The Impact of Child SSI Enrollment on Household Outcomes

Mark Duggan

Melissa Schettini Kearney

Abstract

We use data from the Survey of Income and Program Participation (SIPP) to investigate the impact that child Supplemental Security Income (SSI) enrollment has on household outcomes including poverty, household earnings, and health insurance coverage. The longitudinal nature of the SIPP allows us to control for unobserved, time-invariant differences across households by measuring outcomes in the same household in the months leading up to and immediately following the first reporting of child SSI income. Our regression analyses demonstrate that for every $100 increase in household SSI income, total household income increases by roughly $72, reflecting some modest offset of other transfer income and conditional household earnings. Our analyses further demonstrate that child SSI enrollment is associated with a statistically significant and persistent reduction in the probability that a child lives in poverty of roughly 11 percentage points. Additional analyses suggest that program enrollment has virtually no impact on health insurance coverage because most new SSI recipients have health insurance from Medicaid or another source at the time of enrollment.

Keywords: SSI, disability, poverty.

INTRODUCTION

The federal Supplemental Security Income (SSI) program currently provides cash assistance to more than 7.2 million aged, blind, and disabled persons in the U.S. who are below federally mandated income and asset limits. In terms of total spending, it is now second only to Medicaid among means-tested programs, with more than $44 billion in 2006 expenditures. The number of individuals receiving SSI benefits has grown substantially during the past 15 years, from 4.59 million in December of 1989 to 7.24 million by December of 2006. The increase in SSI receipt over this period has been especially rapid among children under the age of 18, with their ranks increasing from 0.26 to 1.08 million. The result of this growth, along with an increase in SSI enrollment among adults with children, is that 6 percent of children now reside in a household with SSI income. This is more than double the corresponding share in 1990.

Our main goal in this paper is to investigate the impact of a child's enrollment in SSI on key outcome measures such as poverty, parental earnings, and health insurance coverage. Identification of a causal impact of program participation is inherently difficult for at least three reasons. First, as with other means-tested programs, a family's eligibility for the program is determined in part by a family's economic circumstance. Cross-sectional comparisons of households with and without SSI benefits would therefore potentially be biased by some amount of reverse causation. Furthermore, a child must have a medically determinable physical or mental impairment in order to qualify for SSI benefits. Having a child with a disability may exert an independent effect on a parent's optimal labor supply or other decisions, making it difficult to disentangle the effect of the program from this potentially confounding factor. And finally, SSI is a federal program that exhibits almost no variation across states or other geographic areas. Thus, whereas previous research has exploited cross-state variation in benefit amounts and eligibility criteria to identify the effect of other means-tested programs such as AFDC, Medicaid, and food stamps, such an empirical strategy is unlikely to succeed in this context.[1]

[1] Some states do supplement the federal SSI benefit. But these supplements are quite small for children and accounted for just 3 percent of all SSI benefits paid during the 2006 calendar year.

To surmount these obstacles to identification, we exploit longitudinal data from the Survey of Income and Program Participation (SIPP) that enables us to observe household outcomes in the months leading up to and immediately following a child's first enrollment in the SSI program. This strategy allows us to control for unobserved, time-invariant differences across households that might bias cross-sectional estimates. The key identifying assumption of this approach is that the precise timing of the award of SSI benefits to the child is not correlated with other changes that influence the household outcome being studied. Note that this strategy would not be appropriate for studying the causal effect of most other government expenditure programs, such as unemployment insurance, TANF, or social security, as enrollment in those programs would often be precipitated by a discrete change in the employment status or health of adults in the household.[2]

In the case of child SSI enrollment, this strategy seems appropriate for two reasons. First, the vast majority of children awarded SSI benefits have a chronic rather than an acute condition. For example, in 2003, approximately 67 percent of children awarded SSI benefits had a mental disorder as their primary diagnosis and fewer than 2 percent qualified because of an injury or a disease of the circulatory system. Most children apply for the program not after a discrete change in health status, but rather, after learning about the program from a welfare caseworker, a physician, an advocacy group, or a school counselor (Bound, Kossoudji, & Ricart-Moes, 1998; Garrett & Glied, 2000; Kubik, 1999). Second, it seems unlikely that parents would alter their labor supply in anticipation of an award, as the majority of applications are denied. Nonetheless, we might be concerned that a family applies for child SSI benefits because of a change in economic circumstances. Fortunately, the longitudinal nature of the SIPP allows us to look for changes in outcomes in the months leading up to the SSI award. We find virtually no

2 An alternative strategy that we have explored is using the generosity of AFDC/TANF benefits in the state or the presence of a state SSI supplement to instrument for child SSI enrollment. Unfortunately, given the relatively low fraction of children on SSI, the limited effect of both variables on SSI enrollment, and the number of households in the SIPP, we do not have sufficient statistical power to use this strategy for estimating the effect of child SSI.

evidence of any anticipatory behavior or discrete changes in outcomes before actual benefit receipt.

We begin our empirical analysis with an investigation of the demographic and institutional determinants of child SSI participation using data for all households with children from the 1992, 1993, 1996, and 2001 SIPP surveys. This presents a picture of what types of households are enrolling children in the SSI program and how they differ from other households without a child on the program. The remainder of the paper focuses on the estimation of the impact of child SSI enrollment on a number of household outcomes exploiting the longitudinal nature of the 1996 and 2001 SIPP surveys.

We find that the enrollment of a child on SSI leads to an increase in total household unearned income of $1,650 defined over a four-month period, compared to an increase in total SSI income of $1,747. These estimates imply that the increase in SSI income greatly exceeds any offsetting reduction in transfer income from other programs. We find no discernable change in the level of earnings, the probability of positive household earnings, or conditional earnings. Total household income is estimated to increase by an average of approximately 22 percent after a child enrolls in SSI.

Our next set of findings demonstrates that the enrollment of a child on SSI leads to a substantial and persistent reduction in the probability that a household lives in poverty. We find a statistically significant reduction of 10.8 percentage points in the probability that a household is in poverty following enrollment of a child in SSI. Because the typical child receiving SSI has one or more siblings, our estimates suggest an even larger effect on the number of children in poverty. Our final set of estimates focuses on the impact of SSI participation on the health insurance coverage of children. We find that Medicaid coverage—which we define to include SCHIP coverage—does increase among children following SSI enrollment, but that most of the children who were not already on Medicaid had private health insurance just prior to enrollment in SSI. Taken together, our results suggest that the growth of SSI enrollment over the past 15 years has substantially lowered poverty rates among affected children but that it has had little impact on parental labor supply or child health insurance coverage.

BACKGROUND

The growth in SSI enrollment over the past two decades has made it much more important as a source of

cash assistance for low-income families with children. In December of 2006, there were approximately 2.0 million elderly adults, 4.2 million aged 18 to 64, and almost 1.1 million children receiving SSI benefits.[3] In 1989, there were 15.7 times more families on AFDC than with a child on SSI, but by June of 2006, that ratio had fallen to less than 1.8.[4] As we demonstrate below, if one accounts for adult SSI enrollment, then the receipt of SSI benefits is now more common than TANF receipt among households with children.

Much of the increase in child SSI participation was precipitated by the February 1990 Supreme Court decision in *Sullivan v. Zebley*, which had the effect of liberalizing the medical eligibility criteria for children to qualify for SSI. The growth in SSI receipt after the Zebley decision was driven primarily by an increase in the number of children qualifying for the program because of a mental disorder. Figure 1 plots the percentage of children on SSI from 1985 to 2006. In the seven years following the Zebley decision, the number of children on SSI increased by 260 percent to more than 955,000, an increase from 0.4 to 1.4 percent of all children between the ages of 0 and 17. The 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) legislation required SSA to use a stricter standard of disability for child SSI applicants and to reevaluate the eligibility status of almost one-third of recipients. As a result, nearly 100,000 children were terminated from the rolls in 1997. Notably, SSI receipt among children started to increase again in the year 2000. As Figure 1 demonstrates, the fraction of children now receiving SSI is substantially greater than it was before the 1997 tightening induced by PRWORA.

Previous research has demonstrated that in the years following the Zebley liberalization, there was substantial shifting of children from the AFDC program to the SSI program. In states where the child SSI benefit exceeded the marginal AFDC benefit associated with that child, a family receiving AFDC

[3] See Daly and Burkhauser (2003) for an extensive description of the SSI program.

[4] According to tabulations performed by Paul Davies at the Social Security Administration at the request of the authors, approximately 19 percent of child SSI recipients have a sibling on the program. We multiply the number of children on SSI by (0.81 + (0.19 / 2)) to approximate the number of families with one or more children on SSI.

income had an incentive to move an eligible child from AFDC to SSI, as a child could not legally receive benefits from both programs. Furthermore, as AFDC was jointly funded by states and the federal government and SSI is federally funded (though some states choose to supplement state benefits), it was also in the states' financial interest to move eligible children from AFDC to SSI. Kubik (1999, 2003) and Garrett and Glied (2000) provide evidence that both individuals and states responded to these incentives and that substantial shifting occurred. Schmidt and Sevak (2004) provide evidence that female-headed households in states aggressively pursuing welfare reform in more recent years were more likely to have SSI income.

To be medically eligible for SSI, a child must have a medically determinable impairment and the impairment(s) must be severe. Furthermore, this impairment(s) must be expected to last for at least 12 months or result in death. This medical determination is made by state Disability Determination Services offices. In the determination of a child's income eligibility, some of the income and assets of family members are "deemed" to the recipient. Deeming rules and income exclusions are such that in the 2005 calendar year, an eligible child in a one-parent family would receive the maximum SSI benefit with parental monthly earnings up to $1,243 if there were no other children in the household, $1,533 if there was one other child, and $1,823 if two other children in the household. These numbers illustrate that parents of children on SSI can have substantially higher levels of earnings than the rules of the former AFDC program allowed while collecting the maximum benefit. In addition, the benefit reduction rate is 50 percent. The labor supply incentives are quite different if it is the parent rather than a child on SSI; in that case, benefits would begin to phase out once the recipient's monthly earnings exceeded $85.

In 2006, the maximum federal SSI payment was $603 monthly for an individual and, in December of that year, the average child SSI benefit was $542 (SSA, 2006). Since 1975, the maximum federal SSI benefit has increased with the CPI each year to account for increases in the cost of living. Eligibility requirements and federal payment standards for SSI are uniform nationwide, though states have the option to supplement the federal SSI payment. Currently, 15 states supplement child SSI benefits, but these supplements account for less than 3 percent of total SSI spending for children.

EVIDENCE FROM THE SIPP ON SSI BENEFIT RECEIPT

The Growing Importance of SSI Relative to Welfare

In this section, we present information on household receipt of SSI and AFDC/TANF income based on data from the SIPP. The SIPP is the primary source of publicly available data on participation in government expenditure programs.[5] It is the only source of data that reliably distinguishes between child and adult SSI receipt.[6] This is especially important for our analysis because the effect of the program on labor supply incentives is very different if a child rather than an adult is enrolled. The first SIPP survey was conducted in 1984 and additional surveys were launched in each year until 1993. More recent SIPP surveys have been conducted in 1996, 2001, and 2004.[7] In every survey, households were interviewed three times a year and each wave of the survey collected information about the previous four months.

Table 1 presents a stark picture of how the delivery of cash assistance to low-income families with children has changed over the past 15 years. The table summarizes data on SSI and AFDC/TANF benefit receipt for all households with at least one child under the age of 18 from the first wave of the

[5] One reason why the SIPP is considered to be the most reliable source of individual-level data on participation in government expenditure programs is that the survey is conducted three times per year, and thus individuals need only recall their program participation during the preceding four months (Ham & Shore-Shepard, 2005). Still, underreporting is a potentially important issue. For more information on the limitations of the SIPP in measuring SSI enrollment, see Huynh, Rupp, and Sears (2001) and Ireys, Kaspryzk, Takyi, & Gillcrist (2004).

[6] Starting in 2001, Current Population Survey (CPS) data began recording whether SSI income received by a respondent was on behalf of a disabled or blind child. However, authors' tabulations of this data imply that the CPS substantially understates the fraction of SSI recipients who are children.

[7] The 1996 survey followed a sample of 36,730 households for four years (12 waves) and the 2001 survey followed a sample of 35,106 households for three years (9 waves). The Census provides person and household weights in each wave to account for differential attrition by observable characteristics.

1990, 1993, 1996, 2001, and 2004 SIPP surveys. In all of our analyses, we focus on households rather than families because of the likelihood that economic resources of one family in the household will to some extent spill over to the other. As shown in the table, between 1990 and 1996, the percent of children in households with welfare income climbed on net from 10.3 to 11.4 percent, while the percent with SSI income climbed from 2.8 percent to 5.1 percent. By 2004, the percent of children in households with SSI income reached 6.0 percent, while the share in households with welfare income fell by more than half, to 4.9 percent. It thus appears to be true that there are now more children living in households with SSI income—whether to a qualifying child or a qualifying adult—than living in households with TANF income.[8]

Table 1 also shows that in 1990, average AFDC benefits among AFDC families were 10 percent greater than average SSI benefits among SSI families ($2,127 compared to $1,939 during the four month period).[9] By 2004, the reverse was true, with average SSI benefits approximately twice as large as TANF benefits among recipient households ($2,342 versus $1,178). This change was largely driven by the fact that SSI benefit amounts are inflation-adjusted, whereas welfare benefits are not. Thus, both because of the more generous benefits and because of the greater fraction of households enrolled, SSI has become a much larger source of cash assistance than TANF for households with children.

The Demographic Determinants of Household SSI Receipt

In this section, we explore which observable household characteristics are related to program participation. We estimate probit models predicting receipt of child SSI benefits, and for the sake of comparison, adult SSI benefits and welfare benefits. Our sample consists of the 42,170 households with a child under the age of 18 in the first wave of the pooled 1992, 1993, 1996, and 2001 SIPP surveys. We

[8] When comparing the number of children observed at a point in time to be in a household with SSI versus welfare income, it should be kept in mind that welfare spells tend to be shorter on average.

[9] Dollar values cited here and elsewhere in the paper are inflation adjusted to 2003 dollars using the Consumer Price Index for all urban consumers (CPI-U).

begin with the 1992 version of the SIPP because it is the first survey year to differentiate between child and adult SSI receipt. The public-use 2004 survey data does not include state identifiers, so we do not include that data in our analyses. In this pooled sample, the percentage of households with a child receiving SSI benefits in one or more months is 1.6 percent; the percent receiving adult SSI is 2.6 percent; and the percent receiving welfare (AFDC or TANF) is 8.5 percent.

Our regression model is specified as follows, with *j*, *k*, and *t* indexing households, states, and years, respectively:

$$\begin{aligned} AnyChildSSI_{jkt} = {} & \beta_0 + \beta_1 Kids_{jkt} + \beta_2 Boys_{jkt} + \beta_3 MomOnly_{jkt} + \beta_4 DadOnly_{jkt} + \\ & \beta_5 Neither_{jkt} + \beta_6 LessHighSchool_{jkt} + \beta_7 SomeCollege_{jkt} + \beta_8 CollegeGrad_{jkt} + \\ & \beta_9 Black_{jkt} + \beta_{10} Hisp_{jkt} + \beta_{11} GenAFDC_{jkt} + \beta_{12} SSISupp_{kt} + \mu_t + \varepsilon_{jt} \end{aligned} \quad [1]$$

The variable $Kids_{jkt}$ controls for the number of children in the household between the ages of 0 and 17. All else equal this should be positively related to the probability of having a child on SSI. The variable $Boys_{jkt}$ is separately included because boys are much more likely than girls to receive child SSI benefits.[10]

The model also controls for the presence of one or more parents in the household, the education level of the more educated parent (or guardian if no parent is present), and the race and ethnicity of the children. The variable $GenAFDC_{jkt}$ is intended to capture the effect of the benefit generosity of the state's welfare program. It is defined as the maximum AFDC or TANF benefit in state *k* in year *t* given the size of family *j*. The variable $SSISupp_{kt}$ is an indicator that equals one if state *k* supplemented child SSI benefits in year *t* and zero otherwise.[11] The model also includes indicator variables for year to control for any time effects shared across households.

Table 2, column 1 reports the mean values of all the explanatory variables included in the

[10] There is substantial evidence from the fields of child and clinical psychology that boys are more likely than girls to experience mental disorders.

[11] The AFDC/TANF and SSI supplement data were obtained from various years of the publications *Overview of Entitlement Programs* and *State Assistance Programs for SSI Recipients*, respectively.

regression model. Column 2 reports the estimated marginal effects of these variables on the likelihood of child SSI benefits in the household. The results indicate that the likelihood of child SSI benefits is significantly positively related to the number of children in a household and increases in the number of boys in the household. The estimated positive coefficients on *MomOnly*, *DadOnly*, and *Neither* imply that children living in a household with two parents are significantly less likely to receive SSI than their counterparts in families headed by one parent or by a guardian that is not the parent. The estimated marginal effects also imply that children with less educated parents are statistically significantly more likely to receive SSI benefits, controlling for other demographic characteristics. The generosity of welfare benefits in a household's state of residence is a statistically significant *negative* determinant of whether the household receives child SSI benefits, which corroborates the findings of Garrett and Glied (2000) and Kubik (1999), discussed above. The data also indicate that a child is more likely to receive SSI when living in a state that supplements the federal benefit. The estimated marginal effects on *Black* and *Hispanic* imply that conditional on other household characteristics, black children are significantly more likely to receive SSI benefits than white children, but Hispanic children are not.

As reported in column 3, for the receipt of adult SSI benefits, none of the variables for the number of children, the number of boys, or the financial generosity of the state's AFDC/TANF program is a statistically significant determinant. These findings suggest that the corresponding estimates for child SSI enrollment are not simply capturing the influence of omitted characteristics of residents of a state that influence SSI receipt generally. They also serve to bolster our confidence that the SIPP is accurately recording whether household SSI benefits are due to child or adult program participation.

The results presented in the final column show that household structure, parental education, and the race and ethnicity of the children have a similar relationship with the likelihood of AFDC/TANF receipt as they do with child SSI receipt. But, whereas the number of children is significantly positively related to AFDC/TANF receipt, the relationship is not significantly stronger for households with relatively many boys. Second, while child SSI receipt is negatively determined by AFDC/TANF generosity, the opposite is true for welfare receipt. These results suggest that while many family

characteristics similarly determine SSI and welfare receipt, there are some important differences as well.

ESTIMATING THE CAUSAL EFFECT OF CHILD SSI RECEIPT ON HOUSEHOLD OUTCOMES

We now turn our attention to estimating the impact of child SSI participation on household outcomes. Our empirical strategy is to exploit the longitudinal nature of the SIPP to determine whether there is a break in household outcomes corresponding to the period in which the household first receives child SSI benefits. For this analysis we use longitudinal data from the 12 waves (48 months) of the 1996 SIPP and the 9 waves (36 months) of the 2001 SIPP. Each of the 1996 and 2001 surveys contains a sample of more than 35,000 households. In the pooled data from 1996 and 2001, there are 20,949 households with one or more children under the age of 15 in wave one and who are still present in wave two of the survey.[12] We observe 753 households with child SSI benefits at some point during the survey period.

To identify SSI child income in a household, we take the following steps. First, for children under the age of 15 who are receiving SSI benefits the income is reported as SSI child income for an adult in the household (the unit of observation in the SIPP is a person-month). Thus, if there are multiple children in the household under age 15 it is not possible to determine which one is receiving SSI. Second, for children who are age 15–17, SSI benefits will either be reported as child SSI income for an adult in the household or as adult SSI income for the child. Third, if child SSI benefits are reported in only one wave that is neither the first nor the last wave, we assume it is a coding error, as temporary transitions on and off the program are extremely rare. This restriction affects the treatment of 245 households. As a final note, though there is a variable in the 1992 and 1993 SIPP surveys indicating whether a child and/or an adult is enrolled in SSI, this variable is almost always missing after the first wave. These earlier years of survey data are thus not reliable sources of data for our empirical strategy.

[12] We define a household based on wave one household. So if a household splinters in a later wave or if additional individuals join the household, the data is aggregated to the original household in all subsequent waves.

Mean Outcomes for Households with Children

Table 3 provides summary statistics for households with children with benefits from child SSI, adult SSI, or AFDC/TANF in the first wave of the 1996 and 2001 surveys. With respect to our outcome variables of interest, there are substantial differences between households with a child on SSI and those receiving some AFDC/TANF income. First, children in households with child SSI income are less likely than those on AFDC to live in poverty, with this difference especially pronounced for deep poverty, 6 percent versus 34 percent. Second, average earnings are higher in household with a child on SSI than among welfare households in both 1996, under the traditional AFDC rules, and in 2001 under TANF. Third, the fraction of households with food stamp benefits is substantially greater among welfare households than households with child SSI benefits—88.4 versus 47.1 percent in 1996 and 82.4 versus 31.0 percent in 2001. This is consistent with the hypothesis that SSI benefits may to some extent crowd out other transfer income.

In terms of health insurance coverage, children in households with child SSI income and AFDC income look very similar in 1996. The percent of children with Medicaid coverage is 87.1 percent and 87.8 percent, respectively; the percent with any health insurance coverage is 94.2 percent and 93.0 percent. This is much greater than the rate of health insurance coverage among all children in the U.S., with approximately 14 percent reporting that they were without health insurance in the first wave of both surveys. This potentially suggests that participation in either program is an effective means of increasing health insurance coverage among children. The 2001 data suggest larger differences, with the percent of SSI children and their siblings with Medicaid having fallen to 68.6 percent. One conjecture as to why this is the case is that fewer households with child SSI income receive welfare income in 2001, as compared to 1996, and it was the link to the welfare system that may have kept the family enrolled in Medicaid.[13]

[13] An alternative explanation is that some households enrolled in private Medicaid managed care plans may report private health insurance rather than Medicaid in the survey, as Medicaid managed care grew

The differences summarized here suggest that the enrollment of a child on the SSI program may have a substantial effect on household outcomes. However, given that families with higher incomes can be eligible for SSI, it is not obvious how much of these differences are a mechanical reflection of program rules or simply the result of other differences between the two groups. For example, Powers (2003) finds that children's health (which will be correlated with child SSI receipt) exerts an important effect on parental labor supply decisions, especially for female-headed households. This motivates the empirical analyses that follow.

Empirical Specification

Our two main estimation equations are specified as follows:

$$[2] \qquad Y_{jt} = \beta_0 + \beta_1 I(POST\_SSI)_{jt} + \mathbf{\Gamma X_{jt}} + \mu_j + \rho_t + \varepsilon_{jt}$$

and

$$[3] \qquad \begin{aligned} Y_{jt} = {} & \delta_0 + \delta_1 I(PRE\_MONTHS\_5-8)_{jt} + \delta_2 I(PRE\_MONTHS\_1-4)_{jt} + \\ & \delta_3 I(FIRST\_SSI)_{jt} + \delta_4 I(POST\_MONTHS\_1-4)_{jt} + \\ & \delta_5 I(POST\_MONTHS\_5-8+)_{jt} + \Lambda \mathbf{X_{jt}} + \tilde{\mu}_j + \tilde{\rho}_t + \tilde{\varepsilon}_{jt} \end{aligned}$$

where *j* indexes households and *t* indexes waves. We use waves rather than months as our time period because of the well-documented "seam bias" in the SIPP. This term is used to describe the much higher rate of employment, insurance, and other transitions between waves than within waves. Because of this, it is not clear that month-to-month variation is as reliable as wave-to-wave variation.

We begin by estimating these equations for all 20,949 households from the pooled 1996 and 2001 SIPP surveys with one or more children between the ages of 0 and 14 in wave one and that are still

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substantially in the U.S. from 1996 to 2001 (Duggan, 2004). LoSasso and Buchmueller (2004) make a similar observation for SCHIP.

present in the second survey wave.[14] In specifications summarized in the next section, we also test the robustness of our findings by estimating the equations on alternative analysis samples, for example by limiting our sample to only households that ever enroll a child on SSI or only to households that report having a disabled child.

The variable *POST_SSI* in Equation 2 is defined to equal one in the first wave for which a household reports positive SSI benefits for someone age 17 or under and it remains equal to one in all subsequent waves. In our full sample of households, there are 753 households that ever report receiving SSI benefits for a child age 0 to 17; 375 households begin receiving those child SI benefits during the survey time frame. When Equation 2 is estimated for the full sample of households, β_1 is identified as the difference between average outcomes *pre* and average outcomes *post* for the 375 households that switch onto SSI during the period observed. The inclusion of the other households in the estimating sample increases the precision with which the other variables in the model are estimated. Under assumptions discussed below, the estimate of β_1 can be interpreted as the causal impact of child SSI enrollment on household outcome *Y*.

Estimation of Equation 3 allows us to observe trends in the dependent variable in both the pre and post SSI enrollment periods. In Equation 3, the variable *FIRST_SSI* is equal to one in the first wave of child SSI benefit receipt and zero otherwise; *POST_MONTHS_1-4* is an indicator variable for the wave immediately following the first wave with child SSI benefits; and *POST_MONTHS_5-8+* equals one in all subsequent waves. This variable remains equal to one even if the child exits the program. The omitted category is three or more waves prior to initial child SSI benefit receipt. (Note that for households that never have a child receive SSI benefits, all of the *PRE-* and *POST-* SSI indicator variables are always set equal to zero.) The estimated coefficients on these *POST* variables allow us to determine whether any

[14] Of these 20,949 households, 15.8 percent attrite and return at least once, or have a "temporary exit" from the sample; among the 753 households observed with a child on SSI, 16.5 percent have a temporary exit. Nearly 90 percent of these temporary exits are the result of missing just one wave of data.

estimated effects appear to be persistent. The variables *PRE_MONTHS_1-4* and *PRE_MONTHS_5-8* capture any change in household outcome *Y* in months one to four and months five to eight before the actual receipt of child SSI benefits, as compared to earlier months.

The regression equations control for household fixed effects, μ_j and $\tilde{\mu}_j$, to capture any time-invariant differences across households in the sample. An important household characteristic that is changing over time is the age composition of children. We thus include a vector X_{jt} of the number of individuals in five different age ranges (0–5, 6–11, 12–14, 15-17, and 18 plus years). (Demographic information for a household-wave observation is taken from the last month of the wave.) The regression model also includes indicator variables for 21 waves—12 for the 1996 survey and 9 for the 2001 survey. These are included to capture any changes over time in the outcome variables of interest that are common across households and unrelated with SSI enrollment.

To attribute a *causal* interpretation to any observed change in outcomes to the receipt of child SSI benefits, it must be the case that other factors that influence the outcome variable *Y* are not changing at precisely the same time that the child enrolls in SSI. If this identifying assumption holds, then the estimated coefficient on *POST_SSI* in Equation 2 will capture the average effect of SSI enrollment on the outcome variable of interest for those households that enroll a child in SSI. Though such an assumption would not be appropriate for an examination of the effects of many other transfer programs, it seems defensible in the present setting for two reasons. First, the overwhelming majority of children enrolled in SSI have a chronic rather than an acute condition. It is therefore unlikely that the severity of the child's illness—which could have an independent effect on household outcomes—would change discontinuously at precisely the time that the award is made. Second, for accepted applications, the lag between initial application and eventual award averages 4.3 months for awardees under the age of 18. This lag occurs both because the Social Security Administration (SSA) must determine a child's eligibility for the program and because the state Disability Determination Service (DDS) must decide whether the child has a "medically determinable physical or mental impairment or combination of impairments that causes

marked and severe functional limitations" (SSA, 1998).

We might be concerned about an "Ashenfelter dip" driving selection into the program. For example, if parents apply to enroll their child on SSI when they experience a negative shock in economic circumstances, we might observe a bounce back of their economic situation when the child finally begins to receive benefits. It would be misleading to attribute this improvement of circumstance causally to SSI. We might also be concerned about anticipatory behavior by parents. Perhaps parents reduce their earnings in anticipation of an SSI award. If this is the case, the *pre-post* comparison of Equation 2 will imply that SSI has no discernable effect on labor supply because the "effect" will have occurred before the period of enrollment. We argue that anticipatory effects, such as a deliberate reduction in earnings, seem unlikely as the majority of applications (approximately 68 percent during our study period) are denied. But it is important to note that the structure of the SIPP data allows us to test directly for leading effects with estimation of Equation 3. So, for example, if parents experience a reduction in earnings half a year before the actual receipt of SSI benefits, estimation of Equation 3 will yield $\hat{\delta}_1 < 0$ and $\hat{\delta}_2 < 0$. Note that changes in outcome variables that occur with a greater lead time than eight months will not be captured by this equation.

It is important to emphasize that this empirical strategy identifies the average effect of child SSI enrollment only for those households that enroll a child in the program. This may differ substantially from the corresponding effect for households with children not on SSI, either those who applied and were rejected or those who never applied. In particular, the fact that these households have disabled children suggests that their response to program benefits or incentives may be quite different from the response that would be found were SSI to be expanded to households with healthier children. Our estimated effects in the analyses that follow should therefore be interpreted as the average effect for households with a child on SSI. This effect is commonly referred to in the program evaluation literature as the average effect of treatment on the treated (Heckman, Tobias, & Vytlacil, 2001).

THE EFFECT OF CHILD SSI PARTICIPATION ON HOUSEHOLD OUTCOMES

Unearned Income

We begin our investigation of the effect of child SSI enrollment by estimating the average change in transfer income in households that enroll a child in SSI. Table 4 presents the results from Ordinary Least Squares (OLS) estimation of Equations 2 and 3. The first two panels report results for Y_{jt} defined as total SSI benefits, which is the sum of child and adult benefits received by household members. The latter definition allows us to consider that some children on SSI will reach the age of 18 during our study period or that some households may not correctly identify their SSI income as child versus adult income in every wave. The estimated coefficient on *POST_SSI* implies a statistically significant increase in total SSI income of $1,747 per wave (standard error of 91), or $436 per month. The difference in the coefficients on the variables *PRE_MONTHS_1-4* and *FIRST_SSI* indicate a sharp increase of $2,088 a wave, or $522 per month, in the wave of enrollment.[15] The estimated coefficients on the *FIRST_SSI* and the two *POST* indicators show a downward trend, presumably reflecting attrition from the program and perhaps some increase in underreporting over time.

The results presented in the next four panels demonstrate to what extent this substantial increase in SSI transfer income leads to a decrease in other forms of transfer income. In the final columns of the table we present the estimated impact on total unearned income. We begin by looking for changes in AFDC/TANF income that correspond to the time of enrollment of a child on SSI. Recall that an individual cannot legally receive benefits from both programs. Hence, if a child in a family receiving welfare benefits enrolled in SSI, the family's AFDC/TANF benefit should fall as a result. The estimated impacts are indeed negative, though not nearly as large in magnitude as the increase in SSI income. The estimated coefficient on the *POST_MONTHS_5-8+* indicator, which is perhaps the most reliable indicator

[15] There appears to be an increase in total household SSI in the months leading up to the first reported receipt of child benefits, but the magnitude of this increase is less than one-tenth the increase associated with child enrollment. Presumably this reflects, to some extent, misreporting of child benefits as adult benefits in earlier waves and/or the enrollment of a household adult around the same time as a child.

of the long-term adjustment of program participation, is the most negative: a $241 decrease per wave (standard error of 73), or $60 per month. The estimated impact of child SSI enrollment on the probability of any welfare receipt (not shown) is 8.4 percentage points (standard error of 2.5) or, as estimated in Equation 3, 14.1 percentage points (standard error of 2.5) in the period more than eight months after enrollment.

The next two columns report the results for estimation of the impact of SSI enrollment on the dollar value of in-kind assistance received through the Food Stamp Program (FSP) and Women, Infant, and Children (WIC) program. If the increase in SSI income exceeds any reduction in other income, then the family's dollar amount of food stamp transfers would potentially decline as well. The coefficient estimates are negative and increasingly so over time, but the long term decrease in food stamp plus WIC income (as captured by the *POST_MONTHS_5-8+*) is less than a tenth of the long term increase in SSI income. (When the dependent variable is defined as the receipt of any food stamp or WIC benefits, the point estimates on the SSI indicators are uniformly statistically insignificant.) The final panel suggests that the net impact on total household unearned income, defined as total household income minus total household earnings, is an average increase of $1,650 per wave (standard error of 160), or $412 per month.

Total Household Earnings and Income

Having established that total unearned income increases by an average of roughly $400 per month after child SSI enrollment, we now investigate to what extent this is offset (or augmented) by a change in earnings or whether the probability of any work is affected. A large body of previous research has investigated the labor supply incentives of the AFDC and TANF programs. Only one paper of which we are aware considers the effect of child enrollment in SSI on labor supply. Kubik (1999) uses CPS data to investigate whether the labor supply of single women with children and with some household SSI income is different from their observably similar counterparts with no household SSI benefits. He uses differences across states in the incentive to apply for SSI to instrument for program enrollment and his findings suggest that SSI reduced parental labor supply. But as mentioned above, the CPS does not differentiate between child and adult SSI receipt and the disincentive to work is much greater if the adult,

rather than the child, is the SSI participant. Therefore, as he acknowledges in his paper, Kubik's conclusion that child SSI receipt reduces labor supply could reflect the effect of adult SSI enrollment.

As shown in Table 3 above, average earnings in households with a child on SSI are substantially greater than in households with welfare income. This could be a mechanical reflection of higher break-even levels for the SSI or reflect the fact that children on SSI are more likely to live with both parents. Alternatively, it might reflect the fact that the program's rules do not discourage earnings as explicitly as the rules of pre-reform AFDC. It might also be the case that the labor supply decisions of parents with disabled children are more complicated than the traditional labor supply model posits. An increase in transfer income to these households might have a negative income effect on labor supply; in particular, it might enable a parent to stay home to care for the child. On the other hand, it might allow a parent to buy specialized child care, thereby "freeing up" their time for work outside the home. Therefore, both the sign and the magnitude of the effect of child SSI enrollment on household earnings is theoretically ambiguous.

The first panel of Table 5 reports the results of OLS estimation of Equations 2 and 3 for Y_{jt} defined as total household earnings. The estimated coefficients on the *POST-SSI* indicators provide no evidence of a change in labor supply in response to child SSI enrollment. Estimation of Equations 2 and 3 for Y_{jt} defined alternately as the presence of any earnings and conditional log earnings (not shown) also yields statistically insignificant coefficient estimates on the indicator variables of interest. Furthermore, the data do not indicate any lead or anticipatory effects in the eight months leading up to child SSI benefit receipt.

The absence of a discernable reduction in earnings, coupled with the large increase in total transfer income, suggests a substantial increase in total household income, as reported in columns 3 through 6. The simple *pre-post* estimate suggests an increase in household income of $1,265 (standard error of 350), which is more than 72 percent of the corresponding estimate for total SSI income. In the more descriptive equation, the estimated coefficient on *PRE_MONTHS_1-4* is -106 (standard error of 478) and the estimated coefficient on *FIRST_SSI* is $1,455 (standard error of 502), suggesting a change in income of $1,561 per wave, or $390 per month corresponding to the wave of child enrollment in SSI. The

estimated impact on total household income is higher in the next four months and is subsequently less.

Estimation of these equations for the natural logarithm of household income has two advantages compared to the levels specification: the effect of outliers on the OLS estimate is mitigated and changes can be interpreted as proportional changes. The results from this specification demonstrate a statistically significant increase in household income of 21.9 percent ($e^{0.198} - 1$) following child enrollment in SSI. The pattern of coefficients estimated for Equation 3 suggests little change in total income in the months preceding enrollment, but a statistically significant increase post child SSI enrollment in the range of 20 and 25 percent, with the impact decreasing slightly over time. We interpret this pattern of coefficients as suggesting a causal impact of the receipt of child SSI benefits on household income.

Poverty

The findings from the preceding two sections suggest that SSI benefits increase household income by an average of 72 cents on the dollar. Despite this, it is possible that the program does little to reduce poverty. First, if children awarded SSI benefits are not initially in poverty then they cannot be lifted out of it. On the other hand, if children awarded SSI live in households with very little income or if it offsets some other sources of income, then the increase in transfer income might not be sufficient to lift them out of poverty.

Columns 7 through 12 of Table 5 report the results for estimation of Equations 2 and 3 for several different measures of poverty. The dependent variable Y_{jt} is defined as an indicator variable for whether household *j*'s total income in wave *t* is below the poverty threshold and below 50 percent of the poverty threshold, respectively. The poverty threshold is the census poverty threshold of income in the year for a household and is provided in the SIPP given the number of adults and children. We adjust the threshold to correspond to a four-month period, which is how income is recorded in the SIPP. The estimated effects demonstrate that child SSI participation does substantially lower poverty. Specifically, the regression-adjusted *pre-post* comparison suggests that the probability that a household's income is below the poverty line falls by 10.8 percentage points (standard error of 1.8) following the child's enrollment in SSI. This effect is persistent, as the coefficient estimates from the more descriptive specification reveal. The

likelihood that a household is in poverty two waves after child SSI enrollment is 10.4 percentage points lower than it is three waves prior to enrollment (standard error of 2.4). The point estimates on the two *PRE*- indicators from the estimation of Equation 3 are both close to zero and statistically insignificant, implying a break in trend corresponding to the initial receipt of child SSI benefits.

The estimated coefficients suggest that rates of deep poverty fall by almost 7.6 percentage points (standard error of 1.7) following the first receipt of child SSI benefits. This effect also appears to be causal and persistent. As mentioned above, many non-poor households are income-eligible for the SSI program. It is therefore plausible that the program not only reduces poverty, but also increases the income of families further up in the income distribution. In results not reported in the table, we find that the probability that a household's income is more than twice the poverty threshold increases by 8.1 percentage points (standard error of 1.7) and the effect persists through the third wave following SSI benefit receipt.

We define the number of children living below the poverty threshold as the number of children in the household multiplied by an indicator for whether total household income is below the relevant poverty threshold. Looking at the number of children in poverty allows us to consider that many child SSI recipients have one or more siblings who are not on the program, and hence the impact on the number of children might be greater than the impact on households. The estimated impacts suggest that the number of children lifted out of poverty is twice as large as the number of households. In results not shown, we find an even greater reduction in the number of people in poverty. These estimates imply that for every 100 children who are awarded SSI benefits, roughly 22 children and 37 people are lifted out of poverty. Additional estimates not reported in the table imply that 28 people see their household incomes increase to more than twice their poverty level. Again, these effects appear to be persistent.

Health Insurance Coverage

When a child enrolls in the SSI program, he typically can receive health insurance through the Medicaid

program.[16] It might, therefore, be the case that child SSI enrollment increases health insurance coverage. Consider a child who was previously not covered by health insurance. When he enrolls in SSI, and hence Medicaid, there should be a one-for-one increase in both Medicaid and health insurance coverage.[17] However, if a child who enrolls in SSI was already insured through Medicaid, then we would see no impact on either Medicaid or on health insurance coverage. Or, he might have previously been covered through private health insurance or through another government program, in which case his enrollment in Medicaid would have no effect on the probability of health insurance coverage. This latter example would provide a possible mechanism through which Medicaid enrollment could crowd out other health insurance coverage.

Table 6 presents our estimates for the effect of child SSI enrollment on the number of children in the household with Medicaid (defined to include SCHIP coverage), with any health insurance, and with private health insurance. The statistically significant point estimate of 0.099 in column 1 implies that for every 100 children awarded SSI benefits, approximately 10 enroll in Medicaid. The fact that the point estimate is much less than one is not surprising, as more than 60 percent of children in these households were on Medicaid in the wave before the first receipt of SSI benefits.[18] The corresponding estimate for the

[16] In 40 out of 51 states, SSI recipients are automatically eligible for Medicaid. Eleven states use more restrictive criteria when determining Medicaid eligibility (SSA, 2004).

[17] If that child has siblings who were eligible for Medicaid but not covered, his enrollment in SSI could potentially lead the family to learn of their Medicaid eligibility and enroll the other children in the household in Medicaid. In that case, we could observe an increase in Medicaid and health insurance coverage of greater than one-for-one.

[18] Furthermore, the increase in Medicaid enrollment appears to include a substantial spillover effect to non-SSI siblings in the households. We find that there are frequently two or more children in a household gaining Medicaid coverage after the receipt of any child SSI benefits in the household. This suggests that the children in the household were already eligible for Medicaid when one sibling enrolled in SSI.

number of children with any health insurance is less than half as large, and statistically insignificant. Taking the ratio of the two point estimates, it appears that just 41 percent of those children made eligible for Medicaid were previously without health insurance. The specification summarized in column 7 investigates this possibility by testing whether private insurance coverage declines following the first receipt of SSI benefits. The point estimate of -.026 suggests that there may be some crowdout, though the estimate is not statistically significant.

We next consider whether the effect of child SSI enrollment on health insurance coverage differs in the latter part of our study period. This exploration is motivated by the data displayed in Table 3, which shows that Medicaid enrollment is substantially lower and private insurance coverage is much higher among families with a child on SSI in early 2001 than in early 1996. One potential explanation for this is the decline in TANF enrollment among households with a child on SSI (from 34.3 to 14.5 percent), which reduced the number of children categorically eligible for Medicaid. Another explanation is increased misreporting of public insurance as private insurance over this time period (though tabulations of the data suggest that this explanation is unlikely). To investigate whether the effect is different in the latter part of our study period, we interact the *POST_SSI* indicator with two survey indicators. The results for these specifications are summarized in columns 2, 5, and 8. It is interesting that, though the estimated effect on Medicaid coverage is substantially greater for the 2001 sample, there is no corresponding difference for any health insurance coverage. This is apparently because SSI enrollment has, according to the significantly negative estimate of -0.145 in column 8, significantly reduced private health insurance coverage among children in the more recent part of our study period.

Columns 3, 6, and 9 explore the pattern of changes in health insurance coverage in the months leading up to and immediately following the first receipt of SSI benefits. Consistent with the previous results, the estimated effect for Medicaid is much larger than for any health insurance coverage. But the effect on Medicaid appears to be short-lived, as the point estimate for the *POST_MONTHS_5-8+*

coefficient is small and statistically insignificant. Taken together, this set of results suggests that enrollment of a child on SSI has little effect on the health insurance coverage of children in affected households. This is partially driven by the fact that more than 82 percent of children in these households already had health insurance from another source in the wave prior to enrollment.

Robustness of Findings to Alternative Analysis Samples

The results presented so far use the full sample of 20,949 households with children from the pooled 1996 and 2001 SIPP surveys. We include all households rather than only those with a child on SSI to control for macroeconomic conditions and related factors that may lead to changes over time in earnings, poverty, and health insurance coverage that are unrelated to the SSI program. One potential concern with this approach is that, even though our identification strategy primarily exploits within-household variation in SSI enrollment, our "control group" may be too broad. For example, trends in earnings and income for households without any disabled children may be very different from those for children who apply for and/or eventually receive SSI benefits. In Table 7, we report the results from estimating our baseline Equation 2 using four alternative analysis samples.

Column 1 of Table 7 lists the estimates from our full analysis sample from a key set of outcome variables reported in Tables 4 through 6. Column 2 reports results when the analysis sample is limited to households that report ever receiving or applying for SSI benefits. (The wave one survey asks individuals who are not receiving SSI whether they have ever applied for SSI benefits.) Column 3 includes only those households that report having an activity-limited child with a disability between the ages of 6 and 14. (This question is asked during the fifth wave.) Because some of the children on SSI are outside of this age range and because some parents may not report their children's conditions, more than half of the households with a child on SSI are not in this sample. And finally, the analysis samples for columns 4 and 5 are limited to households that report having a child on SSI at some point during the survey, with the sample in column 5 only including households who begin receiving benefits after the first wave.

The pattern of coefficient estimates is very similar for all five estimation samples.[19] The estimated effect on poverty is always statistically significantly negative, ranging from a reduction of 8.5 percentage points to 11.9 percentage points. The estimated effect on Medicaid coverage ranges from 0.1 to 0.25 additional children covered—and is always roughly twice as large as the point estimate for the number of children with health insurance. The pattern of estimates also suggests little effect on household labor supply, though the estimates for conditional log earnings in columns 2 and 4 do deviate from the baseline estimate. However, even for these samples, this reduction does not offset the increase in unearned income and total household income is estimated to increase by roughly 17 to 23 percent in all cases. The estimated impact of child SSI enrollment on the number of children with health insurance is also statistically significant for these samples, unlike for all other samples. Yet even for these samples, the point estimates are small and the estimated increase is half the magnitude of the increase in the number of children with Medicaid, supporting our general conclusion regarding health insurance coverage.

DISCUSSION

In this paper, we have documented the growing importance of the federal SSI program as a source of cash assistance for low-income families with children. Our analysis of household-level SIPP data finds that child SSI participation increases total household income by an average of approximately $316 per month, or 20 percent. Our estimates suggest that for every 100 dollars in SSI income transferred to a family, total income increases by more than 72 dollars. The enrollment of a child in the SSI program appears to lead to a small offset of other transfer income but very little, if any, impact on parental earnings. Furthermore, our analysis finds that for every 100 children who enroll in SSI, 22 children and 37 people are lifted out of poverty and an additional 28 people see their incomes increase to more than twice the poverty line. These results suggest that the increase in child SSI enrollment over the past 17 years has potentially

[19] The pattern of coefficient estimates is also strikingly similar for two alternative samples constructed by (1) dropping from the analysis the top 10 percent of households in terms of household income, and (2) dropping all households that have an infant present.

played a large role in lowering child poverty rates. Aggregating these effects to the national level, our findings suggest there are approximately 160,000 fewer children in poverty than there would have been absent the increase in child SSI enrollment since 1989.

Our analysis does not find a significant effect of SSI participation on health insurance coverage, though there is some evidence of a significant increase in the number of children receiving Medicaid. This set of findings has two important implications. First, though SSI participation entitles a child to Medicaid coverage, it does not appear to be an effective way to increase health insurance coverage among low-income children, given current Medicaid and SCHIP coverage rules. Second, the SIPP data indicate that the majority of children who enrolled in SSI were already receiving Medicaid. This suggests that the average cost of enrolling a child on SSI is much lower than the sum of cash benefits plus Medicaid expenditures would imply. This is important, given that Medicaid expenditures for SSI recipients are substantially larger than cash benefits paid.[20]

Our investigation of the impact of SSI on household outcomes suggests that this rise in child SSI participation may have played an important role in maintaining the material well-being of low-income families with children since 1996. Furthermore, by only examining the impact of child SSI enrollment on household outcomes, we have understated the potential impact of the SSI program in its entirety on child well-being over this period. This is due to the fact that there are actually more households with children present that have adult SSI income than child SSI income.

There are important limitations to the generalizability and implications of our analysis that deserve mention. First, our empirical results shed light on the impact of child SSI enrollment for those families with children who are awarded benefits. To the extent that those whose applications are denied or those who do not apply for the program are different than the households who do enroll a child in the program, the results here will not generalize. Instead of representing the average treatment effect of child

[20] CMS reports that Medicaid spending per SSI-disabled recipient during the 2002 calendar year was more than twice as large as average annual SSI benefits in that same year.

SSI receipt, our estimates capture the average treatment effect on those who receive this treatment. Similarly, it is important to note that the function of SSI as an anti-poverty program is limited to households with a child having a severe health impairment. Furthermore, we have examined the impact of child SSI participation on household outcomes during the period 1996 to 2004. These years constitute a very specific time period in terms of welfare reform, rising health insurance premiums, and a strong economy. The effect of program participation on household outcomes might be different if examined in earlier or more recent years.

It is also important to note that, because the SIPP includes only three or four years of longitudinal data, our estimates do not capture the long-run impact of child SSI receipt. We have only looked at the immediate impact on family outcomes. Future work should investigate the long-run effects of program participation on both families and the children themselves as they age into adults, in particular because the average duration on SSI is longer than on traditional welfare.[21] To fully appreciate the normative implications of SSI participation thus requires a much more comprehensive examination of long-term outcomes. Future work should consider how families use the additional income that they receive from the SSI program. Recent work has explored the effect of changes in income resulting from welfare reform and changes in tax policy on measures of well-being such as consumption and educational attainment (Meyer & Sullivan, 2004; Dahl & Lochner, 2005). There has been very little work of this type for SSI, despite the growing importance of this program.

Current trends suggest that the significance of the SSI program for disadvantaged children will continue to grow while the receipt of TANF benefits declines, with the number of children on TANF falling by 23 percent from December 2000 to June 2006 while SSI receipt among children increased by 25 percent. Thus more work to understand the effects of the Supplemental Security Income program and its interaction with other government programs is clearly warranted.

[21] Rupp and Scott (1995) estimate that the mean length of first SSI spells is 11.3 years for disabled children.

MARK DUGGAN is Associate Professor in the Department of Economics, University of Maryland.

MELISSA SCHETTINI KEARNEY is Assistant Professor in the Department of Economics, University of Maryland.

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References

Bound, J., Kossoudji, S., & Ricart-Moes, G. (1998). The ending of general assistance and SSI disability growth in Michigan. In K. Rupp & D. Stapleton (Eds.), Growth in disability benefits: Explanations and policy implications (pp. 223–248). Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

Dahl, G., & Lochner, L. . (2005). The effect of family income on child achievement: Evidence from the Earned Income Tax Credit. University of Rochester mimeo.

Daly, M., & Burkhauser, R. (2003). The Supplemental Security Income Program. In R. A. Moffitt (Ed.), Means-tested transfer programs in the United States (pp. 79–139). Chicago: The University Press.

Duggan, M. (2004). Does contracting out increase the efficiency of government programs? Evidence from Medicaid HMOs. Journal of Public Economics (December), 2549–2572.

Garrett, B., & Glied, S. (2000). Does state AFDC generosity affect child SSI participation? Journal of Policy Analysis and Management 19(2), 275–95.

Ham, J., Shore-Shepard, L. (2005). The effect of Medicaid expansions for low-income children on Medicaid participation and private insurance coverage: Evidence from the SIPP. Journal of Public Economics 89(1), 57–83.

Heckman, J., Tobias, J., & Vytlacil, E. (2001). Four parameters of interest in the evaluation of social programs. Southern Economic Journal 68(2), 211–223.

Huynh, M., Rupp, K., & Sears, J. (2001.) The assessment of Survey of Income and Program Participation (SIPP) benefit data using longitudinal administrative records. Office of Research, Evaluation, and Statistics, Social Security Administration. Mimeo.

Ireys, H., Kaspryzk, D., Takyi, A., & Gillcrist, J. (2004). Estimating the size and characteristics of the SSI child population: A comparison between the NSCF and three national surveys. Washington, DC: Mathematica Policy Research.

Kubik, J. (1999). Incentives for the identification and treatment of children with disabilities: The Supplemental Security Income program. Journal of Public Economics 73(2), 187–215.

Kubik, J. (2003). Fiscal federalism and welfare policy: The role of states in the growth of child SSI." National Tax Journal 56(1), 61–79.

LoSasso, A., & Buchmueller, A. C. (2004). The effect of the state children's health insurance program on health insurance coverage. Journal of Health Economics 23(5), 1059–1082.

Meyer, B. & Sullivan, J. (2004). The Effects of Welfare and Tax Reform: The Material Well-Being of Single Mothers in the 1980s and 1990s." Journal of Public Economics (July) 1387-1420.

National Academy of Social Insurance. (1995). Restructuring the SSI disability program for children and adolescents. Report from the Committee on Childhood Disability to the Disability Policy Panel of the NASI.

Powers, E. (2003). Children's health and maternal work activity: Estimates under alternative disability. Journal of Human Resources 38(3), 522–556.

Rupp, K., & Scott, G. C. (1995). Length of stay in the SSI disability program. Social Security Bulletin 58(1), 29–47.

Schmidt, L., & Sevak, P. (2004). AFDC, SSI, and welfare reform aggressiveness: Caseload reductions vs. caseload shifting. Journal of Human Resources 39(3), 792–812.

U.S. House of Representatives, Committee on Ways and Means (various years). Overview of Entitlement Programs. Washington, DC: U.S. Government Printing Office.

U.S. Social Security Administration (2002). SSI Annual Statistical Report, accessed at http://www.ssa.gov/policy/docs/statcomps/ssi_asr/2002.

U.S. Social Security Administration (various years). Annual Statistical Supplement. Washington, DC: SSA, Office of Research, Evaluation, and Statistics.

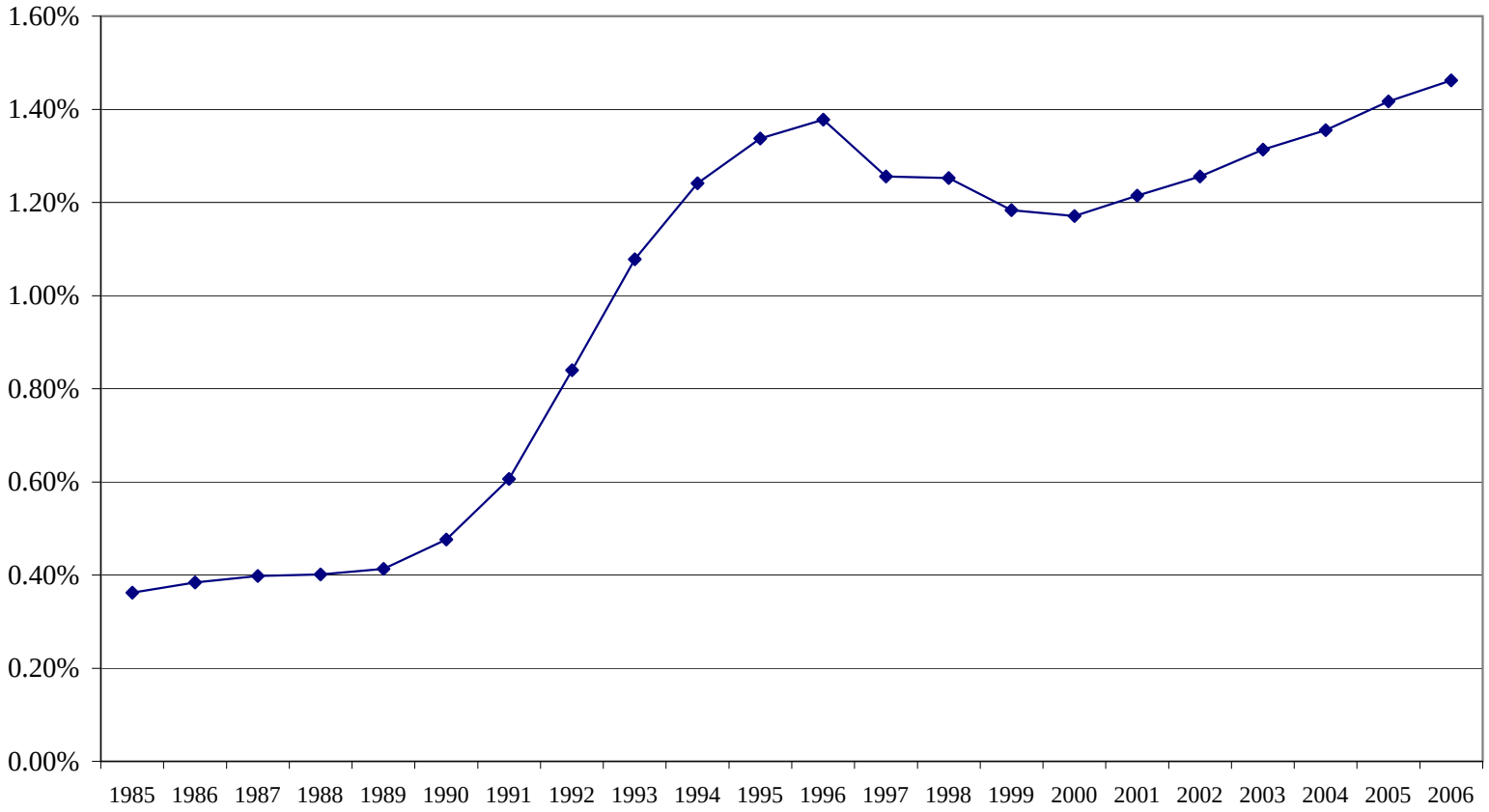
U.S. Social Security Administration (various years). Children receiving Supplemental Security Income. Washington, DC: SSA, Office of Research, Evaluation, and Statistics.

U.S. Social Security Administration (various years). State assistance programs for Supplemental Security Income recipients. Washington, DC: SSA, Office of Research, Evaluation, and Statistics.

U.S. Social Security Administration (various years). Supplemental Security Income recipients by state

and county. Washington, DC: SSA, Office of Research, Evaluation, and Statistics.

Figure 1:Percentage of Children Ages 0-17 Receiving SSI Benefits: 1985-2005



Data sources: Data on the number of children receiving SSI benefits through 2004 come from the Social Security Administration, Annual Statistical Supplement 2005; data on the number of children receiving SSI benefits in 2005 and 2006 come from the Social Security Administration, SSI monthly statistics http://www.ssa.gov/policy/data_alpha.html (last accessed January 2, 2007); population figures are U.S. Census Bureau national population estimates.

Table 1: SIPP Data on Receipt of SSI and AFDC/TANF in Households with Children: 1990-2004

Household-level Variables	1990	1993	1996	2001	2004
% Households with Any SSI	2.5%	3.4%	4.4%	4.4%	5.4%
% Households with any AFDC / TANF	8.6%	11.2%	9.2%	3.9%	4.1%
% Children in households with any SSI	2.8%	4.3%	5.1%	4.7%	6.0%
% Children in households with Any AFDC / TAN	10.3%	14.0%	11.4%	4.8%	4.9%
Avg SSI Benefit | Any SSI = 1	$1,939	$2,085	$2,268	$2,273	$2,342
Avg AFDC / TANF Ben | Any A/T = 1	$2,127	$1,978	$1,680	$1,249	$1,178
Ratio of SSI to AFDC / TANF dollars	0.23	0.33	0.66	2.06	2.60
# Households with Children < 18	8523	7530	13918	12913	15541

Data is from the first wave of each survey year of the the Survey of Income and Program Participation (*SIPP*). The sample includes all households with one or more children age 17 or under. All expenditure amounts are inflation-adjusted to 2003 dollars using the CPI-U. Statistics are calculated using either the household or person weights in each year.

Table 2: Determinants of SSI & AFDC / TANF Receipt among Families with Children

	(1) Mean	(2) Child SSI	(3) Adult SSI	(4) AFDC / TANF
Number of Children 0-17	1.92	0.0042***	0.0015	0.0102***
	(1.02)	(.0007)	(.0010)	(.0013)
Number of Boys 0-17	0.98	0.0013*	-0.0006	0.0003
	(0.87)	(.0007)	(.0010)	(.0014)
Mom Only Present	0.239	0.0080***	0.0093***	0.0799***
	(.422)	(.0015)	(.0018)	(.0058)
Dad Only Present	0.034	0.0054*	0.0102***	0.0273***
	(.177)	(.0030)	(.0028)	(.0046)
Neither Mom nor Dad Present	0.038	0.0072***	0.0253***	0.0641***
	(.179)	(.0023)	(.0033)	(.0064)
Less than High School Graduate	0.102	0.0095***	0.0222***	0.0462***
	(.302)	(.0019)	(.0034)	(.0048)
Some College	0.319	-0.0036***	-0.0104***	-0.0159***
	(.466)	(.0009)	(.0015)	(.0024)
College Graduate	0.289	-0.0088***	-0.0160***	-0.0457***
	(.453)	(.0014)	(.0013)	(.0039)
AFDC / TANF Benefit ($100s)	5.172	-0014***	-.0006	.0050***
	(2.328)	(.0004)	(.0009)	(.0009)
State SSI Supplement for Children	0.368	0.0035***		0.0040
	(.482)	(.0014)		(.0068)
State SSI Supplement for Adults	0.453		0.0073***	
	(.498)		(.0029)	
Black	0.156	0.0075***	0.0159***	0.0288***
	(.362)	(.0009)	(.0024)	(.0034)
Hispanic	0.122	-0.0012	0.0005	0.0050
	(.326)	(.0020)	(.0038)	(.0068)
Sample size	42,170	41,355	41,355	41,355
Mean of Dep Var	-	0.0156	0.0258	0.0849
Pseudo R-squared	-	0.1141	0.0985	0.3167

Sample consists of all 42,170 households from wave one of the 1992, 1993, 1996, and 2001 *SIPP* surveys with one or more children under the age of 18. Column (1) reports the mean and standard deviation for each of the explanatory variables. Columns (2), (3), and (4) report estimated marginal effects from a probit specification characterizing the probability of receipt of child SSI, adult SSI, and AFDC/TANF benefits, respectively. Standard errors adjusted for clustering by state are included in parentheses. All specifications include year effects and are weighted by the household weight in wave one of the *SIPP*. Approximately two percent of survey observations are not included in the specifications because the state of residence variable is missing.

Table 3: Households with Children and with AFDC/TANF, SSI Child, and/or SSI Adult Benefits

	1996 SIPP Wave 1			2001 SIPP Wave 1		
	SSI Child	SSI Adult	AFDC	SSI Child	SSI Adult	TANF
Number of Households	299	458	1453	252	435	546
Weighted Percent of Households	1.9%	2.9%	9.2%	1.8%	3.1%	3.9%
Avg Number of Kids 0-17	2.58	2.06	2.38	2.25	1.97	2.40
Avg Number of Adults 18-64	1.77	2.33	1.75	1.85	2.33	1.71
Avg Number of Adults 65+	0.07	0.28	0.05	0.07	0.22	0.07
Percent with Both Parents	37.1%	42.5%	22.3%	34.8%	38.6%	20.1%
Percent with Mom Only	50.7%	38.1%	66.0%	48.8%	42.1%	65.2%
Percent with Dad Only	2.1%	6.0%	2.1%	5.2%	2.5%	2.6%
Percent with Neither Parent	10.1%	13.4%	9.5%	11.2%	16.8%	12.1%
Avg Household Earnings	$4,735	$6,821	$3,707	$6,266	$7,419	$3,364
Avg Total Household Income	$9,072	$11,508	$6,611	$10,654	$12,023	$5,938
% with Any Child SSI Income	100.0%	14.3%	7.0%	100.0%	17.3%	6.9%
% with Any Adult SSI Income	22.3%	100.0%	10.7%	29.5%	100.0%	17.3%
% with Any AFDC/TANF Income	34.3%	33.6%	100.0%	14.5%	21.4%	100.0%
% with Any Food Stamp Income	47.1%	52.1%	88.4%	31.0%	45.3%	82.4%
Avg SSI Income	$2,689	$2,365	$384	$2,735	$2,438	$540
Avg AFDC / TANF Income	$526	$499	$1,680	$141	$237	$1,249
Poverty Ratio 0-49%	6.0%	8.2%	33.9%	7.1%	9.1%	34.0%
Poverty Ratio 50-99%	34.4%	32.6%	34.3%	21.5%	27.5%	34.1%
% Kids with Medicaid	87.1%	62.9%	87.8%	68.6%	64.1%	84.8%
% Kids with Private Health Ins	22.4%	27.9%	13.4%	35.7%	35.7%	21.3%
% Kids with any Health Ins	94.2%	83.6%	93.0%	86.6%	84.4%	89.7%

Notes: Sample includes all households with one or more children under age 18 in the first wave of the 1996 or 2001 *SIPP* sruveys who report income from either the SSI or AFDC/TANF programs. SSI Child and SSI Adult columns summarize information for households with one or more children (0-17) and with one or more adults (18+), respectively, receiving SSI benefits. The AFDC and TANF columns summarize information for households with some AFDC or TANF income. Earnings and income information is collected for a *SIPP* wave, which corresponds to a a four-month period. Dollar figures are adjusted to 2003 dollars using the CPI-U. Household data is weighted using the SIPP household weights to account for non-random sampling.

Table 4: The Impact of Child SSI Enrollment on Household Transfer Income

	Total Household SSI		Total Welfare Income		Total Food Stamps plus WIC		Total Unearned Income	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
POST SSI	1747***		-134***		-81***		1650***	
	(91)		(47)		(28)		(162)	
PRE MONTHS 5-8		175**		-54		6		196
		(73)		(34)		(36)		(210)
PRE MONTHS 1-4		226***		-112**		-22		580***
		(64)		(52)		(38)		(201)
FIRST WAVE WITH CHILD SSI		2314***		-112**		-59		2334***
		(116)		(52)		(39)		(231)
POST MONTHS 1-4		2096***		-117*		-81**		2135***
		(122)		(70)		(39)		(233)
POST MONTHS 5-8+		1556***		-241***		-102***		1582***
		(107)		(73)		(38)		(226)
R-Squared	0.707	0.713	0.696	0.696	0.716	0.716	0.642	0.635
Mean, Std. Dev.	115, 626		83, 416		134, 409		1669, 3277	

Notes: Sample consists of all 20,949 households from the 1996 and 2001 *SIPP* surveys with one or more children between the ages of 0 and 14 in wave one and are still present in wave two. The unit of observation is a household-wave; there are 195,871 observations in each specification. All specifications control for 20,949 household and 21 wave*year fixed effects. The explanatory variable *POST SSI* is equal to one in the first wave that the child is eligible for SSI and in all subsequent waves and is zero otherwise. The even-numbered columns have indicators for the wave of the first SSI enrollment along with two pre and post variables.Earnings and income information is collected for a SIPP wave, which corresponds to a a four-month period. Dollar figures are adjusted to 2003 dollars using the CPI-U. Standard errors are adjusted for clustering at the household level. Regressions are weighted to adjust for non-random sampling in the *SIPP*.

Table 5: The Impact of Child SSI Enrollment on Household Earnings, Income, and Poverty

	Household Earnings		Total Household Income		Log(Total Household Income)		In Poverty		< 50% of Poverty		Number of Children in Poverty	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
POST SSI	-385		1265***		.198***		-0.108***		-.076***		-.216***	
	(322)		(350)		(.029)		(.018)		(.017)		(.056)	
PRE MONTHS 5-8		-487		-291		0.026		-0.016		-0.013		0.004
		(479)		(534)		(.038)		(.026)		(.021)		(.075)
PRE MONTHS 1-4		-686		-106		-0.013		0.006		0.002		0.049
		(418)		(478)		(.044)		(.026)		(.023)		(.080)
FIRST WAVE WITH CHILD SSI		-879*		1455**		.222***		-.119***		-.102***		-.208***
		(451)		(502)		(.039)		(.025)		(.021)		(.074)
POST MONTHS 1-4		-419		1716**		0.219***		-.109***		-.076***		-.186**
		(529)		(577)		(.040)		(.026)		(.021)		(.086)
POST MONTHS 5-8+		-740		842*		0.181***		-.104***		-.067***		-.197**
		(457)		(499)		(.038)		(.024)		(.021)		(.080)
R-Squared	0.725	0.725	0.721	0.699	0.696	0.696	0.592	0.592	0.477	0.477	0.662	0.662
Mean, Std. Dev.	19307, 19259		20977, 19426		9.633, .885		.142, .349		.056, .230		.340, .975	

Notes: Sample consists of all 20,949 households from the 1996 and 2001 *SIPP* surveys with one or more children between the ages of 0 and 14 in wave one and are still present in wave two. The unit of observation is a household-wave. All specifications control for 20,949 household and 21 wave*year fixed effects. The explanatory variable *POST SSI* is equal to one in the first wave that the child is eligible for SSI and in all subsequent waves and is zero otherwise. The even-numbered columns have indicators for the wave of the first SSI enrollment along with two pre and post variables. Earnings and income information is collected for a *SIPP* wave, which corresponds to a a four-month period. Dollar figures are adjusted to 2003 dollars using the CPI-U. Standard errors are adjusted for clustering at the household level. Regressions are weighted to adjust for non-random sampling in the *SIPP*.

Table 6: The Impact of Child SSI Enrollment on Health Insurance Coverage

	Number of Children on Medicaid			Number of Children with Health Ins			Number of Children with Private HI		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
POST SSI	0.099*			0.040			-0.026		
	(.058)			(.047)			(.049)		
*POST SSI * 1996 SAMPLE*		0.036			0.045			0.058	
		(.081)			(.068)			(.060)	
*POST SSI * 2001 SAMPLE*		.189**			0.033			-.145*	
		(.082)			(.061)			(.083)	
PRE MONTHS 5-8			-0.018			-0.029			-0.039
			(.067)			(.068)			(.061)
PRE MONTHS 1-4			0.049			-0.002			-0.057
			(.078)			(.066)			(.071)
FIRST WAVE WITH CHILD SSI			.284***			0.104			-0.069
			(.076)			(.066)			(.068)
POST MONTHS 1-4			.214**			0.057			-0.081
			(.085)			(.072)			(.070)
POST MONTHS 5-8+			-0.015			-0.012			-0.035
			(.079)			(.066)			(.068)
R-Squared	0.739	0.739	0.740	0.783	0.783	0.783	0.773	0.773	0.773
Mean, Std. Dev.		0.420, 1.000			1.706, 1.151			1.359, 1.152	

Notes: Sample consists of all 20,949 households from the 1996 and 2001 *SIPP* surveys with one or more children between the ages of 0 and 14 in wave one and are still present in wave two. The unit of observation is a household-wave; there are 195,871 observations in each specification. All specifications control for 20,949 household and 21 wave*year fixed effects. The explanatory variable for the specification summarized in columns 1, 4, and 7 is equal to one in the first wave that the child is eligible for SSI and in all subsequent waves and is zero otherwise. In specifications 2, 5, and 8, this variable is interacted with two dummy variables reflecting each of the survey years. Specifications 3, 6, and 9 have indicators for the wave of the first SSI enrollment along with two pre and post variables. Standard errors are adjusted for clustering at the household level. Regressions are weighted to adjust for non-random sampling in the *SIPP*.

Table 7: Sensitivity of Results to Alternative Control Groups

	Hholds w/ children (1)	Ever Apply or Receive SSI (2)	Disabled Child 6-14 (3)	Child SSI (4)	Child SSI Switchers (5)
(1) *Household Earnings*	-385	-473	-340	19	114
	(322)	(339)	(659)	(367)	(423)
(2) *Any Earnings*	0.005	-0.006	0.010	-0.002	0.012
	(.016)	(.016)	(.031)	(.017)	(.020)
(3) *Log(Household Earnings)*	-0.023	-.116**	-0.049	-.130***	-0.090
	(.043)	(.045)	(.086)	(.050)	(.058)
(4) *Total Household Income*	1265***	1131***	1573**	2012***	1965***
	(350)	(369)	(721)	(409)	(468)
(5) *Log(Total Household Income)*	.198***	.169***	.221***	.232***	.227***
	(.029)	(.030)	(.048)	(.033)	(.038)
(6) *Household in Poverty*	-0.108***	-.085***	-.117***	-.117***	-.119***
	(.018)	(.018)	(.035)	(.020)	(.023)
(7) *Household < 50% of Poverty*	-.076***	-.068***	-.097***	-.102***	-.100***
	(.017)	(.017)	(.032)	(.018)	(.020)
(8) *Household > 200% of Poverty*	.081***	.053***	.087***	.068***	.067***
	(.017)	(.018)	(.033)	(.020)	(.023)
(9) *Number of Children in Poverty*	-.216***	-.158***	-.290***	-.229***	-.244***
	(.056)	(.057)	(.112)	(.060)	(.067)
(10) *Number of People in Poverty*	-.374***	-.270***	-.375**	-.401***	-.430***
	(.086)	(.089)	(.088)	(.093)	(.104)
(11) *Number of People > 200% of Poverty*	.284***	.146**	.286*	.191**	.232**
	(.074)	(.075)	(.157)	(.084)	(.099)
(12) *Number of Children with Medicaid*	.099*	.143***	0.206	0.253***	0.157***
	(.058)	(.057)	(.141)	(.062)	(.071)
(13) *Number of Children with Health Insurance*	0.040	.078*	0.114	0.114**	0.077
	(.047)	(.048)	(.112)	(.051)	(.061)
(14) *Number of Children with Private HI*	-0.026	-0.006	0.039	0.017	0.052
	(.049)	(.049)	(.115)	(.052)	(.063)
Number of Households	20,949	2,715	1,727	753	375
Number of Household-Waves	195,871	26,005	17,431	7,388	3,790

Notes: Each row reports the point estimate and standard error (in parentheses) for the coefficient on *POST SSI* from specifications analogous to those in the odd-numbered columns of Tables 4-6 for the sample specified by the particular column. Earnings and income information is collected for a SIPP wave, which corresponds to a a four-month period. Dollar figures are adjusted to 2003 dollars using the CPI-U. The unit of observation in each specification is the household-wave. All specifications include household and wave fixed effects. Regressions are weighted to adjust for non-random sampling in the *SIPP*.