

SSI for the Aged and the Problem of 'Take-Up'

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Project #: UM03-14

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January 2004

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Acknowledgements

This work was supported by a grant from the Social Security Administration through the Michigan Retirement Research Center (Grant # 10-P96362-5). The opinions and conclusions are solely those of the authors and should not be considered as representing the opinions or policy of the Social Security Administration or any agency of the Federal Government.

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Abstract

The Supplemental Security Income (SSI) program provides an income and health care safety net for the elderly poor. The phenomenon of apparently eligible households that do not enroll in, or 'take up' SSI has been noted as a severe problem since the program's inception in 1974. This paper examines SSI eligibility, applications, and participation in the aged population from 1984 (the most recent year analyzed in the literature to date) through 1997. We are fortunate to have administrative data on SSI use that is linked to various panels of the SIPP. We use this information to estimate the SSI-aged application choice. The key findings from the earlier literature are sensitive with respect to exact sample specification, alternative approaches to imputing the expected SSI benefit, and more detailed information on application and receipt culled from administrative files. Our findings suggest that cash benefits may be less influential, and Medicaid access through SSI more influential, than previously estimated.

Introduction

Supplemental Security Income (SSI) is a means-tested program intended to enable elderly households with limited financial resources to live with dignity and independence in retirement. SSI recipients may also be categorically eligible for another valuable benefit in Medicaid, which covers a wide range of health services.

Since the program's inception in 1974, low participation rates have been an ongoing concern. At any point in time, a substantial fraction of elderly households who appear financially qualified to receive SSI do not enroll. In the parlance of the welfare literature, they fail to "take up" SSI. Zedlewski and Meyer (1989) estimate that only about 30% of the elderly poor receive SSI benefits. Take-up rates for the eligible population of elderly during the programs' first ten years are estimated at 50 to 55 percent. McGarry (1996), in a major study of take-up, attributes this largely to the fact that many elderly poor expect to receive only a very modest cash payment.

There are other signs that SSI may be under-used by the elderly. For instance, the number of SSI-aged recipients has been falling over most of the program's history. By 1998, 1.4 million elderly people participated in SSI, down from 2.3 million in 1975. To the extent that low participation of the elderly in SSI reflects serious unmet need, this is an issue of general public concern. In an environment in which Social Security reform schemes promoting greater individual responsibility are proposed, it is important to better understand the effectiveness of a "safety net" program for households that are poorly positioned to reap the benefits of reform.

Despite the fact that low SSI take-up by the elderly has been perceived as a serious problem for over a quarter of a century, there remains relatively little research on the aged and SSI. This paper builds upon and extends earlier work in several ways. The time period under consideration is expanded to encompass roughly the past 15 years' experience with SSI. Access

to the Social Security Administration's program records permits us to estimate the application decision, a true choice variable, in addition to participation, which is the net result of an application and an administrative process. We use an alternative method of imputing expected SSI benefits for all sample units that demonstrably reduces measurement error in this key variable and is exogenous with respect to application choice.

The previous literature is badly out of date. Aside from Yelowitz (2000), we have not discovered a serious analysis that considers SSI take-up after 1984. Yet major changes to Medicaid and Medicare during the 1990s may have affected SSI take-up. Yelowitz (2000) argues that the SSI-aged program would have grown dramatically (45 percent) over the 1990s were it not for alternative means of obtaining public health insurance. The Social Security Administration (SSA) also conducted a major outreach effort to enroll more aged in SSI beginning in 1988.

Survey of Income and Program Participation (SIPP) panels constitute our data source. A peculiar benefit of extending the SIPP time frame is that federal and state-only SSI participation are distinguished from each other in later panels, while early panels only track federal participation (many states offer supplements to the federal program benefit, and individuals may participate in the state component of the program only). State-only participants receive very small cash benefits. Ignoring state-only participants overstates the influence of the cash benefit amount on enrollment and may understate the importance of the value of Medicaid obtained through SSI participation and other factors.¹

Administrative information on SSI application and payment status offers several advantages. There is evidence of underreporting of SSI income and reciprocity in the SIPP (Roemer, 2000).

¹ As of this writing, an analysis of the bias resulting from ignoring state-only participants is not yet incorporated.

The administrative data contain the complete history of all activity regarding the SSI program for nearly all observations in the SIPP, including monthly applications, payment status, and payment amounts (all recorded on a monthly basis) since 1974.²

Analysis of SSI is also complicated by the fact that two distinct groups may enter the program. For the aged, eligibility is a straightforward matter of meeting income and asset tests. The disabled who meet the means test may also receive an SSI benefit, but they must meet the same stringent disability standards as the Disability Insurance (DI) program. Using information on individuals' exact ages and the timing of applications and payments, it is possible to distinguish true SSI-aged participants from those entering through the disability portion of the program. The distinction is predicted to be important, as the process of entering SSI through disability is typically lengthy and complicated. The populations of younger disabled and elderly may also differ significantly in their characteristics and motivations. While SSI-aged participation rates have declined over the past 20 years, there have been large increases in disability program participation over the 1980s and 1990s, suggesting that the incentives to apply to the two portions of the program are markedly different.

Information on applications is the most valuable contribution of the administrative data set. SSI participation, the only "outcome" variable available in the SIPP, is the net result of eligibility determination and application choice. Factors that determine acceptance contingent upon application may well differ from factors that determine the decision unit's choice to apply in the first place. Partly, this important issue appears to have been overlooked in the literature because of an implicit assumption that aged applicants are not often rejected. Our data reveal that this is decidedly not the case.

² It should also be possible to use the exact payment amounts from the administrative record in future work.

Eligibility must be determined by the researcher by applying SSI rules as best he or she can to the available information on income and wealth from various sources. Even when program and financial information are reasonably good (as might be claimed for the SIPP), errors will arise. For example, it may be difficult for the researcher to detect irregular income that is disregarded under SSI program rules, leading to incorrect classification of some units as ineligible. Alternatively, income may be overlooked or undercounted, leading to incorrect classification of units as SSI-eligible. While the administrative data are not particularly helpful in furthering information on income,³ they do provide additional information on measurement error on the part of the researcher.

Without administrative information on applications, there is no way to distinguish units *misclassified* as eligible who apply for SSI and are rejected from eligible units that do not take up at all. The important implication is that the true take-up rate could be *understated* by past studies. If the researcher is better at classifying ineligible units (the past literature in fact assumes no errors in classifying ineligible units) then take-up rates exploiting administrative information, while still understated, will be closer to the true rate than the conventional measure is. A final benefit of the administrative data is that while age is top coded in the SIPP at age 85, it is not top coded in administrative files.⁴

The administrative data have some important limitations. Only information collected by the federal government for the purposes of administering its component of the program is available. Units living in states that administer the entire program themselves (a minority of cases), or receiving units that participate solely in the state portion of the program, will not appear. A

³ Social security and SSI benefit information may be an exception. As noted, we plan to explore the administrative benefit data in future work.

⁴ By linking to the summary earnings record (social security) file, it is possible to recover actual ages for nearly all adult sample members, not just the few who link to the SSR file.

second important caveat is the unusual way that the administering agency (Social Security) maintains the records. The records reflect not the actual program history, but the program history as it should have been. For example, if an applicant is initially rejected, but is later determined eligible (e.g., through adjudication), SSA rewrites the stream of payments (and payment statuses) as if the initial application had been immediately successful. This introduces measurement error into variables relating to the timing of payment status, as well as payment amounts. This problem should not affect application records and is presumably a less important empirical problem for non-disabled potential applicants who face a simple and quick process.

The next section provides background information on the SSI program and outlines the basic economics of the application decision. Section II reviews the literature. Section III discusses the data sources and construction of samples and variables. Section IV describes the methodology and presents the results of our replications of McGarry's (1996) findings with the 1984-1997 SIPPs. In section V, we describe our extensions and modifications and present our major empirical findings on participation. Section VI presents our estimates of applications to the program, and estimates determinants of acceptance rates. A discussion of the findings concludes the paper.

I. The SSI Program and the Take-Up Decision

The SSI program was begun in 1974 to provide a uniform federal safety net for the elderly and disabled, replacing state-dominated Old Age Assistance and Assistance to the Blind and Disabled (OAABD) programs. Combined with Food Stamps, SSI is intended to raise an elderly household's resources to approximately the poverty line. We are concerned with the component of the program intended for the impoverished elderly.

The federal government sets eligibility criteria and maximum benefit levels for individuals and couples in the federal component of the program. In addition, some states (those with more generous safety nets prior to 1974) were required, and other states chose, to supplement the basic federal benefit. Other sources of retirement income influence both a household's eligibility for SSI and the size of their potential benefit. Financial wealth also affects eligibility. For example, as of 1985, individuals with over \$1,600 in countable assets, and couples with over \$2,400 in countable assets, were ineligible.⁵

Federal SSI benefits are a significant potential income source for the elderly poor, and state supplements can be substantial. For example, in January 1991 the maximum monthly federal benefit was \$407 for an individual and \$610 for a couple. At that time, the highest state benefit for couples was in California, where the maximum combined (federal+state) benefit was \$630 for an individual and \$1,167 for a couple. In September 1989 the average federal payment to all elderly households on SSI was \$163 and the average state supplement was \$133; 49.6% of aged federal SSI recipients received a state supplement (1990 *Green Book*, p. 717). While federal benefits are indexed for inflation, state benefits are not.

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 computing the SSI benefit.⁶ Income from private pensions, public pensions such as Social Security, interest income, and the like constitute unearned income. Unearned income offsets SSI income dollar-for-dollar above

⁵ Kahn (1987) discusses the definition of countable assets, and McGarry (1996) provides more details regarding the SSI program rules.

⁶In addition, 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 are excluded. Countable income is deducted first from the federal benefit. If there is any excess income, it is deducted from the state supplemental payment level (Social Security Administration, 1994, pp. ii-iii).

the first \$20. Means-tested transfer income, such as Veteran's Benefits, also offsets SSI income dollar-for-dollar, but none of it is disregarded. The income disregards are not indexed for inflation, nor are they differentiated by household type (couple or individual). In addition, in some states the disregard amounts vary from the federal levels. The SSI benefit is determined by subtracting counted income from the maximum benefit, or benefit paid when there is no income (also called the "guarantee"). Note that it is possible to qualify for a state supplemental benefit without qualifying for a federal benefit (the state benefit is always paid out first). This is "state-only" SSI reciprocity.

SSI recipients are required to apply for all other public benefits for which they may be eligible. Aside from such public transfers, SSI-aged recipients rarely have other income. In September 1993, e.g., 65% of aged SSI recipients also received a Social Security benefit; 22% had some other unearned income; while only 2.1% reported any earned income (1994 *Green Book*, p. 240, Table 6-16). Fewer than 1% of SSI recipients reported private pension income (1994 *Green Book*, p. 240, Table 6-17).

The Welfare Take-Up Decision

In a very simple model of welfare participation, a receiving unit takes up if expected cash benefits are positive. The total benefit to "SSI participation" could be considerably larger than the cash benefit, however, if it provides a gateway to multiple programs. For example, most SSI recipients are automatically enrolled in Medicaid, and often in Food Stamps as well.

Nevertheless, people who appear program-eligible frequently fail to enroll. A number of potential explanations for this seemingly non-optimal behavior have been proposed in the welfare literature, including stigma about being on welfare, transaction costs, and insufficient information about program parameters or the enrollment process. In the cases of stigma and

transaction costs, it is no longer sufficient that the expected benefit is positive; the benefit must be sufficiently large to outweigh these costs. When information is a problem, one may observe nonparticipants who would have large imputed expected benefits but who are simply unaware of the program.

Welfare stigma occurs when people incur psychic costs from participating in a means-tested program. This may be from fear of being socially ostracized, or because welfare reciprocity is inconsistent with their self-image. Moffitt (1983) finds evidence that welfare stigma discourages some mother-only families from enrolling in AFDC. Since SSI is administered through the Social Security office like OAI, it may be that SSI is less stigmatizing than other welfare programs. Unlike OAI recipients, however, SSI applicants and recipients must still document neediness and could find this process demeaning.

Transaction costs may also play a role in nonparticipation. Blank and Ruggles (1996) look at high-frequency data on Food Stamps and AFDC and find evidence that the transaction costs of getting on welfare do not merit take-up during short spells of eligibility. The poverty status of most elderly is presumably more permanent, because it is less likely to reflect transitory fluctuations in earnings. Even if the prospect of "cycling" on and off SSI may be less important, transaction costs may still discourage the first entry into SSI.

Information may also play an important role in some cases. It is possible that public awareness of the availability of SSI-aged is limited, and some individuals may confuse SSI with OASDI, since SSA administers both programs. SSA has in fact mounted information campaigns to educate the public about the availability of SSI benefits. If the SSI program is somewhat obscure, an important educational opportunity occurs when an individual visits the SSA office to arrange receipt of OAI.

Beginning around 1990, potentially important changes in elderly access to Medicaid occurred through the QMB (Qualified Medicare Beneficiary) and SLMB (Select Medicare Beneficiary) options. While the subject of the impact of health and health insurance on SSI use merits a separate analysis, we note that options to receive Medicaid apart from SSI participation increased in this era. This implicitly reduces the relative value of SSI participation, and is therefore predicted to reduce applications and take-up.

II. Review of the Literature

Several SSA publications have examined the characteristics of aged SSI recipients. Scott (1991) uses a 1%-sample of Social Security earnings records to show that "periods of low wages, periods in noncovered employment, interruptions in employment, and periods of residence outside the United States" characterize many SSI-aged participants' life histories. The determinants of SSI participation as a choice, however, remain little studied.

Warlick (1982) is the first major study of SSI take-up. The 1975 Current Population Survey (CPS) is used to examine eligibility and take-up in the first year of the program. She finds a low take-up rate (only 50%) in the population identified as program-eligible. For those who do take up, SSI has dramatic effects on household income. On average, SSI roughly doubles the income of recipients and lifts 1 in 5 recipient households above the poverty line. Warlick identifies "factors of interest" in explaining take-up: potential or expected SSI benefits, whether there is automatic Medicaid coverage under SSI in the state of residence, geographic region identifiers proxying for the generosity of state supplementation (due to a lack of state identifiers in her data, Warlick can only impute eligibility under federal SSI rules), sex, race,

marital history, southern residence, residence outside a SMSA, OAI reciprocity, age, and educational attainment.

Estimating take-up in a population of nonworking, aged individuals simulated to be SSI-eligible, Warlick finds a positive effect of benefit amounts, a negative effect of greater education (interpreted as a proxy for assets and/or measure welfare stigma), a positive effect of age, and a positive effect of rural and Southern residence (for most filing types). Although Warlick finds that small potential benefits discourage take-up, she also computes that non-participation rates among the neediest eligibles (in terms of pre-SSI income) remain at a relatively high 20 percent.⁷

McGarry (1996) uses 1984 Survey of Income and Program Participation (SIPP) data to identify potential SSI-eligibles and estimate the probability that they receive SSI. Take-up for the sample of SSI-eligibles is specified as a function of household characteristics, the expected SSI benefit, other indicators of financial need, and variables indicating the value of Medicaid coverage through SSI. The expected SSI benefit is determined by self-reported income and program parameters for the state of residence. McGarry argues that measurement error in the expected SSI benefit amount is likely the most important estimation problem. She proposes a two-stage procedure, in which the computed expected SSI benefit is first regressed on household characteristics and the (federal+ state) maximum benefit. This fitted value then enters into a probit for the take-up decision. If there is random measurement error in the expected SSI benefit, this results in an unbiased estimate of the effect of the expected SSI benefit on participation. McGarry also corrects for error in the selection of the sample of "eligibles"--a problem when expected SSI benefits are computed with error--using a weighting procedure.

⁷ Using our data for 1984, we find a non-takeup-rate of 25% for the bottom 20% of the pre-SSI income distribution among eligibles, dropping to 20% in later sample years.

McGarry's estimated take-up rate (around 55%) is similar to Warlick's rate for 1974.⁸ While the simple probit reveals a positive effect of the benefit on take-up, an instrumental variable approach doubles the magnitude of the expected benefit's coefficient. The weighting procedure for potential misclassification has little influence on the findings.

In instrumental variable approaches, the expected benefit is the only policy-amenable variable with a significant, expected effect. Its elasticity is approximately 0.5. No evidence is found that categorical Medicaid eligibility, income variability, or marital status influence take-up in expected ways. Variables reflecting information costs (receipt of Social Security, education, and receipt of other welfare) do not have significant and/or expected effects on take-up, although receipt of other welfare (assumed to reflect stigma) has a positive effect on take-up. McGarry concludes that estimating the model for years post-1984 should yield similar findings, since the two major factors that may change over time--awareness of the program and categorical Medicaid eligibility--are not influential. Overall, the estimates provide little support for the notion that transaction costs or a lack of information helps explain low enrollment rates. The chief explanation for low take-up in 1984 appears to be that many potential SSI-eligibles would qualify for only very modest cash payments.

Yelowitz (2000) revisits the role of medical insurance coverage on SSI take-up. The effects of a policy change that extended coverage in the Qualified Medicare Beneficiary program are studied for a sample of Medicare-covered 66-75-year olds from the 1987 through 1992 Current Population Surveys. The impact of the QMB expansion on SSI-aged enrollment is estimated as a function of a "gain" variable that measures the difference in the income-eligibility limits of the SSI and QMB programs and other variables. Yelowitz (2000) estimates that over

⁸ We follow McGarry (1996) in not applying SIPP population weights to our estimates.

the 1987-1992 period, SSI-aged enrollment would have *increased by 45%* were it not for alternative routes to medical insurance for the elderly.

The empirical specifications of McGarry (1996) and Yelowitz (2000) are quite different, making them difficult to compare directly. Data periods and sources also differ. Among important differences, the CPS appears to under-report SSI participation and SSI income more than the SIPP (Roemer, 2000).

Hill (1990) represents the only existing study that explicitly focuses on the issue of information. Hill uses the 1980 PSID to examine the role of information costs, treating information acquisition as a choice. In this year, elderly respondents identified by the surveyors as eligible for but not receiving SSI were asked both whether they thought they were eligible, and whether they had contacted anyone to find out. The PSID also followed up with questions on benefit amounts to which these individuals believed they might be entitled. Only one-eighth of the group of eligibles reported that although they believed themselves to be eligible, they had no interest in participating. Hill interprets this as *prima facie* evidence against a substantial role for welfare stigma. On the other hand, nearly one-third of predicted eligibles either believed themselves to be ineligible or had no idea if they were eligible.

Hill uses the 1980 PSID to estimate a two-step model of information acquisition and SSI participation. Based on a first-round guess as to eligibility, people decide whether to become informed about program specifics. Those surpassing a threshold level will join the "informed regime." Using the unique follow-up questions in the PSID, Hill jointly estimates the decision to become informed and to participate. The benefit amount positively affects both outcomes. A perception of low benefits short-circuits the take-up process by discouraging people from gathering information in the first place. Hill's findings suggest that part of the effect of the

expected benefit on participation in single-equation settings may reflect its impact on information acquisition.

III. Data

Public-Use Data

The Survey of Income and Program Participation (SIPP), administered by the U.S. Census Bureau, collects detailed information on income, program use, and other characteristics at frequent intervals for a two-to-three-year period. SIPP households are interviewed at four-month intervals ("waves") about the activities of the previous four months.⁹ In addition to the core survey administered every wave, topical modules on a wide variety of subjects, including health and assets, appear regularly. The first, and one of the largest, SIPP panels was fielded in 1984. With the exceptions of 1994 and 1995, a new SIPP panel has entered the field every year since 1990. Beginning with the 1996 survey, the overlapping panel structure has been abandoned, but the base survey has been enlarged.

SSI policy parameters include the combined state-federal guarantee, the federal asset limits, and state and federal income allowances (disregards and implicit taxes). These values may vary for couples and individuals, and can depend on whether the unit is living in their own household or the household of another. After defining reciprocity units and household type, the appropriate program parameters are assigned to each observation by state.

Data from the Social Security Administration

⁹ Institutionalized individuals, who may be on SSI, will not appear in our sample.

Census Bureau personnel matched selected administrative files from SSA to the SIPP files using SIPP sample members' social security numbers.¹⁰ The resulting Supplemental Security Record (SSR) file contains the entire history of each sample member's interaction with the SSI office (applications, appeals, payments, etc...), along with basic information (e.g., date of birth) collected in the administration of the program.¹¹ Through the Summary Earnings Record (SER), one obtains every SIPP sample member's complete history of Social Security covered employment and earnings (from 1954).¹²

Sample Construction

The 1984, 1990, 1991, 1992, 1993, and 1996 files have been matched to SSI administrative files and all are used in this project.¹³ Due to the overlapping structure of the SIPP panels, estimation is carried out for the calendar years 1984, 1991, 1993, 1995, and 1997.

Table 1 lists the deletions and reorganization leading to the final samples. The first line lists the counts for individuals in the SIPP either over age 64 or married to someone 65 or older. From this group, we drop individuals in households without unique state-identifying information (nearly 10% of all observations). We then redefine the level of observation to be a receiving unit (couple or individual). Next, we drop all units that were not interviewed every wave in the prior calendar year, with missing health information, and with person weights of zero (indicating noninterview). The final data set has more than 25,000 units.

¹⁰ The Social Security numbers are mapped into unique observation identifiers assigned in the SIPP. The Social Security number is never revealed to the researcher.

¹¹ Recently, the RAND Corporation produced a codebook of these files for SSA (Panis, et al., 2000).

¹² Access to the administrative data in any form is highly restricted. The data are physically accessed at a secure work site, and the researcher must have special sworn status from the Census Bureau. The data were accessed at the Washington, D.C. office of SSA, with arrangements facilitated by the Office of Research, Evaluation, and Statistics.

¹³ It is unfortunate that SIPPs from the mid-to-late 1980s have not been matched. In the future, we may be able to incorporate information on Social Security eligibility status and benefit amounts from the Supplemental Earnings Record (SER) and Master Beneficiary Record (MBR) files.

Units identified as financially eligible for SSI often form the estimation samples. If all income sources are considered, there are slightly over 3,100 eligible units (note that we follow McGarry in always classifying units with assets above the limit and more than one vehicle as ineligible). Sex and family structure are highly correlated with eligibility. Over two-thirds of potentially eligible units are lone females; fewer than 20% are lone males; and not even 10% are aged couples. Around 10% of individuals falling in the "lone" eligible unit category live with an ineligible spouse.

Imputing Expected SSI Benefits and Eligibility to Receiving Units

The SSI benefit formula is fairly simple, and the SIPP categorizes income in ways that are consistent with that formula. At first, we follow previous researchers in imputing expected benefits and eligibility on the basis of all income, assets, and vehicles. Later, we use assets, vehicles, and social security income alone. We follow the previous literature in ignoring the potential endogeneity of assets and vehicle ownership with respect to SSI participation.

Researchers must grapple with the important issue of whether to apply state or federal policy rules when state-only, federal-only, or state and federal program participation are all possible outcomes. Ignoring state rules cannot be correct when half of federal recipients also receive state benefits. However, computing benefits purely on the basis of state rules also generates inaccuracies. For example, individuals who seek to enroll in Medicaid through SSI, even though they live in supplementing states, are permitted to enroll in the federal program only. This can be desirable when state standards for SSI-Medicaid participation are more stringent than federal standards. In later SIPP panels, it is possible to distinguish the exact nature of participation. We use federal-only participation following earlier work, and because the administrative data are limited to the federal program. To the extent that those living in

supplementing states actually find the federal rules most relevant, the use of state rules is another source of measurement error in the expected benefit.

Descriptive Statistics

Table 2 presents characteristics of the subsamples comprised of all eligibles, participating eligibles, and nonparticipating eligibles for 1984. Couple units appear equally likely to participate or not, while lone female units have a lower propensity to participate. Married units are also disproportionately represented among the eligible nonparticipants.

Residing in another's household is associated with higher take-up, as is living in the South. Eligible nonparticipants are more concentrated in metropolitan areas. Around two-thirds of eligible units are white, and whites appear less likely to take up. There is little difference in participation according to age-in-sample (top coded at 85). Eligible units with greater education, private health insurance coverage, and more (non-SSI) income are less likely to participate.

All individuals reported as covered by SSI in the SIPP are recorded as Medicaid-covered, while only 22% of nonparticipants are covered, presumably under their states' medically needy programs. The differential in private health insurance coverage between units that take up and those that do not is consistent with the argument that the value of Medicaid plays a positive role in take-up. 93 percent of SSI participants are "dual eligibles," covered by both Medicaid and Medicare (note that it is easier to qualify for Medicare than for OAI). SSI recipients are in far worse health than nonparticipants and may value insurance coverage more. However, nonparticipants are also somewhat more concentrated in states where it is easiest for SSI recipients to enter Medicaid. Nonparticipants also live more often than participants in states offering a higher maximum SSI benefit, consistent with the fact that many southern states do not supplement.

On net, estimated expected SSI benefits, based on all income sources, are over 50% higher for participants, consistent with a positive effect of benefits on take-up. SSI is also strongly associated with Food Stamp benefits (in California, the two programs are unified). Considering all sources of income (including SSI), participating units average only about \$20 less in income than nonparticipants.

Finally, it is of interest to examine the eligibles found in the SSR files. By July 1999 (the last period covered in our version of the administrative data), 94% of participating eligibles are in payment status at some time (fewer--89%--have an application record, indicating that some application records are missing in the data). 30% of those who report nonparticipation to the SIPP in the interview month have an application on record. Interestingly, 21% of nonparticipating eligibles receive a payment at some time from SSI -- most likely made at a date after the interview.¹⁴ If a longer-run view of participation is taken, a total take-up rate of 62% ($= (192+44)/381$) is implied for 1984.

We also take a historical look at program eligibles. Tables A1-A3 in Appendix A provide these descriptive statistics for all sample years. Most variable means are fairly stable or trendless over the years. Exceptions are a declining share of whites, growing educational attainment, increasing metropolitan status, and reductions in the propensity to be married in the sample of all eligibles (Table A1). Nominal values such as the income from social security, expected SSI benefits, and maximum SSI benefits are rising over time, as one expects (both the federal portion of the SSI benefit and social security benefits are indexed; any declines in these averages across years are due to changing sample composition). Medicaid, Medicare, and private health insurance coverage show no obvious trends in our data period.

¹⁴ This is a very safe assumption, as exits of the disabled from SSI and DI are miniscule.

Take-up rates inferred from the SIPP start with a high around 54% in 1986 and 1991 (very similar to McGarry's estimate, as noted), and are down slightly for the remainder of the sample years. Note that the decline in long-run take-up over the sample years is in large part due to right-censoring, since the administrative record ends in July 1999 (see Table A2).

IV. Methodology and Preliminary Estimates of Take-Up

Our approach takes off from McGarry's (1996) basic framework, which relates the net cost of enrolling in SSI to the expected monthly SSI cash benefit and other variables thought to influence benefits and costs of enrolling. In particular, an eligible individual participates in SSI if the utility gain from participating, P_i^* , is positive. One only observes the final participation decision, P_i , where $P_i = 1$ if $P_i^* > 0$, and $P_i = 0$ otherwise. In the estimation, P_i^* will be modeled as a linear function of the potential benefits of participating, as well as proxies for costs (both informational and stigma) and other individual preference-shifters. That is,

$$P_i^* = \alpha B_i + X_i \beta + e_i,$$

where e_i is distributed normally with mean 0 and variance σ_e^2 , B_i is the monetary benefit associated with participating, and X_i are individual characteristics thought to affect (unobserved) preferences for participation in SSI. Using this framework, our exploration of SSI take-up begins by considering more recent data and examining how patterns of take-up rates have changed over time

Table 3 presents results from simple probit models of the SSI take-up decision for repeated cross-sections from 1984 to 1997. The samples in each year are composed of those who report asset and income (from all sources) levels below the maximum eligibility thresholds according to SSI program parameters. As such, one can interpret the models as modeling the

effects of benefit levels and other covariates on the probability of participation, conditional on eligibility. The first column of the table reports the coefficient estimates from McGarry (1996), and the second column, for 1984, presents our attempt to replicate McGarry's results. Overall, we are able to replicate her findings for 1984 remarkably well, especially considering the difficulty in replicating the treatment of income and asset levels¹⁵ and exact sample design. The coefficient on the expected SSI benefit slightly differs here relative to McGarry's sample, with an increase from 0.003 (0.001) in McGarry's sample to 0.004 (0.001) in the current one. With the exception of relative income, our own findings are significant and of the same sign whenever McGarry's findings are significant. We obtain several significant findings that McGarry does not (for sex, marital status, Southern residence, care ownership, categorical Medicaid status, and the interaction of poor health with categorical Medicaid). In these cases the signs of the coefficients are the same, although magnitudes differ greatly. Coefficients on other variables of interest, such as whether the respondent had any earnings in the past year or participated in any other welfare in the past year, both meant to capture the perceived permanence of the need for SSI and the sensitivity to welfare stigma, vary little across the two samples.

The primary difference between the original results and the replication lies in the counts of both eligible and participating units. McGarry finds 554 SSI-eligible members of the 1984 SIPP and 310 participants, while we were unable to uncover more than 381 eligibles, of which 205 participated. While this discrepancy is puzzling (and efforts to reduce it were unsuccessful), it is somewhat comforting to note that the estimates of the take-up rates from the two samples agree closely, 56% and 54% from the original and replication, respectively.

¹⁵ For example, Federal regulations disregard the value of a car in the asset test if the car is used for business purposes, but only \$4500 of the value of the car if it is used for other purposes. Similarly, other asset restrictions are sufficiently involved that an exact replication of previous work is unlikely.

Next, we apply this specification to each calendar year's sample. Estimated effects of home ownership (negative), any earnings in the past year (negative), relative income (negative), older age (zero), and Social Security income receipt (zero) are quite stable from year to year. The positive effect of the expected benefit amount fades away with time – by 1997, the point estimate associated with the expected benefit amount only has roughly 15% of the effect estimated in 1984 and is not statistically significant. The effect of receiving other welfare (chiefly Food Stamps) grows dramatically, almost doubling from 1984 to 1997. There is some weak evidence that whites may be taking up less after 1991. While there is a large negative effect of female sex in 1984, this seems to be an aberration. A discouraging effect of marriage on take-up of lone receiving units is also found in most years.

The time pattern of take-up rates generally suggests that neither benefit levels nor information problems (at least those captured by Social Security application) explained much of the SSI participation process at the end of the sample timeframe. One might wonder what factors actually *did* influence take-up in the mid- to late-1990s. Table 3 also shows that state-level indicators of categorical Medicaid eligibility, in which an individual is enrolled in Medicaid automatically upon participating in SSI, have small but positive effects on take up decisions, although these are not statistically significant in later years. As noted above, there is a strong upward trend in Medicaid participation independent of SSI, with rates among nonparticipating eligibles topping 20% by the final sample years as shown in Appendix Table A3. Tables A2 and A3 also show a large difference in private health insurance coverage rates between participants and non-participating eligibles. Overall the picture suggests that access to health insurance coverage could be dominating the participation decision, with greater access to Medicaid outside

the SSI system explaining low take-up rates. This is a hypothesis we plan to explore in greater detail in the future.

Tables 4 and 5 present the two-stage and weighted two-stage findings, which correct for classical measurement error in potential benefit amounts and classification errors in the SSI-eligible population, respectively. Our estimate of the expected benefit effect does not increase much for 1984, but doubles in magnitude in many other years, which is to be expected if only classical measurement error is present. Similar to McGarry's findings for 1984, other coefficient estimates are little changed from their single-equation versions. In table 5, McGarry's error weighting scheme is also employed. In each sample, the findings are little changed by this procedure.

Measurement error in both expected benefits and eligibility represents a particularly problematic issue to address, with magnitudes and even signs of the bias being difficult to determine *a priori*.¹⁶ Therefore, the inflation of the expected benefit coefficients is not necessarily evidence of successfully addressing the issue. The two-stage weighted procedure will yield consistent estimates only if a) the variance of the measurement error in benefits is correctly estimated, and b) a researcher finds valid exclusion restrictions, in this case variables which affect the expected benefit amount but have no influence on take-up decisions apart from their indirect effects through benefit levels. Our primary concern is with this second requirement, as we are not optimistic that a valid instrument exists, at least in the SIPP. McGarry uses average household income in the previous year and indicators for whether the respondent was not a household head, was married, and lived in a state with benefits that were more generous than the average state. There is no compelling reason to maintain the assumption

¹⁶ See Pudney (2001) for a detailed discussion and Monte Carlo analyses of these issues.

that all of these variables are uncorrelated with take-up rates conditional on expected benefit levels and the vector of observable characteristics in the second stage. In unreported models, all four “first-stage” variables were significantly correlated with several observable determinants of participation included in the second stage, which is indicative that they may also be correlated with unobservable determinants of participation. If this is the case, then the results from the two-stage procedures may exhibit as much bias as those from the single-equation estimates of Table 3, with the sign and magnitude of the bias unclear. As a result, we intend to use other sources of information to ameliorate measurement error concerns and focus on single-equation estimates. We turn to these methods next.

V. Alternative Estimates of SSI Participation

Next, we make several improvements to the base specification. First, we add age and birth cohort, month, and panel dummies to the variable list. The "over 75" variable, intended to identify members of the 1984 sample who are already age-eligible at the initiation of SSI, obviously does not play a similar role as time progresses.¹⁷ Instead, birth cohort variables should capture any "information effects" from the announcement of SSI, as well as secular trends in social attitudes towards welfare. Current age (controlling for birth cohort) captures how long a unit has been "at risk" of SSI participation. Second, because Food Stamps and SSI participation may be simultaneously determined, we are concerned that the Food Stamp variable is correlated

¹⁷ It is not clear that the hypothesis is well founded. One might argue that sample members who were near-retirees would have noticed the initiation of SSI more than those well into their elderly years.

with the error term.¹⁸ Instead, we redefine the welfare variable to exclude Food Stamp program participation.

The most substantial change involves the calculation of the expected SSI benefit. As explained, above we imputed the expected benefit by applying the benefit formula to all available income information. This approach is problematic. Some income components may be endogenous with respect to SSI participation. For example, the SSI program taxes earnings at a very high 50% rate. Expected benefits of observed recipients are overstated if the program rules discourage work. This will exaggerate the importance of the value of benefits when estimating participation. The asset test may have a similar influence on asset income--property and other asset income may be reduced as a consequence of running down assets to meet the conditions of SSI participation. Finally, individuals who apply to SSI are required to seek all possible public-source income available to them. Additional sources of income may therefore arise after SSI participation, but not before (e.g., out of ignorance, or because utility-maximization considerations argue against collecting such income in the absence of SSI). *To the extent possible, it is desirable to focus on income that is exogenous with respect to SSI participation, although this focus must be weighed against the loss of information from neglecting other income components.*

A second, potentially important, problem is that "occasional" income can be disregarded in computing the SSI benefit. Not only is it difficult to discern when income is occasional, but it is not possible to know when it is treated as such by SSA.

¹⁸ A possibility for reintroducing Food Stamps, the most common welfare program used by the elderly, is to exploit retrospective questions in the SIPP to identify units that apply to food stamps prior to turning age 65.

Finally, we measure the expected benefit, as do past researchers, at a single point in time. Monthly fluctuations in income may not accurately reflect the expected SSI benefit over a longer period (indeed, McGarry introduces the standard deviation of income over the past year in order to control for this problem). Since SSI participation is not a month-to-month decision, and cycling is discouraged (the treatment of irregular income is presumably intended to prevent cycling), a longer-run estimate of the expected benefit, based on "permanent" old-age income, may be a more appropriate basis for the expected benefit. The monthly Social Security benefit is an important component of income that is likely to be reported accurately – since payments are typically constant across months within a given year, recall biases are less likely. Therefore, an accurate measure of Social Security benefits contains a great deal of information about potential SSI eligibility in the elderly population (in many cases, the Social Security benefit will simply preclude SSI eligibility) and the expected SSI benefit.

Therefore, in order to minimize endogeneity problems, the measurement errors induced by occasional income and recall biases, and to better reflect permanent non-SSI income, we base our calculation of the expected SSI benefit on social security income alone. Social security benefits are set by a formula that cumulates covered earnings over a lengthy period (up to 35 years).

By age 65 benefits are fixed from the individual's perspective (this is particularly obvious in the case of OAI claims made prior to age 65). Examination of the SSI data on participants indicates the reasonableness of this approach. 69% of self-reported SSI recipients in the sample list social security as their *sole* income source in the reference month, as opposed to just 12% of all elderly nonrecipients. Of the group of recipients without social security income, a full one-third receive the exact maximum benefit, almost half are within \$10, and 70% are within \$25.

The implication is that units reporting no social security income are unlikely to report other forms of income, and usually in modest amounts when they do. As a practical matter, ignoring other income components may not generate much measurement error for the relevant group.

Table 6 presents further information contrasting the distribution of prediction errors (as inferred from the sample of recipients, for whom we have actual benefit information) across the two approaches to benefit imputation. In almost every year, for one-half or more units, the two approaches yield identical predictions. When the two approaches differ, the Social-Security-income based method outperforms the alternative consistently in predicting the exact benefit amount. By definition, this method performs worse when it comes to overstating benefits. However, the understatement of benefits appears to be a severe problem when all income sources are used. As a consequence, the conventional method will tend to erroneously exclude units from the eligible pool. Further, in cases where the benefit is understated by the alternative method, in most years (the exception being 1997) the average error differs little from the expected benefit imputation using *all* income.

Before implementing these proposed specification changes, in which we use public-use data to estimate revised models of take-up, augmented with the additional variables discussed above and using only Social Security income to impute expected benefit (and hence to also define the sample of eligibles), we note two unreported intermediate findings.¹⁹ First, if the sample is held constant, i.e., the same as in Table 3, but the expected benefit is redefined based solely on social security income, the coefficient estimates of the expected benefit remain significantly positive in every year except 1984, although they are smaller. Second, if we allow

¹⁹ Note that the samples are greatly enlarged. Take-up rates are estimated to be about 10 percentage points lower in each year, implying that those added to the sample because of the change in imputation procedure have a still fairly high take-up rate of around one-third.

the sample of eligibles to change as just described, but continue using an expected benefit based on all income, the estimated coefficients for the expected benefit remains similar to those reported in Table 3.

Table 7 presents the findings after our modifications. The coefficient for the expected SSI benefit is usually smaller in Table 7 than Table 3 (1997 is an exception) and is estimated to be insignificantly different from zero for 1993 and 1995 (cohort and sample month coefficient estimates are not reported). The impact of education is larger in absolute magnitude and always significantly negative in the alternative specification, as is the (negative) effect of home ownership in later years. The standard deviation of the past year's income and income relative to the poverty line are also more often significantly negative. Most noticeably, the effect of living in a state with categorical Medicaid eligibility is strongly positive in each sample year, with a probit coefficient of 0.705 (0.210) in 1984 and 0.637 (0.190) in 1997. These patterns are certainly suggestive that insurance rather than cash considerations dominate the SSI take-up decision. Given the above evidence that Social Security benefits predict eligibility and actual benefits more accurately than the more comprehensive eligibility measure, we prefer the estimates here to those in Table 3.

What accounts for the dramatic changes in some of the demographic and financial coefficients? In removing non-Social Security components from the expected benefit, we have removed the components of income, i.e., earnings and asset income, most closely associated with demographic characteristics. Demographic characteristics inadvertently captured by these income variables may have overstated the importance of the financial benefit, while understating the influence of personal characteristics and the importance of non-SSI financial resources in the specification of the previous section.

However, the fact that the sample has changed cannot be ignored. Under either specification, we do not know the extent to which the coefficients reflect take-up or the researcher's incorrect guess about which units belong in the sample of eligibles, and when we change samples, we also change take-up patterns. While it is impossible to know eligibility status with certainty, we can examine the SSI-application decision more closely. While misclassification problems with the sample remain, at least applications can be said with confidence to truly reflect behavior. We can also study acceptance rates of applicants to learn more about the factors that may largely reflect the "administrative process" partially governing participation outcomes.

VI. Estimates of the SSI-Aged Application Decision

Applications to SSI

An additional advantage of administrative data lies in the ability to focus on the true behavioral aspect of the SSI take-up process, the decision to apply for benefits. As noted above, although factors that determine acceptance contingent upon application likely differ from factors influencing the application choice, this important issue has been neglected in the literature because of an implicit assumption that aged applicants are not often rejected. Appendix Table A4 shows that rejections are an empirically important phenomenon. For the entire time period under study, 225 out of 1350 (16.7%) SSI-aged applicants were not awarded benefits by 1999. This number rises dramatically to 33% (135 out of 410) among those who we initially classified as ineligible according to the definition based only on Social Security earnings and assets, in contrast to the 9.6% (90 out of 940) rejected among those who were classified as eligible according to this same criteria. In addition to providing some reassurance that the imputed

eligibility definition is capturing real differences in eligibility, the table shows that SSA rejects many applicants, and these rejections are not randomly distributed across observable differences in individuals.

Table 8 presents the major findings when application, rather than participation, is the dependent variable. First, note that the expected benefit does not appear to influence applications. Households with any earnings in the prior year are less likely to apply in the 1997 sample (and the 1996 estimate is of similar magnitude). Units that collect other forms of welfare (recall this excludes Food Stamps) are usually more likely to apply. There is some evidence that married "lone units," whites, metro residents, car owners (more recently), those with more variable and lower relative income in the past year, and females are less likely to apply. The effect of education on applications appears to be smaller than its effect on participation. In some years, living in the household of another and poor health status encourage applications. On the whole, the findings do not provide consistent evidence of great qualitative differences in the factors that are important for participation or applications, but if anything, they imply an even smaller role in the expected SSI benefit in applications than in actual participation. In contrast, the coefficients on categorical Medicaid eligibility imply that Medicaid is an important determinant of the decision to apply for SSI benefits.

The application data allow us to refine our hypotheses about SSI-aged applications, and when we do so, substantive differences between the behavior of elderly applicants and those in the eligible sample who have "aged in" from the disability program emerge. Table 8a presents the estimation findings when the dependent variable equals one only if the application is to the "aged" program (made after the 64th birthday). There are some noticeable differences in the qualitative importance of various factors. Overall, the receipt of other welfare income appears

less important for aged applications, as does marital status, poor health, and variability of income. Again, application decisions appear insensitive to potential benefit amounts, with only one of the five years exhibiting a statistically significant effect. The effect of categorical Medicaid eligibility ranges from a low of 0.280 (0.194) in 1997 to a high of 0.603 (0.161) in 1991.²⁰

To explore the change in coefficients further, in Table 8b we also estimate "SSI-disabled" application status for our sample of elderly eligible units. These people applied to the program prior to turning 65. The most interesting finding is for expected benefits, which have a significant positive effect on application to SSI-disabled in the first three samples (they are estimated to have a negative effect in 1995). Receipt of other welfare, race, education, being married to a younger (under-65-in-sample) spouse, and poor health all appear to influence disabled, but not aged, applications. Living in the household of another and in an MSA may be less important factors for non-aged than aged applicants. The evidence of a positive impact of categorical Medicaid coverage for SSI recipients is also somewhat weaker for disability than aged applicants.

Acceptance of Applicants to SSI

Table 9 presents probit estimates of successful aged applications (that is, the application is made after age 64 and the payment is received after age 64). The coefficient estimates may reflect persistence of the applicant in the face of setbacks to the claim, as well as characteristics

²⁰ It is our intention in future work to use SSA administrative data on actual SSI benefit amounts, rather than self-reports. Huynh, Rupp, and Sears (2001) discuss the extent of measurement error in self-reported SSI benefits, with the principal finding being that self-reported info is remarkably accurate (with mean reporting error equaling 2% of actual benefit amounts) except in the case of SIPP imputations of benefit amounts, in which the mean reporting error is 150% of actual average benefits. This suggests that the administrative data may be useful in correcting SIPP imputation error.

that predict a less marginal claim. Unsurprisingly, the expected benefit amount has a strong positive effect on the probability of acceptance. Home ownership also often has a negative effect on acceptance. Since homes are exempt from the asset test, it may be that this variable is correlated with ownership of other assets, or receipt of certain income, that tends to make people ineligible. Race, education, ownership of a single vehicle, and health of applicants appears to have little bearing on acceptance into the program. In some years, sex (female), metropolitan location, and living in another's household have a positive effect on acceptance. Also only occasionally, Southern residence, any earned income, and ownership of counted assets may negatively predict acceptance. Living in a state with categorical Medicaid eligibility does not appear to be related to the eventual SSA acceptance decision, as expected, although the estimate for 1993 is marginally significant. Curiously, the only variable that consistently influences participation, conditional on application, is an indicator for “any Social Security receipt”; all other covariates exhibit irregular patterns. The picture indicates that while the cash income component of SSI does not play a large role in the behavioral decision to apply for SSI, it does determine eventual SSA acceptance decisions because as estimated benefit levels increase, the likelihood of being “truly” eligible increases.

VII. Conclusions

The methods presented in this paper have relied on previously unavailable information in order to generate new estimates of the determinants of SSI take-up and application decisions. While some attention has been paid to the determinants of SSI participation, due largely to low take-up rates since the inception of the SSI program in 1974, previous efforts have been hampered by the lack of administrative data availability and difficulties in constructing a sample

of eligible aged individuals. This analysis has extended the previous literature in several substantial ways.

First, we have provided estimates of the SSI take-up decision for a number of years from 1984 to 1997. With one exception, no previous research has studied take-up after 1984, but major changes to Medicare and Medicaid have likely contributed to changes in the take-up decision in the meantime. We find that the influence of the expected SSI benefit has slightly declined over time, while the effect of receiving other welfare has grown dramatically.

Second, we have constructed an alternative definition of eligibility and potential benefits based solely on Social Security earnings and asset levels. Evidence from administrative data suggests that this measure substantially increases the accuracy of eligibility and potential benefit imputations, as well as eliminating endogeneity issues resulting from considering other sources of current income in determining potential benefits. Models based on this alternative measure point to smaller effects of potential benefit levels in the take-up decision.

Third, administrative data on the timing of applications and benefit receipt allow us to distinguish between those who applied for the SSI-aged program and those who applied for the disabled component and “aged into” the program. These data also allow for improved accuracy of models of take-up because the dependent variable is subject to less measurement error, which could be systematically related to key independent variables.

Finally, SSA administrative records permit a decomposition of observed participation outcomes into the individual’s decision to apply and SSA’s determination of benefit eligibility. Application represents the “true” behavioral component, and as such comprises the real question of interest to researchers. Results from these models provide the most dramatic departures from previous findings, indicating that the expected SSI benefit does not significantly influence the

decision to apply for benefits, with the imputed potential benefit being estimated to have small and insignificant effects on applications in every year but one. In contrast, the imputed benefit significantly positively affects eventual acceptance among SSI-aged applicants in every year of the sample. Taken at face value, these results imply that the prior findings of a positive effect of expected benefits on eventual participation decisions results primarily from those with low imputed benefits being declared ineligible according to Federal guidelines.

The findings presented here suggest substantial value for future work in this area. If expected benefits do not significantly explain the SSI application process, there is a need for determining what factors do affect applications, specifically access to affordable health insurance. We will explore measures of the availability of health insurance to reflect not only state categorical Medicaid eligibility, but also alternatives to SSI such as access to private health insurance and the expansion of Medicaid “buy in” programs such as QMB and SLMB. An analysis of these considerations may greatly advance our understanding of the SSI take-up decision

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Table 1: Sample Restrictions

Description	Panel						Running Total
	1984	1990	1991	1992	1993	1996	
Individuals in public-use files age 65 and older or with an elderly spouse	5,755	6,501	4,203	5,952	5,875	10,404	38,690
*keep if unique state ID	5,377	5,876	3,778	5,405	5,303	9,479	35,218
*Reorganize into receiving units							27,314
*keep if interviewed unit in all waves of previous calendar year							25,209
*keep if health information available							25,044
*keep if final person weight is nonzero	2,944	4,448	2,760	3,848	3,962	7,392	25,354
<u>SSI-eligible units</u>	<u>393</u>	<u>553</u>	<u>334</u>	<u>537</u>	<u>440</u>	<u>860</u>	<u>3,117</u>
lone women	295	414	247	392	324	632	2,304
lone men	66	95	66	85	79	172	563
couple	32	44	21	60	37	56	250

Table 2: Descriptive Statistics of Eligibles by Take-Up Status, 1984

	All	Participants	Nonparticipants
Observations (#)	381	205	176
Couple unit	0.076 (0.266)	0.078 (0.269)	0.074 (0.262)
Lone female unit	0.769 (0.422)	0.737 (0.442)	0.807 (0.396)
Married	0.189 (0.392)	0.156 (0.364)	0.227 (0.420)
Unit residing in another's household	0.202 (0.402)	0.229 (0.421)	0.170 (0.377)
South	0.475 (0.500)	0.532 (0.500)	0.409 (0.493)
Metro area	0.685 (0.465)	0.659 (0.475)	0.716 (0.452)
White ^a	0.680 (0.467)	0.659 (0.475)	0.705 (0.458)
Age ^a	74.33 (6.45)	74.50 (6.27)	74.13 (6.67)
Highest grade completed ^a	6.94 (4.16)	5.86 (3.97)	8.19 (4.03)
Poor health ^a	0.402 (0.491)	0.517 (0.501)	0.246 (0.432)
Private health insurance ^a	0.236 (0.425)	0.088 (0.284)	0.362 (0.482)
Medicaid Recipient ^a	0.591 (0.492)	1 0	0.222 (0.417)
Medicare helps pay bills ^a	0.929 (0.257)	0.931 (0.253)	0.894 (0.309)
Resides in state where SSI recipients categorically eligible for Medicaid	0.772 (0.420)	0.805 (0.397)	0.864 (0.344)
Food Stamp benefit to unit (\$)	14.57 (36.83)	22.22 (45.90)	8.61 (34.50)
Total unit income, excluding SSI (\$)	243.35 (160.81)	196.27 (140.58)	404.15 (216.11)
Any social security income	0.780 (0.415)	0.707 (0.456)	0.864 (0.344)
Social security income (\$)	207.39 (143.41)	174.01 (133.85)	246.27 (144.74)

Max SSI benefit associated with unit (\$)	372.64 (86.85)	367.93 84.26	556.24 (104.69)
Federal SSI receiving unit	0.538 (0.499)	1 0	0 0
SSI Income to unit (\$)	102.33 (134.91)	189.69 (131.35)	0.217 (2.527)
Expected SSI benefit to unit, based on social security income only	164.32 (128.38)	187.18 (133.28)	137.70 (117.29)
Expected SSI benefit to unit, based on all income(\$)	143.15 (118.02)	172.33 (122.31)	109.16 (103.20)
Record of application to SSI ^b		183 (89%)	62 (30%)
Record of payment from SSI ^b		192 (94%)	44 (21%)

Notes: Each observation is a (potential) SSI-receiving unit satisfying the age requirement. All dollar figures are measured on a monthly basis in nominal dollars.

^aIn the case of couple units, the information is for the senior member.

^bAdministrative data.

Table 3: Estimates of SSI-Participation for Eligible Sample Units (Probits)

	McGarry (JHR, 1996)	1984	1991	1993	1995	1997
	554	381	534	810	403	409
Expected SSI benefit ^a	0.003* (0.001)	0.004* (0.001)	0.003* (0.001)	0.002* (0.000)	0.002** (0.001)	0.0006 (0.001)
Any earnings, prior year	-0.748* (0.343)	-.710*** (0.400)	-0.620** (0.315)	-0.439*** (0.257)	-.848** (0.3932)	-0.794** (0.381)
Any other welfare	0.794* (0.148)	0.960* (0.183)	0.920* 0.159	1.07* 0.130	1.16* (0.185)	1.52* (0.176)
Over 75	-0.075 (0.125)	-0.120 (0.168)	.0093695 (0.159)	0.061 (0.063)	-0.123*** (0.072)	-.0690 (0.075)
White	-0.119 (0.142)	0.137 (0.180)	-.045 (0.135)	-.250** (0.118)	-.280*** (0.166)	-0.287*** (0.159)
Female	-0.111 (0.178)	-.527** (0.226)	0.111 (0.170)	-0.054 (0.147)	-.032 (0.210)	-0.079 (0.206)
Years school completed	-0.028 (0.013)	-0.032 (0.020)	-0.048* (0.018)	-0.055* (0.015)	-0.027 (0.022)	-0.014 (0.012)
Married	-0.0058 (0.2394)	-.826* (0.259)	-0.478** (0.202)	-0.526* (0.1715)	-0.485*** (0.253)	-0.243 (0.247)
Owens home	-0.4326* (0.1453)	-.446* (0.177)	-0.171 (0.139)	-0.450* (0.115)	-0.273*** (0.161)	-0.400** (0.169)
Receives social security	0.443 (0.226)	0.430 (0.275)	0.070 (0.228)	0.119 (0.196)	-0.332 (0.287)	-0.052 (0.249)
South	0.095 (0.159)	0.348*** (0.197)	0.280*** (0.143)	0.166 (0.125)	0.062 (0.175)	-0.236 (0.162)
MSA	-0.2391 (0.153)	-0.215 (0.193)	-0.154 (0.159)	-0.335* (0.125)	-0.277 (0.179)	-0.069 0.186
Owens car	-0.200 (0.1721)	-.375*** (0.194)	-.334** (0.150)	0.030 (0.118)	-0.213 (0.169)	-.0164 (0.1713)
Household of another	-0.113 (0.137)	0.419 (0.259)	0.827* (0.256)	0.336*** (0.173)	-0.148 (0.286)	1.14*** 0.600
Poor health	0.5740 (0.2642)	1.213* (0.363)	0.631*** (0.350)	0.223 (0.289)	0.311 (0.454)	-0.104 (0.466)
Categorical Medicaid eligibility	0.1538 (0.201)	0.491*** 0.266)	0.653* (0.187)	0.559* (0.146)	0.290 (0.208)	0.330 (0.245)
Poor*Cat	-0.009	-0.743***	-0.545	0.310	0.068	0.200

Medicaid	(0.304)	(0.409)	(0.389)	(0.325)	(0.500)	(0.496)
Any assets	-0.208 (0.137)	-0.041 (0.184)	0.186 (0.166)	0.030 (0.164)	-.370*** (0.1975)	0.128 (0.166)
Standard deviation of past year's income	-0.0194 (0.010)	-0.0001 (0.0002)	-0.001* (0.0002)	-0.000*** (0.0001)	0.0001 (0.0001)	-0.0002 (0.0001)
Income relative to poverty line	-0.965* (0.275)	-0.547 (0.358)	-0.184 (0.173)	-0.580* (0.225)	-0.608** (0.290)	-0.757*** (0.393)
Constant	0.191 (0.420)	-0.699 (0.624)	-0.698 (0.454)	0.200 (0.380)	0.991 (0.630)	-0.339 (0.765)

Notes: All columns except the first include month and panel-in-survey dummy variables, as appropriate. ^acomputed as in McGarry, using all income sources.

Table 4: Two-Stage Probit Estimates of Participation, Instrumenting the Expected SSI Benefit for Measurement Error

	1984	1984	1991	1993	1995	1997
	McGarry (JHR, 1996) (uncorrected SE's) 554	(correct SE's) 381	(correct SE's) 534	(correct SE's) 810	(correct SE's) 403	(correct SE's) 409
Expected SSI benefit ^a	0.006* (0.002)	0.004* (0.001)	0.007* (0.001)	0.006* (0.001)	0.007*** (0.003)	0.004** (0.002)
Any earnings, prior year	-0.715 (0.351)	-0.643 (0.400)	-0.521 0.323	-0.392 (0.256)	-0.680*** (0.396)	-0.644*** (0.380)
Any other welfare	0.793 (0.147)	0.900* (0.179)	.934* .1584	1.067* 0.129	1.177* 0.1838	1.42* 0.1712
Over 75	-0.054 (0.126)	-0.136 0.166)	-0.020 0.158)	0.0621586 0.063)	-0.131*** 0.0717	-0.056 0.075
White	-0.171 (0.143)	0.163 0.178	-0.0453658 0.134	-0.235** 0.117	-0.270*** 0.163)	-0.341** 0.159
Female	-0.069 (0.179)	-0.456** 0.221	0.169 0.173	0.021 (0.148)	0.019 (0.212)	-0.100 0.203
Years school completed	-0.025 0.013	-0.040** 0.01985	-0.046* 0.0177529	-0.049* 0.0154	-0.0259623 0.02135	-0.009 0.0118726
Married	-0.320 0.272	-0.828* (0.255)	-0.624* 0.2085	-0.683* 0.1793	-0.702** 0.35376	-0.368 0.2524
Owens home	-0.398 0.145	-0.401** 0.175	-0.1966481 0.1368	-0.439* 0.115	-0.256844 0.1600	-0.412** 0.16778
Receives social security	0.275 0.211	0.084 0.241	-0.1921011 0.2249	-0.0716425 0.1866	-0.653* 0.2383	0.048 0.2431
South	0.226 0.169	0.311 0.202	0.406* 0.1550	0.280** 0.130	0.150 0.178	-0.098 0.168
MSA	-0.190 0.151	-0.200 (0.192)	-0.1502585 0.1575	-0.338* (0.126)	-0.324*** (0.179)	-0.173 (0.188)
Owens car	-0.173 0.176	0.279221 0.190582	-0.349** 0.14871	-0.038 0.120	-0.242 (0.168)	-0.219 (0.172)
Household of another	-0.128 0.135	0.3434791 0.26061	0.567** 0.2453	0.1417685 0.169597	-0.750** 0.3546	1.20* 0.42556
Poor health	0.586 0.266	1.231* 0.357596	0.563*** 0.3433	0.297 (0.295)	0.296 (0.448)	-0.144 0.44572

Categorical Medicaid eligibility	0.053 0.205	0.476*** 0.266	0.589* 0.185	0.425* (0.150)	0.3011653 0.2062	0.1964759 0.24723
Poor*Cat Medicaid	-0.017 0.307	-0.825* 0.40247	-0.5181711 0.3810	0.1960419 0.3287	0.0479559 0.4920	0.3168898 0.4758
Any assets	-0.191 0.138	-0.064 0.18195	0.2046159 0.165258	0.0218671 0.1643	-0.331*** 0.1949	0.1424703 0.16505
Standard deviation of past year's income	-0.015 0.010	-0.0001 0.0002	-0.001* 0.0001	-0.0003** 0.0001487	-3.78e-06 0.0001	-0.0002 0.00014
Income relative to poverty line	-0.901 0.274	-0.490 (0.394)	-0.561** 0.25544	-0.957* 0.227	-0.847* 0.290	0.387 0.627
Constant	-0.379 (0.495)	-0.355 0.6048	-0.841*** 0.4878	-0.2851995 0.395	0.126 (0.864)	-0.930 0.7755

Notes: All columns except the first include month and panel-in-survey dummy variables, as appropriate. ^acomputed as in McGarry, using all income sources.

Table 5: Weighted Two-Stage Probit Estimates of Participation (instrumenting for measurement error in benefits and weighting for measurement error in eligibility determination)

	McGarry (JHR, 1996)	1984	1991	1993	1995	1997
	(uncorrected SE's)	(corrected SE's)				
Expected SSI benefit ^a	0.007* 0.002	0.007* 0.003	0.006*** 0.004	0.005* 0.002	0.006** 0.003	0.006** 0.002
Over 75	0.121 0.164	-0.155 0.137	-0.096 0.136	0.091 0.057	-0.099 0.069	-0.032 0.072
White	-0.311 0.196	0.099 0.153	-0.045 0.134	-0.238** 0.105	-0.316*** 0.169	-0.355* 0.135
Female	-0.094 0.226	-0.269 0.180	0.195 0.167	0.028 0.128	0.040 0.209	-0.014 0.170
Years school completed	-0.031 0.015	-0.046** 0.018	-0.043** 0.019	-0.054* 0.014	-0.028 0.019	-0.008 0.012
Married	-0.407 0.297	-0.299 0.258	0.938 0.886	0.718*** 0.444	0.714 0.725	0.627 0.416
Owns home	-0.645* 0.196	-0.212 0.152	-0.212*** 0.125	-0.477* 0.101	-0.379** 0.175	-0.496* 0.143
Receives social security	0.352 0.259	0.055 0.266	-0.123 0.214	0.046 0.217	-0.468*** 0.253	0.086 0.240
Any other welfare	1.036* 0.216	0.753* 0.141	0.854* 0.143	1.018* 0.108	0.935* 0.158	1.168* 0.137
South	0.378 0.212	0.345** 0.171	0.309** 0.155	0.201*** 0.112	0.223 0.156	0.031 0.142
MSA	-0.385 0.193	-0.262*** 0.143	-0.146 0.140	-0.267** 0.109	-0.225 0.175	-0.201 0.155
Owns car	-0.167 0.216	-0.067 0.159	-0.396** 0.161	-0.073 0.106	-0.138 0.155	-0.337** 0.149
Household of another	0.164 0.173	0.733*** 0.452	1.843*** 1.043	1.486* 0.553	0.973 1.095	2.766* 1.058
Poor health	0.909 0.392	1.030* 0.291	0.604** 0.275	0.275 0.272	0.228 0.299	0.139 0.361
Categorical Medicaid eligibility	0.156	0.399***	0.603*	0.391*	0.271	0.332***

	0.240	0.243	0.155	0.130	0.184	0.197
Poor*Cat Medicaid	-0.259	-0.587***	-0.595***	0.134	0.134	-0.054
	0.440	0.325	0.316	0.301	0.359	0.391
Any Earnings	-1.137	-0.662	-0.537	-0.338	-0.538	-0.248
	0.384	0.558	0.351	0.288	0.533	0.329
Any assets	-0.2667	0.083	0.217	-0.067	-0.336***	0.234***
	0.172	0.163	0.149	0.156	0.192	0.141
Standard deviation of past year's income	-0.005	0.000	-0.001*	0.000*	0.000	0.000**
	0.011	0.000	0.000	0.000	0.000	0.000
Income relative to poverty line	-0.057	-0.018	0.956	0.646	0.767	1.361
	0.257	0.859	1.563	0.892	1.162	1.234
Constant	-0.744	-1.161	-1.359	-0.892	-2.2516	-1.698***
	(0.547)	0.921	1.327	0.841	0.992	0.987

Notes: All columns except the first include month and panel-in-survey dummy variables, as appropriate. ^acomputed as in McGarry, using all income sources.

Table 6: Measurement Error in the Calculation of Expected Benefits under Alternative Methods

Year	Nobs.	All income			SS income			Alternatives generate equal predictions
		Overstated benefit prediction	Exact benefit prediction	Understated benefit prediction	Overstated benefit prediction	Exact benefit prediction	Understated benefit prediction	
1984	233	0.266	0.129	0.605	0.309	0.266	0.425	0.554
		47.31 (58.54)	0	79.45 (140.45)	65.44 (80.89)	0	74.31 (86.52)	
1991	337	0.261	0.110	0.629	0.350	0.205	0.445	0.531
		67.12 (91.03)	0	117.85 (136.47)	77.85 (98.88)	0	121.95 (134.12)	
1993	494	0.279	0.117	0.603	0.364	0.219	0.417	0.569
		64.08 (75.37)	0	144.19 (252.47)	75.02 (82.22)	0	123.34 (150.90)	
1995	259	0.479	0.151	0.371	0.459	0.205	0.336	0.583
		54.74 (86.14)	0	196.46 (220.61)	71.10 (92.59)	0	186.56 (172.34)	
1997	280	0.268	0.093	0.639	0.529	0.139	0.332	.364
		57.01 (81.29)	0	363.27 (450.71)	84.65 (115.81)	0	193.59 (193.60)	

Table notes: For each year, first row is fraction of self-reported recipient units in that class, and the second row presents the mean and standard deviation of the prediction error for that subsample. Public use data on units self-reporting SSI income in the SIPP.

Table 7: Probit estimates of SSI-Participation for Eligible Sample Units^a

	1984	1991	1993	1995	1997
	533	765	1302	545	656
Expected SSI benefit ^a	0.001*** 0.001	0.001* 0.000	0.000 0.000	0.000 0.001	0.001*** 0.000
Any earnings, prior year	-0.103 0.279	-0.338 0.206	-0.159 0.168	-0.271 0.315	-0.316 0.218
Any other welfare	0.525*** 0.271	0.136 0.227	0.598* 0.163	0.623** 0.260	0.531* 0.150
White	0.008 0.151	0.076 0.111	-0.169*** 0.094	-0.334** 0.141	-0.143 0.119
Female	-0.265 0.178	-0.067 0.138	-0.060 0.111	-0.157 0.172	0.193 0.144
Years school completed	-0.056* 0.018	-0.034** 0.014	-0.069* 0.012	-0.043** 0.018	-0.024** 0.010
Married	-0.643* 0.199	-0.072 0.164	-0.312** 0.130	-0.380*** 0.207	0.064 0.178
Owns home	-0.430* 0.146	-0.309 0.110	-0.612* 0.089	-0.489* 0.134	-0.538* 0.124
Receives social security	0.596** 0.256	0.273 0.197	-0.018 0.162	0.245 0.261	0.550** 0.220
South	0.307*** 0.159	0.144 0.117	0.012 0.094	0.057 0.139	-0.105 0.120
MSA	-0.232 0.162	-0.423 0.129	-0.335* 0.097	-0.181 0.152	-0.332** 0.138
Owns car	0.089 0.156	-0.236 0.121	-0.114 0.092	-0.339** 0.140	-0.209*** 0.126

Household of another	-0.083 0.213	0.228 0.201	0.238*** 0.139	0.161 0.227	0.996* 0.459
Poor health	1.041* 0.287	0.765 0.274	0.493** 0.226	0.164 0.357	0.424 0.355
Categorical Medicaid eligibility	0.679* 0.213	0.676 0.151	0.505* 0.112	0.307*** 0.171	0.413** 0.177
Poor*Cat Medicaid	-0.908* 0.328	-0.761 0.306	-0.143 0.254	0.297 0.398	-0.314 0.379
Any assets	-0.110 0.149	-0.037 0.132	-0.080 0.127	-0.341** 0.165	-0.082 0.123
Standard deviation of past year's income	-0.001** 0.000	0.000* 0.000	0.000** 0.000	0.000 0.000	0.000 0.000
Income relative to poverty line	-1.274* 0.196	-0.899 0.133	-0.672* 0.070	-1.097* 0.175	-0.717* 0.121
Constant	0.223 0.490	0.389 0.372	1.239* 0.299	1.745* 0.502	-1.035*** 0.576

Notes: ^aExpected SSI benefit computed using only Social Security income as reported in the SIPP. All specifications include month and panel dummies. Eligibility is defined as meeting asset test, owning fewer than two vehicles and an expected benefit exceeding zero. Age and birth cohort dummies not included in these specifications.

TABLE 8: Probit Estimates of any SSI Application by Eligible Units^a

	1984	1991	1993	1995	1997
	533	765	1302	545	656
Expected SSI benefit ^a	0.001 0.001	0.001 0.000	0.000 0.000	-0.001 0.001	0.001*** 0.000
Any earnings, prior year	-0.209 0.278	-0.286 0.198	-0.178 0.162	-0.484 0.316	-0.423** 0.213
Any other welfare	0.481*** 0.270	0.270 0.232	0.376** 0.157	0.954* 0.264	0.244*** 0.146
White	-0.057 0.150	-0.035 0.109	-0.214** 0.092	-0.379* 0.138	-0.151 0.115
Female	-0.273 0.178	-0.360* 0.137	-0.103 0.109	-0.367** 0.170	0.088 0.139
Years school completed	-0.046* 0.017	-0.018 0.014	-0.053* 0.011	-0.020 0.017	-0.007 0.010
Married	-0.480** 0.196	-0.232 0.162	-0.370* 0.127	-0.689* 0.211	-0.082 0.169
Owns home	-0.258*** 0.145	-0.379* 0.109	-0.598* 0.087	-0.357* 0.132	-0.518* 0.121
Receives social security	0.508** 0.254	0.310 0.194	-0.013 0.160	-0.048 0.255	0.403*** 0.211
South	0.215 0.159	0.119 0.116	0.042 0.091	0.202 0.136	0.010 0.117
MSA	-0.190 0.163	-0.266** 0.128	-0.280* 0.095	0.032 0.148	-0.333** 0.133
Owns car	-0.058 0.155	-0.144 0.119	-0.074 0.090	-0.352** 0.138	-0.323* 0.122
Household of another	-0.145 0.214	0.160 0.200	0.276** 0.137	0.232 0.224	0.820** 0.413
Poor health	1.020* 0.284	0.901* 0.272	0.136 0.228	0.317 0.356	0.643*** 0.343
Categorical Medicaid eligibility	0.644* 0.207	0.719* 0.148	0.394* 0.107	0.207 0.169	0.275*** 0.169

Poor*Cat Medicaid	-0.994*	-0.841*	0.195	-0.143	-0.525
	0.326	0.303	0.254	0.394	0.367
Any assets	-0.418*	-0.119	-0.049	-0.306***	0.071
	0.147	0.130	0.124	0.163	0.120
Standard deviation of past year's income	-0.001*	0.000*	0.000**	0.000	0.000
	0.000	0.000	0.000	0.000	0.000
Income relative to poverty line	-1.217*	-0.846*	-0.628*	-0.910*	-0.493*
	0.191	0.127	0.068	0.166	0.103
Constant	0.535	-0.002	0.009	-0.431**	-0.654
	0.490	0.146	0.116	0.180	0.531

Notes: ^aExpected SSI benefit computed using only Social Security income as reported in the SIPP. All specifications include month and panel dummies. Eligibility is defined as meeting asset test, owning fewer than two vehicles and an expected benefit exceeding zero. Age and birth cohort dummies not included in these specifications.

Table 8a: Estimation of Applications Post-Age-64 ("aged") to SSI program^a

	1984	1991	1993	1995	1997
	533	765	1302	545	656
Expected SSI benefit ^a	0.000 0.001	0.000 0.000	0.000 0.000	0.000 0.001	0.001*** 0.000
Any earnings, prior year	0.177 0.284	-0.009 0.213	0.042 0.183	-0.237 0.314	-0.513 0.270
Any other welfare	0.466*** 0.256	0.141 0.242	-0.029 0.173	0.262 0.271	0.106 0.162
White	-0.095 0.150	0.090 0.114	-0.129 0.095	-0.273 0.142	0.049 0.130
Female	-0.280 0.179	-0.320** 0.142	-0.105 0.116	-0.159 0.175	0.141 0.157
Years school completed	-0.033*** 0.018	-0.009 0.015	-0.006 0.012	0.022 0.018	0.008 0.010
Married	-0.248 0.204	-0.068 0.171	-0.038 0.136	-0.277 0.222	0.108 0.191
Owns home	-0.148 0.145	-0.216*** 0.115	-0.363* 0.093	-0.355** 0.140	-0.190 0.136
Receives social security	0.435*** 0.256	0.203 0.203	0.316*** 0.169	0.335 0.261	0.201 0.226
South	0.225 0.157	0.165 0.120	0.124 0.097	0.050 0.140	-0.006 0.133
MSA	-0.104 0.158	-0.318** 0.131	-0.245** 0.100	-0.148 0.155	-0.129 0.151
Owns car	0.030 0.157	0.030 0.125	0.034 0.097	-0.218 0.145	-0.279*** 0.140
Household of another	-0.087 0.215	-0.009 0.207	0.341** 0.140	0.442*** 0.222	0.587 0.460
Poor health	0.560** 0.284	0.194 0.305	0.227 0.244	0.133 0.374	0.283 0.384
Categorical Medicaid eligibility	0.592* 0.222	0.603* 0.161	0.393* 0.121	0.388** 0.185	0.280 0.194

Poor*Cat Medicaid	-0.657**	-0.348	-0.189	-0.319	-0.582
	0.323	0.334	0.269	0.415	0.411
Any assets	-0.174	-0.153	0.020	-0.079	0.227
	0.150	0.137	0.135	0.171	0.131
Standard deviation of past year's income	0.000	0.000	0.000**	0.000	0.000
	0.000	0.000	0.000	0.000	0.000
Income relative to poverty line	-1.024*	-0.746*	-0.877*	-0.574*	-0.374*
	0.206	0.141	0.123	0.166	0.118
Constant	-0.318	-0.353	-0.214	-0.226	-1.538*
	0.491	0.386	0.308	0.500	0.591

Notes: ^aExpected SSI benefit computed using only Social Security income as reported in the SIPP. All specifications include month and panel dummies. Eligibility is defined as meeting asset test, owning fewer than two vehicles and an expected benefit exceeding zero. Age and birth cohort dummies not included in these specifications.

Table 8b: Estimation of Applications Pre-Age-64 ("disabled") to SSI program^a

	1984	1991	1993	1995	1997
	533	765	1302	545	656
Expected SSI benefit ^a	0.002* 0.001	0.001** 0.001	0.001*** 0.000	-0.001*** 0.001	0.000 0.001
Any earnings, prior year	-0.329 0.426	-0.134 0.256	-0.555** 0.266	-0.087 0.374	-0.246 0.283
Any other welfare	-0.213 0.368	0.302 0.264	0.620* 0.165	0.757* 0.272	0.413* 0.159
White	-0.116 0.193	-0.265** 0.128	-0.099 0.104	-0.265*** 0.148	-0.247*** 0.131
Female	-0.173 0.244	-0.048 0.166	-0.121 0.127	-0.141 0.183	0.151 0.163
Years school completed	-0.067* 0.025	-0.003 0.017	-0.056* 0.014	-0.079* 0.020	-0.010 0.012
Married	-0.845* 0.289	-0.361*** 0.205	-0.526* 0.162	-0.192 0.230	-0.017 0.206
Owns home	-0.338*** 0.206	-0.233*** 0.134	-0.389* 0.102	-0.266*** 0.145	-0.569* 0.141
Receives social security	0.494 0.327	0.370 0.234	0.110 0.180	-0.122 0.277	0.449*** 0.241
South	-0.201 0.221	-0.023 0.143	-0.109 0.107	-0.105 0.151	-0.039 0.133
MSA	-0.087 0.219	-0.236 0.158	-0.091 0.110	0.144 0.165	-0.278*** 0.153
Owns car	0.038 0.218	-0.281*** 0.148	-0.066 0.106	-0.154 0.152	-0.142 0.143
Household of another	-0.140 0.322	0.251 0.246	-0.103 0.162	-0.283 0.255	0.668 0.547
Poor health	0.692*** 0.384	0.742** 0.312	0.419*** 0.259	0.413 0.367	0.516 0.396
Categorical Medicaid eligibility	0.362 0.316	0.338*** 0.190	0.222*** 0.132	0.036 0.189	0.292 0.212

Poor*Cat Medicaid	-0.448	-0.461	0.001	0.156	-0.114
	0.442	0.347	0.285	0.409	0.419
Any assets	-0.001	-0.132	-0.227	-0.321***	-0.104
	0.216	0.173	0.161	0.195	0.141
Standard deviation of past year's income	-0.001**	-0.001*	0.000**	0.000	0.000
	0.001	0.000	0.000	0.000	0.000
Income relative to poverty line	-0.935*	-0.712*	-0.433*	-1.223*	-0.850*
	0.276	0.176	0.077	0.263	0.171
Constant	0.296	-0.246	0.212	1.581*	-1.084
	0.670	0.440	0.336	0.562	0.673

Notes: ^aExpected SSI benefit computed using only Social Security income as reported in the SIPP. All specifications include month and panel dummies. Eligibility is defined as meeting asset test, owning fewer than two vehicles and an expected benefit exceeding zero. Age and birth cohort dummies not included in these specifications.

Table 9: Probit Estimates of SSI-Aged Acceptance among SSI-Aged Applicants

	1984	1991	1993	1995	1997
Expected SSI benefit ^a	0.002** 0.001	0.002* 0.000	0.001* 0.000	0.001** 0.001	0.003* 0.001
White	0.050 0.231	-0.138 0.211	0.211 0.178	-0.387 0.302	0.393 0.316
Female	0.008 0.276	0.486** 0.229	0.401** 0.189	0.165 0.340	0.541 0.355
Years school completed	0.028 0.032	0.042 0.027	-0.024 0.021	0.044 0.031	0.004 0.018
Married	-0.042 0.313	-0.318 0.269	-0.083 0.260	-0.947*** 0.433	1.166** 0.588
Owns home	-0.520** 0.246	-0.414*** 0.212	-0.262 0.171	-0.480*** 0.270	-0.047 0.338
Receives social security	0.171 0.353	0.289 0.294	0.626** 0.251	0.626 0.407	1.354* 0.433
Any other welfare	0.092 0.485	-0.284 0.393	0.246 0.385	Dropped	-0.231 0.387
South	0.143 0.241	0.068 0.201	0.054 0.164	0.072 0.265	-0.497*** 0.308
MSA	-0.146 0.247	0.251 0.219	0.282*** 0.171	0.164 0.284	-0.180 0.341
Owns car	-0.136 0.256	0.349 0.226	-0.230 0.182	0.352 0.297	0.273 0.352
Household of another	0.637*** 0.353	0.411 0.353	-0.030 0.241	0.846*** 0.464	0.211 0.393
Poor health	0.307 0.415	-0.353 0.531	0.689 0.503	0.180 0.557	-1.083 0.718
Categorical Medicaid eligibility	0.447 0.346	0.110 0.288	0.440** 0.226	0.391 0.363	-0.331 0.489
Poor*Cat Medicaid	-0.205 0.500	0.241 0.589	-0.899*** 0.552	-0.204 0.650	0.833 0.777

Any earnings, prior year	0.241	-1.415*	0.175	0.116	-0.703
	0.464	0.377	0.408	0.570	0.579
Any assets	-0.195	0.060	0.024	0.018	-0.777**
	0.231	0.238	0.221	0.271	0.320
Standard deviation of past year's income	0.000	0.000	0.000***	0.000**	0.000
	0.000	0.000	0.000	0.000	0.000
Income relative to poverty line	-0.025	-0.343	-0.631*	-0.319	-0.349
	0.233	0.256	0.213	0.243	0.290

Notes: ^aExpected SSI benefit computed using only Social Security income as reported in the SIPP. All specifications include month and panel dummies. Eligibility is defined as meeting asset test, owning fewer than two vehicles and an expected benefit exceeding zero. Age and birth cohort dummies not included in these specifications. Constant terms were inadvertently omitted. In the case of 1995, all units with other welfare income were successful applicants.

APPENDIX A: DESCRIPTIVE STATICS BY CALENDAR YEAR,
ELIGIBILITY AND TAKE-UP STATUS

TABLE A1: Descriptive Statistics: All Eligible Units

	1984	1991	1993	1995	1997
Nobs	381	535	813	403	409
Couple unit	0.076 (0.266)	0.077 (0.266)	0.082 (0.275)	0.079 (0.271)	0.054 (0.226)
Lone female unit	0.769 (0.422)	0.776 (0.418)	0.771 (0.420)	0.774 (0.419)	0.773 (0.420)
In another's household	0.202 (0.402)	0.140 (0.348)	0.151 (0.356)	0.151 (0.359)	0.137 (0.344)
White	0.680 (0.467)	0.604 (0.490)	0.695 (0.461)	0.645 (0.479)	0.601 (0.490)
Age	74.33 (6.45)	74.16 (6.49)	74.87 (6.29)	74.21 (6.10)	74.37 (6.43)
Highest grade completed	6.94 (4.16)	8.13 (3.94)	8.90 (3.74)	9.20 (3.95)	9.18 (6.17)
South	0.475 (0.500)	0.426 (0.495)	0.351 (0.477)	0.422 (0.494)	0.465 (0.499)
Metro area	0.685 (0.465)	0.736 (0.441)	0.721 (0.449)	0.717 (0.451)	0.743 (0.437)
Married	0.189 (0.392)	0.179 (0.384)	0.187 (0.390)	0.159 (0.366)	0.149 (0.357)
Social security income	207.39 (143.41)	268.15 (191.79)	296.70 (205.54)	289.79 (206.18)	284.92 (211.02)
Any SS income	0.780 (0.415)	0.770 (0.421)	0.791 (0.407)	0.754 (0.431)	0.726 (0.446)
Expected SSI benefit, based on SS	164.32 (128.38)	216.14 (165.27)	232.34 (183.53)	219.82 (169.74)	262.95 (204.06)
Expected SSI benefit, based on all income	143.15 (118.02)	188.73 (150.48)	196.66 (171.86)	208.80 (174.3481)	203.75 (152.529)
Max SSI benefit for unit in state	372.64 (86.85)	495.51 (148.31)	522.63 (144.84)	526.71 (101.91)	563.98 (127.12)
SSI Income	102.33 (134.91)	139.39 (183.40)	131.10 (191.96)	134.30 (195.11)	149.47 (211.75)
Total HH income, excluding SSI	243.35 (160.13)	328.86 (344.01)	368.25 (330.72)	446.54 (596.41)	339.63 (247.15)
Medicaid Recipient	0.591	0.607	0.540	0.568	0.597

	(0.492)	(0.489)	(0.499)	(0.496)	(0.491)
Private health	0.236 (0.425)	0.217 (0.412)	0.261 (0.439)	0.268 (0.443)	0.257 (0.437)
Medicare helps pay	0.929 (0.257)	0.935 (0.247)	0.925 (0.264)	0.918 (0.275)	0.902 (0.297)
HH Food Stamp Benefits	14.57 (36.83)	20.41 (60.93)	17.90 (43.56)	20.13 (56.40)	18.79 (45.703)
Federal SSI receipt	0.538 (0.499)	0.536 (0.499)	0.491 (0.500)	0.501 (0.501)	0.494 (0.501)
% with Age at first app	259 (68%)	312 (58%)	440 (54%)	206 (51%)	213 (52%)
% with age at first pay	261 (69%)	323 (60%)	440 (54%)	223 (55%)	213 (52%)
Poor health	0.402 (0.491)	0.260 (0.439)	0.213 (0.410)	0.226 (0.419)	0.284 (0.451)
SSI recipient categorically eligible for Medicaid in state	0.772 (0.420)	0.785 (0.411)	0.763 (0.426)	0.767 (0.423)	0.851 (0.357)

TABLE A2: Descriptive Statistics by Eligibility and Take-Up Status by Year-in-Sample: Participating Eligibles (SIPP-Admin. matched data)

	1984	1991	1993	1995	1997
Nobs	205	286	398	202	202
Couple unit	0.078 (0.269)	0.056 (0.230)	0.073 (0.260)	0.059 (0.237)	0.059 (0.237)
In another's household	0.229 (0.421)	0.178 (0.383)	0.171 (0.377)	0.183 (0.388)	0.173 (0.379)
white	0.659 (0.475)	0.566 (0.496)	0.616 (0.487)	0.554 (0.498)	0.515 (0.501)
Eligible unit is a female	0.737 0.4415	0.804 (0.398)	0.789 (0.409)	0.782 (0.414)	0.772 (0.420)
age	74.50 6.27	74.38 (6.46)	74.73 (6.15)	74.93 (5.96)	73.98 (6.31)
Highest grade completed	5.86 3.97	7.38 (3.82)	7.99 (3.77)	8.52 (3.81)	(8.25 6.09)
South	.532 .500	.479021 .5004	0.427 (0.495)	.475 .501	0.436 0.497)
Metro area	0.659 0.475	0.706 0.456	0.700 (0.461)	0.698 (0.460)	0.757 0.430)
Married	0.156 0.364	0.122 (0.329)	0.131 (0.337)	0.114 (0.318)	0.124 0.330)
Social security income	174.01 (133.85)	223.70 (191.79)	240.59 (199.50)	227.79 (198.12)	228.23 207.08)
Any SS income	0.707 (0.456)	0.675 (0.469)	0.688 (0.464)	0.644 (0.480)	0.629 (0.484)
Expected SSI benefit, based on SS	187.19 133.28	247.3353 166.5828	269.15 (197.68)	262.81 (185.0823)	318.95 (215.93)
Expected SSI benefit, based on all income	172.33 (122.31)	229.71 (157.48)	246.61 (186.34)	260 (192.5848)	238.31 153.689)
Max SSI benefit for unit in state	367.93 (84.26)	490.84 (145.13)	517.32 (139.22)	516.0982 (94.633)	571.91 (146.43)
SSI Income	189.69 (131.35)	259.25 (178.04)	267.40 (197.09)	267.21 (201.082)	302.41 211.0912)
Total HH income, excluding SSI	196.27 (140.58)	243.33 (222.27)	271.37 (216.73)	271.73 (245.72)	273.51 259.702)
Medicaid Recipient	1 0	1 0	1 0	1 0	0.980 (0.140)
Private health	0.088 (0.284)	0.056 (0.230)	0.065 (0.247)	0.054 (0.227)	0.149 (0.356)

Medicare helps pay	0.932 (0.252)	0.934 (0.249)	0.905 (0.294)	0.906 (0.293)	0.911 (0.286)
Food Stamp Benefits (\$)	22.22 (45.90)	27.19 (68.01)	28.47 (52.86)	31.94 (68.31)	29.23 (52.95)
% with Age at first app	183 (89%)	236 (83%)	333 (84%)	184 (91%)	151 (75%)
% with age at first pay	192 (94%)	253 (88%)	354 (89%)	158 (78%)	169 (84%)
Poor health	0.517 (0.501)	0.311 (0.464)	0.279 (0.449)	0.292 (0.456)	0.322 (0.468)
SSI recipient categorically eligible for Medicaid in state	0.805 (0.397)	0.864 (0.344)	0.857 (0.351)	0.817 (0.388)	0.886 (0.318)

TABLE A3:
Descriptive Statistics by Eligibility and Take-Up Status by Year-in-Sample: Nonparticipating Eligibles

	1984	1991	1993	1995	1997
Nobs	176	248	412	201	207
Couple unit	0.074 (0.262)	0.101 0.302	0.302 (0.290)	0.092 0.300	0.100 0.215
In another's household	0.170 0.377	0.097 0.296	0.131 0.338	0.119 0.325	0.101 0.303
white	0.705 0.458	0.645 0.479	0.772 0.420	0.736 0.442	0.686 0.465
Female	0.807 0.396	0.742 0.438	0.752 0.432	0.766 0.424	0.773 0.420
age	74.13 6.67	73.87 6.52	75.03 6.44	73.48 6.16	74.76 6.54
Highest grade completed	8.19 4.03	8.98 3.91	9.76 3.50	9.88 3.98	10.09 6.14
South	0.409 0.493	0.367 0.483	0.277 0.448	0.368 0.484	0.493 0.501
Metro area	0.716 0.452	0.770 0.422	0.745 0.436	0.736 0.442	0.729 0.445
Married	0.227 0.420	0.246 0.432	0.238 0.426	0.204 0.404	0.174 0.380
Social security income	246.27 144.74	317.95 178.25	350.60 196.40	352.11 195.47	340.24 200.31
Receives any SS	0.864 (0.344)	0.879 (0.327)	0.891 (0.312)	0.866 (0.342)	0.821 (0.384)
Expected SSI benefit, based on SS	137.70 117.29	180.95 156.56	197.13 161.69	176.61 140.51	208.30 175.79
Expected SSI benefit, based on all income	109.16 103.20	142.14 126.89	148.88 141.560	157.34 136.07	170.026 143.94
Max SSI benefit for unit in state	378.13 89.71	500.35 152.09	527.51 150.37	537.38 107.92	556.24 104.69
SSI Income	0.568 7.54	1.72 19.97	0.391 5.76	0.736 10.44	0.217 2.53
Total HH income, excluding SSI	298.19 165.82	426.28 424.83	461.88 390.30	622.21 769.68	404.15 216.11
Medicaid Recipient	0.114 0.318	0.157 0.365	0.100 0.300	0.134 0.342	0.222 0.417

Private health	0.409 0.493	0.399 0.491	0.449 0.498	0.483 0.501	0.362 0.482
Medicare helps pay	0.926 0.262	0.935 0.246	0.944 0.230	0.930 0.255	0.894 0.309
HH Food Stamp Benefits	5.65 18.43504	12.68 50.74	7.81 28.93	8.268657 37.718	8.613527 34.4998
% with Age at first app	76 (43%)	75 (30%)	106 (26%)	48 (24%)	62 (30%)
% with age at first pay	69 (39%)	69 (28%)	84 (20%)	39 (19%)	44 (21%)
Poor health	0.267 0.444	0.202 0.402	0.150 0.358	0.159 0.367	0.246 0.432
SSI recipient categorically eligible for Medicaid in state	0.733 0.444	0.886 0.318	0.882 0.323	0.817 0.388	0.864 0.344

TABLE A4:
SSA Eligibility Decisions Among SSI Applicants, by Various Measures of Imputed Eligibility

	Number who applied and were rejected	Number who applied and were accepted into SSI program
All respondent/years (N = 25,042)	225	1125
Imputed Eligible according to all income and assets (definition 1) (N = 2907)	68	768
Imputed Ineligible according to definition 1 (N = 22,135)	157	357
Imputed Eligible due to Social Security income only (definition 2) (N = 4338)	90	850
Imputed Ineligible according to definition 2 (N = 20,704)	135	275