Abstract - Features of the Supplemental Security Income (SSI) program and the social security retirement system interact to create incentives for prospective participants in the aged portion of SSI to withdraw from the labor force and make an early old age insurance (OAI) claim under social security. This paper takes a first close look at this SSI–OAI interaction. We first review the incentives to take early OAI posed by SSI rules in a basic theoretical framework. The impact of SSI rules on the financial cost of delaying the initial OAI claim is quantified using the earnings profiles of actual SSI recipients from Social Security Administration records. We then examine whether patterns of first SSI claims and early OAI claims of SSI–aged participants are consistent with the incentives identified. Finally, regression tests of behavior consistent with the predictions of the theory are implemented. The evidence from these various approaches generally points to behavior that makes the SSI–OAI interaction plausible and potentially important, and that is consistent with predicted responses to the incentives for early retirement in social security created by the interactions of SSI and OAI. Throughout, the analyses are enhanced by access to Social Security Administration records that have been matched to individuals in the Surveys of Income and Program Participation.

INTRODUCTION

Since its inception in 1974, the Supplemental Security Income (SSI) program has been subject to criticism for the disincentives generated by the design of the program’s means test.1 Because SSI effectively places a confiscatory tax on retirement income exceeding small disregards, regardless of whether it is from private or public sources, for future SSI recipients SSI rules virtually eliminate a potentially important incentive for working today—to acquire additional pension

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1 Burkhauser and Smeeding (1981) provide one of the earliest and most thorough discussions of the various incentive effects and inequities posed by SSI. Throughout the paper we use the terms “SSI” and “SSI-aged” interchangeably to refer to the program for which the sufficiently poor elderly qualify. We use the term “SSI-disabled” to distinguish the disability portion of the program.
A related criticism concerns the inequitable treatment of social security contributors who eventually become SSI participants. In particular, SSI recipients who qualify for social security benefits are entitled to a government transfer no more than $20 per month greater than that of a lifetime noncontributor to the social security system, as SSI payments are reduced dollar-for-dollar by social security benefits after the first $20; the result is that many SSI recipients have contributed substantially to the social security system throughout their working lives, but their net government retirement benefit is weakly related to their contributions.

In this paper, however, we focus on the incentives that SSI creates for early retirement, through its interaction with social security retirement rules. This program interaction arises because the usual financial implications of making an early old age insurance (OAI) claim are nullified once the individual enters the SSI program. In the absence of SSI, an individual making an early OAI claim receives a benefit that is permanently reduced from the “normal retirement age” benefit by an actuarial factor. In contrast, an individual eligible for SSI receives, at age 65, the maximum SSI benefit less the amount of the OAI benefit (in excess of a modest disregard, as explained in detail below). This implies that the net combined (OAI–SSI) transfer is the same once the individual is in SSI, regardless of whether they claimed OAI early or not. In fact, as Burkhauser and Smeeding (1981) point out, due to the way SSI “taxes” the OAI benefit, the only way for an SSI recipient to recoup more than an insignificant fraction of his social security contributed...

2 SSI’s asset test also discourages pre-retirement saving, which in turn reduces the pre-retirement labor supply needed to meet saving goals. (See Neumark and Powers (1998) for evidence on the effects of SSI on saving, and Hubbard, Skinner, and Zeldes (1995) for a discussion of asset tests in the context of welfare programs generally.)

3 We note at the outset that there is a statutory relationship between SSI receipt and social security receipt, because SSI recipients are required to claim their social security entitlements. This relationship is not generated by behavior, and it is not the focus of this paper.
62– to 64–year–old men, we implement regression tests of the hypothesis that future SSI–aged participation hastens the first OAI claim. We note at the outset that most of our analyses would not be possible without access to confidential data from the SSA.

Because SSI is a welfare program, this topic is of general interest for understanding the retirement process of very low–income people (especially its timing), and the potential supports enabling retirement. If work plans are made contingent upon the structure of public programs, changes to OAI or SSI rules could have a substantial impact on retirement patterns among this group. While the issue of spillovers between programs has been studied in other contexts, it has been ignored in the case of SSI and the social security retirement system.4

In fact, policy changes in social security that are of direct relevance to SSI recipients are ongoing, including a change in the full retirement age. Beginning with the 1938 birth cohort, the full retirement age will steadily rise, reaching age 67 for birth cohorts after 1958. Since the early retirement age will remain at 62 indefinitely under current law, the two–year lengthening of the early retirement period implies a larger actuarial reduction in the OAI benefit. For example, while a worker born prior to 1938 faces an actuarial reduction of 20 percent of the benefit for claiming at age 62 rather than waiting until age 65, a worker born in 1960 faces a reduction of 30 percent. So long as the SSI eligibility age remains at 65, there will be no change in post–age–64 government transfer income due to the change in social security, but there will be an increase in the effective reduction in benefits for early retirement. Our finding still stands that many who find it advantageous to take SSI will want to get into OAI as soon as possible. However, in the pre–65 period, those following a strategy of “OAI then SSI” will clearly be worse off due to the new policy.

PROGRAM BACKGROUND

Social Security

The 1935 Social Security Act provided monthly retirement benefits to workers aged 65 and over and a lump–sum death benefit to the estates of these workers. Since 1961, men and women as young as 62 have been allowed to collect retirement benefits, provided they have accumulated at least 40 quarters of sufficient social security covered earnings. The social security benefit is based upon a primary insurance amount (PIA) computed from average indexed monthly earnings (AIME) for the 35 highest–earning years.5 An actuarial reduction is applied to the PIA of an early retiree to compute his benefit. If an individual chooses to work and receive a social security benefit prior to his full retirement age in the era of our sample, benefits are reduced by one dollar for every two dollars in earnings over a given threshold. Recently, this reduction was eliminated.6


5 While an alternative minimum benefit is still on the books, it was largely phased out by the time of our sample.

6 The threshold at the time of the law change was $9,600. Congress ended the so–called “earnings test” for those at or above the full retirement age in 2000. Benefit reductions are in fact offset by actuarially–adjusted benefit increases upon attainment of the full retirement age. “The earnings limit resembles a program of enforced saving more than it does a tax” (Gruber and Orszag, 1999).
Supplemental Security Income

The SSI program was begun in 1974 to provide a uniform federal safety net for the elderly and disabled. The concern of this paper is with the elderly component, in which sufficiently poor individuals may participate from age 65. While SSI is largely a federal program, there is state variation in benefits policy and administration. The federal government sets eligibility criteria and maximum benefit levels for individuals and couples in the federal portion of the program. Since some states (those with more generous safety nets prior to 1974) were required, and other states chose, to supplement the basic federal benefit, there is also cross–state benefit variation. Wealth holdings also affect eligibility. In the federal program, couples’ resources—after exclusions of specific items like home equity—may not exceed $3,000; for individuals, the figure is $2,000 (U.S. Social Security Administration, 2001).

The federal SSI benefit is generous relative to other welfare programs, and the SSI program comprises a substantial potential source of income for the elderly poor. Federal SSI, when combined with Food Stamps, brings an elderly household’s resources close to the federal poverty line. State supplements can also be large. For example, in January 1991 (within our sample period) the maximum monthly federal benefit was $407 for an individual and $610 for a couple (the individual federal benefit is set at two–thirds that of a couple). At that time, the highest state benefit for couples was in California, which resulted in an increase above the federal level in the maximum obtainable benefit of 55 percent for individuals and 91 percent for couples.

SSI benefits are reduced with other sources of retirement income. Twenty dollars per month of unearned, non–transfer income, $65 of earned income, and one–half of earnings exceeding $65, are disregarded in computing the SSI benefit. The disregards are not indexed for inflation, nor are they differentiated by household type (couple or individual). The federal benefit is reduced by one–third for filing units living in the household of another, and states are free to vary supplements according to living arrangements. We do not consider differentiation in benefits by living arrangement (we do differentiate benefits by filing unit type). In most cases, the monthly SSI benefit is determined by the formula:

\[
SSI \text{ benefit} = \text{Guarantee} - \frac{1}{2} \max(\text{earned income} - \min(\text{earned income}, 65), 0) - \max(\text{unearned income} - \min(\text{unearned income}, 20), 0) - \left\{\text{means–tested transfer income}\right\}.
\]

The guarantee is the benefit amount paid when there is no other income. Earned income refers to the current earnings of the SSI receiving unit. Unearned income includes income from private pensions, public pensions such as social security, interest income, and the like. Means–tested transfer income (e.g., Veterans Benefits) offsets SSI income dollar–for–dollar and none of it is disregarded. These deductions for other income are first applied to the federal benefit amount. When the computed SSI benefit is positive, the filing unit is eligible for the federal program. If there is any excess income, it is deducted from the state supplemental

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7 In addition, there are exclusions for certain home energy and support and maintenance assistance, Food Stamps, most federally–funded housing assistance, state assistance based on need, one–third of child support payments, and income received infrequently or irregularly.

8 While some states vary their disregard amounts from the federal level, it proved difficult to incorporate this information given the idiosyncratic ways in which different disregards are applied and the detailed knowledge about income sources needed to assign them appropriately.

9 People who receive only a state benefit and live in states without federal administration of both the federal and state components of the program do not have an SSI record in SSA’s system.
payment (U.S. Social Security Administration, 1994, pp. ii–iii), and the unit only receives a state benefit.

The number of SSI–aged recipients has been falling over most of the program’s history. By 1998, 1.4 million aged participants in SSI, down from 2.3 million in 1975 (U.S. Social Security Administration, 1999, Table 7.A3, p. 287). This downward trend, largely completed by 1984, is due to the increasing affluence of the elderly, increasing social security coverage in this population, and the increasing value of social security benefits claimed. During our sample period (1984–1996) the SSI–aged caseload is stable, with roughly 1.5 million elderly participating each year. SSI recipients are required to apply for all public benefits for which they may be eligible, including social security. Most SSI recipients are eligible for at least a modest social security benefit. In September 1993, 65 percent of aged SSI recipients received social security benefits and 22 percent received some other unearned income. SSI recipients have little else to rely upon. Only 2.1 percent reported any earned income, while almost none reported private pension income (1994 Green Book, Tables 6–16 and 6–17). By December 1999, slightly less than 60 percent reported social security benefits, 15.8 percent reported other unearned income, and 1.6 percent reported earned income (U.S. Social Security Administration, 2000, Table 7.D).

Due to the receipt of social security benefits, the average SSI–aged benefit payment is fairly low. In September 1989, the average federal payment to all elderly households on SSI was $163, with an average state supplement payment of $133 (49.6 percent of aged federal SSI recipients received a state supplement—1990 Green Book, p. 717). Zedlewski and Meyer (1989) estimate that only about 30 percent of the elderly poor receive SSI benefits, while McGarry (1996) and Warlick (1982) conclude that around one–half of potential filing units that appear eligible based on survey information actually enroll in the program. McGarry (1996) analyzes SSI participation and attributes much of the low take–up by potential eligibles to the very modest cash benefits for which many elderly poor would actually qualify.

THEORETICAL DISCUSSION OF SSI–OAI INTERACTIONS

In this section, we lay out the theoretical framework underlying the linkages between SSI and OAI. To illustrate most of our points, we use a simple model in which leisure and consumption are choice variables, but saving is not allowed. After using the model to outline how SSI and OAI rules interact in the budget constraint to enhance incentives to claim OAI early,10 we conclude with a discussion of possible extensions to the model and their implications.

Theoretical Model

Consider a simple two–period model of retirement. In the first period, a person chooses how much to work and consume. Financial resources cannot be transferred between periods. Second–period consumption is financed solely by public and private pension benefits and welfare. Pension benefits—from private and public sources—are determined as an increasing function of first–period earnings. Those working wh in period 1 receive an increment in old–age pension income of B(wh) if they wait until period 2 to claim their public pension. Since all income is consumed each period, once the first–period leisure choice is known, the other choices are determined. First–period work hours

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10 Throughout, we ignore the issues of health insurance attendant with both Medicaid and Medicare. These aspects pose their own complex tradeoffs. See Yelowitz (2000).
affect second-period retirement income by increasing social security and private pension benefits.

Suppose that the individual has an earnings history as of the beginning of period 1, entitling them to a public pension benefit of $B_0$ in period 2. We allow the person to collect $\beta B_0$ in period 1 (where $0 < \beta < 1$) under an “early retirement” option in the public transfer system, where $\beta$ is an actuarial reduction rate. Early retirees may also face an implicit tax (in the form of an OAI benefit reduction) at a rate $\tau$ on their period–1 earnings.

An SSI policy is characterized by a maximum benefit level ($G$), an amount of pension income that is disregarded before the benefit is computed ($D$), and an implicit tax rate at which pension income in excess of $D$ is reduced (in the case of SSI, this rate has always been 100 percent). In the first period, the person is not age-eligible for SSI. In the second period, the person is age-eligible and could be income-eligible, so long as retirement income is not too high.

**Incentives to Accelerate the OAI Claim**

The period budget constraints depend on the timing of OAI participation and SSI program use.

There are two possible budget constraints for period 1:

1a] $c_1 = w_h$, if no OAI claim;

1b] $c_1 = \beta B_0 + (1 - \tau)w_h$, if OAI claim.

In the second period, the possible budget constraints for SSI nonparticipants are:

2a] $c_2 = Y_0 + B(wh) + B_0$ if OAI not claimed in period 1;

2b] $c_2 = Y_0 + B(wh) + \beta B_0$ if OAI claimed in period 1.

Let $Y_0$ equal private pension income at the beginning of period 2. If the person participates in SSI and period–2 income is below the SSI disregard, then:

[2c] $c_2 = Y_0 + G + B(wh) + B_0$ if OAI not already claimed, and $Y_0 + B(wh) + B_0 < D$;

[2d] $c_2 = Y_0 + G + B(wh) + \beta B_0$ if OAI already claimed, and $Y_0 + B(wh) + \beta B_0 < D$.

If the person participates in SSI and period 2 income is above the SSI disregard, then:

[2e] $c_2 = G + D$, if OAI not already claimed, and $Y_0 + B(wh) + B_0 > D$;

[2f] $c_2 = G + D$, if OAI already claimed, and $Y_0 + B(wh) + \beta B_0 > D$.

In the cases of [2c–d], individuals are in the conventional situation of balancing the benefit of receiving some social security benefits today against the lifelong actuarial reduction for early retirement. Since the cases [2c–d] involving being on SSI but below the disregard (just $20 each month) rarely appear in the data, we drop them from further consideration.

Now consider whether it is advantageous to make any early OAI claim in the presence of SSI. The simplest situation for those who might qualify for SSI is when second-period unearned income exceeds the disregard and the early retiree is below the threshold at which a social security wage tax kicks in. When a person participates in SSI, the net government transfer is determined at the margin by SSI program rules, so consumption in the second period is $G + D$ regardless of OAI participation in period 1 (this is seen by inspecting equations...
SSI and Early Retirement

[2e–f]). If the early OAI claim is made, then period one consumption is $wh + \beta B_0$. This clearly exceeds alternative period–one consumption of $wh$ and, thus, the individual should optimally claim OAI early.

Note that the situation just described is highly relevant for the population studied here, since given a reasonably generous earnings level before the wage tax sets in, many likely SSI recipients will not be subject to a wage tax. Further, even for many workers subject to the 50 percent wage tax, as long as hypothetical earnings in the absence of OAI are less than twice the early OAI benefit plus the entire untaxed earnings allowance, they should unambiguously prefer to claim OAI prior to participating in SSI. To see this, note that accounting for OAI only, income in the absence of OAI is $wh$, while income with OAI is $\beta B_0 + wh - .5(wh - 9,600)$. (This assumes a wage tax of 50 percent, and a threshold at which this kicks in of $9,600.) As long as the latter budget constraint is above the former, OAI participation will be chosen. This holds up to the point at which the budget constraints intersect, which is at income equal to $2\beta B_0 + 9,600$. (Of course, this entire argument is subject to the additional constraint that eligibility for SSI in period 2 is feasible given these period–1 choices.)

Thus, in general, because the net government transfer is determined by SSI policy in period 2, early retirement is “costless,” in the sense that the actuarial reduction in benefits that would normally give a potential early retiree pause is lifted when the second period is reached. As a consequence, and combined with the fact that prospective SSI recipients are very low earners, SSI policy and its interaction with OAI early retirement make it attractive for future SSI participants to claim OAI at age 62.

Other Considerations and Extensions

It is important to note that incentives to use SSI and OAI can be different in a model allowing saving. As we have mentioned, SSI has an asset as well as an income test. In this case, when weighing whether to participate in SSI, the agent decides if it is worth having to consume sufficiently more today and consequently less in the future in order to maintain asset–eligibility for SSI.

In a model permitting saving but not a choice of labor supply, the effective neutralization (after age 64) of OAI’s usual actuarial reduction in social security benefits still serves to make an early claim more attractive. However, in contrast to the model just presented, the possibility of collecting OAI early cannot alleviate—and in fact serves to aggravate—the problem of intertemporal distortion brought about by SSI. In a model with saving and an SSI asset limit, the problem is one of allocating too much consumption to the first period in order to meet the asset test. Therefore, in a model allowing choices of labor supply and saving, the predicted effect of SSI benefits on labor supply and, hence, early OAI receipt is theoretically ambiguous. Ultimately, this is an empirical question.

The models discussed to this point are quite simple, but they convey the basic insights for understanding the interactions of SSI and OAI. Some potentially important issues cannot be addressed easily in this framework. One possibility is beginning SSI participation after (rather than at) age 65, which we only address through the empirical implementation and do not attempt to model explicitly. If many individuals face the possibility of an extended period on social security between age 65 and a later age at which they might be dependent upon SSI (perhaps because their assets are too high at age 65), then an early OAI claim will be less attractive as they will face reduced social security benefits for some period. Thus, a behavioral response to the program interaction we have identified will be more prevalent when SSI “take–up” tends to occur very close to age 65, a question...
we explore in the data. Finally, the age of retirement could in principle be treated as endogenous, although since beginning at age 65 labor supply is so heavily taxed by both programs in the sample period, we suspect that the essential qualitative predictions would be unchanged. As noted, health insurance choices are also bound up with SSI use.

In addition, there are several relevant sources of uncertainty, including health, family structure, and job stability. Those facing a high probability of adverse health shocks have a greater incentive to ensure SSI eligibility because SSI automatically brings Medicaid coverage. In the pre-retirement period, individuals may be uncertain of their future marital status and options to continue working. The prospect of widowhood introduces uncertainty about the size of the future benefit payment and consumption needs. As another example, those facing high probabilities of job loss might engage in precautionary saving to prevent a “zero consumption” outcome. These precautionary savings may be sufficient to render them ineligible for SSI (at least at age 65), even though others with equal permanent income might make choices that assure SSI eligibility. In a world of certainty, people intending to participate in SSI might display low work effort and low saving throughout much of their lives. However, due to uncertainty, people may delay committing to an SSI-participation strategy until sufficient information is revealed, or until they are reasonably close to the eligibility age.

Family structure is also ignored in these simple models. Husbands and wives may determine their labor supplies jointly and presumably saving decisions are made collectively. In the “male chauvinist” model (Killingsworth, 1983), the wife regards the husband’s labor supply (and income) as exogenous to her labor supply decision. This implies that when analyzing married men, we need not be concerned with wives’ labor supply. However, there is some evidence against this model, more consonant (in some circumstances) with joint decision making (e.g., Lundberg (1988)). Consequently, we explored including exogenous factors affecting the wife’s labor supply (education and health) in the specifications we estimate for the husband’s decision to take OAI early, but the coefficients of these variables were never estimated to be significantly different from zero.

DATA

Our data consist of public-use panels from the SIPP that have been matched to SSA files by the Census Bureau. We use a good deal of information about males in the sample and, while the analysis is restricted to males, we also use information about wives that may be relevant for husbands’ choices. In this section, we describe the data sources that have been combined for this project.

Public–Use Data

Administrative data were available for six SIPP panels—1984, 1990, 1991, 1992, 1993, and 1996. The SIPP repeatedly interviews a large, nationally-representative group of households, typically following them for a period of two and one-half years. Because SSI serves a fairly small number of people, and some of our analyses are for the restricted age group of 62–64, the panels are pooled to create our basic sample. Throughout this paper, males are the primary unit of observation. From the SIPP, we have detailed information on

11 Those with sufficient quarters of covered earnings are eligible to purchase Medicare coverage at modest premiums after age 65. Even so, Medicaid remains valuable because it pays for items (notably prescription drugs and nursing home care) that Medicare does not.
demographic characteristics (e.g., birth cohort, race, education, prior marital status), living arrangements, general health, and work-limiting disability for each sample member and his spouse. The SIPP also collects detailed, self-reported information on public program use, including social security receipt and the reason for receipt, and SSI receipt. Core information (from questions repeated at every interview) is taken from the first interview. Health information is from a topical module in the third interview, one year into the panel.

Administrative Data

The Census Bureau matches select SIPP panels to SSA records using the social security numbers reported by SIPP interviewees. We have been allowed access to SIPP-matched confidential data on experience in the SSI program (from 1974), social security covered earnings and quarters (from 1951), and OASDI beneficiary information (from the early 1950s). The Census matches the files at the first interview wave. Typically, ten percent of SIPP adults fail to match to the earnings record database (the exception is the 1984 panel, where we compute a failure rate of 13 percent). Nonmatches are caused by reporting or coding errors in the social security number (communication from Howard Iams, Division of Policy Evaluation, U.S. Social Security Administration).

The SSI file contains a complete record of monthly case actions since the program’s inception in 1974, including applications, payment status, and information about the type of filing unit to which the individual belongs. It is SSA’s stated policy to reclassify disabled SSI beneficiaries as aged at their 65th birthday. In addition, since SSI-disabled claims may take years to adjudicate, older SSI-disabled applicants may find themselves age-eligible for the program before their disability claim is resolved. We are most interested in people who truly participate in the aged component of the program, rather than those who “age in” from the disability program, or who perhaps were unsuccessful in seeking disability payments under SSI and, hence, do not appear as recipients until age 65, as the motivations and incentives facing the disabled can be quite different. Therefore, we use information on both application and payment dates to determine SSI-aged status. Since the SSA encourages people to contact them several months before they hope to receive their first benefit, we define an SSI-aged recipient as a person who applies for SSI after his 64th birthday and receives his first SSI payment on or after his 65th birthday.

We begin with a large sample of individuals who are either the reference person (aged 40 or more) or spouse of a reference person (aged 30 or more). This represents all males filing as individuals and most filing units that are couples. Couples with only an older woman who files and women applying as individuals are not represented; while these latter

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12 We exclude a handful of men from the sample who report they are currently married but who do not match to a spouse record in the SIPP.
13 Once the match is made, observations in the administrative data are assigned their corresponding SIPP identifiers. End users of the data have no access to the social security numbers.
14 Any SIPP sample member with a social security number appears in the earnings file, regardless of whether they have ever worked in covered employment.
15 Another possibility suggested by a referee is that individuals who file an early OAI claim as a response to SSI rules might as well also file for SSI-disabled. Given the high cost of making a disability insurance claim and the often relatively low financial gain of an SSI benefit over an early retiree benefit, we wish to err on the side of omitting those who are truly disabled, versus those who are responding to these fairly small incentives, because the decisions of truly disabled individuals are likely to be dominated by other factors, and the latter group of individuals are likely far more numerous.
groups are significant as a share of the population of SSI recipients, they are less relevant to SSI–OAI interactions. In general, for women filing as individuals, there is more first entry into the program at older ages (beyond age 65), which may reflect the presence of poor widows in this group and, hence, considerably lower representation of those who might respond to the SSI–OAI interaction. Of this entire group of 168,684 people, only 11,941 (7.1 percent) have ever applied for SSI and 8,141 (4.8 percent) have ever received an SSI payment. Information collected by SSA on living arrangements of claimants indicates that 64 percent are individuals, 25 percent live with spouses who also qualify, and the remaining 11 percent live with spouses who do not qualify.16

Due to right censoring, a large drop in sample size occurs when we restrict attention to older men in the SIPP panel with sufficiently long administrative histories after they reach age 64. There are 614 men who match the SSI file and meet our strict criteria for “SSI–aged” (the payment occurs on or after the 65th birthday and the application occurs after the 64th). Most (87 percent) of these men also have some social security covered earnings on their record. Of the group with any years of positive covered earnings, 61 percent are OAI–qualified by age 62. Rates of OAI coverage of men are much higher than those of women, as one might expect for these older cohorts. Among females classified by SSA as SSI–aged recipients living alone, for example, only 40 percent are OAI–qualified by age 62.

The earnings file contains social security qualified earnings by year, as well as a count of covered quarters in each year. This information is critical to some of the analyses reported below. Covered quarters are used to determine the precise OAI–eligibility statuses of men and their wives. By applying social security rules to the earnings records, it is possible to compute the expected OAI benefit at various ages and under various assumptions. The OASDI beneficiary file is not as obviously important to the project as the previous two files. However, our findings ultimately reveal the value of accessing this information. Similar to the case with SSI, the original claims of older individuals observed receiving a social security benefit can often be traced back to a disability insurance (DI), rather than OAI, claim. Retirement beneficiary status is identified by combining information about current coverage type with information about past DI benefit receipt.

We identify “early retirees” as those who claim a social security benefit prior to their 65th birthday but no earlier than their 62nd birthday, are the primary beneficiary (i.e., not a spouse or survivor whose claim is based on another’s earning record), are classified as an OAI recipient for their most recent claim, and do not have a history of DI claims.

The use of SSA records greatly enhances the empirical evidence that can be brought to bear on this topic along a number of dimensions. While the SIPP is designed to collect information on government program receipt, the quality of the data is limited by the accuracy of respondents’ reports for themselves and others. Respondents may be especially confused about exact beneficiary statuses, conflating retirement and disability, or confusing the SSI and social security programs themselves (both are typically administered at the SSA office, after all).17

Access to each sample member’s SSI history greatly increases the ability to

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16 These numbers refer to the most recent (“current”) program category and living arrangement.
17 The distinction between SSI–aged and SSI–disabled may still not be perfect. Although quite unlikely in practice, a person may have received SSI–disabled, made a full recovery, and then come into SSI–aged. We err on the side of treating such a person as SSI–disabled since their first payment was received prior to age 65.
study SSI–aged participation. The SIPP time horizon is simply too brief, and the number of SSI recipients too small, to observe many entries into SSI–aged during each SIPP panel. In contrast, we can use the administrative data to track some sample members for as long as 15 years beyond the 1984 survey and can observe older SIPP respondents’ SSI activity prior to the first interview. It is also possible to construct key variables that are simply unavailable in the absence of administrative data, such as OASI eligibility status.

The administrative data are not without limitations, though. When disputes or mistakes about claims are resolved, the administrative files are altered to reflect the history of SSI and OASDI receipt for individuals as it should have been, not as it actually unfolded. From our perspective, this generates errors in the payment record. Given our focus on the aged (in contrast to the disabled), whose eligibility rules are fairly cut–and–dried, this should not generate substantial errors, particularly since we also rely on application dates (which should not change) to define SSI–aged status. Finally, we note that we were only granted access to SIPP–matched records, not the universes of SSI clients or social security covered earners or beneficiaries.

EVIDENCE ON SSI–OAI INTERACTIONS

This section presents the results from our empirical investigation of three types of evidence regarding the incentives posed by the interaction of SSI and OAI. We begin with estimates of the magnitude of SSI’s impact on the net financial benefit of delaying the initial OAI claim from age 62 to age 65. Next, we study whether the patterns of initial SSI claims and initial OAI claims are consistent with older individuals responding to this interaction. Finally, we explore whether future SSI participation hastens the first OAI claim.

Each of these approaches reveals different information about the program interaction hypothesis, establishing the strength of the financial incentives posed by the SSI–OAI interaction, exploring whether patterns of OAI and SSI claims and initial SSI receipt are consistent with the interaction being of consequence, and perhaps most importantly studying whether OAI claiming behavior is consistent with the hypothetical SSI–OAI interaction. First, if the financial implications of delaying retirement are small, one should be skeptical that the theoretically predicted incentives are in fact strong enough to influence claiming behavior. Instead, it seems likely that any early claiming tendencies of future SSI recipients have other explanations (e.g., their generally precarious economic status). A descriptive examination of the patterns of OAI and SSI claiming also provides further evidence on the plausibility of our hypothesized interaction. The interactions are of little consequence if few people are involved with both programs, so we establish the basic fact that many SSI recipients are eligible for OAI by age 62. It is in the financial interest of those who have taken early OAI and who are eligible for SSI to begin SSI receipt as soon as possible, and, similarly, the SSI–OAI interaction is strongest for those who go on SSI immediately upon reaching the age of eligibility. Thus, it is important to establish that initial SSI receipt is concentrated around age 65 for our sample. Finally, we explore whether SSI recipients are more likely to claim OAI early than other low–resource individuals. In simple comparisons, this appears to be the case. We further expand on this analysis by holding various potentially important background factors constant in a multivariate regression.

The Benefit of an Early OAI Claim under SSI

Computations of the financial impact of delaying the first OAI claim can tell
us whether the apparent incentives to accelerate retirement are of practical importance—that is, whether they are of sufficient magnitude to plausibly influence behavior. The evidence described in this section points to important financial incentives for eventual SSI participants to claim OAI early.

The basic approach to computing old age transfer wealth (OATW) is similar to that laid out in Diamond and Gruber (1999). Diamond and Gruber (1999) assume a lifetime earnings stream. To conceptually separate the impact of the OAI claim date from the decision to withdraw from the labor market, they assume that individuals receive earnings through age 70, regardless of when they initiate OAI. At each claim date, they compute an expected social security benefit using an assumed earnings profile and the social security rules in effect for individuals born in 1925 (including any benefit reductions due to earnings received after the claim).18 Next, they discount the lifetime stream of benefits to a base year of 1980 using an assumed risk–free interest rate and sex–specific mortality rates. The assumed maximum life span is 120 years.

In the absence of the complications of SSI policy, there are two direct determinants of the cost of delay. First, benefit recomputation is possible. By delaying the claim, current earnings may replace an earlier year of very low earnings in the computation of average indexed monthly earnings (AIME). Since the highest 35 years of earnings are used for the AIME computation, and the primary insurance amount is a fraction of the AIME, the scope for a substantial change in the benefit due to recomputation is quite limited.19 Only in the extreme case of a worker with quarters close to but not yet reaching the coverage minimum of 40, where an additional quarter of covered work tips a person’s status from OAI–ineligible to OAI–eligible, would there be a large impact of recomputation on OATW.20 Second, to the extent that a person’s mortality risk exceeds that assumed by SSA, the statutory reduction for early retirement is actuarially favorable to the individual. For example, Duggan and Soares (2002) find that the statutory actuarial adjustments for early retirement create incentives for low–income males to claim OAI early.

SSI policy interferes with both mechanisms determining the gain to delaying the initial OAI claim. This arises directly from the 100 percent tax on social security income, aside from the first $20. Because of the SSI benefit schedule, once a person enters SSI, their old–age government transfer is determined at the margin by the SSI guarantee. The amount of the social security benefit paid to them is rendered nearly irrelevant, since the person’s old–age transfer income is effectively capped at the SSI guarantee level, plus no more than $20 per month from OAI. Any advantage to recomputation or disadvantage from the actuarial reduction is temporary, lasting only from the point of the initial OAI claim to the point of SSI application. At the same time, the reduction in benefits from an early OAI claim is mitigated, as it is irrelevant once SSI participation begins (except possibly in the range below the $20 disregard).

We are fortunate to have actual social security covered earnings histories for most SIPP adults. We, therefore, use the actual earnings histories for sample members through age 61 as a basis for our government benefit computations. For earnings reported after age 61, a concern

18 It is not clear whether they use the representative earnings profile for this particular cohort.
19 In examples purposefully constructed to generate recomputation, the change in the final monthly benefit was usually one to two dollars.
20 Note that in this case recomputation would have a large impact on OATW in a world without SSI but little impact under SSI, since the computation of the SSI benefit gives at most a $20 monthly “credit” for past social security contributions.
is that behavioral effects of policy could be introduced into the OATW computations through the endogeneity of labor supply, clouding the interpretation of our results. Therefore, using the Consumer Price Index for all Urban Consumers (CPI–U), we inflate age–61 earnings to extend the earnings profile through age 64. In contrast to Diamond and Gruber (1999), we assume that earnings drop to zero at age 65, rather than at 70. This assumption is consistent with observed behavior (as noted, almost no SSI–aged participants report earnings) and addresses some practical concerns (chiefly, many individuals who really are SSI participants would not be financially eligible were we to assign them constant real hypothetical earnings past age 64). It remains the case, as in Diamond and Gruber (1999), that the labor force exit decision is held constant throughout the exercise, because we do not examine retirement behavior beyond age 65. Finally, we discount the OATW values for our sample members to age 62, rather than age 55, using an assumed risk–free interest rate of three percent and sex–specific mortality rates. These mortality rates, which are population averages, likely fail to reflect the private information of our sample members very accurately. Computing the exact levels of the returns to delay is of much less importance here than establishing the relative impact of SSI policy on them.

We focus on two types of filing units because their OATW can be computed without further assumptions. These are individual male claimants and married couples in which the wife does not qualify for her own social security benefit. We further refine our sample by keeping men who are eligible for OAI by the time they are 62 years old and who appear in the SSI administrative file. We also drop men born prior to 1920, because they face substantially different social security program rules. For couples, we only examine cases in which the wife has fewer than 20 quarters by age 62, so that she is unlikely to qualify for social security over the relevant time horizon. The wife then receives a spouse benefit under OAI equal to one–half of her husband’s benefit. The accurate computation of social security retirement benefits was a key element in this project. We checked our computations by comparing results using a variety of earnings profiles for individuals and couples against the results of the SSA’s publicly–available benefit calculator. In all cases, our calculated OAI benefits came within one dollar of the SSA simulator. For the case where SSI is included in the computations of OATW, we use the combined federal–state maximum benefit for receiving units living in their own household. Disregards and implicit tax rates follow the federal guidelines.21

The simulations reported in Table 1 demonstrate that the SSI program dramatically alters the financial terms associated with the timing of the first OAI claim. The top panel shows overall averages, and the next two panels repeat these figures for the top two-thirds and top one–third of earners. In all cases, we are looking only at actual SSI–aged participants. At age 65, the social security benefit replaces around 60 percent of average earnings for couples and around 66 percent of average earnings for singles, while the SSI benefit replaces more than 100 percent of average earnings for couples and 91 percent of average earnings for singles.22 Because of

21 While such simulations are typically done with a single “representative” earnings profile, we attempted to include more information from individuals in the sample. In order to impose as few assumptions as possible, we use 37 cases whose situations were particularly straightforward. In practice, adding additional sample members would probably make little difference; our simulations using hypothetical earnings profiles yielded quite similar findings, presumably due to both the income aggregation and progressivity in the social security formulae.

22 One of the characteristics of SSI recipients is frequent years with zero earnings. Since we are using actual earnings records for our calculations, we use average indexed monthly earnings, suitably deflated, as the denominator for the replacement rates.
the progressivity of the SSI and social security benefit formulae, replacement rates supported by both programs decline with earnings, from 0.92 to 0.71 for couples, and from 0.60 to 0.48 for lone men, as shown in the lower rows of the table.

Both couples and singles face a five percent annual return to OATW from delaying the initial OAI claim from age 62 to age 65 in the absence of an SSI program. Once SSI is included in the calculation, both groups suffer around a two percent annualized loss in OATW by delaying the first OAI claim. For married couples, the benefit from delaying retirement in the absence of SSI grows with income (earners in the top one-third of the distribution gain around six percent annually in OATW from delaying the first OAI claim), while the cost to delaying retirement under SSI grows also. For singles, the gain from delaying retirement for higher earners in the absence of SSI declines slightly with rising earnings. However, as in the case of couples, the loss from delaying the first OAI claim under SSI is modestly worse at higher income levels. In all cases, once SSI is considered, there would be a minimum loss of two percent of OATW each year if the filing unit were to delay their OAI claim to age 65.

Patterns of Use of SSI and OAI

This sub-section presents our evidence on patterns of use of SSI and OAI. The public-use and administrative data are combined in this and the subsequent analyses. Three findings are documented. First, a substantial degree of “take-up” of SSI occurs very close to age 65, establishing the plausibility of our hypothesis. Second, a substantial fraction of SSI recipients whom we deem to be participants in the program for the aged are in fact eligible for OAI at age 62, also necessary for the program interaction to be reflected in actual behavior. Finally, we document that SSI-aged recipients are quite prone to claim OAI early, consistent with individuals responding to the incentives posed by the interaction between SSI and early OAI.

Table 1

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>SIMULATED IMPACT OF SSI ON THE FINANCIAL TERMS OF AN EARLY OAI CLAIM, SSI-AGED PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maried Men</td>
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<tr>
<td></td>
<td>without SSI</td>
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<tr>
<td>All Sample Members</td>
<td></td>
</tr>
<tr>
<td>Annualized return to delaying the first OAI claim from 62 to 65</td>
<td>0.048</td>
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<tr>
<td>Replacement rates at age 65</td>
<td>0.604a</td>
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<tr>
<td>Top Two-Thirds of Earners</td>
<td></td>
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<tr>
<td>Annualized return to delaying the first OAI claim from 62 to 65</td>
<td>0.052</td>
</tr>
<tr>
<td>Replacement rates at age 65</td>
<td>0.565a</td>
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<tr>
<td>Top One-Third of Earners</td>
<td></td>
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<tr>
<td>Annualized return to delaying the first OAI claim from 62 to 65</td>
<td>0.061</td>
</tr>
<tr>
<td>Replacement rates at age 65</td>
<td>0.516a</td>
</tr>
</tbody>
</table>

Notes: Simulations are for men from the 1984, 1990–1993, and 1996 SIPP’s who match to SSA administrative files on SSI receipt and social–security–covered earnings and who are single or whose wives meet age and earnings requirements imposed for this exercise.

aRatio of the filing unit’s social security benefit to total indexed average earnings, appropriately inflated.
bRatio of the filing unit’s SSI benefit to total indexed average earnings, appropriately inflated.
SSI and Early Retirement

Using the administrative records, we compute age in months at first SSI application, first SSI receipt, and first OAI receipt. If the process of entering SSI-aged is not very age-dependent, it is less believable that people use SSI and an early OAI claim in a complementary fashion. After all, the mechanism that makes the early OAI claim financially attractive hinges on the "penalty phase" of the actuarial reduction being as short as possible, ideally ending at the 65th birthday.

Figure 1 presents age patterns of SSI applications and receipts for any reason for the sample men. Payments are age-dependent, with a strong spike at age 65. In fact, the number of people receiving their first payment at age 65 is five times larger than the number receiving a first payment at age 62, and nearly three times larger than the number receiving a first payment at age 66.23 The pattern of applications also reflects a large spike at age 65. However, there is also increased application activity in the late 50s. We presume that the latter reflects SSI-disability applications, which is why (as noted earlier) we classify as SSI-aged participants only those who apply after their 64th birthday. More importantly, for those receiving a first payment after their 65th birthday, these payments are highly concentrated at age 65, rather than being dispersed over older ages. Application and payment frequencies are in fact quite similar after age 65. Most men who apply for SSI-aged do not wait long beyond age 65.

OAI Eligibility and SSI Take-Up by Age

Figures 2a and 2b contrast the age patterns of first SSI receipt for men who are categorized as "aged" filing units by SSA, according to whether they are OAI-eligible at age 62 or not.24 The motivating idea is to see whether those who

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**Figure 1.** Frequency of First SSI Claims and Payments

![](image)

Notes: Source data are men aged 30 or older who are the reference person or spouse of a reference person in the 1984, 1990–1993, and 1996 panels of the SIPP. There are 3,340 observations with applications and a subset of 2,605 observations with payments.

23 As mentioned, we compute age of first claim by age in months. For these graphs and frequencies, we have rounded this variable down to arrive at the person's age in years.

24 These figures were made using Stata's kernel density graph option. Ages at first receipt are computed in fractions of years, allowing information about the timing of first payment to be fully exploited. We use SSA's
characterization of whether a filing unit is “SSI-aged.” Some units enter SSI through the disability provisions and are eventually reclassified by SSA as “aged.” However, it is evident from the first receipt patterns that sample members in receiving units SSA classifies as “aged” are largely true aged participants.
would be able to collect OAI at ages 62 through 64 apply for SSI at earlier ages than those who cannot. Again, this speaks to the plausibility of households using the two programs in a complementary fashion. A total of 614 of the men who match to the SSI file are characterized as SSI-aged recipients. Most (87 percent) of these men also have some social security covered earnings on their record. Of the group with any covered earnings, 61 percent are OAI-qualified by the time they reach age 62.

It is evident from a comparison of the two figures that the age pattern of first SSI payments for non-OAI-covered units is much more dispersed than that for covered filing units. While a fair number of OAI-ineligible units receive their first benefits in their 70s, first receipt drops much more sharply after age 65 for the OAI-eligible group. The fact that there is much less age dispersal of first SSI claims among the OAI-eligible is consistent with early OAI being used in conjunction with SSI. In contrast, if SSI take-up was driven mainly by financially desperate households applying as soon as possible for income support, we might expect the non-OAI-eligible, who probably have the fewest resources, to have their first SSI payments more concentrated at age 65. On the other hand, a plausible alternative explanation for the patterns in Figures 2a and 2b that cannot be ruled out is that OAI enrollees, on average, learn about the SSI program at earlier ages than non-enrollees.

**Early OAI Claims and SSI Participation**

In doing this analysis, it is important to try to discern the “strategic” use of OAI and SSI from other reasonable scenarios. An alternative scenario is that some economically vulnerable households are extremely reliant on government programs for their income. They tend to get on OAI as soon as it is permitted, and they also tend to enroll in SSI as soon as possible. Figures 3a and 3b contrast the OAI receipt patterns of SSI-receiving males in aged households with those of other males in the sample. If SSI-aged recipients use OAI much like other low-

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**Figure 3a.** Age at First OAI Receipt, Low-Education Males

![Figure 3a](image-url)

Notes: 560 observations.
income groups, one reasonably expects little connection between the two programs based upon the theoretical arguments presented above. Figure 3a shows the first age of OAI receipt for a “control” sample of low–education men. Men with less than a high school degree are selected as a comparison group, since they may share the problems of lifetime low resources of SSI–aged participants. The distribution has two humps of nearly equal height, one at age 62 and another at age 65 (in fact, these men have an age pattern of OAI claims that is quite similar to that generated by all men in the SIPP). Figure 3b illustrates that the first OAI claims of SSI–aged men differ. The distribution still has two humps, but the age–62 hump is nearly twice as high as the age–65 hump, and SSI–aged males claim OAI near age 62 more than other OAI–qualified males, as indicated by the greater probability mass around age 62 in Figure 3b.

Regression Tests of the Impact of Future SSI Participation on Early OAI Claims

Finally, we move beyond the figures to explore in a regression framework whether, controlling for other factors thought to influence early OAI claims, future SSI participants are more likely to file such a claim, as the theoretical model predicts. We study this question for 62– to 64–year–old men who are eligible for OAI at age 62. We test this hypothesis two slightly different ways. First, we include in a (probit) regression model for early OAI claims indicators for whether the respondent was an eventual applicant for SSI–aged, based on the administrative data. The alternative is to use an indicator for SSI–aged receipt.25

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25 In an earlier version of this study, we attempted to implement a version of this test tied more explicitly to the theory underlying SSI–OAI interactions. Specifically, we tried to measure whether an individual faces an old–age transfer determined by SSI rules, rather than OAI rules, based on their expected social security benefit, and then to test whether it is these individuals, in particular, who are more likely to make an early OAI claim. However, we have eschewed reliance on this test. The earlier theoretical discussion showed that among SSI participants, the only ones who would not have their old–age transfer determined by SSI rules and, hence,
The choice to initiate OAI prior to the full retirement age is also presumed to depend on many other factors, which are included as control variables. In particular, we include variables related to mortality expectations, earnings, preferences, and, for married couples, the possibility of coordinating spousal retirement plans. The specific control variables included, and their rationale, are as follows: age (related to health, earnings, and preferences for leisure); birth cohort (capturing changes in health over time); marital status (married men have significantly lower mortality than their unmarried counterparts); education (better-educated men tend to live longer and have better earnings alternatives); race (blacks have significantly greater mortality risk than whites, and earn less); the state unemployment rate (to control for labor demand conditions); and spouse age and covered quarters (to capture possible benefit coordination). Because past earnings history and potential income in retirement may affect the decision to claim OAI early, we also include the social security replacement rate, computed as if the worker retired at age 62. This is intended to address the problem of endogenous claims. Nonetheless, we recognize that our ability to control for all factors influencing the decision to file an early OAI claim is necessarily limited and, hence, that it is possible that there are omitted factors associated with SSI application or receipt. As a result, the regression results should be viewed only as providing suggestive evidence on behavioral responses to the SSI–OAI interaction.

The findings are presented in Table 2. The two columns differ with regard to the data source used to establish OAI claims. The first uses self-reports in the SIPP, and the second—presumably more accurate—uses the administrative SSA data. Each row presents results for the two alternative SSI variables: an indicator that the SSI application was made subsequent to the 65th birthday; and an indicator that both the first application and receipt occurred after the 65th birthday. The first variable is a true choice variable. The second reflects both the choice to apply and an administrative determination as to eligibility. We estimate the latter specification because this is frequently the only dependent variable available for other studies. Since there is a rejection rate of around 20 percent in our sample, there is a substantive difference between application and participation.

Some of the findings are sensitive to whether the public-use or administrative information about early OAI receipt is employed (administrative data are always used to construct the SSI application and

would not respond to the incentive to claim OAI early, are those whose unearned income plus social security benefits are below the SSI disregard (i.e., those on segment [2a] of the budget constraint). Virtually no one, however, generates such a tiny social security benefit in practice. Thus, simply looking at SSI participants effectively gives us no less variation from which to identify the effects of SSI.
receipt variables). In particular, when self-reports of OAI are relied upon, the estimated coefficients for SSI-aged applications and recipiency are large (0.12 to 0.17) but imprecisely estimated. When complete information on early OAI claims afforded by the administrative data is used, SSI-aged applicants are estimated to be 24 percentage points more likely to make an early OAI claim, and SSI-aged recipients 26 percentage points more likely, with the first estimate statistically significant, and the second marginally significant. On balance, then, we view these results, coupled with the earlier evidence, as consistent with the interaction of SSI and OAI program rules encouraging early OAI claims among eventual SSI participants.

DISCUSSION AND CONCLUSIONS

This paper lays out the theory behind the potential interactions of SSI and social security retirement program rules and presents evidence on whether the behavior of individuals and couples with respect to SSI and OAI is consistent with the predicted responses to these interactions. The theoretical presentation demonstrates that in combination, the two programs ought to discourage work and encourage early OAI claims. Various analyses of the data—especially confidential administrative SSA data that we were permitted to access for this research—are generally supportive of the hypothesized responses to SSI–OAI interactions. The graphical evidence we present is consistent with the theory. SSI claims are strongly bunched at age 65, which should be the case if individuals and couples respond to the incentives posed by SSI in making early OAI claims. More significantly, SSI-aged program applicants are likely to claim OAI benefits prior to age 65—especially at age 62. While it is plausible that older, impoverished households claim all public benefits at the first available opportunity, the fact that SSI claims are more dispersed by age for non–OAI eligibles than OAI–eligibles suggests that simple financial need does not explain these patterns.

Using actual SSI participants’ social security earnings records, we find that there is a strong financial incentive to claim OAI early under SSI rules. The design of SSI induces a simulated annual loss in old-age transfer wealth of around seven percent when retirement is delayed from age 62 to age 65. This represents a reduction in return from positive 4.8 percent (5.0 percent in the case of lone men) to negative 2.2 percent (2.0 percent, respectively).

Finally, regression analyses that draw comparisons with individuals and couples with more similar resources, health, etc., indicate that SSI-aged applicants are 24 percentage points more likely to claim OAI prior to age 65 than are men with similar family structure, health status, education, and social security replacement rates, among other factors. This point estimate is of large magnitude. Given that the financial incentives to claim early OAI under SSI are so great, however, this estimate is not unbelievable.

Quite aside from behavioral issues, and aside from the potential implications for changes in social security or SSI discussed in the introduction, the evidence presented in this paper suggests lessons for program design. Welfare systems can unintentionally build in perverse financial penalties when they interact with commonly-used programs. Changes in program design that would better integrate SSI and social security, such as giving SSI recipients greater credit for their social security contributions (Burkhauser and Smeeding, 1981), would reduce the SSI–induced differential in the financial terms of delaying retirement. Alternatively, if it is thought that the impoverished elderly gain too many resources by exploiting both OAI and SSI, penalties for early retirement similar to those under OAI could be extended to SSI. Note that such a change might reduce some of the incentives to exploit the interaction
between SSI and OAI for those on the margins where this interaction encourages early OAI claims, while leaving unaffected groups of SSI participants—such as elderly widows—who tend to go onto SSI at older ages and generally stand to gain little from this interaction. Finally, aside from changing the programs, if it is thought desirable for impoverished groups to rely on government transfers in their early 60s, and if—as seems likely—not all potential beneficiaries take account of the SSI–OAI interaction, then SSA could advise all households with low social security earnings histories that, because of SSI, it may be advantageous for them to make early OAI claims.

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