THE INCREDIBLE SHRINKING PROGRAM:

TRENDS IN SSI PARTICIPATION OF THE AGED

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THE INCREDIBLE SHRINKING PROGRAM:

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Supplemental Security Income (SSI) program features have changed little since 1974. This paper investigates how the failure to update SSI policy has contributed to declining elderly participation over time. A behavioral model of aged household SSI participation is used to simulate various policy alternatives. The failure to index asset limits has had little effect on participation, but the indexation of both asset and income disregard limits would have raised the SSI participation rate of aged households by about 30 percent. If, in addition, states had been required to hold the real value of their supplemental benefits constant over time, a doubling of the elderly household SSI participation rate is predicted. Finally, we use the model to estimate the impact of a recent policy change, the increase in the normal retirement age (NRA) in the regular social security system. When fully phased in, the increase in the NRA is predicted to raise SSI participation of elderly households from 4.9 percent to 7.8 percent.

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Since 1974, Supplemental Security Income (SSI) has been the program of last resort for aged, low-resource households in the U.S. In 2002, the maximum federal SSI benefit equaled from three-quarters to 90 percent of the federal poverty line, depending on the type of receiving unit (individual or couple; U.S. Committee on Ways and Means, 2004: Table 3-9). A number of states also supplement cash payments, sometimes substantially. By providing supplemental income to households with little in the way of other resources in their retirement years, SSI helps to avoid an old age of extreme impoverishment.[1] Yet participation of the aged in the component of the SSI program that serves as an old-age safety net has declined dramatically, and the rate of overall participation of the aged in SSI has reached roughly half its initial level.

Nonparticipation of apparently SSI-eligible aged households has been noted as a problem from the program's outset, and SSI participation has declined from around 11 percent of all elderly in the 1970s to around 6 percent in 2001 (U.S. Committee on Ways and Means 2004: Table 3-17). This phenomenon is entirely driven by the drop in elderly who participate in SSI as a safety net program for the aged, from 2.3 million individuals to just 1.2 million in March 2005 (U.S. Social Security Administration 2005: Table 2). Despite the tremendous growth in SSI participation on the basis of disability, the total number of aged (over 64) SSI recipients has declined nearly 20 percentage points since 1974 (U.S. Committee on Ways and Means 2004: Table 3-12).

The future of the SSI safety net for the aged is increasingly important given the ongoing and projected aging of the U.S. population. While younger members of older generations might reasonably be expected to extend their working lives, very elderly individuals face the risk of

outliving their retirement resources with few options to replenish them. Any policy that supplants guaranteed social security income with a defined contribution plan returns also enhances SSI's social importance as the old-age income maintenance program of last resort.

This paper investigates how the failure to update SSI policy has contributed to the aged's declining use of this program. We establish that recent aged SSI participation is much below expected levels based on earlier patterns of use. Next, the impacts of changes in SSI policy on aged participation are assessed. A two-step SSI participation process is modeled following McGarry (1996), and implemented with household-level data from the Survey of Income and Program Participation (SIPP). First, program eligibility is estimated based on an application of SSI rules to each household's demographic and financial characteristics. Second, the eligibility-conditioned household participation choice, or 'take-up,' is modeled as a function of the expected financial gain from SSI participation and other factors. Model estimates are employed to simulate the effects of the non-indexation of means tests and the erosion of state supplements on aged SSI participation. The model is also used to simulate a recent policy change that may *increase* SSI participation of the aged, the two-year increase in the normal retirement age (NRA) in the Old Age Survivors and Disability Insurance (OASDI) program.

We find that asset-limit indexing would have done little to stem the deterioration in both eligibility and take-up that has taken place over time. Indexing income disregards would have had a stronger impact, chiefly by increasing the pool of eligible households. The lack of indexation of state supplements alone has caused an estimated decline of almost one-third in expected real average SSI benefits to eligible units. Restoring state benefits to initial levels would have expanded eligibility and dramatically raised the take-up rate; complete indexation is estimated to result in a doubling of the aged's SSI participation rate. Finally, most SSI recipients

receive social security benefits. "Early retirement" in social security results in an actuarial reduction in social security income that translates into higher expected SSI benefits. A partial equilibrium analysis of the recent increase in the NRA to age 67 (while the age of first SSI eligibility remains at 65) yields estimates of an approximate one-fifth increase in the SSI eligibility rate of aged households and an increase in the take-up rate from 38.5 to 52.5 percent. While this effect is smaller than that due to restoring state supplement levels, the NRA increase is expected to generate an increase of more than 70 percent in aged participation rates.

The SSI Program

SSI is a hybrid disability-aged income support program that is the primary cash welfare program for the needy aged. By the standards of U.S. welfare programs, cash benefits in SSI are generous. SSI participation also enhances access to the Food Stamp and Medicaid programs. In most states SSI recipients are categorically eligible for Medicaid.

SSI is means-tested; eligibility is restricted on the basis of income and wealth. Housing wealth is not subject to the asset test, nor is the equity value of a car so long as it is needed for medical reasons. Since 1989, "counted wealth" has been limited to $2,000 for individuals and $3,000 for couples. From 1974 to 2002, the real value of the asset limit declined by 63 percent.

Under federal rules, the first $20 per month of unearned, non-transfer income, the first $65 of earned income, and one-half of all earnings exceeding $65 are disregarded in the federal benefit computation. The federal SSI benefit is determined by subtracting 'excess' income from the maximum benefit level for the unit. (If a state provides supplemental benefits, the maximum amount is the combined federal-state benefit, and the state pays its benefits first, potentially generating "state-only" SSI participation.) The two income disregards are not indexed to inflation, and since 1974 their real value has declined by 73 percent.

A direct state role in SSI policymaking was preserved by an initial provision requiring supplemental benefits of states with relatively generous pre-existing programs. In the first years of the program, many states reduced their supplement by the amount of the cost-of-living increases in the federal benefit (Munnell and Connolly [1977] provide details). The real value of state supplementation offered to the aged has declined dramatically over the course of the program.[2] From 1975 to 2002, there has been a decline in the median of the real value of supplements among states that offer them of 68 percent (individuals) and 60 percent (couples). The current median monthly supplement to either type of unit in supplementing states is about $30 (U.S. Committee on Ways and Means 2004: Table 3-5).

SSI PARTICIPATION OF THE AGED

The composition of the SSI caseload has changed dramatically over the years. In 1974, 57 percent of SSI participants qualified by virtue of financial need and age (termed the "SSI-aged" program component for brevity of exposition; U.S. Committee on Ways and Means, 2004: Table 3-1). The rest of the caseload originally entered due to blindness or disability ("SSI-disabled"). Participation in the SSI-aged component fell rapidly throughout the first decade from a 1974 peak of 2.3 million persons to around 1.5 million cases in the mid-1980s, and SSI-aged participation has further declined to just 1.2 million participants in March 2004. In recent years, SSI-aged participants have comprised less than 20 percent of the SSI caseload (U.S. Committee on Ways and Means 2004: Table 3-1). Even though an increasing number of elderly have "aged in" from SSI-disabled, SSI participation among the elderly has dropped almost 20 percentage points since 1974 (U.S. Committee on Ways and Means 2004: Table 3-1).

This pattern of declining representation of the aged in SSI is at odds with the ongoing shift to an older age structure in U.S. society brought about by declining fertility, increased longevity,

and the postwar baby boom (see Wilmoth and Longino 2005, for further discussion of these trends). All else equal, a greater number of elderly in the population ought to increase the number of aged entering SSI and increased life expectancy ought to reduce exit rates from both the disability and aged program components. The double-aging of the population, i.e., the shift not only to more persons over 65, but to a higher proportion of aged in the oldest age brackets, may further increase aged SSI participation, as financial resources are exhausted and people spend more years 'at risk' for SSI participation generally.

On net, the aging of the population has outstripped rising living standards across the generations. There has been a 16 percent increase in the number of income-poor elderly individuals living in the U.S. since 1974 (U.S. Census Bureau 2004: Table 16). At the same time, the ratio of all aged SSI participants to the elderly poor population has declined from nearly 80 to roughly 60 percent, an indication that SSI's safety net role for the aged has diminished over time.

The SSA reports SSI participation by reason for entry (age or disability) and by age group (65-74 and 75 and older; U.S. Social Security Administration 2004b). These rates can be applied to actual population growth to evaluate how SSI participation of the elderly has deviated from predictions based on past program use. Assuming that the participation rates in SSI-aged of the two age groups remained at 1980 levels, by 2002 population growth for the aged alone indicates a caseload in the SSI-aged program of 2.1 million, while the double-aging phenomenon pushes predicted SSI-aged cases past 2.2 million.[3] However, trends in SSI-disabled suggest that current caseload levels are substantially *higher* than would have been expected based on population growth alone.[4] By 2002, over 700,000 aged receiving SSI had originally entered due to disability, but population growth alone indicates fewer than 500,000 cases of aged 'SSI-disabled'

participants; and 'double-aging' would have dragged their number down further to 430,000.[5] Considering the offsetting impacts of population aging in the two components of the program, there is a shortfall of participation of the aged in SSI of over three-quarters of a million individuals – 45 percent of the actual caseload – by 2002.

Methods

We employ McGarry's (1996) model of SSI participation, which allows for endogenous determination of the expected SSI benefit and potential error in its measurement, and hence in the assessment of each unit's SSI-eligibility status. The interested reader is referred to this article for more detailed explanations of specifications and variable construction. The probability that a household participates in SSI is equal to the product of the probability that the unit is eligible for SSI and its eligibility-conditioned decision to participate. Units are defined to be eligible if they 1) meet the asset test, and 2) face a positive SSI benefit, as calculated by applying SSI program rules to household characteristics. The 'take-up' choice is governed by a comparison of the relative benefits and costs of program participation. We focus on the expected financial gain to participation, as reflected in the expected SSI benefit to the unit. The value of the Medicaid coverage that accompanies SSI in many states should also encourage take-up, so the take-up model includes a dummy variable indicating whether states automatically extend Medicaid coverage to SSI recipients and its interaction with the poor health status of the oldest household member. Participation costs include welfare stigma and lack of information about the program, and variables representing these costs include age (under 75 indicator), race, sex, education, marital status, home and vehicle ownership statuses, social security receipt, non-SSI welfare receipt, region of residence (South), residence in an urban area (MSA), whether other adults live in the household, poor health, whether the unit has any SSI-counted wealth, long-run income

variability, and the ratio of income to the poverty line (where variables may differ for couples, the value for the oldest member is assigned).

The estimation method also addresses two important empirical issues that hinge on the expected benefit variable. First, the computed SSI benefit is endogenous with the take-up decision, since households may adjust their activities in order to achieve a higher expected benefit. Second, assessing eligibility status depends on the exact value of the expected benefit, so mistakes in calculating expected benefits may result in classification errors in addition to classical measurement errors. In the estimation, the former problem is addressed by an instrumental-variables strategy, while the latter is addressed by incorporating the probability of correct classification of household SSI-eligibility into a measurement-error-influenced weighting scheme.

The first step in estimation is to apply SSI program rules to observed household characteristics to compute an expected benefit, B_i.[6] This expected benefit is then regressed on exogenous SSI rules including the maximum statutory benefit (with state supplements), average monthly income (excluding SSI) over the previous wave, unit type (couple), and living arrangement (own household or not). The predicted expected benefit from the first-stage model, $\hat{B}_i^*$, then enters the take-up equation along with the other covariates X_i. The resulting weighted two stage probit estimates of take-up are obtained by choosing parameters that maximize the likelihood function:

$$\sum_i P_i \ln \Phi\left(\frac{\delta \hat{B}_i^* + X_i\alpha}{\sqrt{\sigma_\eta^2 + \delta^2\sigma_u}}\right)\Phi\left(\frac{B_i}{\sigma_u}\right) + \sum_i (1-P_i)\ln\left[1-\Phi\left(\frac{\delta \hat{B}_i^* + X_i\alpha}{\sqrt{\sigma_\eta^2 + \delta^2\sigma_u}}\right)\right]\Phi\left(\frac{B_i}{\sigma_u}\right).$$

The standard deviation of measurement error in the expected benefit, σ_u, is calculated from the

difference between the value of the calculated expected benefit and the actual benefit received by SSI-participating households in the sample.[7] The first term in the function is the eligibility-probability-weighted sum of the take-up likelihoods. The second term is the probability that an eligible unit does not take up ('nonparticipating eligibles'), again weighted by the probability that the eligibility assessment is correct. Following McGarry (1996), asset holdings are assumed exogenous. The sample consists of asset-eligible units. See Duggan (1984) and Neumark and Powers (1998) for evidence on the endogeneity of assets with SSI participation.

SIMULATION TECHNIQUES

We first simulate the effects of holding real federal asset limits constant since 1974. Asset-limit indexation would not change the benefit levels or take-up rate of the originally eligible population but would draw new units into eligibility. Among these units, a fraction remains ineligible due to income (i.e., their expected benefit is nonpositive). The total expected increase in SSI-eligible units is therefore given by the sum of $\Pr(B_i^* > 0)$ over all units that could be SSI- eligible under the new asset limits but ineligible under the actual asset test. Given a unit's estimated take-up probability, $\Pr(P_i = 1 | B_i^* > 0)$, from the weighted MLE model, the take-up rate for this marginally eligible group is given by $\sum_{M_i} \Pr(B_i^* > 0) \Pr(P_i = 1 | B_i^* > 0)$ divided by $\sum_{M_i} \Pr(B_i^* > 0)$, where M_i is an indicator of marginal asset-eligibility. Similarly, the expected benefit of this group is given by $\sum_{M_i} \Pr(B_i^* > 0) \hat{B}_i^* \Big/ \sum_{M_i} \Pr(B_i^* > 0)$.

We next simulate the effects of three additional policy counterfactuals. First, in addition to incorporating asset-disregard indexation, we consider indexing income disregards to their

1974 levels. Second, we simulate indexing of state supplements to their 1974 levels (in addition to asset and income disregard indexation). Finally, we isolate the effects of an increase in the Social Security Normal Retirement Age from 65 to 67.

In these three simulations, the estimated change in the number of eligible units is given by the sum of changes in the probability of eligibility, $\sum_i \left[\Pr(B_i^{**} > 0) - \Pr(B_i^{*} > 0) \right]$, over all units that are asset-eligible, where B_i^{**} is the new expected benefit level based on the counterfactual program rules (recall that individuals are estimated to be income-eligible if predicted benefits are positive). The take-up rates of this marginally eligible group are then defined as $\sum_i \Pr(P_i = 1) \left[\Pr(B_i^{**} > 0) - \Pr(B_i^{*} > 0) \right] \Big/ \sum_i \left[\Pr(B_i^{**} > 0) - \Pr(B_i^{*} > 0) \right]$, and expected benefits are defined analogously. Finally, expected benefits and take-up rates of the *original* eligible group will change due to the simulated program rules. In the results, we present the decomposition of the change in overall take-up and expected benefits into the change arising from changes in the composition of those eligible for SSI versus those arising from increases in program generosity conditional on eligibility.

DATA

The primary data are from wave 7 of the 1991 SIPP panel and wave 4 of the 1992 panel. These households are questioned about assets and income in January through March of calendar year 1993 (all dollar values are converted to 2002 levels, the base year for which policy effects are simulated). Households were divided into 'lone' and 'couple' elderly units. At least one member of the unit must be over age 64 in order to be included in the sample. As in McGarry (1996), those few households with a change in structure over the previous wave are deleted from

the sample. Finally, due to limited information about initial state supplemental benefit levels, the sample is further restricted to those living in their own households (this restriction eliminates around 9 percent of the initial group of 7,114 units with a member older than 64.

Asset questions are asked as of the survey date, while income questions are asked retrospectively about each month of the preceding wave. Most income variables, including all those used to define eligibility, reference the final month of the four-month wave (the month closest in time to the survey date). SSI participation is also measured for the most recent month. Some income variables, intended to convey longer-run information about permanent income and the variance of income, are constructed by using data from all waves of the previous year.

The Appendix Table contains the descriptive statistics for the estimation samples. All 2649 sample units used to estimate take-up appear to meet the asset test. The sample used to obtain the predicted benefit consists of units determined to be both asset and income-eligible. Column 1 reports simple means and standard deviations of variables used to predict the expected SSI benefit. Column 3 reports the eligibility-weighted means and standard deviations of the covariates of the take-up specification for the asset-eligible sample. Actual recipients have an average SSI benefit of $236 (not reported in the table), and column (3) of the table shows that the measurement-error-corrected weighted mean of predicted benefits is similar at $220.67. In the take-up estimation sample, roughly 94 percent receive some income from Social Security, 44 percent are in poor health, and income (excluding SSI) is approximately 45 percent above the federal poverty line.

Findings

PARAMETER ESTIMATES

Column 2 of the Appendix Table displays the coefficient estimates and standard errors of

from the benefit amount model. The estimated effect of the maximum benefit is positive, with the coefficient value of 0.414 (0.059) implying that a $100 increase in a state's maximum benefit level increases the average expected SSI benefit amount by approximately $41.

Column 4 presents estimates of the change in the take-up probability for a unit increase in values of the covariates. Of particular interest is the coefficient on the predicted SSI benefit. The estimate of 0.003 implies that an increase in average expected benefits of 10 percent, from roughly 221 to 243 dollars, would increase take-up by 6 percentage points. As discussed below, we estimate the overall take-up rate to be 38.5 percent, so the effect in percentage terms is substantial at 15.5 (= 6.0 / 38.5) percent. Although the primary focus of this paper involves the effect of expected benefits on take-up, the coefficient on the interaction between categorical Medicaid eligibility and poor health of 0.260 (0.055) is also relevant for public policy, as it indicates that the availability of Medicaid increases take-up by about 26 percentage points among those in poor health.

SIMULATIONS OF PROGRAM PARAMETER INDEXATION

[TABLE 1 ABOUT HERE]

In Table 1 we apply the estimated parameters to simulate various policy options. "Baseline" eligibility, take-up, and participation are simulated using year-2002 policy values. Three alternative scenarios are examined: (1) indexing asset limits for inflation; (2) indexing both asset limits and (unearned and earned) income disregards for inflation; and (3) indexing asset limits, disregards, and state supplements. For each alternative, indexing is assumed to be imposed from the outset of the program. Finally, we also use the model to assess the expected impact of the recently instituted increase in the social security NRA on SSI participation of the aged.

The first entry in the table is the (population-weighted) eligibility rate for elderly household units, calculated by applying the assumed program rules to the SIPP household sample. The estimated baseline eligibility rate for all aged units is 12.8 percent. The estimated take-up rate among eligibles, 38.5 percent, is lower than previous estimates in the literature, but this is unsurprising considering that earlier estimates were based on older data sources, at which time SSI policy was more generous in real terms.[8] The expected monthly benefit for eligible units is estimated at $128.46. The participation rate reported in row (8) is the product of the eligibility and take-up rates. Year 2002 participation of all (independent) aged households in SSI is estimated to be 4.9 percent.

The second column presents the simulation findings if the real value of asset limits had been held constant over the life of the program. By 2002, the 1974 limits would be worth $5,474 (individual) and $8,210 (couple); the actual limits in 2002 were just $2,000 and $3,000. Despite these large real changes, the overall eligibility rate of aged households rises less than one percentage point above the baseline, to 13.6 percent. This reflects the low levels of asset wealth at the levels of household income commensurate with SSI income-eligibility. This is particularly striking given that income-eligibility is based on one month's observation, indicating that most of the income-eligible have very low permanent income as well. A change in the asset test affects only eligibility status, not the value of the expected benefit conditional on eligibility, and the indexation of the asset test has no impact on the take-up propensities of units already eligible under baseline policy (it remains at 38.5 percent). The group that is marginally eligible due to asset limit indexation possesses characteristics associated with very low take-up (the rate is just 22.3 percent) such as a very low expected benefit of $48.54. Eligibility and take-up change little – overall, the impact of asset limit indexation on SSI participation is negligible.

If indexed from 1974, the current value of income disregards would have reached $72.98 (unearned) and $237.19 (earned) by 2002. Column 3 presents simulations of indexing both asset and income disregard limits. Originally and marginally eligible groups are defined relative to the year-2002 based policies (column 1). The overall eligibility rate among the aged rises 2.5 percentage points from baseline (from 12.8 percent to 15.3 percent). In contrast to asset limit indexation, disregard indexation not only increases the overall probability of eligibility but also causes a fairly large (over one-quarter) increase in the expected SSI benefit of already-eligible units. This latter change is estimated to increase the take-up rate among the originally eligible by over 6 percentage-points, to nearly 45 percent. The newly eligible, however, face a low expected monthly benefit of just $23.93 and have a take-up rate of just 24.4 percent. Together, indexation of both asset limits and income disregards is predicted to raise aged SSI participation modestly to 6.4 percent.

Indexation of state supplements has much more dramatic effects (column 4). If, in addition to asset and disregard indexing, the initial set of supplementing states had been forced to preserve the real value of combined state-federal SSI benefits (as Congress appears to have originally intended), the estimated eligibility rate among all aged households would be 18.2 percent. The greater generosity of expected SSI benefits in states with indexed supplements is illustrated by a rise in expected benefits among those originally eligible of almost $100 per month relative to the previous scenario (column 3), generating a very high take-up rate of 62.2 percent. The newly eligible face an expected benefit of $59.98 and their take-up rate is 42.6 percent.[9] Take-up among all eligibles reaches 57.6 percent, and participation of aged units in this scenario is 10.5 percent, double that of the baseline rate. Almost two-thirds of the increased participation in this scenario is attributable to take-up effects alone.[10]

INCREASE IN THE NRA FROM 65 TO 67

The nonindexation of SSI policy, particularly the declining real value of state supplements, is predicted to depress SSI participation among the aged. An ongoing policy change expected to also affect SSI participation among the aged is the increase in the social security NRA to 67 from 65 while the SSI eligibility age remains at 65. The estimated model parameters can be applied to a partial equilibrium analysis of this change. Taking the sample distribution of retirement ages as given, everyone who retires prior to age 65 faces a two-year actuarial early retirement penalty after the full phase-in of the NRA increase.[11] Applying the new benefit rules generates a social security benefit reduction of 10 percent. Since SSI benefits are offset dollar-for- dollar with social security income above a modest $20 monthly disregard, for most units the decrease in social security benefits translates into a directly offsetting increase in the expected SSI benefit. The model predicts that this will increase both eligibility and the take-up of original eligibles.

The last column of the table presents the findings for this change in the NRA from original policy. The new NRA has a modest impact on the overall eligibility rate, raising it from 12.8 percent to 14.8 percent of all aged units – similar in impact to indexing both asset and disregard limits. However, the change in NRA has a large impact on expected benefits. For the already eligible, the expected SSI benefit rises by almost 40 percent, to $176.15, while the newly eligible face an expected $44.07 per month. These values result in relatively high take-up rates in both the original and marginal eligibles groups, leading to an overall take-up rate of 52.5 percent, an increase of 40 percent over the baseline rate. The total impact of eligibility and take-up changes is reflected in a 7.8 percent participation rate.

Conclusions

As SSI program parameters have languished, it has become increasingly difficult for households to qualify for public welfare on the basis of age alone. In 1979, 28.4 percent of impoverished elderly units received means-tested public transfer income comprising 11.0 percent of their total income. In 2004, the rate of receipt stands at just 19.9 percent, and public transfer income now comprises only 8.7 percent of all income to the elderly poor (U.S. Committee on Ways and Means 2004). Today's ratios would be far lower if not for the explosive secular growth in disability claims.

The findings presented in this paper indicate that non-indexation of SSI's unearned income disregard has played an important role in the decline in elderly participation. The failure to index income disregards is akin to "bracket creep" in the income tax system and is subject to similar criticisms on distributional grounds. The loss of state supplements as a significant source of SSI income is apparently responsible for large reductions in both eligibility and take-up over the life of the program. Their precipitous decay raises issues of whether there ought to be regional benefit differentials and who ought to pay for them. In both cases, the longstanding languishment of the SSI program has not been the result of optimal policy design.

Current and projected changes in the social security system are also predicted to have large effects on aged SSI participation. The simulated effect of the NRA increase, based on a partial equilibrium analysis that assumes a distribution of retirement ages fixed in 1993, may be over-stated and is best interpreted as an upper bound. It is possible that the timing of retirement may change due to the new NRA. If units only apply for SSI benefits when they first file for OASDI, our estimates of the effects on SSI eligibility and take-up are overstated. Powers and Neumark (2005) and Neumark and Powers (2000) also find evidence of behavioral responses (complementarities in the use of SSI and OASDI and labor-supply-reducing effects of SSI policy

prior to age 65) that would likely mute the effect of the NRA change on SSI eligibility and take-up. However, even if the effects of the change in NRA were only a fraction as large as predicted, they are still large relative to current participation levels.

The lack of attention to the effects of the change in the NRA on potential SSI recipients is symptomatic of the non-integration of SSI with the regular social security system, despite the fact that dual recipiency is common. Better integration of SSI with OASDI would make treatment of SSI recipients vis-à-vis social security more equitable (Powers and Neumark 2005), and the 'take-up' problem in SSI could be eliminated altogether for many households if the augmenting SSI benefit was automatically bundled with the social security check.

Finally, the interaction of SSI and Medicaid policies remains an important area for further research.[12] Palmer (2005) argues that the baby boom generation will place enormous fiscal stress on Medicaid, and the cost of increased access to Medicaid due to changes in SSI must be carefully considered. Future work should integrate models of SSI participation with the health insurance options of low-resource aged households.

Endnotes

[1] SSI participation is typically accompanied by Medicaid enrollment. Medicaid pays for an array of medical services, including items uncovered by Medicare or subject to Medicare co-payments.

[2] State-set real benefits in the Aid to Families with Dependent Children program also declined precipitously over the same period.

[3] 1980 is chosen as the base year because it is the earliest year for which SSA publishes SSI participation statistics for detailed age and program components.

[4] While the very old have a high propensity to participate in the SSI-aged, the SSI-disabled caseload accounts for the growth in SSI. The 'old-old' have lower participation rates than all aged in the disability portion of the program. Possible explanations for this are selective mortality and cohort differences in the incidence of disability.

[5] Autor and Duggan (2001) attribute unforeseen growth in disability programs to a combination of rule changes expanding the disability standard and the declining economic prospects of low-skill workers. Daly and Burkhauser (2002, 2003) also discuss rule changes. There was also a shift of cases out of state General Assistance programs onto SSI during the 1980s (Bound, Kossoudji, and Ricart-Moes 1998).

[6] Details are available from the authors upon request.

[7] If $B_i = B_i^* + u_i$, and u_i is distributed normally, the probability that a unit is eligible given B_i (the researcher's guess of the expected benefit) is $\Pr(B_i^* > 0) = \Pr(B_i - u_i > 0) = \Phi(\frac{B_i}{u_i})$.

[8] Warlick (1982), using the Current Population Survey and federal rules for SSI-aged eligibility, estimates that one-half of estimated eligible units receive SSI in the program's very first year of operation. McGarry (1996) estimates a program take-up rate among SSI-eligible units,

considering both federal and state rules, of 54 percent for the 1984 SIPP panel.

[9] The take-up rate of original eligibles is 38.5 percent based on a larger average expected benefit of $128.46. It may seem curious on its face that a higher participation rate of marginal eligibles is associated with a substantially lower expected benefit, but the result is consistent with the model. A lower incidence of those with the poorest health rating and a higher incidence of social security recipiency in the marginal group contribute to higher take-up in the marginal group conditional on expected SSI benefits. Median benefits are also much more similar ($91 versus $69) than average benefits, and the simulations take into account the entire distribution of characteristics.

[10] The share is computed as one minus '(0.070-0.049)/(0.105-0.049).' '0.070' is the simulated participation rate with take-up fixed at its base rate while eligibility rises due to the policy change. The denominator is simply the total change in participation.

[11] We ignore the minority of households that postpone retirement beyond age 65. Presently 86 percent of beneficiaries have retired in or before the calendar year of their 65th birthday (U.S. Social Security Administration, 2004: Table 6.A4).

[12] Yelowitz (2000) is an exception. His findings support the notion that Medicaid access greatly enhances the value of SSI participation.

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Table 1: Simulated Eligibility, Take-Up, and Participation Rates of the Aged in SSI under Alternative Policy Scenarios

	(1) Baseline policy (2002)	(2) Asset limit indexed	(3) Asset and disregard limits indexed	(4) Asset and disregard limits, and state supplements indexed	(5) Increase in NRA from 65 to 67
(1) Eligibility rate, all aged	0.128 (0.250) n=6450	0.136 (0.255) n=6450	0.153 (0.272) n=6450	0.182 (0.304) N=6450	0.148 (0.269) n=6450
(2) Take-up rate, original eligibles	0.385 (0.349) n= 698.413	0.385 (0.349) n=698.413	0.447 (0.353) n=698.413	0.622 (0.344) n=698.413	0.548 (0.327) n=698.413
(3) Take-up rate, marginal eligibles group (X constant)	NA	0.223 (0.241) n=41.011	0.206 (0.250) n=133.446	0.173 (0.237) n=287.853	0.157 (0.225) n=111.450
(4) Take-up rate, marginal eligibles	NA	0.223 (0.241) n=41.011	0.244 (0.276) n=133.446	0.426 (0.316) n=287.853	0.383 (0.286) n=111.450
(5) Take-up rate, all eligibles	0.385 (0.350) n= 698.413	0.376 (0.346) n= 739.424	0.416 (0.347) n=829.708	0.576 (0.350) n=984.204	0.525 (0.327) n=809.862

(6) Expected benefit, original eligibles	128.462 (288.063) n= 698.413	128.462 (288.063) n= 698.413	163.077 (260.802) n=698.413	260.023 (304.341) n=698.413	176.153 (266.564) n=698.413
(7) Expected benefit, marginal eligibles	NA	48.544 (255.179) n=41.011	23.926 (216.186) n=133.446	59.975 (250.964) n=287.853	44.071 (199.205) n=111.450
(8) Participation rate, all aged = [row (1)*row (5)]	0.049	0.051	0.064	0.105	0.078

Appendix Table: Descriptive Statistics and Coefficient Estimates

	Estimation Sample: Benefit Amount		Estimation Sample: Take-up	
	(1)	(2)	(3)	(4)
	Summary Statistics	Estimates (OLS)	Summary Statistics	Estimates (Weighted MLE)
Ave. monthly inc. over	713.977	(0.039)		
previous four months	(829.084)	(0.010)		
Couple	0.196	9.980	0.344	(0.164)
	(0.397)	(23.844)	(0.475)	(0.051)
Maximum Benefit	526.276	0.414		
	(155.714)	(0.059)		
Predicted Benefit			220.669	0.003
			(69.539)	(0.000)
Under 75			0.500	0.096
			(0.500)	(0.037)
White			0.827	-0.065
			(0.379)	(0.041)
Female			0.551	0.050
			(0.498)	(0.046)
Highest Grade Attained			9.983	-0.022
			(3.660)	(0.005)
Home Owner			0.667	-0.143
			(0.471)	(0.037)
Any SS income			0.942	0.204
			(0.234)	(0.051)
South			0.357	0.046
			(0.479)	(0.040)

MSA			0.719	-0.104
			(0.450)	(0.041)
Car Owner			0.639	-0.045
			(0.480)	(0.040)
Other Adults in HH			0.216	0.062
			(0.412)	(0.052)
Poor Health			0.442	-0.437
			(0.497)	(0.060)
Categorical Medicaid			0.784	-0.019
Eligibility			(0.412)	(0.049)
Poor Health *			0.132	0.260
Categorical Medicaid			(0.339)	(0.055)
Assets (in thousands)			0.179	0.019
			(0.384)	(0.057)
Variance of Income in			262.019	0.000
Last Year			(498.897)	(0.000)
Any Welfare Program			0.147	0.369
			(0.354)	(0.039)
Income / Poverty Line			1.454	-1.116
			(0.959)	(0.091)
Constant		43.774		
		(30.667)		
Observations	653	653	2649	2649

Notes: Data are from the 1991 and 1992 SIPP panels. Estimates for the weighted two stage least squares model are presented as changes in the probability of take-up for a unit change in the explanatory variable.