Communicating Program Eligibility: A Supplemental Security Income (SSI) Field Experiment

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Abstract: We conducted a direct mail field experiment with 4,016,461 individuals to test several key hypotheses about why take-up of Supplemental Security Income among individuals age 65 and above is so low. Communicating likely eligibility in a basic letter generated substantial increases in take-up in relative terms. Adding behaviorally-informed statements increased the effectiveness of these communications. Yet, the application rate in our study sample during the full 24-month follow-up period remained no greater than 7%. Our results reveal a modest tradeoff between increasing applications and the conditional likelihood of award, as well as the award amount.

Keywords: aging; elderly; field experiment; social safety net; Supplemental Security Income

JEL codes: H5; I38; J14

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1 Introduction

Estimates suggest that the Supplemental Security Income (SSI) program has one of the lowest take-up rates among federal programs in the United States. Among individuals 65 or older, take-up is thought to be particularly low, with estimates ranging from under 60 percent to 72 percent of potentially eligible individuals receiving SSI (Strand et al. 2009, McGarry and Schoeni 2015).[2] Indeed, no other non-discretionary federal program has a take-up rate below 80% (Barnett and Wilson 2016). We conducted a randomized controlled field experiment with 4,016,461 Social Security beneficiaries - 400,000 of whom were assigned to one of four treatment arms - to test several key hypotheses about why take-up of this large program among eligible individuals age 65 and above is so low.

SSI is a program administered by the Social Security Administration (SSA) "designed to help aged, blind, and disabled people, who have little or no income" (Social Security Administration 2017a). This means-tested program offers payments to individuals in these categories. In 2017, the maximum monthly federal benefit for individuals was US$735. The month we began our experiment (September 2017), there were approximately 8.1 million beneficiaries of all ages who received federal SSI payments of roughly US$45 billion. Individuals aged 65 and above comprised approximately 1 out of every 4 federal SSI recipients and nearly 1 out of every 3 adult SSI beneficiaries (Social Security Administration 2018).

Prior research has found that the elderly are at greater risk of poverty (e.g., Anzick and Weaver 2001, McGarry and Schoeni 2005, Nicholas and Wiseman 2009, Bridges and Gesumaria 2016) and generally have low levels of assets (Davies 2003). While there is evidence that SSI benefits reduce the rate of poverty for this group (Bailey and Hemmeter 2015), the low-income elderly population historically have had low participation in public benefits programs for which they are eligible, including Supplemental Nutrition Assistance Program (Cunnyngham 2018) and the Medicare Part D Low-Income Subsidy (Shoemaker et al 2012). As originally designed, SSI was thought to be mostly beneficial to the elderly (Ball 1973, Berkowitz and DeWitt 2013). Given the potential role of SSI to provide additional financial security to seniors, the relatively low rates of program take up have been a long-standing policy question.

[2] McGarry (1996) finds take-up of approximately 50-60% using the 1984 Survey of Income and Program Participation (SIPP). McGarry and Schoeni (2015) demonstrates that this level of take-up has been observed from program inception 1972 through the first decade of the 21st century.

The existing economic literature on SSI has identified at least three main hypotheses about why take-up is low. One hypothesis about why take-up may be low among eligible individuals age 65 and above is that they are not aware that they are eligible (Social Security Administration 1976, Menefee et al. 1981, Warlick 1982, Hill 1990). SSA does not systematically notify potentially eligible individuals age 65 and above and cannot determine eligibility without an application and associated information on assets and income. SSA policy (POMS GN 00201.05) instructs staff to explore SSI eligibility for Old-Age Survivors and Disability Insurance applicants who allege disability or blindness or are within two months of age 65 or older, but there does not appear to be systematic post-entitlement outreach to determine if a beneficiary's situation has changed. Beneficiaries may, of course, learn about SSI benefits through SSA's website.[3] A second hypothesis is that individuals underestimate or are confused about the magnitude of the potential SSI payment (McGarry 2002, McGarry and Schoeni 2015). A third hypothesis is that individuals perceive the application process as being confusing and burdensome (Warlick 1982, McGarry 1996, McGarry and Schoeni 2015).[4]

More broadly, recent work on communicating program eligibility and claiming decisions has highlighted the role of key psychological frictions in explaining the puzzle of low or incomplete take-up given the monetary incentives to apply. These include low awareness (e.g., Chetty et al. 2013, Armour 2018, Finkelstein and Notowidigdo 2019) and confusion (e.g., Liebman and Zeckhauser 2004, Bhargava and Manoli 2015), as in the SSI-specific literature. They also include procrastination (e.g., Madrian and Shea 2001), stigma (Bhargava and Manoli 2015), and inattention (e.g., Karlan et al. 2016).

We designed and implemented a randomized controlled field experiment using these insights with the aim of testing each of three key hypotheses about why SSI take-up among potentially eligible individuals age 65 and above is so low. We prepared four types of one-page letters intended to provide information about SSI that address the three hypothesized reasons for low program take-up.[5] All letter types notified the recipient that SSA records showed that the

[3] From December 2020 to December 2022, SSA sent similar notices in an attempt to counter declining SSI applications as a result of COVID-19. The results were qualitatively similar to those reported here, but the effort was not a continuing outreach program to this population.

[4] Deshpande and Li (2019) finds that application costs, particularly field office congestion, are a key barrier to SSI Disability Insurance applications.

[5] See the Appendix for our four letters.

recipient may be able to get SSI payments because they are age 65 or over. They also briefly explained what SSI is and provided basic information about how to apply for SSI.

The Basic Letter only included this basic information. The Maximum Benefit Letter added a statement about the maximum individual (or married) monthly payment of US$735 ($1,103) to the Basic Letter. The Simple Application Process Letter added a statement to the Basic Letter indicating that applying is simple and you only need to call a Social Security representative to apply.[6] The Combined Letter combined the elements of the Maximum Benefit Letter and the Simple Application Process Letter.

We mailed notifications to 400,000 individuals age 65-80 who SSA administrative data suggested may be eligible for SSI yet were not currently receiving SSI.[7] The remaining 3,616,461 individuals in the sampling frame were not sent any notifications and comprise the control group. The four letter types were evenly distributed using randomized assignment, with 100,000 individuals receiving a given letter type. SSA mailed the letters on September 15, 2017 and we tracked SSI applications and awards through 24 months.

We find substantial effects of the letters on applications and awards, particularly in relative terms. In the 24 months after we mailed the letters, 6.96% of individuals assigned to receive any letter applied for SSI compared to 2.03% of individuals assigned to receive no letter.[8] Similarly, at 24 months, 2.90% of individuals assigned to receive any letter were awarded SSI compared to 1.17% of participants assigned to receive no letter. An analysis of the dynamic effects of the letters reveals that the majority of the letter effects were realized shortly after the letters were sent, with 5.38% of individuals assigned to receive any letter applying within the 3 months of the letters being sent.

Our results suggest that the most effective component of the letter was notifying likely eligible individuals of their potential eligibility status. For example, at 24-month follow-up the Basic Letter Content increased applications by 4.38 percentage points compared to no letter. We find smaller, yet important, effects of modifying the Basic Letter Content by adding a statement

[6] As an alternative to just stating that the application process is simple in an attempt to change perceptions, one could attempt to actually simplify the application process through a structural change. There are two reasons our Simple Application Process Letter focused on the former approach rather than the latter approach: (1) existing evidence (Warlick 1982, McGarry 1996, McGarry and Schoeni 2015) suggests that perception is a barrier, and (2) stating "simple" is a first-step, low-cost nudge to alleviating this barrier, particularly as compared to overhauling the application process.

[7] Our sampling frame excludes individuals with special notice option requests (e.g., Braille) and Spanish language notices. See Section 3.1 for the full sampling criteria.

[8] We use "applied" and "filed" interchangeably.

about the maximum benefit or a statement that the application process is simple. Adding the Maximum Benefit Statement and the Simple Application Process Statement increased applications at 24 months by 0.84 percentage points and 0.37 percentage points, respectively. Perhaps surprisingly, adding the Simple Application Process Statement did not increase awards at 24 months.

Our results reveal a modest tradeoff between increasing applications and the conditional likelihood of award. Our letters generated selection into applications along two observable outcomes. For example, at 24 months, among study participants applying for SSI, awards were made to approximately 40% of individuals assigned to receive any letter compared to 60% of "No Letter" individuals.[9] Among study participants awarded SSI, mean monthly SSI benefits were US$183 in the pooled any letter arm and were US$225 in the control group arm. We discuss policy implications of these tradeoffs in the Discussion section.

These findings make several key contributions to the existing literature. Among previous studies, Bhargava and Manoli (2015) and Finkelstein and Notowidigdo (2019) may be the most similar to ours in that they are direct mail field experiments designed to investigate the effects of psychological and economic frictions on take-up of a large federal government program (i.e. EITC and SNAP, respectively). Yet our study builds on these in seven key ways.

First, our results highlight the central role of informational barriers in explaining low public benefits take-up, reinforcing the findings in Bhargava and Manoli (2015) and Finkelstein and Notowidigdo (2019) that the basic act of notification and stating the potential benefit amount generated two of the largest marginal effects on take-up.[10]

Second, although we demonstrate unambiguous benefits of several behaviorally-informed statements, we also demonstrate that a potentially beneficial statement - the Simple Application Process Statement - likely reduced social welfare. This statement increased applications without increasing awards. The Simple Application Process Letter cost applicants' time and staff time without any incremental benefits over the Basic Letter or Maximum Benefit Letter.

Third, we identify a tradeoff between increasing applications and the conditional likelihood of award. Among the nine different types of experimental interventions examined in

[9] We use "awarded" and "allowed" interchangeably.

[10] In a related yet different setting - the retirement claiming decision - Mastrobuoni (2011) uses a natural experiment to analyze the effects of the annual Social Security Statement (i.e. for Old-Age Survivors and Disability Insurance (OASDI)) and finds no effect of the letter on retirement decisions.

Bhargava and Manoli (2015), one – "benefit display" – is associated with an increased denial rate.[11] Finkelstein and Notowidigdo (2019) finds no differences across study arms in the likelihood of award conditional on applying. In contrast, our results reveal a tradeoff for all letter types – albeit modest in magnitude – between increasing applications and the conditional likelihood of award.

Fourth, we are able to link study participants to SSI award amounts, yielding evidence indicating that there exists a further tradeoff between increasing applications and the magnitude of award amount conditional on being awarded SSI. Bhargava and Manoli (2015) does not provide evidence on the amount of EITC benefits received in response to their mailings, although it is reasonable to believe that a similar tradeoff may be operative in that setting. Finkelstein and Notowidigdo (2019) finds a tradeoff between applications and the magnitude of SNAP benefits conditional on being awarded SNAP, roughly similar in relative terms to the magnitude we identify.

Fifth, we study a population (i.e. potentially low-income individuals age 65-80 from all 50 states in the United States and the District of Columbia) who comprise a disproportionate share of the low-income population and a disproportionate share of individuals eligible for federal benefits programs, yet are less likely to access many large benefits program. Similarly, Finkelstein and Notowidigdo (2019) studies the elderly (i.e. individuals age 60 and above) in Pennsylvania, whereas Bhargava and Manoli (2015) studies EITC non-filers of all ages in California.

Sixth, our sample size of letter recipients is more than 10 times larger than the sample of 35,050 eligible for EITC and the sample of approximately 30,000 eligible for SNAP.

Finally, existing messaging (from any source) to the potential SSI eligible population about the program is scarce, whereas existing messaging about the EITC and SNAP are more common (e.g., tax preparation companies advertise EITC benefits to potential customers).

Our study appears to be one of the first "nudge" field experiments in the history of the Social Security Administration to demonstrate significant changes in program take-up and only the third such field experiment in SSA history.[12] As such, we contribute to the existing economic

[11] As shown in Table 5 of Bhargava and Manoli (2015), "benefit display" increased the likelihood of denial by approximately 0.3 percentage points, or 3% relative to the control group mean.

[12] In 2015, SSA sent one of four behaviorally-informed letters to approximately 50,000 SSI recipients age 18-50 reminding them to report any changes in earnings. The letters increased the likelihood of reporting by approximately 0.34 percentage points and there were no statistically significant differences across letter types

literature on SSI take-up and take-up of other SSA programs. In highlighting the central role of communicating likely program eligibility in promoting SSI take-up, we build on previous non-experimental literature examining potential informational barriers on take up (e.g., Social Security Administration 1976, Menefee et al. 1981, Warlick 1982). Similarly, our evidence on the effects of adding maximum benefit statements and simple application process statements builds on previous non-experimental literature examining these issues (e.g., McGarry 2002, McGarry and Schoeni 2015; and Warlick 1982, McGarry 1996, McGarry and Schoeni 2015, respectively).

More broadly, we contribute to the economic literature on psychological frictions and low program take-up, including among vulnerable populations. Our findings demonstrate that it is feasible and potentially cost-effective to nudge the elderly at scale. Our study appears to be one of the largest U.S. direct mail field experiments presented to the public academic domain.

The rest of the paper is organized as follows: Section 2 describes SSI and the existing economic literature on SSI take-up. Section 3 outlines our experimental design and empirical strategy. Section 4 reports the results of our study. Section 5 discusses our results. Section 6 concludes.

2 Supplemental Security Income

2.1 Supplemental Security Income

In 1972, Congress passed legislation to create a federally funded and administered program called the Supplemental Security Income (SSI) program. SSI replaced state-run assistance programs that had been in operation since the Social Security Act of 1935, and which provided aid to the poor elderly regardless of their work record, as well as to the blind and the disabled (Ball 1973).

SSI is a monthly benefit administered by the Social Security Administration to people with limited income and resources who are disabled, blind, or age 65 or older. Federal payments under SSI are meant to guarantee minimum income levels, so that a recipient's monthly payment

(Zhang et al. 2023). In 2016, SSA sent a letter to approximately 44,000 individuals denied Disability Insurance (DI), with the aim of increasing the likelihood of successful transition to labor force participation and employment (OES 2019). The letter informed recipients about other services for which they may have been eligible (e.g., support provided by American Job Centers for vocational rehabilitation and employment). There was no difference in DI receipt between individuals assigned to receive the letter and the control group; SSA was not able to analyze the impact on other services.

can be up to the guaranteed amount. In many states, SSI recipients are automatically eligible for Medicaid, and an SSI application is also an application for Medicaid. Medicaid provides health coverage for low-income individuals, both children and adults, and can help with medical costs not covered by Medicare, the federal health insurance program for people who are disabled or age 65 or older. States can also supplement the federal SSI payment, by providing additional cash assistance or food assistance for certain SSI recipients (Social Security Administration 2017c).

Eligibility is based on passing an income test and an asset test. The federal monthly payment is determined by subtracting an individual or couple's countable income from the federal benefit rate.[13] The income disregards include the first US$20 of unearned income (e.g., Old-Age Survivors and Disability Insurance benefits), the first US$65 of earned income (e.g., wages and self-employment income), and half of any additional earned income. Additional unearned income reduces benefits US$1 for every US$1. Eligible individuals must also have countable assets of less than US$2,000 (or US$3,000 for a couple), not including ownership of a home, a car, or household items. There are several specific exclusions for what counts as income or assets, which also depend on specific living arrangements, and other restrictions on eligibility (Social Security Administration 2017b).

Descriptive statistics for SSI recipients are typically reported in three age group categories: children (younger than age 18), working-age adults (18-64), and the aged (65 or older).[14] Among recipients 65 or older, about 70 percent are female, and 40 percent live alone. (This is compared to working-age adult recipients, who are more likely to be male and less likely to live alone.) Almost all recipients 65 or older have Medicare (99 percent) and Medicaid (97 percent). In 2013, most of the family income for recipients 65 or older was provided by the combination of Social Security benefits (37 percent) and SSI payments (32 percent). Without counting SSI payments, the poverty rate among SSI recipients 65 or older would be about 58 percent, compared to the actual rate (44 percent), indicating that SSI payments effectively reduce the poverty gap for this population by 69% (Bailey and Hemmeter 2015).

[13] At the time of our study, the individual statutory minimum and maximum benefit amounts were $1 and $735, respectively.

[14] SSI recipients who are both disabled and aged 65 or older are counted in the aged category for descriptive statistics presented here.

Typically, individuals apply for SSI through an appointment, which they can make by phone or online. Applicants must provide information related to eligibility, and prepare to share original documents to show proof of age, citizenship, income, assets, living arrangements, and relevant medical information.[15] For applicants who are 65 or older, the application process is simpler: they need not provide medical information and, in some cases, can apply by phone without making an appointment. Once an individual receives the benefit, SSA will re-determine their eligibility by reviewing income, assets, and living arrangements every one to six years (Social Security Administration 2017b).

2.2 Take-Up in Supplemental Security Income

Despite the goals of the program, many individuals aged 65 or older who are potentially eligible for the program are not enrolled. It is difficult to estimate the gap between eligibility and enrollment, because SSI is a means-tested program that relies on individual income and assets. Survey data from the Health and Retirement Study suggest that less than 60 percent of individuals 65 or older potentially eligible for SSI receive it (McGarry and Schoeni 2015), and this rate has been documented for the last three decades of the program (Menefee et al. 1981, Warlick 1982, McGarry 1996, McGarry 2002, Elder and Powers 2004). However, other simulations conducted by the Social Security Administration using self-reported data from the Survey of Income and Program Participation matched to administrative records on actual SSI participation and Old-Age Survivors and Disability Insurance (OASDI) receipt and amount estimate that participation rates are closer to 72 percent for the elderly (Strand et al. 2009).

A study by the Michigan Retirement Research Center focusing on correlates of SSI enrollment found that among likely eligible individuals, the calculated benefit for participants is nearly US$100 per month higher than for eligible non-participants, and they are more likely to be nonwhite and have less schooling. Among eligible non-participants, the likelihood of receiving a transfer from their adult children or other family members is approximately twice as high as both participants and non-eligible individuals, at 11.1 percent. This is suggestive of family support substituting for public assistance, and that enrollment is related to need (McGarry and Schoeni

[15] Technically, the SSI application form is fairly long: 24 pages, with 65 enumerated "main" questions and a host of sub-questions for each "main" question. Yet, it is not meant for the applicant to fill out. Instead, it is intended to be processed during an interview, with an OMB estimate of around 40 minutes to complete with an additional 21 minute wait time (OMB 2023). Roughly speaking, the application form includes around the same number of questions as a Medicaid application, whereas the SNAP application tends to be shorter.

2015). Other analysis has found a positive correlation between living in a state with automatic Medicaid eligibility upon SSI receipt and SSI take-up (Elder and Powers 2004). Among the non-elderly, SSI participation decreased in states that expanded Medicaid coverage with the Affordable Care Act, when individuals were able to access Medicaid without participating in SSI (Burns and Dague 2017), supporting the hypothesis that the expected value of the SSI benefit affects take-up.

SSA does not have available administrative data on the number of individuals eligible who are 65 or older, because eligibility depends on factors that are not captured by SSA administrative data for people who have not applied and do not receive benefits (for example, assets, citizenship, and residency requirements). However, SSA does have existing administrative data on pay status for retirement and disability payments administered by SSA. This data can be leveraged to identify potentially eligible individuals whose Social Security income is below the level for eligibility for SSI.

3 Experimental Design

Researchers at SSA and at the Office of Evaluation Sciences (OES) collaborated in the design, implementation, and analysis of this field experiment. OES is part of the General Services Administration (GSA) and advises U.S. federal agencies on incorporating and testing insights from the behavioral sciences on how to improve government effectiveness.

We designed our experiment to test the three aforementioned hypotheses about why SSI take-up is low. We filed an analysis plan including study design with the American Economic Association (AEA) RCT Registry on September 14, 2017, the day before SSA mailed our letters (AEARCTR-0002423). Below, we describe key elements of this plan.

3.1 Sample selection

We used the following criteria to determine sample selection: Individuals must be age 65-80; not currently receiving or applying for SSI; in current pay status of OASDI programs (i.e. receiving a payment for Social Security); currently receiving a monthly payment less than the 2017 SSI Federal Benefit Rate of US$735/month plus US$20[16]; not living outside of the United States; not missing a mailing address; did not request Special Notice Option; and have a local SSA office

[16] This accounts for SSI policy, which does not count the first US$20 in unearned income.

associated with their record. The selection criteria were designed to use existing administrative data from SSA's Master Beneficiary Record to identify individuals potentially eligible for SSI.[17] Notably, about 86% of the elderly receive OASDI benefits (SSA 2017b) and many of the remaining receive pensions that preclude them from receiving OASDI benefits; hence, the sample is not representative of all adults 65 or older. In addition, some SSI eligibility criteria, such as savings or other financial assets, are not observed in the Master Beneficiary Record and therefore we expected some study participants ultimately would be found to be ineligible. Randomization was conducted at the individual level by SSA.

3.2 Interventions

Our experiment tests four behaviorally-informed letters against a control condition (i.e. no letter, which is the SSA's current standard procedure). The four letters are:

Letter #1: Basic Letter,

Letter #2: Maximum Benefit Letter,

Letter #3: Simple Application Process Letter, and

Letter #4: Combined Letter.

The Appendix presents the four letters. All letters include the basic information listed on Letter #1, allowing us to measure the incremental effect of the information on a more detailed letter (e.g., the maximum benefit statement on Letter #2) by comparing take-up among recipients of the more detailed letter (e.g., Letter #2) to take-up among recipients of Letter #1. Comparing take-up among recipients of Letter #1 to take-up among the control group (i.e. individuals not receiving a letter) yields an estimate of the effect of only being notified of likely eligibility.

Each treatment condition had a sample size of 100,000 letters, yielding a total letter sample size of 400,000 letters. The total sample size for our study was 4,016,461 individuals, with over 3.6 million individuals assigned to the control study arm.

3.3 Data

Data come from the administrative records of the SSA. These are individual-level monthly data.

[17] Potential SSI benefit amount (and eligibility if greater than $0) was determined as follows. Potential SSI = $735+$20-"mba". $735 was the FBR at the time of our study. Individuals are allowed $20 for unearned income. Every dollar of Social Security benefits ("mba": monthly benefit amount) crowds out potential SSI dollar for dollar.

The primary outcomes of interest are SSI application filed and SSI application allowed. As secondary outcomes, we examine: SSI application denied, average amount of SSI payments received for months with SSI payments, total amount of SSI payments received, received SSI for at least one month, and number of months received SSI.

We measure these outcomes through a 24 month follow-up period. In addition to these outcomes of interest for our regression analysis, we examine the reasons SSI applications are denied by calculating the frequency of each reason SSI application is denied. Reason SSI application is denied is conditional on applying, and is thus not an outcome of interest in the regression analysis; instead we provide descriptive statistics on denial. The data available in the record also include a small number of covariates (e.g., age, sex, state of residence).

3.4 Treatment effects

Our primary analysis is an intent-to-treat (ITT) specification. The ITT specification does not assume that intended letter recipients actually received or read the letter, yielding treatment effects corresponding to the real-world setting in which policymakers are able to mail letters yet are not able to ensure that intended recipients are aware of the letter or its contents. We estimate the causal effect of the intent to treat using linear ordinary least squares (OLS) regression.

Part 1 our analysis of treatment effects focuses on measuring the effects of each of the letters. Part 2 of our analysis of treatment effects focuses on measuring the effects of each of the letter elements, that is, the specific eligibility or maximum benefit statements.

Part 1: Effects of letters

The first part of our analysis of treatment effects focuses on measuring the effects of each of the letters. In the body of the text, we present a graphical analysis of these effects. The Appendix presents the full regression results of these effects. In the regression analysis for Part 1, we pool the full study sample (i.e. control and all treatment observations) to form our regression sample.

In the Appendix results, we regress the outcome of interest (e.g., SSI application filed) for individual i on the full set of indicator variables for each of the letters (e.g., the Basic Letter). That is, we estimate the parameters of the following regression equation:

$$outcome_i = \alpha + \beta_1 BasicLetter_i + \beta_2 MaximumBenefitLetter_i$$

$$+ \beta_3 SimpleApplicationLetter_i + \beta_4 CombinedLetter_i + \varepsilon_i \qquad (1)$$

The coefficient on the Basic Letter indicator variable, β_1, is the estimate of the causal effect of the Basic Letter. The coefficient on the Maximum Benefit Letter indicator variable, β_2, is the estimate of the causal effect of the Maximum Benefit Letter. The coefficient on the Simple Application Letter indicator variable, β_3, is the estimate of the causal effect of the Simple Application Letter. The coefficient on the Combined Letter indicator variable, β_4, is the estimate of the causal effect of the Combined Letter. The analysis of the effects of letters is presented in the Appendix; the main body of the text focuses on the effects of the letter elements.

Part 2: Effects of letter elements (i.e. statements on letters)

The second part of our analysis examines the effects of each letter element (that is, the eligibility, simple application, or maximum benefit statements) because each element addresses a different behavioral barrier; this may be useful when considering what barriers are most prominent in the decision to apply for SSI. To isolate the element-specific effects, we pool the full study sample (i.e. control and all treatment observations) and regress the outcome of interest (e.g., SSI application filed) for individual *i* on the full set of indicator variables for each of the letter statements and the interaction between the maximum benefit statement and the simple application process statement. That is, we estimate the parameters of the following regression equation:

$$\begin{aligned} outcome_i = \ & \alpha + \beta_1 eligibilitystatement_i + \beta_2 maximumbenefitstatement_i \\ & + \beta_3 simpleapplicationstatement_i \\ & + \beta_4 maximumbenefitstatement * simpleapplicationstatement_i \\ & + \varepsilon_i \qquad (2) \end{aligned}$$

where $eligibilitystatement_i$ is an indicator variable equal to one if the study participant was assigned to receive a letter with the eligibility statement (i.e. any of the letter arms) and zero otherwise; $maximumbenefitstatement_i$ is an indicator variable equal to one if the study participant was assigned to receive a letter with the maximum benefit statement (i.e. the

Maximum Benefit Letter and the Combined Letter) and zero otherwise; and the remaining variables are defined similarly. The coefficient on the eligibility statement indicator variable, β_1, is the estimate of the causal effect of the eligibility statement. The coefficient on the maximum benefit statement indicator variable, β_2, is the estimate of the causal effect of the maximum benefit statement. The coefficient on the simple application statement indicator variable, β_3, is the estimate of the causal effect of the simple application process statement. The coefficient on the interaction term (i.e. maximum benefit statement indicator variable interacted with the simple application process statement indicator variable), β_4, is the estimate of the causal effect of the interaction of the maximum benefit statement and simple application process statement.

In additional specifications for both Equation (1) and Equation (2), as robustness checks we add control variables such as study participant age, sex, an estimate of potential SSI payment amount (i.e. maximum individual Federal SSI benefit amount plus $20 minus total OASDI payments), previously applied for SSI, and state of residence.

In all regression specifications, we estimate heteroskedasticity-robust standard errors and cluster our standard errors at the state level. Although treatment assignment varied at the individual level, institutional details about SSI (e.g., its link with Medicaid) vary at the state level, suggesting that an unadjusted error term may not satisfy the assumption of uncorrelated shocks within states implied by not clustering standard errors at the state level.[18]

4 Results

4.1 Balance checks

We conduct balance checks on study randomization as follows. For each of the following variables, we calculate sample means and standard deviations for the control group, for each of the treatment arms, and for "any letter" (i.e. pooled treatments): age, sex, potential SSI payment, previously applied for SSI, and state. We use t-tests to test for equality of means (or proportions) for all variables except state of residence and Chi-squared tests to test for equivalence of distribution for state of residence. We interpret the randomization as having resulted in balanced

[18] Clustering standard errors at the state level is not driving our results. We conservatively pre-specified that we would cluster our standard errors at the state level, so that is what we present as our main analysis.

assignment if the fraction of tests that reject the null hypothesis of no difference in means (or proportions or distributions) is less than 10%.[19]

Appendix Table A1 presents the results of the balance checks. None of the differences in observable characteristics are statistically significant and the magnitude of the differences is always very small. Thus, assignment to a letter arm does not appear to be associated with differences in observable characteristics.

4.2 Main Results

4.2.1 Effects of Letters

Figure 1 displays the percentage of participants applying for SSI and the percentage awarded SSI at 24-month follow-up by letter type. The first set of columns present results for "No Letter", the second set of columns present pooled results for "Any Letter", and the remaining columns present results separately by letter arm. Among individuals in the "No Letter" arm, approximately 2% applied for SSI and 1.2% (roughly 60% of applicants) were awarded SSI during the 24-month follow-up period. Among "Any Letter" individuals, approximately 7% applied for SSI and 2.9% (approximately 40% of applicants) were awarded SSI. In relative terms, these are large differences with "Any Letter" individuals being 250% more likely to apply and 142% to be awarded SSI than "No Letter" individuals. Letters that included the Maximum Benefit Statement (i.e. "Maximum Letter" and "Combined Letter") were particularly effective, though application rates were at least approximately 6.4% and award rates were at least approximately 2.8% in each of the letter arms.

Figure 2 presents mean monthly award amount at 24-month follow-up by letter type, conditional on receiving SSI. Among "No Letter" individuals, the mean monthly award amount was roughly $225. In contrast, the mean monthly award amount among pooled "Any Letter" individuals was roughly $183, a decrease of roughly 19% relative to the "No Letter" individuals. As with the application and award results, letters that included the Maximum Benefit Statement generated slightly larger award amounts conditional on receiving SSI. However, these differences are fairly small in relative terms; approximately 2% relative to "Basic Letter" individuals.

[19] Our pre-analysis plan specified that if more than 10% of tests reject the null hypothesis of no difference, then we would measure these differences relative to the full sample means and interpret the randomization as having resulted in balanced assignment if these differences were less than 1% relative to the full sample means.

Figure 3 displays the dynamic effects of the letters on applications and awards. Two stylized facts emerge from this figure. First, the majority of the letter effects were realized shortly after the letters were sent. Second, the letter effects were highly persistent through the 24 month follow-up period.

Appendix Table A2 presents regression results corresponding to the graphical analyses in Figures 1 and 2. These results are consistent with the findings presented thus far.

4.2.2 Effects of Letter Elements

Table 1 presents the effects of the letter elements on SSI applications and awards. Specifically, it presents the regression estimates of the parameters in Equation (2). Columns (1)-(3) examine the effects on the likelihood of "Applied" for SSI, the likelihood of "Awarded" SSI, and "Average Monthly Payment" (in months receiving SSI), respectively, all at 24-month follow-up.

The results in Columns (1) of Table 1 illuminate some of the reasons why the letters were effective at increasing applications. First, the point estimate on "Basic letter content" indicates an effect size of 4.37 percentage points (p-value<0.01), suggesting that the most important element of the letters was just the act of notifying likely eligible of this status. Second, the point estimate on "Maximum benefit statement" indicates an effect size of 0.84 percentage points or larger (p-value<0.01) and the point estimate on "Simple application statement" suggests an approximately 0.37 percentage point effect (p-value<0.01). Thus, the effect of adding the "Maximum benefit statement" was approximately 2 times the effect of adding the "Simple application statement".[20] Third, the point estimate on the interaction term (i.e. "Maximum" and "Simple") is a precisely estimated zero, indicating that although each of the additional statements were effective at increasing applications there were no substantial positive (or negative) interaction effects.

The results in Column (2) of Table 1 reveal differences in whether letter elements were able to increase the likelihood of being awarded SSI. The "Basic letter content" increased the likelihood of award by 1.63 percentage points (p-value<0.01), or by more than 100% in relative terms compared to the likelihood of award among "No Letter" individuals. Adding the

[20] We do not interpret this as indicating that perceptions about a confusing or burdensome application process are not a major barrier to applying. Our Basic Letter was fairly straightforward, possibly alleviating perceptions about a confusing or burdensome application process and lessening the benefit of additional simplifying statements (as in the "Simple Application Letter").

"Maximum benefit statement" increased the likelihood of award by 0.18 percentage points (p-value<0.01), or by approximately 10% compared to the increase associated with the "Basic letter content". In contrast, the "Simple application statement" did not increase awards and the point estimate suggests it was associated with a small, albeit statistically insignificant, reduction in the likelihood of award. There is no evidence of an interaction effect between the two added statements.

The results in Column (3) of Table 1 indicate that the "Basic letter content" reduced the average payment amount, conditional on receiving SSI. None of the other letter elements were associated with substantial or statistically significant differences in award amounts or in duration received.

Table 2 presents the effects of the letter elements on additional outcomes. Columns (1)-(3) examine the effects on the likelihood of "Received SSI for at Least One Month", "Total Amount of SSI Payments Received", and "Application Denied", respectively, all at 24-month follow-up.

The results in Table 2 indicate several key facts expanding on the evidence presented thus far. First, the letters increased the likelihood individuals received SSI for at least one month. Second, average total payments received in the letter arms was higher than in the "No Letter" arm, meaning that the effect on the likelihood of application (and award) outweighed the lower benefit amount conditional on award. Third, the letters were associated with increased denials (conditional on application).[21]

4.3 Robustness Checks

Appendix Tables A5 and A7 present the results of including socio-demographic controls in the regressions presented in Tables 1 and 2, respectively. Throughout, including socio-demographic controls has little effect on the point estimates or the associated standard errors. With our

[21] As specified in our analysis plan, we augment our ITT estimates in Sections 4.2.1 and 4.2.2 with back-of-the-envelope calculations for the local average treatment effect (LATE). We do not have data on whether intended recipients received, opened, and read the letter. Nor do we have randomization assignment compliance data for the control group. In lieu of exact data on randomization assignment compliance, we assume a 10% return rate for the study letters (i.e. a 90% delivery rate for the study letters) based on administrative data from previous SSA experience with return rates for similar mailings. Under this assumption, the back of the envelope LATE for the effect of the "Combined Letter" on the likelihood of application is roughly 6.1 percentage points and the likelihood of award of roughly 2.1 percentage points. Similarly calculations apply to the other letters and letter elements. We interpret these calculations as the causal effects of the letters and letter elements on the fraction of intended recipients who likely received the letter.

substantial sample size and randomized assignment to study arm, the robustness of our results to these controls is not surprising.

4.4 Heterogeneity Analyses

4.4.1 Age

Table 3 displays the results of allowing for heterogeneous effects of being assigned to receive "Any Letter" by age, where the omitted age category is age 65. The letters had a smaller effect on the likelihoods of applying for SSI and of being awarded SSI for older individuals than for younger individuals. For example, the letters were approximately 4 percentage points (i.e. roughly 50%) less effective at increasing applications among individuals age 76-80 compared to individuals age 65. Similarly, the letters were approximately 2.4 percentage points (i.e. roughly 80%) less effective at increasing the likelihood of award among individuals age 76-80 compared to individuals age 65. Differences by age in the effects of the letters on award amounts do not reveal a clear pattern.

4.4.2 Potential SSI Payment Amount

Table 4 displays the results of allowing for heterogeneous effects of the letters by potential SSI amount. Potential SSI amount refers to the estimated monthly payment at the time that the letters were generated, based on current total monthly OASDI benefit in SSA records. The results indicate that the letters were less effective among individuals with a greater potential SSI amount. For example, the effects of the letters on the likelihood of application at 24 months was between 3.8 percentage points smaller (p-value<0.01) for each US$1,000 increase in potential SSI amount, a decrease of more than 50%. For the likelihood of award, this difference in effectiveness was approximately 1.3 percentage points (p-value<0.01), a decrease of more than 50% relative to the likelihood of award when potential SSI amount is zero.

4.4.3 State of Residence Bundles Medicaid and SSI

Appendix Table A8 displays the results of allowing for heterogeneous effects of the letters by whether the individual resides in a state that bundles Medicaid and SSI (i.e. SSI includes an

application for Medicaid).[22] The results indicate that the letters were more effective at increasing application and award likelihoods in bundled states, as expected. For example, the effects of the letters on the likelihood of application at 24 months was 1.7 percentage points greater (p-value<0.01) in bundled states than in states that do not bundle Medicaid and SSI, an increase of approximately 50%. For the likelihood of award, this difference in effectiveness ranged from approximately 0.3 percentage points (p-value<0.01), an increase of roughly 20% relative to the likelihood of award in states that do not bundle. There are not clear differences by bundling status in the effects of the letters on award amount.

4.4.4 Additional Heterogeneity Analyses Not Pre-Specified in Our Analysis Plan

We also test for several sets of heterogeneous treatment effects that we did not pre-specify in our analysis plan. Appendix Table A9 displays the results of allowing for heterogeneous effects of the letters by whether the beneficiary's benefit amount was affected by the Windfall Elimination Provision (WEP)/Government Pension Offset (GPO), which would indicate that the individual has a higher income than the Social Security payment used to identify the sample.[23] Those subject to the WEP/GPO provisions are generally less likely to apply for or be awarded SSI, as expected. The effect of the letters on the likelihood of application by 24 months, for example, was roughly 5 percentage points (p-value<0.01) over the observation period, largely but not completely reversing the effect of the letters. Thus, those not subject to the WEP/GPO are much more likely to apply for or be awarded SSI over the follow-up period. Given that, it follows that we find no difference in SSI amount among those who eventually do.

Appendix Table A10 reports the results of allowing for heterogeneous effects by beneficiary type.[24] Relative to Workers who are receiving a Social Security benefit on their own record, Spouses (Widows) are less (more) likely to apply for or receive SSI. The letters appear to have triggered more applications and awards for Widows, but fewer applications and awards for Spouses, relative to Workers. Many of the results for the "Other" benefit group (mainly

[22] States have the option of having an agreement with SSA under Section 1634 of the Social Security Act whereby SSA makes a Medicaid eligibility decision based on the same criteria for SSI eligibility. SSA does not determine Medicaid ineligibility for these claims; the state needs to review those claims. For other states, there is at least one eligibility criterion that is more restrictive than SSI, and a separate application is necessary, these are the 209(b) states. A third group of states use the same eligibility criteria as SSI, but require a separate application; these are SSI Criteria States. More information about the processes SSA uses for these claims can be found in SSA (2023a).
[23] See Gustman et al. (2014) for more information on these provisions.
[24] In addition to providing benefits to retired and disabled workers, Social Security provides benefits to their dependents.

children) are not significant. This is consistent with the hypothesis that those with (without) other sources of income would have a lower (higher) likelihood of being eligible for SSI. This is suggestive, though, because we do not observe other contemporaneous sources of income for any beneficiary type. One explanation could be that those individuals have not yet figured out alternatives for income (like family support), which is consistent with the increased impact at age 65 (vs older age groups). We do not find differential effects of the letters on payment amount across beneficiary type.

Appendix Table A11 displays the results of allowing for heterogeneous effects by prior earnings.[25, 26] These results indicate that the letters had a stronger effect for individuals who were ineligible due to prior earnings. In additional analyses, we found earnings a year or two prior to the mailing had similar effects. The results also indicate that the letters are associated with lower average payments for individuals ineligible due to prior earnings and that there is no effect of the letters on average payments (conditional on receiving SSI) for individuals who are not in this ineligibility category. One potential explanation is that the higher earners may have a higher marginal utility of consumption relative to their peers with lower earnings, leading them to apply for SSI. This tentatively suggests that additional care must be taken if earnings are to be used to target any future mailings."

Appendix Table A12 presents the results of allowing for heterogeneous effects by percent non-white in the recipient's ZIP code. Although we do not have access to data on the race/ethnicity of study participants, we use ZIP code composition as a rough proxy. We find evidence of larger effects in ZIP codes with a higher percentage of residents who are non-white, further reinforcing the idea that our letters are able to increase take-up among disadvantaged, economically vulnerable populations. Percent non-white in the ZIP code is not associated with a differential effect of the letters on average payment.

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[25] We did not originally intend to control for earnings in this study because the measure of earnings available to us at the time of mailing (April 2017) had a significant lag (calendar year 2015) and was only available on an annual basis (compared SSI's monthly earnings rules). SSI's use of contemporaneous earnings to adjust payments coupled with a generally high labor force exit rate after age 65, we thought, would make such earnings irrelevant. In addition to looking at whether an individual had recent earnings, we also conducted analyses of whether those with earnings in 2016 that were high enough to make the beneficiary ineligible for SSI (i.e. about $18,400) responded differently than those with earnings below that threshold.

[26] Table A11 focuses just on two outcomes—application and award—and the effect of program eligibility due to earnings and OASDI. Earnings-based regressions exploring the effects of the presence of earnings 1 year before the year of the mailing, 2 years before the year of the mailing, in either of the 2 years before the mailing, and in any of the 5 years before the mailing are available upon request.

Appendix Table A13 displays heterogeneous treatment effects by prior SSI status. Prior SSI status is associated with increased likelihood of applying/being awarded SSI and is associated with larger treatment effects of being assigned to receive any letter. Prior SSI status is not associated with a differential effect of the letters on average payment.

Appendix Table A14 reports heterogeneous treatment effects by state of residence. We find particularly large effects of our letters in some states (e.g., Alabama and South Carolina) and much smaller effects in other states (e.g., Colorado). Although it is not immediately clear whether there is a pattern to the heterogeneity across states, these results do suggest that external factors that vary at the state level may condition the effects of our mailings. We continue to observe a pattern where larger effects of the letters on application (and award) likelihood are associated with slightly lower average payment.

Appendix Table A15 presents the results of allowing for heterogeneous treatment effects by whether the individual is younger than Full Retirement Age (FRA).[27] We find that individuals who applied before FRA are less likely to apply for (and less likely to be awarded) SSI and are more responsive to our letters. These individuals also have slightly lower average payments and those individuals who applied before FRA who were assigned to receive a letter have even lower average payments, although these differences are small in relative terms.

4.5 Denials

We explored reasons for SSI denial among study participants. After 24 months, denials were approximately 4% of "Any Letter" participants and 1% of "No Letter" participants. Financial reasons (e.g., income exceeding the eligibility threshold) were the most common reasons for denial. Finance-based denials comprise, for example, 89% of denials in the pooled "Any Letter" study arm and 79% of denials in the "No Letter" study arm (i.e. pure control arm) who had applied for benefits.

5 Discussion

Our letters generated substantial increases in relative terms in applications and awards over the course of the study. Individuals assigned to receive any letter were more than three times as likely to apply for SSI and more than twice as likely to be awarded SSI as compared to

[27] In 2017, Full Retirement Age (FRA) was 66 years and 2 months.

individuals assigned to receive no letter. Individuals assigned to receive any letter who were awarded SSI received an average of approximately $185 per month. An analysis of the dynamic effects of the letters reveals that the majority of the letter effects were realized shortly after the letters were sent.

The basic act of notifying individuals that SSA records indicate that they may be eligible for SSI appears to have been the single most important letter element. For example, the Basic letter content increased 24 month applications and awards by 4.37 and 1.63 percentage points respectively.[28]

Adding the Maximum Benefit Statement increased the effectiveness of these communications. For example, it increased applications and awards at 24 months by 0.84 and 0.18 percentage points, respectively.

In contrast, although the Simple Application Statement was associated with an increase in applications at 24 months, it was not associated with an increase in awards at 24 months. This suggests that the Basic Letter or Maximum Benefit Letter may be socially optimal compared to the Simple Application Process letter or the Combined Letter. The incremental effect of the Simple Application Process Statement appears to have been welfare reducing. Adding the statement resulted in incremental applicant and staff time allocated to applications that did not yield incremental awards.[29]

Our results reveal a modest tradeoff between increasing applications and the conditional likelihood of award. Our letters generated a large increase in applications, yet also generated modest selection into applications along two key observable outcomes. Among study participants applying for SSI, by the 24 month follow-up awards were made to approximately 40% of individuals assigned to receive any letter compared to 60% of individuals assigned to receive no letter. Among study participants awarded SSI, at 24 month follow-up mean monthly SSI benefits were roughly US$185 in the pooled "Any Letter" arm and US$225 in the "No Letter" arm.[30] As displayed in Appendix Table A17, a comparison of "No Letter" participants to

[28] Two related studies - Amour (2018) and Smith (2020) - find roughly similar effects of the Social Security Statement on Disability Insurance (DI) application likelihood and the likelihood of claiming Social Security retirement benefits at full retirement age (instead of early retirement), respectively, ranging from between approximately 1 and 9 percentage points.

[29] There is no evidence of a substantial interaction effect between the Maximum Benefit Statement and Simple Application Statement.

[30] Appendix Table A16 reports summary statistics separately for applicants in the control study arm and applicants assigned to receive any letter. Applicants assigned to receive any letter were less likely to have prior SSI receipt and had lower potential SSI awards.

"Compliers" (i.e. "Any Letter" participants who applied for SSI and would not have done so in the absence of the letters) reveals further nuances about these tradeoffs. Notably, average monthly payments were approximately 33% lower among "Compliers" than "No Letter" participants and denials were approximately 54% higher.

Adding additional behaviorally-informed statements had little effect on this tradeoff through 24 month follow-up. At 24 month follow-up, nearly 44% of Basic Letter arm participants who applied for SSI had been awarded SSI. Among Maximum Benefit Letter, Simple Letter, and Combined Letter arm participants this figure was roughly 42%, 41%, and 40%, respectively.

Heterogeneity analyses yield four key findings. First, the letters were less effective at increasing applications for older individuals. This suggests possibly targeting letters to individuals when they first turn age 65. It also suggests further research to either enhance letter effectiveness or further address informational barriers for older populations. Second, the letters were less effective at increasing applications and generated smaller award amounts for individuals with higher potential SSI award amounts. The extreme economic vulnerability of individuals eligible for SSI, particularly those with higher potential award amounts, may explain this finding. Alternatively, the measure of "potential SSI amount" may have limitations, in that it is based on limited information in SSA data. Another alternative model – one in which individuals have rational expectations about costs and benefits after notification and the likelihood of adoption is increasing in expected benefit – does not appear to fit this result.[31] Third, the letters were more effective at increasing applications for individuals in states that bundle SSI and Medicaid. One explanation for these patterns is that older individuals and poorer individuals (i.e. individuals who have larger potential SSI benefits) face greater barriers to applying. The bundling of SSI and Medicaid in some states may reduce these barriers (e.g., through Medicaid application assistance) and be more important for applying than potential award amount. In our study, we observed a relatively high denial rate in the "Any Letter" arm because of finance-based denials, including for participants with WEP/GPO. Finally, the letters were more effective for individuals with a lower likelihood of having other sources of income as measured by not being subject to the WEP/GPO status and Widow beneficiary type.

[31] Existing evidence that individuals underestimate or are confused about the magnitude of the potential SSI payment (McGarry 2002, McGarry and Schoeni 2015) similarly suggests that a rational expectations model may not fully explain take-up behavior.

We mailed letters to approximately 1% of the United States population age 65-80. Control study arm participants may have been exposed to treatment communications if they had social ties with treatment arm participants. Participants in one treatment arm may similarly have been exposed to participants in another treatment arm. Residential segregation by income suggests that there was scope for spillover across study arms. Contamination bias, if any, would have biased us against finding an effect of the letters and against finding differential effects of letter types and letter elements.

These findings suggest that if the letters had been sent to the control group as well, there would likely have been an increase in SSI participation of over 68,000 low-benefit seniors and additional cumulative SSI payments of approximately $280 million by 24-month follow-up.

Cost estimates for the proposed program change at scale suggest that letters that increase take-up by the amount of even our least effective letter constitute a meaningful effect size from the perspective of policy relevance/program impact. Consider the effect of the Basic letter content on the likelihood of being awarded SSI by 24 months (i.e. 1.63 percentage points). Mailing a letter cost to a single recipient resulted in a one-time cost to SSA of US$0.46. This yields a unit cost per person increase in SSI take-up of roughly US$28. Together with an annual cost of about US$584 per person to administer the program (2022 SSI Annual Report), US$613 is a small amount relative to the maximum annual payment of over US$8,800 or even the average monthly award of roughly US$185 among Basic letter content recipients in our study. To place this in context, if the only income these individuals have is their OASDI benefits, then the average monthly award of approximately US$185 among Basic letter content recipients constitutes a 32 percent increase in total income.

There are additional costs and benefits that we did not explore. These include costs from additional workload or improper payments.[32] One potential benefit we did not explore is that applying for SSI may have helped letter recipients access Medicaid. Another potential benefit is informational spillovers to individuals who did not receive a letter. While a full cost-benefit analysis would include such costs and benefits, we do not perform such an analysis here. Regardless, these costs would need to be very large to offset the increased income of those

[32] A dearth of public data on processing costs make it difficult to assess the exact magnitude of these additional costs. Proxies, such as the cost of redetermination - $253/per redetermination (SSA 2014a) - suggest that the processing cost of the initial SSI claim is not larger than the aforementioned benefits. Notably, the fiscal benefits of redetermination substantially outweigh the redetermination costs, with $3.60 in net federal savings for each $1 invested (SSA 2014a).

beneficiaries eventually receiving SSI payment in the utilitarian function assumed in standard cost-benefit analyses.

The recertification process would affect a dynamic cost-benefit calculation, although the impact seemingly would not offset the aforementioned benefits. Elderly SSI recipients are subject to a periodic redetermination process where all eligibility factors are reviewed (SSA 2023b). There is a predictive model that helps select individuals most likely to have changes and those individuals are the highest priority (SSA 2014a). In general, the annual likelihood of being drawn into the redetermination process is approximately 1 in 3.[33] Each year, approximately 150,000 elderly recipients are suspended (roughly 8% of elderly SSI recipients), with excess income being the most common reason (SSA 2021).

At least three other key limitations of the study design are worth noting. First, we were not able to verify whether recipients opened and read the letter. Thus, the fact that fewer than 10% of addresses applied for SSI during the 24-month follow-up period may be partly driven by some inaccuracy in addresses and by low awareness of letter receipt. Second, SSA cannot determine SSI eligibility with certainty until after an individual applies and SSA reviews their application. SSA cannot observe assets and hence can only make a preliminary assessment of SSI eligibility based on the amount of OASDI benefits received. Prior work by Rupp et al. (2007) suggests many individuals are not participating because of unobservable income and assets; additional sources of asset and income data could improve targeting. Third, we did not study whether individuals responded strategically with respect to asset and income eligibility criteria.

Additional work refining the target population through additional sources of data (for example, for known pensions, marital status, OASDI benefit type, or Medicare premium difference) or timing (for example, during other large workload periods or at especially-effected ages), may improve the overall cost performance by eliminating applications that do not become awards or any potential improper payments. Additionally, only 86% of the elderly receive (OASDI) benefits; it is not clear whether such an outreach would be successful for the remaining 14% (many of whom may already receive or may be ineligible for SSI).

[33] The latest available public report indicates that there were approximately 2.7 million individuals drawn into the redetermination process (SSA 2014a), out of approximately 8 million individuals receiving SSI (SSA 2014b).

Two additional letter elements could be tested in future research. The effectiveness of the Maximum Benefit Statement suggests that highlighting another benefit – Medicaid for SSI recipients – may also be effective. Emphasizing that SSI is a benefit program for a population at need may reduce the tradeoff between increasing applications and decreasing the award likelihood conditional on applying, yet may also discourage applications by eligible individuals.

The fact that fewer than 1 out of 10 individuals assigned to receive a letter applied for SSI suggests that nudges may not be sufficient to resolve the take-up gap in SSI among likely beneficiaries age 65 and above. More resource-intensive interventions (e.g., structural change in the application process) may yield further impact on take-up.

6 Conclusion

We conducted a randomized controlled direct mail field experiment with 4,016,461 individuals age 65-80. Communicating likely eligibility in a simple letter substantially increased take-up relative to no letter, yet overall take-up in the letter arms remained around 7%. A modest tradeoff between application volume and the conditional likelihood of award highlights a key problem possibly facing policymakers in communicating program eligibility. There may be ways to better target notices so as to diminish the application-award discrepancy.

Notwithstanding these issues, there were clear income gains to a sizable share of OASDI beneficiaries age 65 and above. This suggests that there would be gains to the well-being of this population from sending a stand-alone notice like the ones tested in this experiment or other SSI outreach activities to the age 65 and above community. In fact, the same data could be leveraged to identify individuals who may be eligible for other income-based programs for older adults that are designed to assist with food, medical, or housing costs. The potential benefits of such policies would need to be weighed against their fiscal costs both to the government as a whole and operationally to SSA. Regardless, adding behaviorally-informed statements increased the effectiveness of these communications, supporting the rapidly growing body of evidence that behavioral insights can successfully and effectively be used by program administrators when communicating program eligibility.

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