni (2011) uses the HRS data and finds that statement receipt has no significant impact on the decision to delay either retirement benefits or retirement itself, while Smith (2020) uses SSA's Continuous Work History Sample administrative data and finds that statement receipt, especially when multiple statements are received, does have a significant effect on delaying retirement benefits. The structure and formatting of the SSA

statement were recently redesigned, and Perez-Arce and Rabinovich (2022) find that while the redesigned statement increased clarity and understanding, this did not necessarily translate into action, as there was no significant increase in interactions with the SSA's website or changes in actual benefit claiming behaviors.

To our knowledge, no studies have examined the role of information, in the form of the Social Security statement, for the subset of people who face a choice between taking early OAI and applying for DI. However, this question has significant implications for retirement security. Early OAI benefits can be up to 30 percent lower than DI benefits, and a large literature has documented that many people seem to claim Social Security retirement benefits suboptimally early (Shoven and Slavov 2014a,b; Reicherstein and Meyer 2021; Altig, Kotlikoff, and Ye 2022; Bairoliya and McKiernan 2022). Moreover, the choice between DI and OAI benefits affects a vulnerable population. Older people who have work-limiting health conditions are less likely to have had opportunities to save for retirement earlier in their careers or to be able to supplement their retirement income with work. Underscoring the importance of this topic, the Social Security Advisory Board recently released a report on DI and OAI receipt among individuals between 62 and FRA and made policy recommendations to improve communication to people in this age range who may be eligible for both benefits (SSAB, 2025). Our work directly addresses this recommendation by evaluating the effectiveness of an existing form of communication.

Our results show that receipt of the first Social Security statement after age 60 is associated with a 174 percent increase in the probability of applying for DI among those with a work-limiting health condition compared to their likelihood before receiving the statement, and much of this increase is through joint applications for both DI and OAI. In contrast, receipt of the third and/or fourth post-age-60 statement reduces the probability of applying for DI either alone or with OAI among those with a work-limiting health condition. This decline may be because a recipient is typically close to FRA by this time, and the statement may remind them that they only have to wait a short time to receive the same monthly benefit without a cumbersome application process. These results suggest that providing information in a Social Security statement on the benefit amounts from claiming OAI versus DI does, in fact, influence the

claiming behavior of people who are eligible for both programs. Specifically, receiving a statement early in the 62-FRA window appears to nudge those with work-limiting disabilities towards applying for both programs. That is, it seems to increase the willingness to deal with the administrative burden of applying for DI, which provides the possibility of a larger financial payout, while also being willing to receive lower OAI benefits if their DI application is unsuccessful.

The rest of the paper is organized as follows. Section II provides background on the DI and OAI programs, as well as the Social Security Statements. Section III presents a theoretical model of the relationship between statement receipt and the decision to apply for DI or early retirement benefits. Section IV describes the HRS data that we use for this study, while Section V describes the empirical methods used to examine the relationship between receiving a Social Security Statement and claiming behavior for those in early retirement. Section VI provides the results of our empirical analyses, and Section VII concludes.

II. Background

a. Retirement and Disability Programs

Social Security Old Age Insurance (OAI) provides benefits for both retired workers and dependent spouses. Benefits for retired workers are based on the monthly average of the worker's highest 35 years of earnings, a value known as average indexed monthly earnings (AIME). A progressive formula is applied to AIME, resulting in a value known as the worker's primary insurance amount (PIA). The PIA is the monthly amount that an individual would receive if they were to claim benefits at FRA, which has ranged from 65 to those born in 1937, and earlier to 67 for those born in 1960 or later. Benefits may be claimed as early as 62, with an actuarial reduction based on the number of months prior to FRA that benefits are claimed. Benefits delayed beyond FRA earn delayed retirement credits through age 70. An individual needs to have worked for 10 years (earning above a minimum threshold) to qualify for retired worker benefits. Individuals who have reached OAI eligibility age face a relatively straightforward application process and can expect to wait approximately 60 days before getting approval for benefits.

Table 1 shows the OAI benefits available at alternative claiming ages, as a percent of PIA, to a worker born in 1960 or later. In addition to benefits for retired workers, OAI provides benefits to dependent spouses. The OAI spousal benefit is equal to half the primary earner's benefit, with actuarial adjustments applied between 62 and FRA. Secondary earners may receive the higher of the spousal benefit and the benefit based on their own record. However, our focus in this paper is on benefits for retired workers.

Social Security Disability Insurance (DI) benefits are also based on a worker's AIME, although the number of years used in the computation is often less than 35, depending on the worker's age and work experience. The same PIA formula is applied to AIME to arrive at the monthly DI benefit. A DI beneficiary typically receives the full amount of the PIA each month, following a five-month waiting period, regardless of their age; the only exception is when the DI benefit amount is reduced because the beneficiary received certain public disability benefits or workers' compensation. As shown in Table 1, for workers aged 62-66 who qualify for DI and do not receive public disability benefits or workers' compensation, claiming DI would result in a larger monthly benefit amount compared to claiming an early OAI benefit.

The process for applying for DI is more cumbersome and uncertain than the process for applying for OAI; see Figure A.1 for a visual depiction of the DI application process and timing. DI applicants can submit their application over the phone, online, or at an in-person appointment at an SSA field office. Applications must be accompanied by medical evidence of the disability. Once an application is submitted, it undergoes an initial financial screening at the SSA field office responsible for the applicant's zip code, a procedure that is independent of the application's submission location and takes 15.3 days on average (SSA, 2024). After that, the application will be sent to a Disability Determination Services (DDS) office in the state where applicant resides. The DDS office takes between 3 to 6 months to review the application and corresponding medical records. As discussed by USA Facts (2023), between 2008 and 2020, the average processing time for initial disability benefit applications ranged from 100 to 120 days. The wait time increased drastically after COVID-19, and as of April 2023, an applicant had to wait approximately 222 days for the initial decision. However, only 38 percent of applicants who met the

technical requirements for DI were approved at this initial stage; many more received their DI benefits through an appeal, which adds time and effort to the application process (USA Facts 2023). According to Autor et al. (2015), the total processing time, if denied and then appealed, extends up to about 28.47 months on average. This long and challenging process can escalate the efforts required from applicants and create significant uncertainty.

People between the ages of 62 and FRA may apply for both DI and early OAI benefits at the same time. The OAI application asks whether the claimant has been unable to work because of illnesses, injuries, or conditions. If the claimant answers "yes," they are asked whether they would like to file a DI application, and whether they prefer to do so in person, by telephone, or online. In this case, the individual would receive their reduced OAI benefit while they await the determination on their DI application. If their DI application is approved, the worker's benefits will increase to the DI amount, retroactive to the date of disability. Similarly, the DI application asks the claimant if they would like to receive reduced OAI benefits while waiting for the disability decision. Applying for both DI and OAI benefits simultaneously can be an optimal strategy if the worker hopes to qualify for the higher DI benefit amounts but prefers to receive early OAI benefits while awaiting the decision. The main downside to this strategy is that the worker is committing to claiming the OAI benefit early. If the DI application is denied, claiming OAI early can have long-term negative financial implications compared to waiting to claim at FRA.

b. Social Security Statements

Beginning in 1995, SSA began mailing statements to workers to provide information on their earnings record and Social Security benefits. The statements are sent three months prior to the eligible individuals' birthdays. Information contained in the statements includes a worker's earnings and contribution history; estimated retirement benefits at the earliest retirement age of 62, FRA, and age 70; and estimated disability, survivor, and Medicare benefits. A sample statement from 2021 can be found in Appendix Figure A.2. The Omnibus Budget and Reconciliation Act of 1989 required SSA to mail these

statements to eligible individuals aged 60 and older who were not receiving Old Age, Survivors and Disability Insurance (OASDI) benefits.[3] Eligible individuals included workers who had a Social Security number and either wages or net earnings from self-employment. Between fiscal years 1996 and 1999, the age range of individuals eligible to receive statement mailings was expanded to include younger workers, which gradually increased the volume of mailed statements (Smith, 2020). Beginning in fiscal year 2000, statements were mailed to all eligible workers aged 25 or older. However, between March 2011 and September 2014, the agency suspended mailing statements due to budget constraints (Smith, 2020). During that time (in 2012), the Social Security Statement became available online for those with online My Social Security accounts (Waggoner, 2022). In 2014, statement mailing resumed to workers who were ages 25, 30, 35, 40, 45, 50, 55, and 60 or older. However, as of 2017, paper statements are only mailed only to workers 60 and over who are not yet collecting benefits and who have not set up an online My Social Security account. A detailed description of the statement mailing schedule can be found in Table 2. In short, the statement mailing schedule has been changed multiple times over the past two decades, and we use this arguably exogenous variation in the timing of statement receipt based on age, year, and birth cohort to estimate the impact of the arrival of information on the DI and OAI claiming choices of individuals between 62 and FRA.

III. Theoretical Model

In this section, we present a theoretical model to generate predictions about the change in disability and early retirement applications when the perceived value of the benefits changes (for example, through receipt of an SSA statement with information about benefit amounts). This model adapts Diamond and Sheshinski's (1995) model of the optimal level of retirement and disability benefits to incorporate imperfect information about the value of disability benefits relative to retirement benefits.

Consider an individual between the ages of 62 and FRA who faces the following options: they can work until FRA and receive full retirement benefits, claim early retirement benefits, or apply for disability

[3] For the text of the legislation, see https://www.congress.gov/bill/101st-congress/house-bill/3299.

benefits (either with or without claiming retirement benefits while they wait for the application decision). Let $c_{w,t}$ denote monthly earnings from work at age *t* (measured in months); if the individual works until FRA, there is a disutility from work, θ, expressed in monetary terms and as a present value. We assume that θ directly reflects the individual's health; in particular, a high value of θ indicates poor health. Let c_b denote the monthly retirement benefit at FRA, which is equivalent to the monthly DI benefit that can be claimed prior to FRA for those who qualify.[4] We assume $c_b < c_{w,t}$; that is, the benefits replace less than 100 percent of earnings from work. There is a penalty for claiming retirement benefits early, which depends on the individual's current age. Thus, the net monthly benefit from claiming retirement early is $c_b - z(a)$, where $z(a)$ is the penalty as a function of current age (a). We assume that $z(a)$ is positive and decreasing in age for ages strictly below FRA, and that it reaches zero at FRA.[5] Qualifying for DI benefits allows a person to receive c_b without a penalty before reaching FRA. We assume the probability of being approved for DI is an increasing function of health, $p(\theta)$; for simplicity, we let $p(\theta) = \theta$, where both are bounded by 0 and 1. There is an administrative cost to applying for disability benefits that is paid regardless of whether benefits are awarded. Let d denote this cost expressed in monetary terms.

The Social Security statement provides information about the size of the early retirement penalty, $z(a)$, as well as the amount of the DI and FRA retirement benefits, both of which are c_b. Thus, if the individual's policy knowledge is imperfect, we can interpret receipt of the Social Security statement as updating the individual's perceptions of $z(a)$ (the penalty from claiming early retirement) and c_b (the DI and FRA retirement benefit).

The choices facing the individual between the ages of 62 and FRA are as follows:

1) Joint Application: Apply for DI and take early retirement if not approved. In practice, this option involves applying for both benefits, claiming early retirement (and stop working) while waiting

[4] The amount of the retirement benefit is based on past earnings, which means that the retirement benefit at FRA may be higher than the DI benefit before FRA if the person increases their earnings between the time they would claim the DI benefit and FRA. For simplicity, we will assume the retirement benefit at FRA and DI benefits are the same.

[5] The penalty, z(a), becomes negative after reaching FRA, resulting in the OAI benefit exceeding 100% of PIA. However, in this paper, we only focus on the age group between 62 and FRA where the penalty is positive.

for the DI decision, and switching from retirement to DI if approved. We assume utility is linear in consumption, which means the perceived expected lifetime utility from applying for DI is the following:

$$U_J = \theta \sum_{t=a}^{T(\theta)} \beta^{t-a} c_b + (1-\theta)\left[\sum_{t=a}^{T(\theta)} \beta^{t-a}(c_b - z(a))\right] - d$$

$$= \sum_{t=a}^{FRA-1} \beta^{t-a} c_b - (1-\theta)\sum_{t=a}^{T(\theta)} \beta^{t-a} z(a) - d + \sum_{t=FRA}^{T(\theta)} \beta^{t-a} c_b$$

where $T(\theta)$ the anticipated age at death (in months), β is the monthly discount factor, and FRA is measured in months.

2) DI Only: Apply for DI and work if not approved. The expected lifetime utility from this choice is:

$$U_{DI} = \theta \sum_{t=a}^{T(\theta)} \beta^{t-a} c_b + (1-\theta)\left[\sum_{t=a}^{FRA-1} \beta^{t-a} c_{w,t} - \theta + \sum_{t=FRA}^{T(\theta)} \beta^{t-a} c_b\right] - d$$

$$= \theta \sum_{t=a}^{FRA-1} \beta^{t-a} c_b + (1-\theta)\left[\sum_{t=a}^{FRA-1} \beta^{t-a} c_{w,t} - \theta\right] - d + \sum_{t=FRA}^{T(\theta)} \beta^{t-a} c_b$$

3) Retirement Only: Apply for early retirement only (and stop working). The expected lifetime utility from this choice is:

$$U_R = \sum_{t=a}^{T(\theta)} \beta^{t-a}(c_b - z(a))$$

$$= \sum_{t=a}^{FRA-1} \beta^{t-a}(c_b - z(a)) - \sum_{t=FRA}^{T(\theta)} \beta^{t-a} z(a) + \sum_{t=FRA}^{T(\theta)} \beta^{t-a} c_b$$

4) Work: Apply for neither DI nor early retirement, and work until FRA. The expected lifetime utility from this choice is:

$$U_w = \sum_{t=a}^{FRA-1} \beta^{t-a} c_{w,t} - \theta + \sum_{t=FRA}^{T(\theta)} \beta^{t-a} c_b$$

Note that the last term, $\sum_{t=FRA}^{T(\theta)} \beta^{t-a} c_b$, is common to all four expressions above: it represents the present value of the of the unreduced retirement benefit from FRA through the end of life. Note further that $U_J \geq U_{DI}$ if and only if $U_R \geq U_W$. In other words, the ranking of early retirement and work is independent of the decision to apply for DI. Those who prefer early retirement to working will always opt for early retirement (and not work) if DI is denied.

We can express the utility from each of the choices relative to the utility from working (and not applying for either benefit) as follows:

$$\text{Joint application:} \quad \Delta U_J = U_J - U_w = \sum_{t=a}^{FRA-1} \beta^{t-a}(c_b - c_{w,t}) - (1-\theta)\sum_{t=a}^{T(\theta)} \beta^{t-a} z(a) - d + \theta$$

$$\text{DI only:} \quad \Delta U_{DI} = U_{DI} - U_w = \theta \sum_{t=a}^{FRA-1} \beta^{t-a}\left(c_b - c_{w,t}\right) - d + \theta$$

$$\text{Early retirement only:} \quad \Delta U_R = U_R - U_w = \sum_{t=a}^{FRA-1} \beta^{t-a}(c_b - z(a) - c_{w,t}) - \sum_{t=FRA}^{T(\theta)} \beta^{t-a} z(a) + \theta$$

Generally, the utility of applying for benefits is increasing in θ. The utility of a joint application (relative to working) is increasing in θ for two reasons. First, θ increases the probability of qualifying for DI as well as the disutility from work, making a joint application more attractive. Second, the cumulative penalty for committing to claiming retirement early if the DI claim is denied – represented by the second summation in the joint application equation above – is smaller in magnitude for those with higher θ because the likelihood of a denied DI claim is small and life expectancy ($T(\theta)$) is likely decreasing in θ. By similar logic, the equations for DI only and early retirement only suggest that the utility from these options (relative to work) is also increasing in θ. Thus, all else equal, the theoretical model predicts that both DI and early retirement applications are increasing in θ.

For those who choose to apply for benefits, we can express the utility of submitting a joint application or DI only versus applying for early retirement as follows:

$$\text{Joint application vs. early retirement:} \qquad U_J - U_R = \theta \sum_{t=a}^{T(\theta)} \beta^{t-a} z(a) - d$$

$$\text{DI only vs. early retirement:} \qquad U_{DI} - U_R = (1-\theta)\left[\sum_{t=a}^{FRA-1} \beta^{t-a}(c_{w,t} - c_b) - \theta\right] - d + \sum_{t=a}^{T(\theta)} \beta^{t-a} z(a)$$

These expressions suggest that a joint application is preferred over claiming early retirement if the cost of applying for DI (d) is smaller than the expected lifetime penalty from claiming early retirement; in calculating the latter, the individual considers both mortality risk (captured in $T(\theta)$) and the probability of the DI application being approved (θ). Applying for DI only is preferred over claiming early retirement if the cost of applying for DI (d) is smaller than the expected difference between working (account for both the income and disutility of work) and collecting benefits if DI is denied. Overall, a joint or DI application is likely the optimal choice for those who face a low DI application cost or a low expected lifetime penalty (perhaps due to a short life expectancy).

In this model, individuals who incorrectly estimate c_b (the perceived DI and FRA retirement benefit) or $z(a)$ (the perceived penalty from claiming early retirement) may diverge from their optimal choice. Receiving a Social Security statement potentially provides a more accurate estimate of c_b and $z(a)$. The impact of a one-unit increase in c_b or $z(a)$ on the decision to apply for DI, early retirement or both statements over work is summarized in Table 3. As shown in the table, an increase in c_b increases the utility of both a joint application and an early retirement application regardless of θ. The utility of an application for DI only increases as well, particularly for those with high θ. An increase in $z(a)$ decreases the utility of a joint application or an early retirement application for all individuals, particularly for individuals with a high θ. It does not affect the utility of an application for DI only. If the statement decreases c_b or $z(a)$, the impacts would go in the opposite direction.

The goal of our empirical analyses is to test these theoretical predictions. First, we examine whether those who have a higher θ are more likely to apply for DI and early retirement. Next, we examine the impact of receiving an SSA statement on the decision to apply for DI or claim early retirement. If the statement increases the perceived c_b, there is a clear prediction that statement receipt will increase DI applications. The impact of receiving the statement on early retirement is less clear. Suppose the statement increases both c_b and $z(a)$. If the increase in $z(a)$ dominates, we would expect a decrease in early retirement claims; however, if the increase in c_b dominates, we would expect to see an increase in early retirement claims, either on their own or jointly with DI applications.[6]

IV. Data

We use data from the HRS, a panel survey that is representative of the U.S. population aged 51 and older and their spouses. The survey began in 1992 with a cohort born between 1931 and 1941 (and their spouses) and has been conducted every other year since then, with additional cohorts added at later dates to keep the sample representative of the target population. We begin with the public use version of the HRS and extract information on each respondent's demographic and educational characteristics, as well as their month and year of birth. We drop observations of spouses that are younger than 51, which is the target age of the HRS sample, older than FRA, and any respondent who is missing birthdate information. We received permission to link this public-use data to restricted-use administrative data derived from Social Security Administration earnings and benefits. These data contain full earnings histories and the exact dates of any applications for retirement or disability benefits (and their outcomes) for respondents who consent to the linkage. Based on the earnings records, we construct indicators for

[6] We had hoped to examine the impact of receiving a statement on a group for whom we think a joint or DI application is most likely to be optimal (those with a low application cost and potentially low life expectancy) by focusing on individuals with conditions on the Compassionate Allowances List, which is a list of conditions for which SSA fast-tracks SSDI applications. However, this was not feasible because only a tiny fraction of claimants in our sample reported diagnoses that would trigger expedited processing and were asked about in the HRS.

whether a respondent has sufficient work history to qualify for disability or retirement benefits at any point in time.[7]

Our theoretical model suggests that the impact of statement receipt varies with health (θ). To proxy for this unobservable characteristic, we use the public HRS data to construct a time-invariant indicator for whether a respondent self-reports – at any time before full retirement age – having a health condition that limits their ability to work. We also create an alternative measure based on the Work-Ability Index (WAI) proposed by Tuomi et al. (1998). The WAI measures a worker's capability to perform their job based on their self-reported health and work requirements. A higher WAI indicates better ability to work. Appendix Table A.1 summarizes the components of the WAI in Tuomi et al.'s (1998) and our adaptation using HRS data. We then create an indicator variable for whether an individual has a low WAI, which we define as ever having a WAI below the sample median, before full retirement age.

We define the date of DI application as the date of a respondent's first application (whether successful or not) for DI.[8] We define the date of early OAI claiming as the date of initial entitlement for respondents whose initial benefit was based only on their own earnings record.[9] We drop all individuals whose initial entitlement included any type of benefit other than DI or OAI retired worker benefits (e.g., spousal or survivor benefits). Because we have the exact date for these OAI and DI applications and can identify the month of statement receipt based on a respondent's birthdate, we use the HRS to create a dataset in which the unit of observation is a person-month. The two key dependent variables are indicators for whether in a given month 1) a respondent applied for DI benefits in a given month and 2)

[7] Any time period during which the respondent has not consented or matched to the SSA linkage is dropped from the analyses. Over the 1992-2020 waves, 75.2 percent of HRS respondents gave consent to link their HRS and SSA administrative data, and 68.8 percent were successfully matched, although these rates varied by cohort and wave (Abramovitz et. al, 2024).

[8] The application date refers to the actual date the application was filed unless an earlier protective filing date was established based on a written statement of intent to file for benefits or an oral inquiry about benefit eligibility.

[9] According to the Social Security Administration, to be "entitled" to a retired worker benefit, an individual must be eligible based on work history and age and have filed an application. See https://secure.ssa.gov/apps10/poms.nsf/lnx/0300201001.

whether they claimed OAI benefits based on their own work history. The person-month dataset includes one observation for each respondent in each month between ages 51 and FRA.[10] However, we drop all observations after a person's last date in the HRS sample, as well as any observations from months during which an individual's work history is insufficient to qualify for benefits. We also drop individuals who were born before 1930, as they would have turned 62 before the HRS began in 1992. We further exclude any observations after a person's first application for DI or OAI; thus, the dependent variable measures the probability of applying for benefits conditional on not having applied in the past. We construct our key independent variable to take on a value of 1 if an individual received a Social Security statement during the current month and zero otherwise. This indicator is based on the given year's SSA statement mailing policy, which has varied by age, year, and birth cohort. Our main sample of interest is individuals between 62 and FRA (i.e., those eligible for early OAI benefits).

Table 4 shows summary statistics for the full sample of individuals between 62 and FRA who received a first SSA statement, broken down by whether a work-limiting health condition and/or a low work-ability index is reported. Although the analysis is conducted at the person-month level, the statistics in this table are reported at the individual level to show the characteristics of these respondents. We see that 1.2 percent of the full sample applied for DI before reaching FRA, and as predicted by our theoretical model, applicants are concentrated among those with work-limiting health conditions (3 versus 0.2 percent) and/or a low WAI (1.6 versus 0.3 percent). A much larger percentage of individuals between 62 and FRA apply for OAI, but the patterns differ by work-limiting health conditions compared to the WAI; individuals with work-limiting health conditions are less likely to apply for early retirement than those without (36.2 versus 46.7 percent), but individuals with a low WAI are more likely to apply (45.8 versus 35.2 percent). This suggests that the work-limiting health condition question in the HRS is capturing a different aspect of health status than the WAI. In terms of demographic characteristics, our sample is 44.2

[10] Even if an individual entered the HRS sample after age 51, the administrative data allow us to observe their entire earnings history and any previous applications for DI and OAI. Thus, we can construct records for each person starting at age 51.

percent female, 49.3 percent have a college degree or more, and 68.9 percent are white. Approximately half of the sample has ever been within 1 year of FRA, and half shows up after 2008, when the online DI application was streamlined and improved.

V. Methods

We begin by estimating the following equation that examines the relationship between receiving a Social Security statement and applying for OAI or DI:

$$y_{it} = \beta_k \cdot post_{it}^{k} + \gamma X_{it} + \lambda_t + \epsilon_{it} \quad (1)$$

where y_{it} is an indicator for individual i applying for SSDI, applying for retirement benefits, or applying for both benefits at age *t* (measured in months).[11] The sample is restricted to person-month observations ranging from 24 months before to 24 months after each statement receipt. We also restrict the sample to person-months between age 62 and FRA during which the individual has not claimed benefits in the past. Under this restriction, the dependent variable can be interpreted as the hazard of applying for benefits at age *t* conditional on not having applied in the past. The key independent variable, $post_{it}^{k}$, takes on a value of 1 in any month after receipt of the k-th Social Security statement since age 60 and 0 in the months before receipt. We estimate equation (1) separately for the 1st through 4th+ statements since age 60. The vector X_{it} contains indicators for gender, education, race, ethnicity, and age in months. λ_t is an age-specific intercept. The coefficient of interest, β_k, measures the impact of receiving the k-th Social Security statement on the probability of applying for SSDI (or early retirement) in the following 24 months, conditional on not having applied in the past. We do not weight our analyses and interpret the results as causal estimates for the HRS-SSA linked sample.

Equation (1) provides an estimate of the relationship between statement receipt and benefit applications for the overall sample. However, because the theoretical model predicts that people with

[11] The indicator for applying for both benefits takes on a value of 1 if an individual who had not previously applied for DI applied for it in current month and also applied for OAI within five months around the DI application or if an individual who had not previously applied for OAI applied for it in current month and applied for DI within five months around the current OAI application.

poorer health, which we measure by reporting a work-limiting health conditions or a low WAI, are more likely to apply for DI, we also estimate the following specification:

$$y_{it} = \beta \cdot post_{it}^{k} + \delta^{k} \cdot (post_{it}^{k} \cdot z_i) + \alpha z_i + \gamma X_{it} + \lambda_t + \epsilon_{it} \quad (2)$$

where z_i is an indicator for whether individual i ever reported a work-limiting health condition or a low WAI prior to full retirement age[12]. If those with work-limiting health conditions or low WAI are more likely to respond to the receipt of the k-th Social Security statement, then we would expect $\delta^k \neq 0$. In addition to estimating the overall impact of statement receipt, we examine whether there are heterogeneous effects across subgroups defined by age, age distance to FRA, gender, education, race/ethnicity, and workers' compensation status by including an interaction between $post_{it}^{k}$ and the subgroup indicator and a three-way interaction between $post_{it}^{k}$, z_i, and the subgroup indicator. We also explore whether the impacts of statement receipt have changed since the SSDI application became available online in 2002 and the online application was improved and streamlined in 2008.

To examine whether the parallel trends assumption is satisfied for our difference-in-differences model, we estimate an event-study model:

$$y_{it} = \sum_{s}^{\square} \theta_s^k \, statement_{i,t-s}^{k} + \sum_{s}^{\square} \mu_s^k \, statement_{i,t-s}^{k} \cdot z_i + \alpha z_i + \gamma X_{it} + \lambda_t + \epsilon_{it} \quad (3)$$

In this equation, $statement_{i,t-s}^{k}$ represents a set of relative time indicators for being s periods from receipt of the k-th Social Security statement since age 60. We define s in terms of quarters, ranging from -8 to 8, capturing the number of quarters before and after statement receipt. Periods before and after the 8th quarter around receipt of the k-th statement are binned and included in $statement_{i,t-8}^{k}$ and $statement_{i,t+8}^{k}$. The coefficients θ_s^k represent the impact of being s quarters away from statement receipt for individuals who do not report a work-limiting health condition (or have a high WAI). The coefficients

[12] We have also experimented with an indicator for whether individual i ever reported a work-limiting health condition or a low WAI prior to the receipt of the k-th statement. However, these results might be driven by the endogeneity between claiming benefits and reporting health issues: once a respondent has claimed benefits, they might be more inclined to report poor health. Therefore, we do not include those results in the paper.

μ_s^k represent the additional impact of being s quarters away from statement receipt among those with a work-limiting health condition (or low WAI). Thus, the total effect of being s quarters away from receiving the k-th statement for someone with a health condition (or low WAI) is $\theta_s^k + \mu_s^k$. We use the results of the event study analyses primarily to confirm the parallel trends assumption is satisfied; however, the coefficients themselves are likely to be noisy because they estimate the impact of applying exactly *s* periods before or after statement receipt.

A recent literature has suggested that estimating models like (1)-(3) using OLS can result in biased estimates when treatment timing varies across cross-sectional units and treatment effects are heterogenous over time (Goodman-Bacon, 2021). To summarize the concern, the causal effect in an OLS regression is estimated using all possible variation. This variation includes a comparison of treated individuals to both not-yet-treated individuals and earlier treated individuals. When treated individuals are compared to earlier treated individuals, biased estimates can result if treatment effects vary over time. Since SSA statement receipt is staggered (people receive statements at different ages), we estimate (1)-(3) using a newly developed imputation estimator (Gardner 2021).[13] The underlying strategy behind the Gardner imputation estimator is to estimate a first-stage model using all untreated and pre-treatment observations (i.e., person-month observations before receipt of the k-th statement, as well as all person-month observations for individuals who never received a k-th statement). In this first-stage regression, the dependent variable is regressed on all controls (but not the treatment indicators). The coefficients from this regression are used to produce predicted values of the dependent variable for all observations. In a

[13] There are several proposed estimators that can be used to estimate a difference-in-differences model when there is variation in treatment timing and heterogeneous treatment effects, but an imputation estimator (Gardner 2021 or Borusyak et al 2024) is most appropriate for our context. We are unable to use the Sun and Abraham (2021) estimator because all of our observations eventually treated (i.e., all eventually receive a Social Security statement). The Callaway and Sant'Anna, (2021) and de Chaisemartin and D'Haultfœuille (2020) estimators use not-yet-treated observations as comparisons but have not yet been extended to allow for a third difference in our model between those who have a work-limiting health condition and those who do not. Furthermore, the Callaway and Sant'Anna estimator would treat each month of statement receipt as a separate experiment, which is computationally infeasible. The imputation estimators developed by Gardner (2021) and Borusyak et al (2024) are identical in their point estimates but differ in their statistical inference. We have opted for the Gardner (2021) estimator because it is more straightforward to extend to allow for a third difference between those who have a work-limited health condition and those who do not.

second-stage regression, the residuals from these predictions are regressed on the treatment indicators. Thus, the treatment effect reflects the post-treatment change in the dependent variable that cannot be explained by the controls.

VI. Results

a. Baseline results

Table 5 shows the results from estimating equations (1) and (2), where the dependent variable is an indicator for applying for DI, conditional on not having applied in the past. The columns of the table correspond to the receipt of statements 1 through 4. The results show that among individuals between 62 and FRA in the sample, receiving one's first SSA statement after age 60 significantly increase the probability of applying for DI overall, particularly among those with a work-limiting health condition. The magnitude of the coefficient suggests that receiving the first statement is associated with a 0.000822 percentage point increase in the probability of applying for DI before reaching FRA among those with work-limiting health conditions relative to those who have no work-limiting health conditions. Overall, statement receipt is associated with a 0.000220 + 0.000822 = 0.001042 percentage point increase in the probability of applying for DI among those with a work-limiting health condition. The monthly hazard of applying for DI among those with a health condition in the 24 months before receiving the first statement is 0.0006; we use this figure as a baseline mean for comparison purposes given that the probability of applying for DI among those who did not report a work-limiting health condition is likely to be close to zero. Thus, receipt of the first statement is associated with a 174 percent increase in the probability of applying for DI for those who have a work-limiting health condition compared to their likelihood before receiving the statement. Receipt of a second statement is not associated with statistically significant changes in the probability of applying for DI; however, receiving a third or fourth+ statement is associated with a statistically significant *decrease* in the probability of applying for DI among those with a work-limiting health condition. A possible explanation for this finding is that individuals who receive a third or fourth+ statement are, on average, aged 64 or almost 65 years old, which is approximately a year

from reaching FRA (see Appendix Table A.2). A statement may indicate to these individuals that simply waiting a year and applying for OAI at that time would allow them to receive the same monthly benefit they could receive via the DI program without the administrative burden of the DI application.

Table 6 shows results from estimating equations (1) and (2), where the dependent variable is an indicator for applying for OAI. The results show that for the full sample, receiving a first SSA statement after age 60 is associated with a statistically significant increase in the probability of applying for OAI by 0.00437 percentage points, which is a 22 percent increase relative to a baseline mean of 0.0198 (the likelihood of submitting an OAI application in the 24 months before statement receipt). There are no statistically significant differences across individuals based on the presence of a work-limiting health condition or low WAI. The later statements do not seem to have a statistically significant impact on OAI applications, except the third statement, which causes those with a low work-ability index to increase their OAI applications but less than those with a high work-ability index.

Tables 7, 8, and 9 show the results when the dependent variable is a dummy for applying for only DI benefits, applying for only OAI benefits, and jointly applying for both benefits, respectively. Table 7 shows that receipt of the first statement after age 60 is associated with a 0.000464 percentage point increase (or 23 percent relative to the baseline) in the probability of applying for DI only among the full sample. The point estimates show that this effect may be higher for those with a work-limiting work condition and/or a low work-ability index as well, but these estimates are not statistically significant. Similarly, Table 8 shows a 0.0044 percentage point increase (or 22 percent relative to the baseline) in the probability of applying for OAI only among the full sample. Table 9 shows no statistically significant post-statement increase in the probability of a joint application overall, but we do observe an increase in this probability among those with a work-limiting health condition. In this group, the first statement increases the probability of an application by 0.000552 percentage points relative to those without a health condition (a five-fold increase relative to the baseline). These results lead us to conclude that the increase in DI applications after receiving the first SSA statement are largely driven by those with a work-limiting health condition who apply for both DI and OAI simultaneously. We also see a decrease in DI

applications only and joint applications after the fourth statements for these groups, which may reflect the proximity to FRA. That is, statement receipt may remind those who are close to FRA that they can receive their full PIA soon without the administrative burden of the DI application.

To confirm that the pre-trends assumption of the difference-in-difference model is satisfied, we show the quarterly event study coefficients (μ_s^k) from estimating equation (3) in Appendix Figures A.3 through A.6; we focus on the first statement because the application decision process is unlikely to be influenced by being close in age to FRA. Each coefficient indicates the increase in the probability of applying for DI or OAI in the indicated quarter among those with a work-limiting health condition or low work-ability index compared to those without. Given the low likelihood of applying for DI or OAI in a given quarter, we only use the event study estimates to examine the overall trends in the pre-statement receipt estimates and not the quarter-to-quarter dynamics of the post-statement receipt impacts.[14] Appendix Figures A.3 and A.4 suggest no obvious pre-trends in the probability of applying for DI, particularly in the year leading up to statement receipt. Appendix Figures A.5 and A.6 show that the estimates in the probability of applying for OAI are more inconsistent in the quarters leading up to statement receipt, with some months showing a positive difference and some months showing a negative difference. Nonetheless, in terms of pre-trends, there is no clear upward or downward trajectory in the estimates leading up to statement receipt, which suggests there are no pre-trends.

b. Heterogeneity

To provide further insight into these results, we consider whether statement receipt has heterogeneous effects on different subgroups of the 62-FRA sample, defined by age, gender, education, race/ethnicity, and receipt of Workers Compensation benefits. We also explore whether the impacts of statement receipt have changed since the SSDI application became available online in 2002 and the online application was improved and streamlined in 2008. Figures 3 through 6 show the coefficient on having

[14] An important feature of event studies that use imputation methods such as Gardner 2021 is that the reference period is different for the pre-period and the post-period. As a result, one should examine the pre-period separately from the post-period rather than compare the levels of the two.

received the first statement after age 60 interacted with having a work-limiting condition or low work-ability index as the impact for the omitted subgroup, and the coefficient on the three-way interaction as the additional impact for the subgroups. Figure 3 shows that among those with a work-limiting health condition, those who are 62 years old and/or more than 1 year away from achieving FRA are more likely to apply for DI than those who are older and closer to FRA. This is consistent with the main results that later statement receipt has a negative impact on DI applications because people are getting closer to FRA. Other groups who are more likely to apply for DI after receiving their first SSA statement are males, non-college graduates, people who are white and non-Hispanic, and those who have never received Workers Compensation. As shown in Figure 4, those with a low work-ability index who are younger and male also seem more likely to apply for DI, but the estimates are not statistically significant. The subgroup analyses for OAI applications are noisier, with most of the estimates being fairly imprecise. The only statistically significant differences are that those with a work-limiting health condition who are older and closer to FRA and those with a low work-ability index who are Hispanic are less likely to apply for OAI.

VII. Conclusions

Individuals between the ages of 62 and FRA who have work-limiting health conditions may be eligible for both a Social Security disability benefit and a (lower) Social Security early retirement benefit, although they can only receive one of these benefits. Choosing the OAI benefit over the DI benefit may be rational given the administrative costs involved in submitting a DI application. However, this decision may also be due to misinformation about the availability and levels of the two benefits. Our results suggest that receiving the first Social Security statement mailings after turning 60 associated with a 174 percent increase in the probability of applying to DI, with much of this increase being accompanied by a simultaneous application for early retirement. However, receiving the statement closer to FRA, which is often the case for the third or fourth statement, results in a decrease in DI applications.

These findings reveal that providing information to individuals with work-limiting health conditions who are between 62 and FRA can have large impacts on their Social Security claiming behavior. Statement receipt is associated with an increase in their DI applications, particularly for those

with work-limiting health conditions. Our theoretical model suggests that this response is consistent with an increase in the perceived DI benefit level. Statement receipt is also associated with an increase in early retirement claims, which is consistent with either (1) a decrease in the perceived penalty for claiming early or (2) an increase in the perceived penalty for claiming early that does not outweigh the increase in the perceived full retirement benefit. These statement-induced responses in claiming behavior can impact retirement income far into beneficiaries' retirement years.

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Table 1: OAI Benefits by Claiming Age

OAI claiming age	OAI benefit as a percent of PIA
62	70
63	75
64	80
65	86.7
66	93.3
67 (FRA)	100
68	108
69	116
70	132

Note: Formula applies to those born in 1960 and later. OAI is Social Security Old Age Insurance; DI is Social Security Disability Insurance; PIA is primary insurance amount; FRA is full retirement age.

Table 2: Social Security Statement Mailing Schedule

Fiscal Year	Age Groups Receiving Social Security Statements
1995	60+
1996	58-60
1997	53-58
1998	47-53
1999	40-47
2000–Feb. 2011	25+
Sep. 2014–2016	25, 30, 25, 40, 45, 50, 55, 60+ who do not have online Social Security account
2017–Present	60+ who do not have online Social Security account

Source: Smith (2015), Smith (2020), and Armour (2020).
Notes: Individuals received their statements approximately three months before their birthday

Table 3: Theoretical predictions of impact of Social Security statement receipt on DI and early retirement application decisions

	1-unit increase in c_b	1-unit increase in $z(a)$
Impact on ΔU_J	$\sum_{t=a}^{FRA-1} \beta^{t-a}$	$-(1-\theta)\sum_{t=a}^{T(\theta)} \beta^{t-a}$
Impact on ΔU_{DI}	$\theta \sum_{t=a}^{FRA-1} \beta^{t-a}$	No Change
Impact on ΔU_R	$\sum_{t=a}^{FRA-1} \beta^{t-a}$	$-\sum_{t=a}^{T(\theta)} \beta^{t-a}$

Notes: c_b represents the perceived DI and FRA retirement benefit and $z(a)$ represents the perceived penalty from claiming early retirement. ΔU_J is the utility from jointly applying for DI and early retirement relative to working; ΔU_{DI} is the utility from applying for DI only relative to working; and ΔU_R is the utility from applying for early retirement relative to working. β is the discount factor, θ is the disutility from work which represents the individual's health and the probability of being approved for DI. a is the current age of the individual, FRA is the full retirement age, and $T(\theta)$ is the expected last month of the individual's life.

Table 4: Summary Statistics

	Full sample between 62 and FRA		By work-limiting health conditions			By work-ability index		
	Mean	SD	No (mean)	Yes (mean)	Diff	High (mean)	Low (mean)	Diff
Ever apply for DI between 62 and FRA	0.012	0.110	0.002	0.030	-0.028***	0.003	0.016	-0.013***
Ever apply for OAI between 62 and FRA	0.429	0.495	0.467	0.362	0.105***	0.352	0.458	-0.106***
Female	0.442	0.497	0.430	0.463	-0.034*	0.392	0.461	-0.069***
Complete college or above	0.493	0.500	0.538	0.415	0.124***	0.601	0.452	0.149***
White non-Hispanic	0.689	0.463	0.702	0.668	0.034**	0.728	0.675	0.053***
Black non-Hispanic	0.167	0.373	0.157	0.185	-0.028**	0.131	0.181	-0.050***
Other non-Hispanic	0.028	0.165	0.029	0.025	0.004	0.029	0.027	0.002
Hispanic	0.115	0.319	0.112	0.121	-0.010	0.112	0.116	-0.004
Ever reach 62 years old	0.977	0.148	0.991	0.955	0.036***	0.988	0.973	0.015***
Ever reach 63 years old	0.655	0.475	0.654	0.658	-0.004	0.698	0.639	0.059***
Ever reach 64 years old	0.562	0.496	0.559	0.566	-0.007	0.587	0.552	0.035*
Ever reach 65 years old to FRA	0.384	0.486	0.384	0.383	0.001	0.415	0.372	0.043**
Ever been within 1 year of FRA	0.497	0.500	0.494	0.503	-0.009	0.501	0.496	0.005
Ever received worker compensations	0.051	0.221	0.033	0.084	-0.051***	0.029	0.060	-0.030***
Ever show up after 2002	0.813	0.390	0.816	0.807	0.009	0.873	0.790	0.083***
Ever show up after 2008	0.491	0.500	0.508	0.461	0.047***	0.648	0.432	0.216***
Observations	5593		3,538	2,055		1,532	4,061	

Note: Conducted on individual level, among those who received their first SSA statement

Table 5: Impact of Statement Receipt on Applications for DI

	Statement 1			Statement 2			Statement 3			Statement 4		
	Panel A: DI application											
Post statement	0.000513*	0.000220	0.000492	-0.000351	-0.000343	-0.000202	0.00102	0.00126	0.00108	-0.000321	1.92e-05	0.000149
	(0.000287)	(0.000298)	(0.000302)	(0.000413)	(0.000331)	(0.000394)	(0.000947)	(0.000953)	(0.000930)	(0.000697)	(0.000697)	(0.000667)
Post * health conditions		0.000822**			-2.44e-05			-0.000659*			-0.000905***	
		(0.000348)			(0.000459)			(0.000376)			(0.000319)	
Post * low WAI			0.000192			-9.13e-05			-0.000116			-0.000628***
			(0.000210)			(0.000349)			(0.000324)			(0.000232)
DI application means in the 24 months before statement receipt												
Treated group[a]		0.0006	0.0003		0.0013	0.0007		0.0018	0.0010		0.0015	0.0009
All	0.0003			0.0006			0.0007			0.0006		
Observations	104,366	104,366	104,366	103,747	103,747	103,747	113,448	113,448	113,448	105,285	105,285	105,285

[a] People who do not report a work-limiting health condition or a low work-ability index are very unlikely to apply for disability benefits, which means the DI application means for this group will be close to zero. As a result, we show the pre-statement receipt DI application means for the treated group (those who report a work-limiting health condition or a low work-ability index) as the baseline mean.

Table 6: Impact of statement receipt on OAI claims

	Statement 1			Statement 2			Statement 3			Statement 4		
Post statement	0.00437*	0.00369	0.00585**	0.00364	0.00314	0.00308	0.00587	0.00543	0.00997***	-0.000962	-0.000103	0.000518
	(0.00238)	(0.00248)	(0.00279)	(0.00632)	(0.00627)	(0.00643)	(0.00396)	(0.00393)	(0.00387)	(0.00298)	(0.00301)	(0.00298)
Post * health conditions		0.00190			0.00143			0.00121			-0.00229	
		(0.00187)			(0.00189)			(0.00160)			(0.00146)	
Post * low WAI			-0.00116			0.00115			-0.00572***			-0.00216
			(0.00203)			(0.00199)			(0.00197)			(0.00163)
OAI application means in the 24 months before statement receipt												
Control group	0.0198	0.0224	0.0135	0.0209	0.0225	0.0189	0.0251	0.0260	0.0185	0.0177	0.0186	0.0128
Observations	104,366	104,366	104,366	103,747	103,747	103,747	113,448	113,448	113,448	105,285	105,285	105,285

Table 7: Impact of Statement Receipt on Applications for DI Only

	Statement 1			Statement 2			Statement 3			Statement 4		
Post statement	0.000464*	0.000325	0.000436	-5.06e-05	-0.000172	-8.73e-05	-0.000429	-0.000287	-0.000411	-7.42e-05	0.000202	0.000181
	(0.000249)	(0.000274)	(0.000290)	(0.000239)	(0.000166)	(0.000144)	(0.000617)	(0.000604)	(0.000626)	(0.000569)	(0.000565)	(0.000547)
Post * health conditions		0.000391			0.000343			-0.000392			-0.000735***	
		(0.000268)			(0.000288)			(0.000281)			(0.000233)	
Post * low WAI			0.000137			0.000102			-4.85e-05			-0.000338**
			(0.000147)			(0.000187)			(0.000227)			(0.000158)
DI-only application means in the 24 months before statement receipt												
Treated group[a]		0.0004	0.0002		0.0004	0.0002		0.0010	0.0006		0.0010	0.0005
All	0.0002			0.0001			0.0004			0.0004		
Observations	104,366	104,366	104,366	103,747	103,747	103,747	113,448	113,448	113,448	105,285	105,285	105,285

[a] People who do not report a work-limiting health condition or a low work-ability index are very unlikely to apply for disability benefits, which means the DI application means for this group will be close to zero. As a result, we show the pre-statement receipt DI application means for the treated group (those who report a work-limiting health condition or a low work-ability index) as the baseline mean.

Table 8: Impact of Statement Receipt on applications for OAI only

	Statement 1			Statement 2			Statement 3			Statement 4		
Post statement	0.00440*	0.00387	0.00590**	0.00424	0.00359	0.00326	0.00401	0.00345	0.00804**	-0.000570	0.000206	0.000679
	(0.00237)	(0.00247)	(0.00278)	(0.00631)	(0.00626)	(0.00642)	(0.00388)	(0.00385)	(0.00379)	(0.00296)	(0.00299)	(0.00296)
Post * health conditions		0.00149			0.00185			0.00155			-0.00207	
		(0.00186)			(0.00187)			(0.00158)			(0.00145)	
Post * low WAI			-0.00127			0.00164			-0.00560***			-0.00184
			(0.00203)			(0.00197)			(0.00196)			(0.00163)
OAI-only application means (number of observations) in the 24 months before statement receipt												
Control group	0.0196	0.0223	0.0135	0.0204	0.0223	0.0188	0.0248	0.0260	0.0185	0.0175	0.0186	0.0128
Observations	104,366	104,366	104,366	103,747	103,747	103,747	113,448	113,448	113,448	105,285	105,285	105,285

Table 9: Impact of statement receipt on joint applications for DI and OAI

	Statement 1			Statement 2			Statement 3			Statement 4		
Post statement	6.10e-05	-0.000136	-3.57e-06	-0.000531	-0.000458	-0.000291	0.00190**	0.00210**	0.00209**	-0.000620	-0.000491	-0.000252
	(0.000183)	(0.000142)	(0.000100)	(0.000401)	(0.000363)	(0.000391)	(0.000885)	(0.000896)	(0.000844)	(0.000455)	(0.000455)	(0.000418)
Post * health conditions		0.000552**			-0.000205			-0.000551*			-0.000343	
		(0.000264)			(0.000388)			(0.000308)			(0.000239)	
Post * low WAI			0.000177			-0.000253			-0.000294			-0.000501**
			(0.000165)			(0.000323)			(0.000284)			(0.000200)
Joint application means in the 24 months before statement receipt												
All[a]	0.0001	0.0001	0.0001	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0003	0.0003	0.0003
Observations	104,366	104,366	104,366	103,747	103,747	103,747	113,448	113,448	113,448	105,285	105,285	105,285

[a] Due to small sample sizes, we show the pre-statement receipt joint application means for the entire sample as the baseline mean.

Figure 1: Impact of statement 1 receipt on DI applications by subgroups, interacted with having a work-limiting health condition

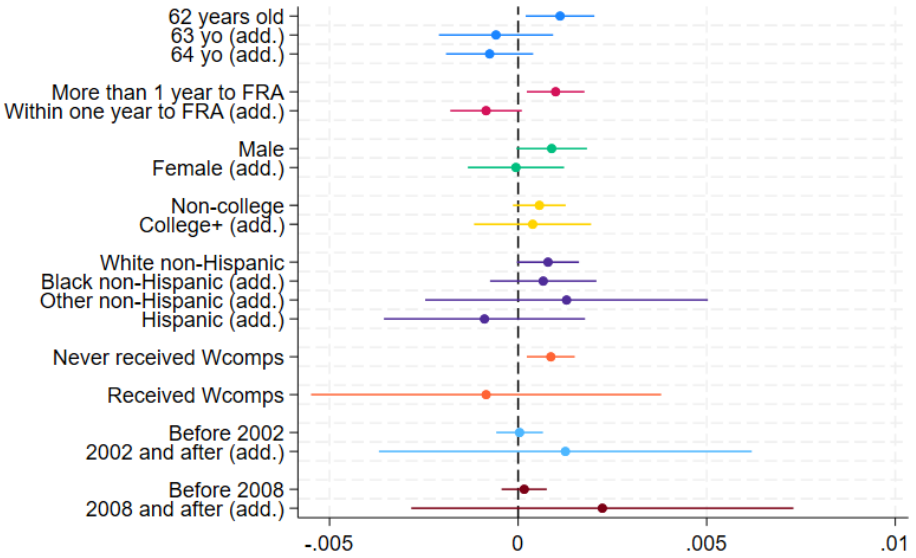


Figure 2: Impact of statement 1 receipt on DI applications by subgroups, interacted with having a low work-ability index

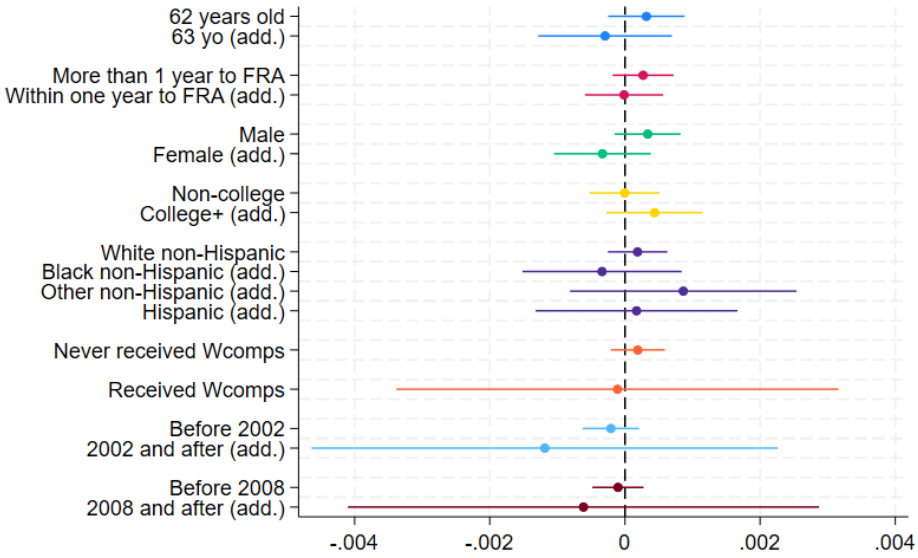


Figure 3: Impact of statement 1 receipt on OAI applications by subgroups, interacted with having a work-limiting health condition

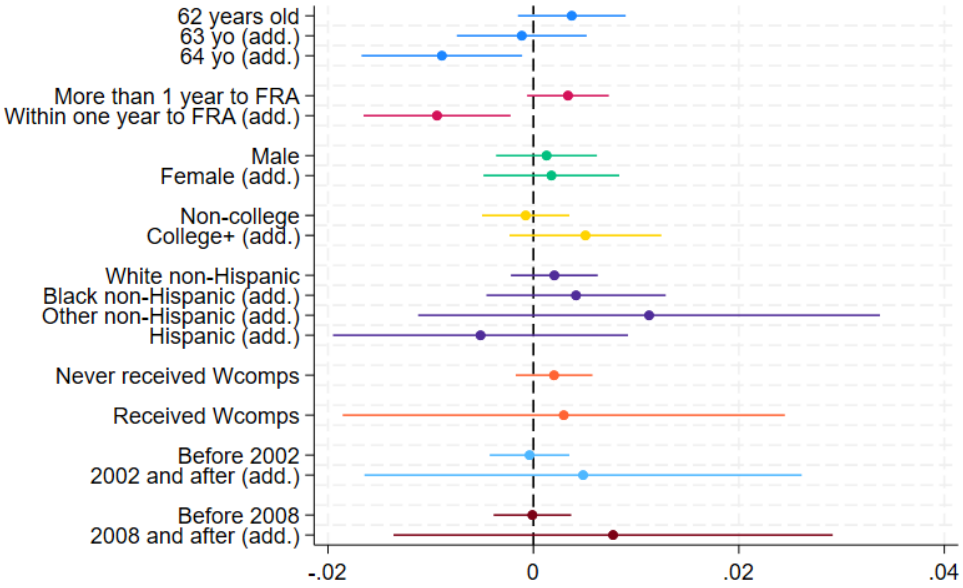
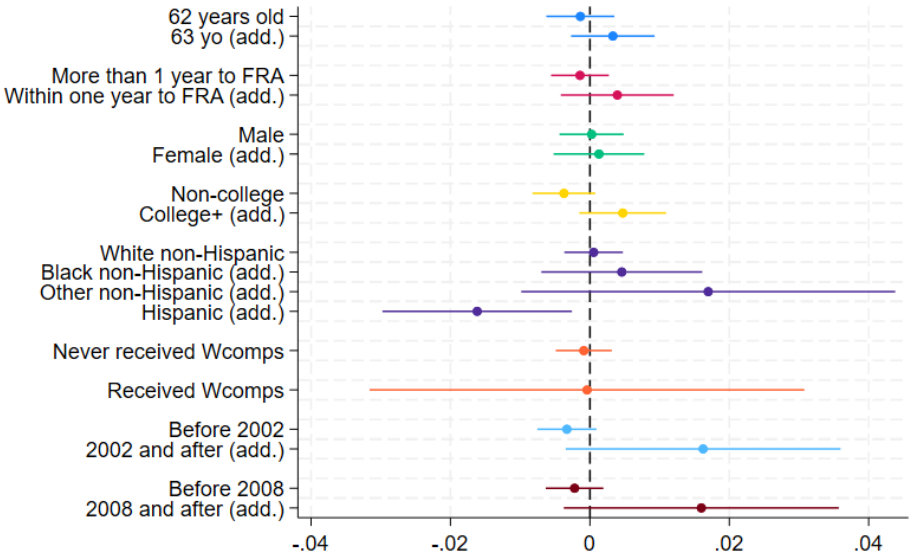


Figure 4: Impact of statement 1 receipt on OAI applications by subgroups, interacted with having a low work-ability index



Appendix Figures and Tables

Figure A1: DI application process and timing

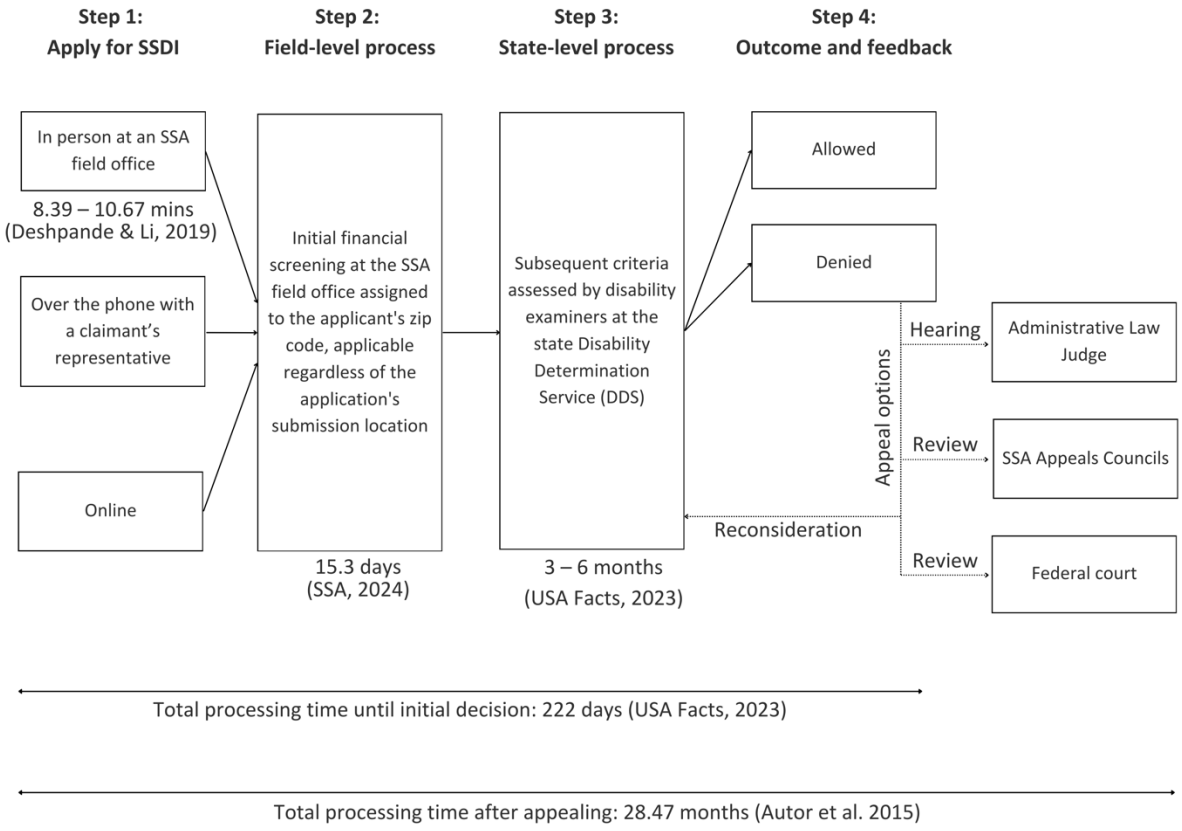


Figure A.2: Sample Social Security Statement

Your payment would be about
$2,061 a month
at full retirement age

WANDA WORKER
456 ANYWHERE AVENUE
MAINTOWN, USA 11111-1111

January 2, 2021

Your Social Security Statement

Are you thinking about retirement? Are you ready for retirement?

We have tools that can help you!

- Estimate your future retirement benefits at ***socialsecurity.gov/estimator***
- Apply for retirement, spouse's, Medicare, or disability benefits at ***socialsecurity.gov/applyforbenefits***
- And once you receive benefits, manage your benefits at ***myaccount.socialsecurity.gov***

Your *Social Security Statement* tells you about **how much you or your family would receive** in disability, survivor, or retirement benefits. It also includes our record of your lifetime earnings. Check out your earnings history, and **let us know right away if you find an error**. This is important because we base your benefits on our record of your lifetime earnings.

Social Security benefits are **not intended to be your only source of income when you retire**. On average, Social Security will replace about 40 percent of your annual pre-retirement earnings. You will need other savings, investments, pensions, or retirement accounts to live comfortably when you retire.

To view your *Social Security Statement* online anytime create a ***my* Social Security** account today!

***my* Social Security**
myaccount.socialsecurity.gov

To see your *Statement* online anytime, create a ***my* Social Security** account at ***myaccount.socialsecurity.gov***.

Social Security Administration

Follow the Social Security Administration at these social media sites.

Your Estimated Benefits

***Retirement**	You have earned enough credits to qualify for benefits. At your current earnings rate, if you continue working until…	
	your full retirement age (67 years), your payment would be about	$ 2,061 a month
	age 70, your payment would be about	$ 2,561 a month
	age 62, your payment would be about	$ 1,426 a month
***Disability**	You have earned enough credits to qualify for benefits. If you became disabled right now, your payment would be about	$ 2,027 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	$ 1,520 a month
	Your spouse who is caring for your child	$ 1,520 a month
	Your spouse, if benefits start at full retirement age	$ 2,027 a month
	Total family benefits cannot be more than	$ 3,700 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 2035, the payroll taxes collected will be enough to pay only about 80 percent of scheduled benefits.**

We based your benefit estimates on these facts:

Your date of birth (please verify your name on page 1 and this date of birth)	April 5, 1961
Your estimated taxable earnings per year after 2018	$52,769
Your Social Security number (only the last four digits are shown to help prevent identity theft)	XXX-XX-1234

How Your Benefits Are Estimated

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 $1,470 of wages or self-employment income. When you've earned $5,880, 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 2021 and later (up to retirement age), we assumed you'll continue to work and make about the same as you did in 2019 or 2020. We also included credits we assumed you earned last year and this year.

Generally, the older you are and the closer you are to retirement, the more accurate the retirement estimates will be because they are based on a longer work history with fewer uncertainties such as earnings fluctuations and future law changes. We encourage you to use our online Retirement Estimator at ***www.socialsecurity.gov/estimator*** to obtain immediate and personalized benefit estimates.

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

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

(2) After you start receiving benefits, they will be adjusted for cost-of-living increases.

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

(4) 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*** to learn more.

Windfall Elimination Provision (WEP) — In the future, if you receive a pension from employment in which you do not pay Social Security taxes, such as some federal, state or local government work, some nonprofit organizations or foreign employment, and you also qualify for your own Social Security retirement or disability benefit, your Social Security benefit may be reduced, but not eliminated, by WEP. The amount of the reduction, if any, depends on your earnings and number of years in jobs in which you paid Social Security taxes, and the year you are age 62 or become disabled. For more information, please see *Windfall Elimination Provision* (Publication No. 05-10045) at ***www.socialsecurity.gov/WEP***.

Government Pension Offset (GPO) — If you receive a pension based on federal, state or local government work in which you did not pay Social Security taxes and you qualify, now or in the future, for Social Security benefits as a current or former spouse, widow or widower, you are likely to be affected by GPO. If GPO applies, your Social Security benefit will be reduced by an amount equal to two-thirds of your government pension, and could be reduced to zero. Even if your benefit is reduced to zero, you will be eligible for Medicare at age 65 on your spouse's record. To learn more, please see *Government Pension Offset* (Publication No. 05-10007) at ***www.socialsecurity.gov/GPO***.

Your Earnings Record

Years You Worked	Your Taxed Social Security Earnings	Your Taxed Medicare Earnings
1977	226	226
1978	611	611
1979	1,208	1,208
1980	2,258	2,258
1981	3,361	3,361
1982	4,293	4,293
1983	5,473	5,473
1984	7,287	7,287
1985	9,018	9,018
1986	10,453	10,453
1987	12,223	12,223
1988	13,894	13,894
1989	15,441	15,441
1990	17,064	17,064
1991	18,522	18,522
1992	20,238	20,238
1993	21,076	21,076
1994	22,237	22,237
1995	23,674	23,674
1996	25,364	25,364
1997	27,321	27,321
1998	29,204	29,204
1999	31,254	31,254
2000	33,373	33,373
2001	34,514	34,514
2002	35,205	35,205
2003	36,391	36,391
2004	38,364	38,364
2005	40,041	40,041
2006	42,116	42,116
2007	44,208	44,208
2008	45,296	45,296
2009	44,665	44,665
2010	45,727	45,727
2011	47,176	47,176
2012	48,560	48,560
2013	48,911	48,911
2014	50,277	50,277
2015	51,550	51,550
2016	51,462	51,462
2017	51,990	51,990
2018	52,445	52,445
2019	52,769	52,769
2020	Not yet recorded	

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:	$73,110	You paid:	$17,585
Your employers paid:	$75,047	Your employers paid:	$17,585

Note: Currently, you and your employer each pay a 6.2 percent Social Security tax on up to $142,800 of your earnings and a 1.45* percent Medicare tax on all your earnings. If you are self-employed, you pay the combined employee and employer amount, which is a 12.4 percent Social Security tax on up to $142,800 of your net earnings and a 2.9* percent Medicare tax on your entire net earnings.

*If you have earned income of more than $200,000 ($250,000 for married couples filing jointly), you must pay 0.9 percent more in Medicare taxes.

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're 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 a.m.–7 p.m. your local time) if any earnings for years **before last year** are shown incorrectly. Please 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.)

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 & Medicaid Services, helps pay for inpatient hospital care, nursing care, doctors' fees, drugs, and other medical services and supplies to people age 65 and older, as well as to people who have been receiving Social Security disability benefits for two years or more. Medicare does not pay for long-term care, so you may want to consider options for private insurance. Your Social Security covered earnings qualify you for both programs. For more information about Medicare, visit ***www.medicare.gov*** or call **1-800-633-4227** (TTY **1-877-486-2048** if you are deaf or hard of hearing).

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 62 and take benefits at a reduced rate. If you work after your full retirement age, you can receive higher benefits because of additional earnings and 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's expected to prevent you from doing "substantial" work for a year or more or result in death.

If you are filing for disability benefits, please let us know if you are on active military duty or are a recently discharged veteran, so that we can handle your claim more quickly.

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.

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.

Extra Help with Medicare — If you know someone who is on Medicare and has limited resources and income, Extra Help is available for prescription drug costs. The Extra Help can help pay the monthly premiums, annual deductibles and prescription co-payments. To learn more or to apply, visit ***www.socialsecurity.gov*** or call **1-800-772-1213** (TTY **1-800-325-0778**).

Receive benefits and still work...

You can 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. When you apply for benefits, we'll tell you what the limits are 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...

Carefully consider the advantages and disadvantages of early retirement. If you choose to receive benefits before you reach full retirement age, your monthly benefits will be reduced.

To help you decide the best time to retire, we offer a free publication, *When To Start Receiving Retirement Benefits* (Publication No. 05-10147), that identifies the many factors you should consider before applying. Most people can receive an estimate of their benefit based on their actual Social Security earnings record by going to ***www.socialsecurity.gov/estimator***. You also can calculate future retirement benefits by using the Social Security Benefit Calculators at ***www.socialsecurity.gov***.

Other helpful free publications include:

— *Retirement Benefits* (No. 05-10035)

— *Understanding The Benefits* (No. 05-10024)

— *Your Retirement Benefit: How It Is Figured* (No. 05-10070)

— *Windfall Elimination Provision* (No. 05-10045)

— *Government Pension Offset* (No. 05-10007)

— *Identity Theft And Your Social Security Number* (No. 05-10064)

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 our website, ***www.socialsecurity.gov***, or by calling us at **1-800-772-1213**. Our website has a list of frequently asked questions that may answer questions you have. We have easy-to-use online applications for benefits that can save you a telephone call or a trip to a field office.

You also may qualify for government benefits outside of Social Security. For more information on these benefits, visit ***www.benefits.gov***.

If you need more information — Visit ***www.socialsecurity.gov*** 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 IRS to send you a Form 8822. We don't keep your address if you're not receiving Social Security benefits.

Thinking of retiring?

www.socialsecurity.gov

Some things to consider

Retirement can have more than one meaning these days. It can mean that you have applied for Social Security retirement benefits or that you are no longer working. Or it can mean that you have chosen to receive Social Security while still working, either full or part-time. All of these choices are available to you. Your retirement decisions can have very real effects on your ability to maintain a comfortable retirement.

If you retire early, you may not have enough income to enjoy the years ahead of you. Likewise, if you retire late, you'll have a larger income, but fewer years to enjoy it. Everyone needs to try to find the right balance, based on his or her own circumstances.

We hope the following information will help you as you plan for your future retirement and consider your retirement options.

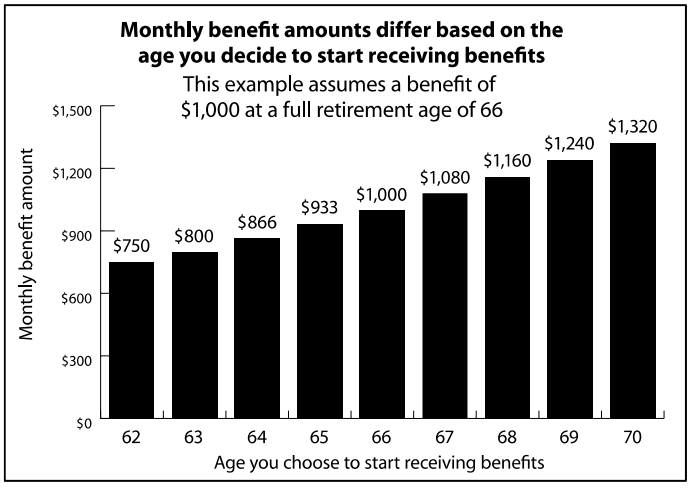
Avoid a Medicare Penalty Sign Up at Age 65

Even if you don't plan to receive monthly benefits, be sure to sign up for Medicare *three months before* turning age 65. If you don't sign up for Medicare Part B (medical insurance) when you're first eligible, your coverage may not start right away and you may have to pay a late enrollment penalty for as long as you have it. You can apply online. Visit ***www.socialsecurity.gov/medicareonly*** for information and to apply.

What is the best option for you?

Everyone's situation is different. That is why Social Security has created several retirement planners to help you decide what would be best for you and your family. Social Security has an online calculator that can provide immediate and accurate retirement benefit estimates to help you plan for your retirement.

The online Retirement Estimator is a convenient, secure, and quick financial planning tool. It uses your own earnings record information, thereby eliminating any need to manually key in years of earnings information. The estimator also will let you create "what if" scenarios. You can, for example, change your "stop work" date or expected future earnings to create and compare different retirement options. To use the Retirement Estimator, go to our website at ***www.socialsecurity.gov/estimator***.



There is one more thing you should remember as you crunch the numbers for your retirement. You may need your income to be sufficient for a long time, because people are living longer than ever before, and generally, women tend to live longer than men. For example:

- The typical 65-year-old today will live to age 83;
- One in four 65-year-olds will live to age 90; and
- One in ten 65-year-olds will live to age 95.

Once you decide on the best age for you to actually retire, remember to complete your application *three months before* the month in which you want retirement benefits to begin.

It's so easy to apply online for benefits

The easiest way to apply for Social Security retirement benefits is to go online at ***www.socialsecurity.gov/applyforbenefits***. If you do not have access to the Internet, you can call **1-800-772-1213** (TTY number, **1-800-325-0778**) between 7 a.m. and 7 p.m., Monday through Friday, to apply by phone. You also can apply at any Social Security office. To avoid having to wait, call first to make an appointment.

Receiving benefits while you work

When you reach your full retirement age, you can work and earn as much as you want and still receive your full Social Security benefit payment. If you are younger than full retirement age and if your earnings exceed certain dollar amounts, some of your benefit payments during the year will be withheld.

This does not mean you must try to limit your earnings. If we withhold some of your benefits because you continue to work, we will pay you a higher monthly benefit amount when you reach your full retirement age. In other words, if you would like to work and earn more than the exempt amount, you should know that it will not, on average, reduce the total value of lifetime benefits you receive from Social Security—and may actually increase them.

Here is how this works: after you reach full retirement age, we will recalculate your benefit amount to give you credit for any months in which you did not receive some benefit because of your earnings. In addition, as long as you continue to work, we will check your record every year to see whether the additional earnings will increase your monthly benefit.

Many people can continue to work and still receive retirement benefits. If you want more information on how earnings affect your retirement benefits, ask for *How Work Affects Your Benefits* (Publication No. 05-10069), which has current annual and monthly earnings limits, and is available on our website.

Retirement age considerations

Full retirement age

For persons born during the years 1943-1954, the full retirement age is 66. If you were not born in this period, you can find your full retirement age on page 2 of your *Social Security Statement*.

Retiring early

If you've earned 40 credits (credits are explained on page 2 of your *Statement*), you can start receiving Social Security benefits at 62 or at any month between 62 and full retirement age. However, your benefits will be reduced based on the number of months you receive benefits before you reach full retirement age.

If your full retirement age is 66, benefits will be reduced:

- 25 percent at age 62;
- 20 percent at age 63;
- 13⅓ percent at age 64; or
- 6⅔ percent at age 65.

Delaying retirement

You may decide to wait beyond your full retirement age before choosing to receive benefits. If so, your benefit will be increased by a certain percentage for each month you don't receive benefits between your full retirement age and age 70. This table shows the rate your benefits increase if you delay retiring.

Year of birth	Yearly increase rate
1941 - 1942	7.5%
1943 or later	8.0%

Rules that may affect your survivor

If you are married and die before your spouse, he or she may be eligible for a benefit based on your work record. If you start benefits before your full retirement age, we cannot pay your surviving spouse a full benefit from your record. Also, if you wait until after your full retirement age to begin benefits, the surviving spouse benefits based on your record will be higher.

Need more information?

You can find answers to frequently asked questions about Social Security, learn about factors that could affect your benefits, and much more by visiting Social Security online at ***www.socialsecurity.gov***.

If you do not have access to the Internet, you can get information about Social Security by calling **1-800-772-1213** (**1-800-325-0778** for the deaf or hard of hearing) or by visiting a local Social Security office.

Other useful websites

www.mymoney.gov

This website contains calculators for financial planning and information on money-related matters, such as retirement planning and starting a small business.

www.dol.gov/agencies/ebsa/workers-and-families/preparing-for-retirement

Have you determined how much money you'll need in retirement? There are many tools available to help you, such as the Taking the Mystery Out of Retirement Planning Workbook available at this link.

www.sec.gov/investor/seniors.shtml

Are you looking for information about the investment options available to you as you enter retirement? The Securities and Exchange Commission has a wealth of information on different investment products and topics available at this website.

www.usa.gov/retirement

This website has a variety of retirement-related resources for seniors including information on Social Security, saving for retirement, and protecting one's private pension benefits.

Social Security Administration
SSA Publication No. 05-10054
January 2019 (Destroy prior editions)

Figure A.3: Event study impact of statement 1 receipt on DI applications, interacted with having a work-limiting health condition

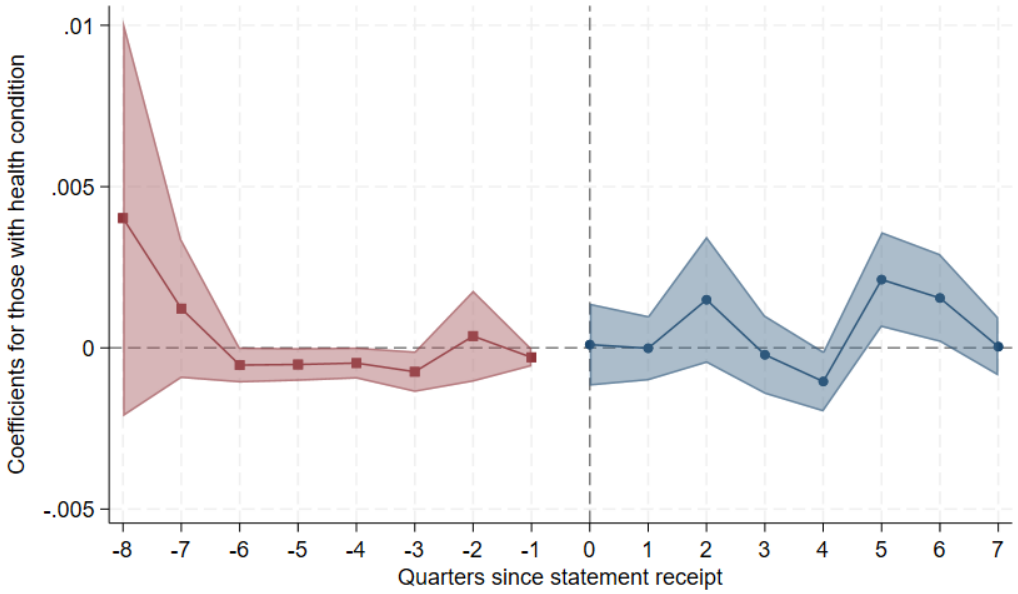


Figure A.4: Event study impact of statement 1 receipt on DI applications, interacted with having a low work-ability index

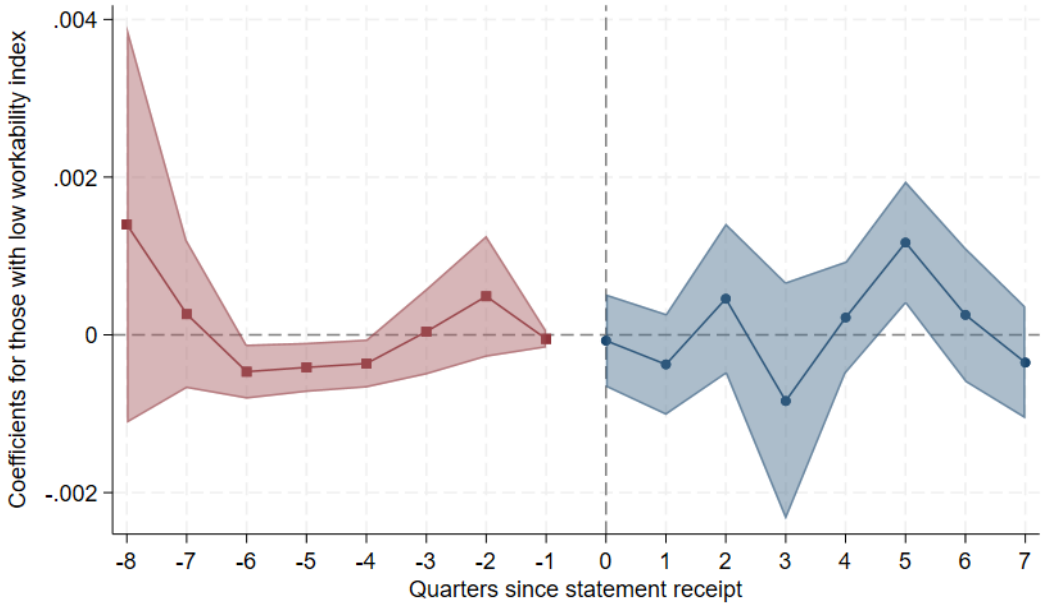


Figure A.5: Event study impact of statement 1 receipt on OAI applications, interacted with having a work-limiting health condition

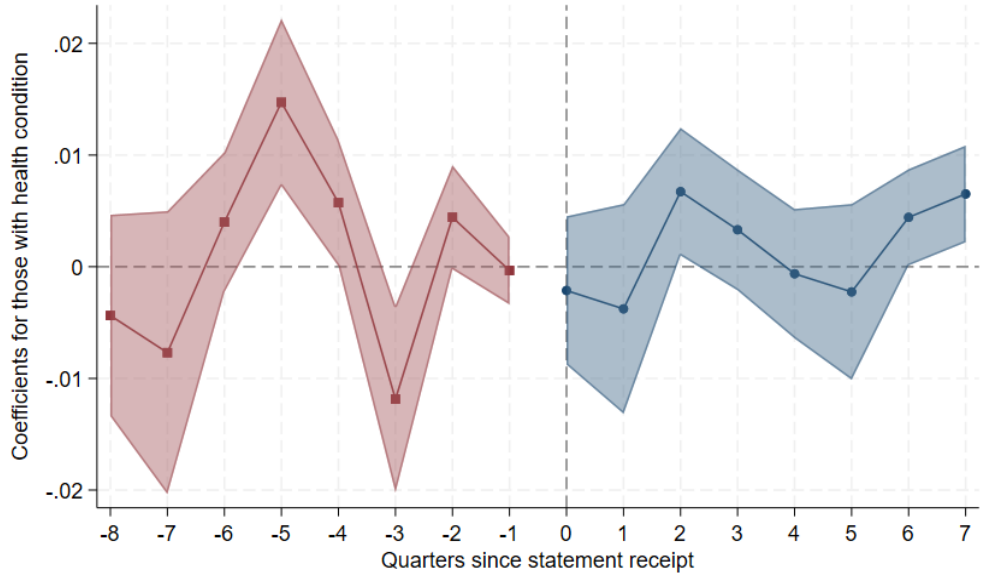


Figure A.6: Event study impact of statement 1 receipt on OAI applications, interacted with having a low work-ability index

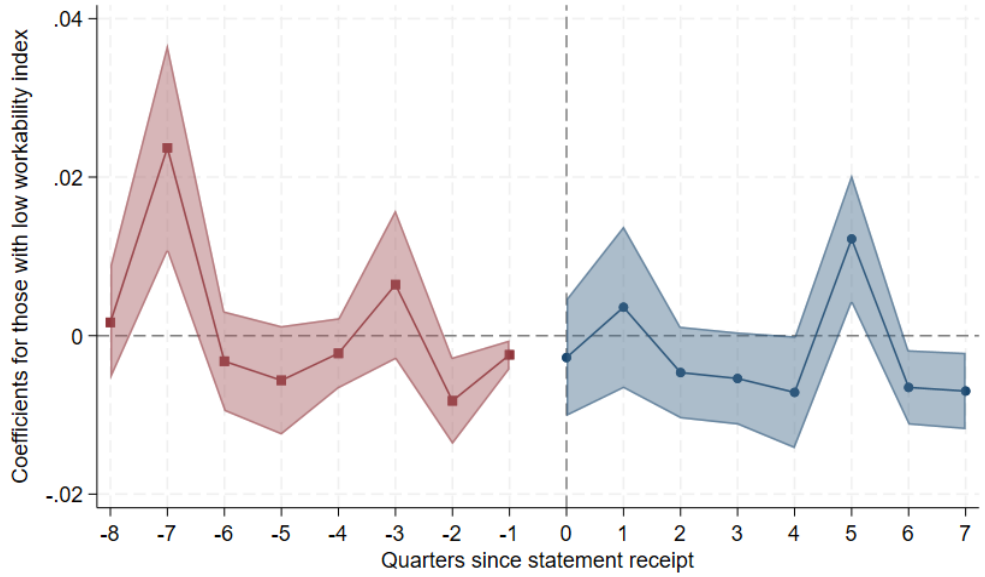


Figure A.7: Impact of statement 1 receipt on DI applications by subgroup

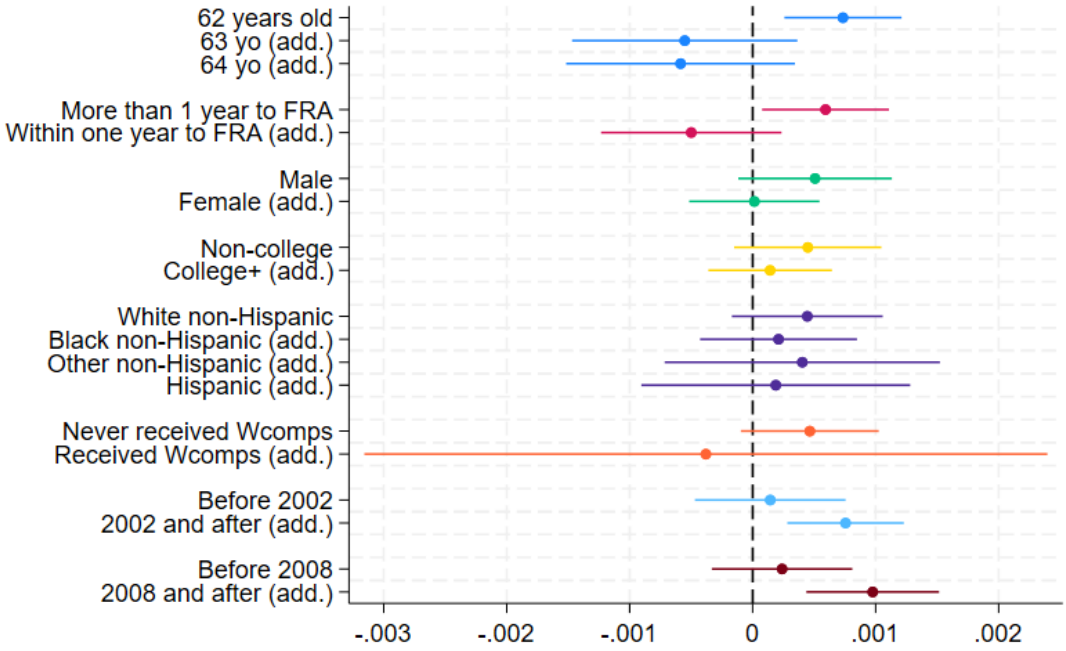


Figure A.8: Impact of statement 1 receipt on OAI applications by subgroup

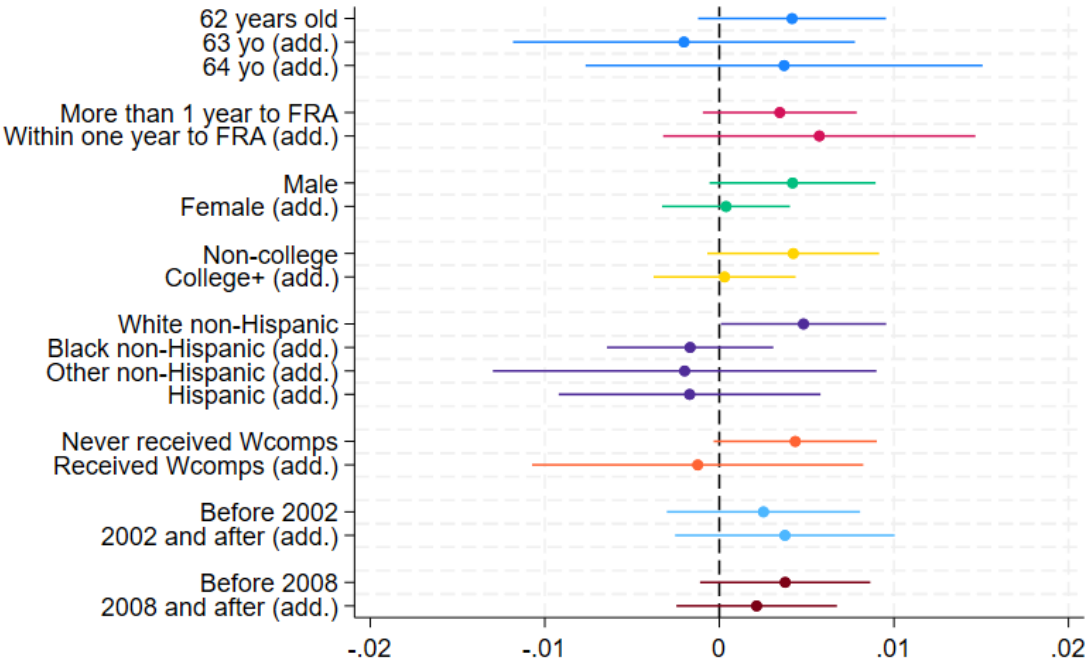


Table A.1: Work-Ability Index (WAI) Components

	Original WAI questions[a]	Score range[a]	HRS questions	Recoded score range[b]
1	Current work ability compared with lifetime best	0–10	Not available	
2	Work ability in relation to the job	2–10	Self-reported health	1–5
3	Number of current diseases diagnosed by a physician	1–7	Diagnosed by a doctor with: high blood pressure, diabetes, cancer, lung disease, heart disease, stroke, arthritis	1–7
4	Estimated work impairment due to diseases	1–6	Health problems limit work	0-1
5	Sick leave during the past 12 months	1–5	Number of doctor visits during the past year	1–5
6	Personal prognosis of work ability 2 years from now	1,4, or 7	Self-reported probability of working full time after age 65	1, 4, or 7
7	Mental resources	1–4	Center for Epidemiologic Studies Depression Scale (CES-D)	1–4
	Total score	7–49		5-29

[a]Tuomi et al. (1998)
[b] A higher work-ability index score means a higher ability to work.

Table A.2: Average Age and Full Retirement Age at Statement Receipt

	Statement					
	0	1	2	3	4	Total
N	35,545	49,219	40,816	37,530	40,840	203,950
	(17.4%)	(24.1%)	(20.0%)	(18.4%)	(20.0%)	(100.0%)
Age in years						
mean	62.866	63.432	62.823	63.635	64.703	63.503
sd	(0.705)	(0.863)	(0.805)	(0.783)	(0.610)	(1.019)
min	62.000	62.000	62.000	62.750	63.750	62.000
max	64.667	64.917	64.917	65.667	65.917	65.917
Full Retirement Age						
mean	65.038	65.149	65.763	65.798	65.791	65.501
sd	(0.191)	(0.344)	(0.357)	(0.298)	(0.259)	(0.452)
min	65.000	65.000	65.000	65.000	65.200	65.000
max	66.000	66.000	66.300	66.300	66.200	66.300