HEALTHCARE, WELFARE, AND WEALTH: THE EFFECT OF MEDICAID ELIGIBILITY ON HOUSEHOLD ASSETS

by

PHILIP F.W. ARNOLDS

Lara D. Shore-Sheppard, Advisor

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ABSTRACT

In this paper, I examine the effect of eligibility for the public health insurance program, Medicaid, on measures of household assets. To do so, I exploit variation in eligibility rules that resulted from Medicaid program expansions in the late 1980s and early 1990s. In my analysis, I use both panel and cross-sectional regression specifications, and I consider assets both with and without home equity. In an innovation over previous analyses of the effect of Medicaid on household savings, I also include an explicit control term that captures the effect of eligibility for the cash-based assistance program Aid to Families with Dependent Children.

I find that Medicaid eligibility by itself has no effect on household savings or the amount that households save relative to their incomes. This finding questions whether poor households save as a precaution to guard against unexpected medical expenditures. It further questions the importance of Medicaid in explaining low wealth levels among poor households. By contrast, higher levels of eligibility for AFDC are associated with significant reductions in measures of wealth that include home equity. This provides qualified support for the theory that means-tested transfer programs contribute to low wealth accumulation among poor households.

CHAPTER 1: INTRODUCTION

While income disparities in the United States are well documented and much decried by the popular press, the massive disparities in savings levels between rich and poor receive significantly less media attention. As an example of this inequality, the poorest 10% of American households had negative net assets in 1984, while the richest 10% had average net assets of over $896,000.[1] Also, in the same year, the median net worth of single-family households that qualified for the cash assistance program Aid to Families with Dependent Children (AFDC) was just $360, compared with over $30,000 for households that did not.[2] Perhaps even more strikingly, Hurst et al (1998) find that while overall mean and median household wealth increased between 1984 and 1994, average wealth for families in the bottom decile of the income distribution fell by nearly 100%. While it may be tempting to dismiss these differences as the product of income inequalities, recent research has shown that savings rates are positively related to lifetime income (Dynan, Skinner, and Zeldes 2004). These findings indicate that saving behavior, in addition to savings levels, differs between the rich and the poor. This differential saving behavior presents a puzzle for economists, who are still attempting to uncover the reasons for its existence.

In an attempt to explain why poor households and rich households save differently, researchers have recently begun to consider the role of government assistance and insurance programs in determining household saving decisions. Hubbard, Skinner, and Zeldes (1995) posit that means-tested government programs result in lower savings

[1] Based on author's tabulation of the PSID Supplemental Wealth File for 1994, using the full weighted sample.
[2] Author's tabulation of PSID Supplemental Wealth File for 1984, reported in 1987 dollars. The weighted sample includes households with children and/or women between the ages of 15 and 44.

among poor households as they reduce precautionary incentives to save by decreasing both income and expenditure uncertainties. Also, means tests discourage asset accumulation among those who are likely to become eligible. More recently, Gruber and Yelowitz (1999) have focused specifically on the role of eligibility for public health insurance in the form of Medicaid on household saving and consumption levels. In an empirical study using cross-sectional data from the Survey of Income and Program Participation (SIPP), they find that Medicaid eligibility has a substantial and significant negative effect on savings levels and a positive effect on consumption levels. However, this paper has a significant shortcoming in that it does not explicitly control for the effect of AFDC eligibility, which provides cash transfers in addition to providing medical coverage. Rather, this analysis relies on a set of interaction terms to account for the influence of AFDC, which may not be an adequate control. Apart from this study, there has been little specific investigation of the effect of Medicaid eligibility on household asset levels, leaving an important potential factor in household savings decisions relatively unexplored.

In this paper, I seek to add to the literature on the effect of the Medicaid program on household savings. To do so, I exploit variations in eligibility rules that result from program expansions in the late 1980s and early 1990s. In this time period, states made eligibility rules less stringent by raising income cutoffs, raising age cutoffs for children, and expanding coverage to some two-parent households. These rule changes occurred at different times and to different degrees across states, creating significant inter- and intra-state, as well as inter- and intra-temporal, variation in eligibility.

I examine the effect of Medicaid eligibility on household assets by employing data from the Panel Study on Income Dynamics (PSID). In an innovation to previous analyses, I use this data both as a panel and as a representative cross-section. This dataset has high-quality wealth information and also has a low-income over-sample, making it ideally suited to a consideration of the effect of Medicaid on household wealth. In my models, I quantify the value of Medicaid eligibility to individual households in dollar terms and investigate the effect of increased eligibility on household assets. In another innovation over previous works, I also explicitly differentiate between medical spending that is covered under the Medicaid eligibility expansions and medical spending that is covered under eligibility for AFDC. This novel methodological approach is particularly important to discerning the effect of public health insurance on household savings.

CHAPTER 2: BACKGROUND

2.1 Savings

Individuals and households save for a variety of purposes. Hurst and Ziliak (2006) propose that "saving is a critical part of a household's quest for self-sufficiency", a means to secure housing or pay for education. John Maynard Keynes described eight motives for saving in his 1936 book *The General Theory of Employment, Interest, and Money.* Among these was a motivation deriving from a desire "to enjoy a sense of independence and the power to do things, though without a clear idea or definite intention…."[3] While this idea is plausible and commonly accepted, it provides little insight into why poor households and rich households might behave differently with regards to saving. Households also may use savings to obtain a sense of security. One poor resident of Mississippi interviewed on the subject of savings by the Consumer Federation of America said, "For once, just once, I would like to be able to pay the bills and not worry about a check bouncing before I get to the bank. I want to have some kind of security, any kind."[4]

A variety of formal models also attempt to explain savings behavior. Some of these models explain savings as a means of consumption smoothing. The lifetime consumption model, for example, predicts that an individual will attempt to "smooth consumption, in the sense of holding marginal utility constant, across stages of life" (Browning and Crossley 2001). This will entail saving more in his most productive years in order to keep the marginal utility of his consumption more constant as he ages

[3] As quoted by Browning and Lusardi (1996).
[4] As quoted in "Saving Behavior of the Poor: new research on the use of banking services by the poor identifies barriers to savings and strategies for overcoming these barriers". Press release from America Saves, americasaves.org/downloads/www.americasaves.org/PressReleases/12.04.97.pdf. December 4, 1997.

and retires. Consumption smoothing can also operate over a shorter term, as transitory changes in income may affect immediate savings decisions. According to this application of the theory, "people with temporarily high income will tend to save more to compensate for lower future income, and people with temporarily low income will tend to save less in anticipation of higher future income" (Dynan, Skinner, and Zeldes 2004). By this reasoning, if the vast majority of the poor in America expected to be only transitorily poor, the difference in savings rates between them and the rich would not be so surprising. However, Dynan, Skinner, and Zeldes (2004) find a positive relationship between lifetime income and savings rates as well as between lifetime income and the marginal propensity to save. Thus, the difference in behavior does not appear to be due to transitory circumstances. These findings add to the evidence that the poor, as a group, save less than the wealthy.

Consumption smoothing in the form of precautionary saving also provides some insight into savings behavior. Households almost always face some uncertainty about future income and expenditures, and people may consequently save to be able to weather extraordinary events and remain financially solvent. For example, households may use savings to self-insure against job loss or the cost of a medical emergency. Presumably, the greater the uncertainty a household faces, the more precautionary savings it will hold.

A substantial amount of research has been done on the importance of precaution to households' saving decisions. Carroll and Samwick (1998) use household wealth data from the PSID to find evidence of precautionary motives for savings and the empirical effects of these motives. To do so, they regress household assets on various measures of uncertainty, such as the degree of household income variance. The authors find a strong

positive relationship, suggesting that households do use savings as a precaution to guard against income uncertainty. In an illustration of the importance of precautionary saving to overall wealth, the authors estimate that precautionary savings make up between 30% and 50% of wealth holdings in their sample. However, this paper does not consider how insurance affects precautionary savings behavior, which narrows the applicability of these findings. Lusardi (1998), using data from the Health and Retirement Study, also finds that income variance affects saving behavior. However, as this study only considers individuals close to retirement, it may not explain the behavior of households at other lifecycle stages. Furthermore, her measure of uncertainty only addresses income insecurity and does not consider the role of insurance in influencing savings behavior. In a reinforcement of the centrality of precautionary motives to saving behavior, Parker and Preston (2005) conclude that "[t]he economic importance of precautionary saving rivals that of the real interest rate" with respect to explaining savings and consumption decisions. While these studies are important in establishing the existence and general importance of precautionary saving motives, they do not evaluate the interactions between these motives and specific programs that may reduce incentives to save as a precaution.

There is an additional body of literature that examines the effect of insurance schemes on savings. Kantor and Fishback (1996) reach back to the early 1900s to show that the first introduction of workers' compensation programs had a significant effect on savings. Specifically, they estimate that the introduction of these policies reduced household wealth holdings by 25%. This reduction is attributed to a decreased need to save for the eventuality of a workplace accident that would affect one's earnings.

However, the applicability of these findings to considerations of more modern insurance schemes is questionable, as both government and private insurance markets have evolved significantly in the past century.

Precautionary saving has also been looked at in the context of newer government insurance schemes. If such schemes decrease a household's income uncertainty, for example through unemployment or disability insurance, or its expenditure uncertainty, for example through medical insurance, they would theoretically decrease a household's need to save as a precaution. If no-cost government insurance is available to the poor but not to the rich, the resulting differential incentive to save as a precaution might also help explain some of the difference in savings between these two groups. Hubbard, Skinner, and Zeldes (1995) develop a sound theoretical argument that social insurance programs, particularly when they are means-tested, "discourage saving by households with low expected lifetime income". They use wealth data from the PSID to develop a basic model which they use to provide empirical support for their argument. The authors claim that low levels of savings "can be explained as a utility-maximizing response to asset-based, means-tested welfare" (Hubbard, Skinner, and Zeldes 1995). However, they do not provide specific empirical evidence of this effect by any particular program. Actual evidence of this effect is therefore lacking. In this paper, I directly examine the relationship between the public health insurance program, Medicaid, and household savings to assess whether or not social insurance programs do influence saving behavior.

2.2 Medicaid

Medicaid may affect savings through three different pathways. First, as a no-cost form of public health insurance, Medicaid reduces uncertainty about future medical expenses for those who qualify. The program thereby negates the need to save in a precautionary way for such an eventuality. If households are saving as a precaution, as the evidence cited above strongly suggests many households do, eligible households would be expected to save less compared with ineligible households, all else being equal.

At the same time, Medicaid is also a redistributive program. By covering medical expenses it decreases a household's planned expenditures, effectively increasing a household's available resources. If the household's marginal propensity to save is greater than zero, this increase could lead to higher levels of asset holdings. Gruber and Yelowitz (1999) cite short-term consumption smoothing motives in positing that Medicaid's redistributive nature may also lead to an increase in savings if households do not expect to qualify for Medicaid indefinitely. The net effect on savings of receiving Medicaid benefits therefore depends on the relative strengths of these two pathways.

The third mechanism by which the Medicaid program may affect savings levels is through the asset test. In various states and at various times throughout the history of the program, eligibility has been dependent in part on households having less than a specified level of wealth. Otherwise-eligible households for whom the value of Medicaid is greater than the difference between current wealth and the asset limit might reduce their wealth holdings in order to qualify for insurance. Those who see Medicaid as a potential future option might also have an incentive to reduce their savings in anticipation of future eligibility.

Several papers have explored the effects of the Medicaid program and of asset tests on savings. An influential paper by Gruber and Yelowitz (1999) finds a large and significant negative effect of Medicaid eligibility on savings levels. To find this, the authors regress a measure of the average expected medical spending by a household that is eligible to be paid for by Medicaid on cross-sectional wealth data gathered from the SIPP. To corroborate this finding, they also examine the effect of Medicaid eligibility on consumption expenditures using data from the Consumer Expenditure Survey (CEX), where they find a substantial positive relationship. Both of these effects are found to be even larger in the presence of asset tests. They therefore conclude that the Medicaid program has a strong negative influence on household savings and contributes to differences in savings behavior between rich households and poor ones. However, this analysis does not explicitly differentiate between Medicaid eligibility tied to AFDC participation and Medicaid eligibility independent of welfare. It relies on a set of interaction terms to account for variation in AFDC programs that may complicate the examination of Medicaid eligibility, but it is possible that variation in the former program is still extant in the model. Consequently, this paper's findings may not actually reflect the influence of public health insurance on savings, but may rather be complicated by the effect of cash assistance associated with AFDC. Additionally, a careful examination of Gruber and Yelowitz's findings by Maynard and Qiu (2005) finds a differential response to Medicaid eligibility by wealth group. Their analysis, which involves running quantile regressions on the exact data used by Gruber and Yelowitz (1999), finds little effect of eligibility on the savings of households with the least net worth. The authors find a greater effect on households of middle net worth, which calls into question the

importance of public insurance programs in explaining the savings disparity between the rich and poor. Also, a contrary effect of health insurance is found by Starr-McCluer (1996), who finds that insured households have higher wealth than comparable uninsured households. This result may be the product of a methodology that fails to properly account for higher income among insured households, however. Nonetheless, the effect of eligibility for public health insurance on savings and the importance of this effect in explaining differences in savings behavior between rich and poor have still not been conclusively discerned.

The effect of welfare asset tests on savings has also been explored independently of the effects of Medicaid eligibility. Powers (1998) examines the effect of AFDC asset tests using policy variations in the 1980s. To do so, she exploits a discrete change in asset test policy and compares the savings of single-parent households pre- and post facto. She finds evidence of a negative effect on savings. This finding may not accurately describe households' responses to asset tests associated only with Medicaid eligibility, however. The value of AFDC program participation is likely higher than that of Medicaid participation due to AFDC-related cash payments, and Powers does not consider how the value of public assistance to a household affects its response to eligibility requirements. Furthermore, the literature is not unanimous on the relationship between asset tests and savings. More recently, Hurst and Ziliak (2006) have used panel data from the PSID to examine the savings patterns of female household heads with children, both on their own and in comparison with those of male heads and childless female heads over time. They consider the effect of loosened asset-test eligibility restrictions resulting from changes in welfare program requirements in the 1990s on

wealth holdings, and conclude that asset tests do not substantially affect the savings decisions of poor households. The importance of the asset test to savings decisions is consequently unclear.

2.3 Medicaid Expansions[5]

Medicaid has always served as a means of public health insurance for three groups of the poor: the elderly, disabled, and single parent families. However, its scope has grown significantly since its inception. Medicaid eligibility for families was originally tied to the receipt of AFDC, which effectively limited eligibility to very-low-income single women with at least one child and to children in low-income, single-parent households. A variation on the program, called AFDC-UP, was in effect in some states. This variant extended coverage to families with an unemployed primary earner. Eligibility for Medicaid remained linked to AFDC eligibility until expansions in the former program began in the 1980s.[6] I provide a brief summary of some of the key expansions below.

From the beginning, some states had AFDC programs that covered single women who were pregnant for the first time and who would otherwise become eligible for AFDC upon that child's birth. The Omnibus Budget Reconciliation Act 1981 (OBRA '81) forbid states from extending AFDC coverage to these women before the 6th month of pregnancy, but it did allow states to extend Medicaid coverage to them as soon as their pregnancy was confirmed. Medicaid would thus cover the costs of their pregnancy and

[5] This summary of Medicaid expansions is informed by and based on Currie and Gruber (1996) and also by the appendix to Currie and Gruber (1994).

[6] AFDC continued to provide Medicaid coverage even after Medicaid expansions made it possible to qualify for Medicaid without qualifying for AFDC.

delivery. The Deficit Reconciliation Act, 1984 (DEFRA '84) in turn required states to provide Medicaid to any pregnant woman who would become eligible for AFDC when her child was born. Importantly, this extended to all income-qualifying single women and also to all income-qualifying women married to unemployed men, such as those who would be eligible for AFDC-UP, even if the state had no AFDC-UP program.

OBRA '86 expanded states' options for extending Medicaid even further. Under this act, coverage could be offered to children in all families below the AFDC-eligibility limit, as determined by income. Pregnant women in the same income category could also be eligible. OBRA '87 provided yet another expansion. This act allowed states to cover children who were born after September 30, 1983, and also to cover infants under the age of one who lived in families with incomes up to 185% of the poverty line. Furthermore, coverage of children age 5 and younger in families who were income-qualified for AFDC became compulsory in 1989. Coverage for similarly-qualified children under age 6 became compulsory in 1990.

The Medicare Catastrophic Coverage Act of 1988 made coverage of pregnant women and infants less than one year of age in families with incomes up to 75 percent of poverty compulsory. It expanded compulsory coverage of pregnant women and infants to those in families with incomes up to 100 percent of poverty in 1990. OBRA '89 expanded compulsory coverage to women and children under the age of six whose families had incomes up to 133 percent of poverty. Finally, OBRA '90 mandated coverage for all children eighteen and under who were born after September 30, 1983 who belonged to families with incomes below 100 percent of the poverty line.

Two other important programs affected Medicaid eligibility in this period as well. The first was the Ribicoff program, which allowed states to extend Medicaid coverage to children in families that qualified for AFDC based on income but were ineligible due to family structure. Some states used their Ribicoff expansions to pay for the pregnancy costs of women who were income-qualified for AFDC, in effect covering the unborn child. The second program was the Medically Needy program, which states had the option of implementing. Complementary to Ribicoff, the Medically Needy program was aimed at individuals who qualified for AFDC based on family structure but whose income disqualified them. If an individual's income minus his medical expenditures was below a certain level, this program would take effect and provide coverage.

Importantly, both AFDC and Medicaid are joint federal-state programs. While federal guidelines define the general structure of the programs, states can exercise significant autonomy within these guidelines. Many of the Medicaid expansions allowed for optional changes to eligibility rules, which states had the freedom to implement or not. Other legislation set mandatory deadlines for specific program modifications, but the time at which states actually implemented these changes often varied. These expansions, which dramatically increased the portion of the population eligible for Medicaid receipt, consequently also created a significant amount of useful variation; eligibility varied across states, across years, and within states and years. The individual and household characteristics that differentially determined eligibility in states and years include child age, family structure, and household income. I exploit this wealth of variation to examine the effect of Medicaid eligibility on savings levels between 1984 and 1994.

CHAPTER 3: DATA AND METHODOLOGY

3.1 Data

This paper examines the effect of the Medicaid expansions on the savings decisions of the newly eligible. My primary dataset is the Panel Study on Income Dynamics (PSID), using data from the years 1984, 1989, and 1994. The PSID is a longitudinal panel survey that began in 1968 with a representational sample of 4,800 U.S. households. As the individuals in the original sample have been followed with extraordinary success, the sample increases to more than 6,900 households and over 20,000 individuals by 1984, as younger individuals have started households of their own. In addition to the nationally-representative 1968 sample, the PSID contains a second, smaller sample of low-income households. This second sample, drawn from the Survey of Economic Opportunity (SEO) and begun in the mid-1960s, started with 2,000 households headed by individuals younger than sixty. The SEO sample is comprised of individuals from Standard Metropolitan Statistical Areas (SMSAs) in the North and non-SMSAs in the South. The core PSID sample is comprised of both the representative national sample and the low-income sample. The resulting low-income oversample makes the PSID a particularly relevant dataset for considering families that are or may become eligible for Medicaid. Appropriate weights are included to make the core sample as a whole representative.[7]

In addition to a full range of demographic data and comprehensive income information, the PSID also includes supplemental wealth files. These wealth supplements provide a detailed look at wealth holdings and net worth, and were

[7] The preceding paragraph is informed by the PSID website: http://psidonline.isr.umich.edu/Guide/Overview.html

conducted every five years between 1984 and 1999, and every two years between 1999 and 2003. The supplements allow for the determination of net worth, calculated by adding reported liquid and illiquid assets and subtracting reported debt.[8]

Total net worth is reported both with and without main home equity (Table 1). I consider both measures of wealth in this analysis, as there are important motivations for using each. Home equity is undoubtedly an important vehicle for savings for many households, and it comprises a significant portion of total wealth holdings. It is therefore prudent to include home equity in a consideration of changes in asset levels. Considering net worth without home equity is also prudent, for two important reasons. First, those states that have asset-tested programs generally do not include home value in the asset test. If household saving behavior responds to potential eligibility due to an asset test, levels of home equity would likely be affected differently from levels of other assets. Second, main home equity is different from other forms of wealth in that it is relatively illiquid. Though it is possible to borrow against home equity and convert this asset to cash via a home equity loan, doing so is more difficult and time-intensive than simply drawing on liquid assets. It is therefore possible that households treat home equity differently than they do other assets, particularly with regards to precautionary savings to which they may prefer to have quick access. However, the fact that home equity can reasonably be converted to cash highlights the importance of also considering the overall measure of wealth.

[8] Specifically, this measure is equal to the sum of farm/business equity, checking and savings accounts, money market funds, certificates of deposit, savings bonds, treasury bills, IRAs, real estate equity other than main home equity, stocks, mutual funds, investment trusts, vehicle equity, and cash value of life insurance policies, minus all debt (except for main home mortgage). A measure of net worth is also reported with the addition of main home equity.

As noted by Hurst and Ziliak (2006), a study sponsored by the Social Security Administration and reported by Czajka et al (2003) concluded that the PSID provides excellent wealth estimates. The study also finds that the SIPP, the dataset used by Gruber and Yelowitz (1999) in their study that found a significant effect of Medicaid eligibility on savings, underreports wealth values. Curtin, Juster, and Morgan (1989) find that "[c]omparing PSID to SIPP…PSID has the advantage…[I]ts measurement error characteristics look to be consistently better than are those of SIPP".[9] The PSID's superior wealth information, in addition to its low-income oversample, makes it the most appropriate dataset for examining changes in the asset levels of families that are or may become eligible for Medicaid.

3.2 Household Selection

The PSID is not without flaws. As PSID wealth data is collected only at the household level it is impossible to distinguish the wealth holdings of one family unit from those of another if multiple family units inhabit the same household. Additionally, the PSID does not consistently report income data at an individual level. Only income accruing to the household head and to the household head's legal spouse or unmarried cohabitant are quantified in each survey year. Consequently, the household serves as the basic unit of observation in this analysis. Fortunately, the vast majority of households consist of single family units comprised only of heads, legal spouses (if present), and their children (if present). This type of family, for which specific wealth and income information is available, is referred to as a head family.

[9] As quoted on the PSID website: http://psidonline.isr.umich.edu/Guide/ug/chap5.html

In a minority of cases, however, individuals other than heads, legal spouses, and their children are present. The most common other residents are adult cohabitants who are not married to the household head, children of these unmarried cohabitants, and grandchildren of the household head. A household with an unmarried cohabitant and her children, if present, is referred to as a cohabiting family. A household containing grandchildren of the household head is referred to as a multigenerational family. On rare occasions, other related or unrelated individuals are also present in a household. These households are referred to as extended households. Table 2 provides a summary of the frequencies of each type of family in the sample.

The inability to exactly match income and wealth data to non-head families is doubly problematic. First, as wealth is the dependent variable of interest, I simply cannot exactly examine these non-head families individually. Secondly, an argument could be made that these households might hold a higher proportion of Medicaid-eligible individuals than do households with only a single family. Young, single mothers, for instance, may be more likely to reside with their parents than in their own dwelling.

I propose to address this problem in two ways. First, I simply drop households containing multiple family units. As reported in Table 2, 86% of households consist only of head families. Therefore, though it would be ideal to include all households, using only head families still yields a sizeable and relevant dataset for my regression. Examining these families likely yields the most accurate results, due to the availability of all essential data pertaining to the individuals therein contained.

I am concerned that the results of an analysis that considers only head families cannot be generalized to other family structures. It may be that families living

independently are affected differently by Medicaid eligibility than are families that share dwellings with other individuals. For this reason, I also consider a full sample of head families, cohabiting families, and multigenerational families. I apply the available household-level data to the relevant members of non-head families and include appropriate control terms in my regressions.[10]

While the structure of the dataset does present a notable drawback, the dataset is still appropriate for this analysis. The necessary information can be obtained for the vast majority of individuals in the PSID, and the superiority of the sample and the wealth information, as described previously, more than compensate for its structural peculiarities.

In both of these household selection methods, households containing individuals over the age of 64 are also excluded. This is done for two reasons. First, the PSID income information does not include pension data. Excluding individuals of retirement age helps avoid any possible consequent complication. Second, and more importantly, excluding individuals over the age of 64 eliminates any possible influence of Medicaid eligibility for the elderly poor. This type of eligibility involves complicated rules pertaining to nursing home care and asset reduction which could complicate any interpretation of my results. By excluding households with elderly members, I can be

[10] It is not unreasonable to surmise that some multi-family households make collective saving decisions. As they occupy the same dwelling, they likely have many shared expenditures related to housing (such as rent or mortgage payments), utilities, and food. As the multi-family households I consider consist of either related persons or people who presumably emulate a married lifestyle, their financial cooperation might extend beyond these basic expenditures. In many cases, these groups may use a combination of their assets to support both themselves and any children present. For example, in households where children reside with their grandparents, the grandparents likely contribute financially to the support of either or both their adult children, if present, and their grandchildren. Therefore, if some member of the household becomes eligible for public insurance, the savings behavior of the entire household may change as a result. If this in fact occurs, examining multigenerational sub-families using household-level wealth data would still provide interesting insight into the effect of Medicaid eligibility on savings decisions. Cohabiting and multigenerational families are therefore included in one specification of my analysis with appropriate control terms. The complicated and irregular structure of extended households makes them ill-suited for consideration, and they are consequently dropped.

more certain that any effect I capture in my policy variable is related specifically to the Medicaid expansions targeted at women and children. A table of summary characteristics of the PSID sample is provided in Appendix A.

3.3 Quantifying Medicaid Eligibility

Medicaid eligibility may affect a household's savings decisions based on the dollar value of the program to that household. For risk-neutral households, this value is equal to the expected reduction in medical expenditures a household would experience based on Medicaid eligibility, assuming no access to private insurance. If households are risk-averse, they will value Medicaid eligibility more highly. However, as long as households are not risk-loving, their valuation of the program will be at least equal to the amount of medical spending that is eligible to be paid for by Medicaid.[11] The measure of this amount is hereafter called "Medicaid eligible dollars".[12] In considering the effect of Medicaid eligibility on household savings, I base my methodology on that used by Gruber and Yelowitz in their 1999 paper "Public Health Insurance and Private Savings," which regresses household net asset levels on Medicaid eligible dollars. In my regression, I similarly employ a measure of Medicaid eligible dollars as the primary independent variable.

[11] In addition to assuming no access to private insurance, this also assumes no access to charity-care hospitals or free clinics. I discuss the complicating effect of this latter assumption in the conclusion of this paper. As for the former assumption, Gruber and Yelowitz (1999) assert that "it is the option of taking up social insurance that affects savings behavior, even among those who are not in the program at a point in time". This is true, but it is also true that households that are currently covered under private insurance will likely value Medicaid eligibility at the level of reduction of out-of-pocket expenses they would experience upon taking up public insurance. If this level is lower than the expected amount of medical spending eligible to be paid for under Medicaid, these households will, in fact, value Medicaid less highly. For the purposes of my analysis, I make the simplifying assumption that households value Medicaid at the level of medical expenditures eligible for coverage under the program.

[12] This is the term used by Gruber and Yelowitz (1999) to describe the same concept.

I construct the Medicaid eligible dollars variable by first determining Medicaid eligibility according to the procedure originally outlined by Currie and Gruber (1996) and subsequently employed by Gruber and Yelowitz (1999). As a first step, I use the eligibility rules of each state in each year to determine the actual Medicaid eligibility of children and of women between the ages of 15 and 44 in each household according to their state of residence, age (for children), family income, and family structure. Eligibility is determined by comparing household income to state-determined eligibility limits, which vary by family size, family structure, and (for children) the age of the child. This includes both those who are eligible for Medicaid due to eligibility for AFDC and those who are eligible under the Medicaid expansions. This information is used to construct an eligibility indicator for each individual, denoted as ELIG.[13]

I then multiply this indicator of eligibility by the average medical expenditure of a person of the same age and sex, as determined in the 1987 National Medical Expenditure Survey (NMES). These values of medical expenditures are drawn from the published appendix to Currie and Gruber (1996). The result is a dollar figure for the value of Medicaid to an individual of a given age and sex.[14] To account for the differences in medical spending across states, I also employ a measure of relative medical costs. Gruber and Yelowitz have generously provided me with this measure, which they compute by averaging inflation-adjusted Medicaid expenditures for one AFDC adult and two AFDC children in each state between 1984 and 1993. These values are divided by

[13] For this determination of eligibility, asset tests are not considered.

[14] For children, this measure is simply the average medical expenditures for children of the same age and sex. For women, this measure has two parts. It is the average non-pregnancy-related medical expenditures of individuals of the same age and sex plus average pregnancy-related medical expenses of women of the same age. Average pregnancy-related medical expenditures are determined by multiplying the average fertility rate of women in the individual's age group by the average cost of pregnancy-related medical expenditures.

the value for the median state, resulting in an index of relative medical costs. I multiply this index value by the average expenditure for each age/sex cell, and call the resulting age-, sex-, state-specific value SPEND.

The indicator for each individual's eligibility, ELIG, is then multiplied by that individual's measure of expected medical spending, SPEND. This results in the value of expected medical spending eligible for coverage by Medicaid for each individual. By summing over all individuals *i* in a household *h*, I find the total value of Medicaid eligibility – or the total value of expected medical expenditures covered by Medicaid – to a given household, denoted as MED:

$$MED_h = \Sigma_i \, ELIG_i \times SPEND_i \quad (1)$$

Running an OLS regression of wealth levels on a measure of Medicaid eligible dollars constructed using actual program eligibility is problematic, however, as there may be individual or family characteristics that are unobservable and correlated with both eligibility and savings decisions. For example, households may consciously try to earn less money in order to meet a Medicaid income cutoff, which might also affect the amount they save. Additionally, income in the form of interest, which can affect eligibility, can be earned on wealth holdings.[15] In order to remove these possible biases, I use an instrumental variable approach described in Currie and Gruber (1996) and Gruber and Yelowitz (1999).

[15] It is important to note again that asset tests are not used in my determination of eligibility – only family structure, child age, and income information are used. Considering the asset test for eligibility would create additional endogeneity in the model.

This approach involves computing the average eligibility of children and of women in a given age, state, year, and education group in the Current Population Survey. For children, the age, state, and year parameters reflect the criteria that determine actual Medicaid eligibility. Education groups are constructed based on the education level of a child's most highly educated parent: no high school diploma, high school diploma, some college, or college diploma. These groups proxy for income, which is another criterion used to determine eligibility. For women, seven age/education cells are created.[16] These age/education groups, like the education groups for a child's most educated parent, are intended to proxy for income. The state and year parameters again reflect factors in Medicaid eligibility.

Using the average eligibility in an age/state/year/education cell is also problematic, however, as this measure is dependent upon the economic and demographic characteristics of a state. For example, states with poorer populations may have high percentages of Medicaid-eligible individuals regardless of how generous their Medicaid eligibility rules are. A high average eligibility in these states' age/year/education cells would then reflect the poverty of the population as opposed to the generosity of the Medicaid program. This is problematic because the instrument is intended to reflect only changes in policy. To overcome this problem, a random sample of individuals is drawn from the CPS in each year.[17] Each state's eligibility rules are then applied to this same randomly selected group, and average eligibility in each education (of woman or of parent for children)/age/state/year cell is then matched back to the corresponding cells in

[16] These age/education cells are as follows: age 15-18, any education level; age19-24, no high school diploma; age 19-24, high school diploma; over 25, no high school diploma; over 25, high school diploma; over 25, some college; and over 25, college diploma.

[17] The CPS is used here because of its larger sample size, which ensures that there will be an adequate number of individuals in each education/age/state/year cell.

the PSID. This simulated measure of eligibility captures the effect of changes in eligibility criteria, or state Medicaid eligibility rules, without being influenced by the characteristics of a state's population (Currie and Gruber 1996) and is denoted as SIMELIG. When this measure of eligibility is multiplied by SPEND, I can use the simulated measure of eligibility, SIMMED, as an instrument:

$$\text{SIMMED}_h = \Sigma_i \text{ SIMELIG}_i \text{ x SPEND}_i \quad (2)$$

MED and SIMMED do not distinguish between eligibility for Medicaid as part of the AFDC program and eligibility for Medicaid resulting from the expansions that separate Medicaid eligibility from AFDC eligibility. As an innovation over previous analyses, I create separate measures of AFDC-related spending (AFDCMED): dollars of medical spending that are covered under Medicaid for individuals who qualify for AFDC; and expansion-related spending (EXPMED): dollars of medical spending that are covered under Medicaid for individuals who do not qualify for AFDC but who are eligible under program expansions. As AFDC participation entails the receipt of cash in addition to Medicaid-related medical benefits whereas Medicaid by itself involves no cash receipt, the effect of eligibility for these two programs on savings is likely to differ.[18]

These separate measures are constructed as follows. First, actual eligibility for AFDC is determined using data from the PSID. I create an indicator for AFDC eligibility, AFDCELIG. For individuals who are not eligible for AFDC, I determine whether or not they are eligible for Medicaid under the program expansions. I create a separate indicator

[18] My measure of AFDC-related Medicaid spending does not explicitly include the value of AFDC cash transfers. However, by separating the terms I am able to account for the fact that AFDC-related Medicaid eligible dollars are attached to a cash-transfer program, whereas Medicaid-only eligible dollars are not.

for this expansion-only Medicaid eligibility, EXPELIG.[19] I then determine the amount of medical spending eligible for coverage under each program in the same manner as I do for the combined term described earlier, and denote these measures SPENDAFDC and SPENDEXP. The amount of spending eligible for coverage is the same under both programs for children, and in this analysis is equal to the average expected medical expenditures for an individual of the same age and sex as determined in the NMES, indexed to the state of residence. The amount of spending eligible for coverage under the two programs differs for women, however. Under AFDC, coverage extends to all medical expenses – the average expected non-pregnancy-related medical expenditures for individuals of the same age and sex plus the average fertility rate of women in the age group of the woman in question multiplied by the average cost of pregnancy-related care, all indexed to the state of residence. Under the Medicaid expansions, only the costs of pregnancy are covered. Next, I multiply the eligibility indicators for each program by these measures of spending to determine the dollar value of expected medical expenditures that are eligible for coverage under each program for each individual.

I then sum these values over all the individuals *i* in household *h* to determine the value of expected medical expenditures eligible for coverage under each program for each household, denoted as AFDCMED[20] and EXPMED:

$$AFDCMED_h = \Sigma_i \, AFDCELIG_i \times SPENDAFDC_i \quad (3)$$

[19] If an individual is eligible for AFDC, then the EXPelig equals zero. This is because the individual will not participate in expansion-related Medicaid coverage, but rather will already receive Medicaid benefits under AFDC.

[20] The eligibility portion of this term accounts for both the medical spending covered by the program and for the cash-based assistance associated with AFDC. As it is multiplied only by the expected value of the medical spending eligible for coverage, it actually underreports the value of AFDC eligibility to households. Therefore, the term is explicitly the value of medical spending eligible for coverage by AFDC, but it implicitly includes the value of the cash-transfers provided under that program.

$$EXPMED_h = \Sigma_i EXPELIG_i \times SPENDEXP_i \quad (4)$$

Using these measures of actual eligibility is problematic for the same reasons that using the actual measure of combined eligibility is, as described earlier. Consequently, I create simulated measures of eligibility for each of these terms. To do this, I first determine the average eligibility for Medicaid from all sources, both AFDC and the Medicaid expansions, in each age/state/year/education cell in the CPS, and match this average eligibility to the corresponding cells in the PSID.[21] I denote the resulting measure SIMMEDELIG. Next, I determine the average eligibility for AFDC in each age/state/year/education cell in the CPS, and match this measure back to the PSID. This measure is called SIMAFDCELIG. I subtract SIMAFDCELIG, the measure of AFDC eligibility, from SIMMEDELIG, the measure of eligibility for AFDC and expansion-related Medicaid, to obtain SIMEXPELIG, or the average eligibility for Medicaid under the expansions only:

$$SIMMEDELIG - SIMAFDCELIG = SIMEXPELIG \quad (5)$$

When SIMAFDCELIG is multiplied by SPENDAFDC, I have a simulated measure of the value of the medical spending that is eligible for coverage under AFDC for each individual.[22] Similarly, when SIMEXPELIG is multiplied by SPENDEXP, I have a

[21] This is exactly the same calculation as is used to create SIMELIG.

[22] A higher value of SIMAFDCMED can reflect not only a higher SPENDAFDC, but also a higher value of SIMAFDCELIG. A higher value of SIMAFDCELIG indicates a higher probability of being eligible for cash-based assistance from AFDC. Therefore, SIMAFDCMED does not only capture the effect of having a

simulated measure of the value of the medical spending that is eligible for coverage only under the Medicaid expansions for each individual. Summing over the individuals *i* in a household *h* yields the value of household medical spending that is eligible for coverage under each program, denoted as SIMAFDCMED and SIMEXPMED:

$$\text{SIMAFDCMED}_h = \Sigma_i \text{ SIMAFDCELIG}_i \text{ x SPENDAFDC}_i \quad (6)$$

$$\text{SIMEXPMED}_h = \Sigma_i \text{ SIMEXPELIG}_i \text{ x SPENDEXP}_i \quad (7)$$

These simulated measures can be used as instruments for actual eligibility.

A descriptive summary of both actual and simulated AFDC-related and Medicaid-only eligible dollars in the years of interest is reported in Table 3. The combined term of Medicaid eligible dollars (MED and SIMMED), described in equations 1 and 2, is equal to the sum of AFDC-related eligible dollars and Medicaid-only eligible dollars for each individual.[23] The dramatic increase in average Medicaid-only eligible dollars over time reflects the loosening of eligibility rules that occurred under the Medicaid expansions. As this table shows average values for all households, the increase actually reflects the fact that larger portions of the population are eligible rather than an increase in the value of eligible dollars for eligible households. AFDC-related eligibility, by contrast, is fairly

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greater value of medical expenditures eligible for coverage, but also captures the effect of being more likely to receive cash-based assistance.

[23] Due to the way these terms are constructed, an individual will have either AFDC-related actual eligibility or Medicaid-only actual eligibility or neither, but not both. Therefore, for an individual with AFDC-related eligibility, summing that actual eligibility and that individual's Medicaid-only actual eligibility will be the same as adding the AFDC-related value and zero. For simulated eligibility, however, an individual can have both AFDC-related eligibility and Medicaid-only eligibility. This is because the simulated value is equal to the average eligibility in an age/state/year/education cell, and some individuals in a given age/state/year/education cell can be eligible for AFDC while others may be eligible for expansion-related Medicaid coverage.

flat over this time period. This reflects the fact that states were leaving AFDC programs and their eligibility requirements largely unchanged. The decrease in eligible dollars in 1989 and 1994 compared to 1984 most likely reflects the fact that the nominal income eligibility standards in most states did not increase by much between 1984 and 1989, while nominal income rose between these time periods. Thus, fewer families qualified for the program.

3.4 Regression Model

The basic regression model, similar to Gruber and Yelowitz's, is described below:

$$A_h = \beta_0 + \beta_1 \text{MED}_h + \beta_2 \text{EDCAT}_h + \beta_3 X_h + \beta_4 \text{STATE}_s + \beta_5 \text{YEAR}_t + \beta_6 \text{STATE}_s \text{x} \text{YEAR}_t + \varepsilon_h \quad (8)$$

In this model, MED is the value of current combined Medicaid eligible dollars, making β_1 the coefficient of interest. Medicaid eligible dollars are instrumented using SIMMED. The first-stage regression confirms the appropriateness of this instrument.[24]

The remaining terms are control variables. EDCAT represents dummy variables for the education groups used in the construction of the instrument, which, as they proxy for income, are likely correlated with wealth independently of their relationship with eligibility. These dummies are the education levels of the most highly educated adult in the household, which are the same as the education groups used in the construction of the age/education categories for women. X represents the following household control variables: race; whether or not the family is headed by a single female; the number of children of each age from 1 to 18; the age and age squared of the head; total family size;

[24] The F-statistic on the first-stage regression is over 1,100.

employment status of the head; and the number of women aged 15-19, 20-29, 30-39, and 40-44 in the household. This last set of controls is important as the expected value of Medicaid pregnancy coverage varies with average fertility rate, which in turn varies according to a woman's age group. STATE and YEAR are state and year dummy variables. A is a measure of a household's assets.

As is apparent from Table 1, household assets are highly skewed. To account for this, I use the natural log of assets, instead of the total measure of assets, as my dependent variable. This compresses the distribution of dependent variables and reduces the influence of outliers. However, it is also problematic in that it excludes households with assets less than or equal to zero. Such households represent approximately 25% of my total sample. Their exclusion therefore introduces the possibility of a selection bias if Medicaid eligibility and positive wealth holdings are related. To examine this relationship, I also regress an indicator for positive wealth on measures of Medicaid eligible dollars. In addition to providing information about the possibility of sample selection bias, these regressions also provide information on the effect of Medicaid eligibility on savings that is specified on data from all households, including those with negative and zero assets.

When I use the log value of assets as a dependent variable, the coefficients on my policy variables provide information about percent changes in overall asset holdings. However, I am interested not only in the absolute changes in wealth that occur due to changes in eligibility, but also in changes in the amount that households save relative to their income. As a second dependent variable, I also therefore use the natural log of

households' wealth-to-income ratio.[25] Changes in this ratio more closely describe changes in a household's saving rate.

The inclusion of the state x year interaction term has important consequences for the exploitable variation in Medicaid eligibility. One important reason for its inclusion is that it controls for changes in AFDC programs. AFDC eligibility continued to determine Medicaid eligibility for some individuals throughout the sample period, and households may have changed their savings or consumption decisions in response to changes in AFDC eligibility rules. Variation in AFDC policies would have occurred in states over time, however, so the state x year interaction term should control for this. Importantly, Medicaid policies also varied in states over time, and this across-year variation in Medicaid eligibility is also captured by this control term. As a result, the only exploitable variation in Medicaid eligibility that remains is within states, within years, across child age, family structure and the total value of Medicaid eligible dollars to a given household.

I am concerned that this model may not fully control for the effect of AFDC eligibility. While variation in AFDC policy that occurs in states over years will be controlled for with state x year interactions, some variation in the value of AFDC to different households within states and within years will remain based on differences in family structure and composition. Specifically, the value of AFDC varies across households based on the number of people in the household and on the marital status of the household head;[26] a greater number of individuals present in a household headed by an unmarried adult results in a greater value of AFDC. For this reason, I also create a second specification of the model in which I remove the state x year interactions and

[25] This is the ratio of total wealth, including home equity, to annual earned income.
[26] This variation is not captured by the control terms for household size and whether or not the household is headed by a single female because it is the interaction of these terms that determines the value of eligibility.

instead include separate measures of AFDC-related Medicaid eligible dollars and expansion-related Medicaid-only eligible dollars, as described below:

$$A_h = \beta_0 + \beta_1 \text{AFDCMED}_h + \beta_2 \text{EXPMED}_h + \beta_3 \text{EDCAT}_h + \beta_4 X_h + \beta_5 \text{STATE}_s + \beta_6 \text{YEAR}_t + \varepsilon_h \quad (9)$$

This equation is run using simulated measures of eligibility as instruments.[27]

Using separate terms allows me to exploit the across-year variation in Medicaid eligibility and also allows me to distinguish more precisely between the effects of Medicaid and AFDC. As AFDC participation entails the receipt of cash in addition to Medicaid-related medical benefits, whereas Medicaid by itself involves no cash receipt, the effect of the programs on savings behavior is likely to be very different. By separating the terms, I allow dollars of spending eligible under each program to exhibit different effects. This specification allows for a more specific examination of β_2, the effect of public medical insurance on savings as distinct from the effect of other government assistance.

While the separate measures of eligible dollars should capture the effects of variations in the value of AFDC eligibility separately from the effects of variations in Medicaid policy, it is possible that there may be other factors that vary within states over time that are correlated with Medicaid and/or AFDC policy and that also affect wealth. For example, if states that rolled out larger Medicaid expansions also increased taxes in order to pay for them, the effect of changing tax rates on wealth holdings may partially confound an examination of the effect of the expansions. Or, states may have suffered

[27] The first-stage regressions confirm the appropriateness of these instruments. The F-statistics for both of these regressions are over 300.

economic upturns or downturns that affected lawmakers' decisions regarding Medicaid expansions as well as household savings. Therefore, I run a third specification of this regression in which I include separate measures of Medicaid-eligible dollars as well as state x year interaction terms.[28]

$$A_h = \beta_0 + \beta_1 AFDCMED_h + \beta_2 EXPMED_h + \beta_3 EDCAT_h + \beta_4 X_h + \beta_5 STATE_s x YEAR_t + \varepsilon_h \quad (10)$$

This specification provides the most controlled look at the effect of Medicaid-only eligible dollars on savings.

In all three of these regression specifications, there is a possibility that unobserved individual effects may be affecting my results. For instance, it is possible that Medicaid eligibility is increasing for people who have a higher lifetime income or a higher marginal propensity to save. If these characteristics are not captured by the parameters used to specify my instrument, which cannot include income due to its endogeneity to the model, any effect of Medicaid eligibility on assets that I observe may in fact be reflecting the different individual characteristics of the newly eligible people rather than the effect of eligibility itself. To control for this possibility, I run fixed effects models using panel data.

The fixed effects model, or within transformation, that I use removes unobserved fixed effects by subtracting the average value of each term for each individual over time from the specific value of each term in each time period. I illustrate with sample

[28] Simulated measures of eligibility are again used to instrument for actual eligibility.

equations below.[29] Consider equation A, where *x* is the dependent variable, *f* is the unobserved fixed effect, and *u* represents the error term.

$$y_{ht} = \beta_1 x_{ht} + f_h + u_{ht} \quad \text{(A)}$$

Suppose that household *h* is present in two of my three time periods. If I average this equation over these two time periods, the result is equation B. As the fixed effect, *f*, is constant in both time periods, its average value is equal to *f*.

$$\bar{y}_h = \beta_1 \bar{x}_h + f_h + \bar{u}_h \quad \text{(B)}$$

If I subtract equation B from equation A, the result is equation C, which can be estimated using pooled OLS.

$$y_{ht} - \bar{y}_h = \beta_1 (x_{ht} - \bar{x}_h) + u_{ht} - \bar{u}_h \quad \text{(C)}$$

Importantly, the fixed effect term, *f*, has fallen out of the equation. In fact, all terms that are constant over time, such as race, will be removed. It is worth noting that if a household does not experience a change in the value of Medicaid-eligible dollars between the time periods during which it is present in the sample, these terms will also be removed. As a consequence, in the fixed effects models the coefficients on MED,

[29] The ensuing discussion of fixed effects estimators and the sample equations used are informed by and based on the following source: Wooldridge, Jeffrey M. "Introductory Econometrics: A Modern Approach". 3rd Edition, *Chapter 14.1: Fixed Effects Estimation*. Thomson South-Western, 2006. pp. 485-486.

EXPMED, and AFDCMED described in equations 8, 9, and 10 will be only indirectly affected by households that do not experience a change in these measures. The observed effect is most directly affected by households that actually experience a change in the value of eligibility.

In order to use the within transformation, only households that are present in more than one year of the dataset can be included. If a household is present in only one year, all terms will be removed from the equation and the household falls out of the sample. This raises the possibility of sample selection bias. If the households that drop out of the sample are those that drive the results observed in cross-sectional specifications, the new findings could be the product of sample selection bias as opposed to the inclusion of fixed effects controls. To examine this possibility, I run the cross-sectional models on the sample used to specify the within transformation, and I compare the results to those obtained using the full sample. I find that the coefficients are substantively unchanged, indicating that sample selection bias does not adversely affect the results of the within transformations.

CHAPTER 4: RESULTS AND DISCUSSION

4.1 Results Regarding the Probability of Having Positive Assets

I find that the combined measure of Medicaid eligible dollars has a negative and significant effect on the probability of having positive wealth holdings (Table 4). Every $100 of Medicaid eligibility decreases the probability of having positive wealth inclusive of home equity by approximately 0.6%, and decrease the probability of having positive wealth exclusive of home equity by approximately 0.7%. Conditional upon being eligible for Medicaid, the average value of Medicaid eligible dollars is $1276.[30] This means that the Medicaid program reduces the odds of having positive wealth by an average of approximately 7.7% for eligible households. More broadly, it demonstrates that Medicaid eligibility does have an effect on wealth holdings. However, as this coefficient combines the effects of cash-based assistance from AFDC and of medical insurance from Medicaid, it is not helpful in determining the effect of either program individually on the probability of having positive wealth.

When I use separate measures of AFDC-related eligible dollars and Medicaid-only eligible dollars in the regression, I find that the latter measure has no significant effect on the probability of having positive assets (Tables 5 and 6). This result is consistent across both the full sample and the head-families sample. It is also consistent across models that include and exclude state x year interactions. This indicates that sample selection is not an issue in the consideration of the effect of Medicaid-only eligible dollars on assets.

[30] This number is higher than that reported in table 4 as it reflects average eligible dollars conditional upon being eligible. It is computed using the full sample of households, though the figure is very similar for the sample of head families only.

By contrast, AFDC-related eligible dollars have a substantial and significant negative effect on the probability of having positive assets, both with and without home equity (Tables 5 and 6). Every $100 of AFDC-related eligibility reduces these odds by approximately 1.5%. For households that are eligible for AFDC, the average value of eligible dollars is $2329,[31] meaning that eligibility for this program reduces the odds of having positive wealth by an average of 35%. This shows that AFDC-related eligibility has a substantial negative effect on household asset holdings.[32] My results from this regression also suggest that AFDC-eligible households are disproportionately excluded from the log-value-of-assets models discussed below. Consequently, as the coefficients on AFDC-related eligibility terms only describe the behavior of households with positive wealth, they reflect only the behavior of households that are relatively better-off. These results cannot be generalized to households with net assets less than or equal to zero.

4.2 Results Using the Log of Wealth

I report the results of the model described in equation 8 in Table 7. As this specification most closely matches that considered in earlier research, in particular that used by Gruber and Yelowitz (1999), these results provide an important basis of comparison between my results and the existing literature. In this specification, I use a combined measure of Medicaid eligible dollars and include state x year interactions. Like Gruber and Yelowitz, I find the combined measure of Medicaid eligibility to have a

[31] See previous note.

[32] It is not surprising that the magnitude of the AFDC-related eligibility term is larger than the Medicaid-only eligible term. As noted previously, the AFDC term does not explicitly include the value of the cash transfers, so the value of AFDC is underreported. Consequently, the power being ascribed to every $100 of eligible medical expenditures actually reflects that value plus the expected value of cash transfers received under the program. This holds for all results pertaining to this coefficient.

negative effect on overall wealth holdings. For every $100 increase in Medicaid-eligible dollars, overall wealth holdings fall by 2.6% and 3.7% for head families and the full sample, respectively (columns 1 and 2). The latter coefficient is highly significant. These results indicate that Medicaid eligibility has a substantial negative effect on savings levels, which is suggestive of a reduction in precautionary wealth holdings induced by the receipt of public health insurance.

This regression model is instructive in establishing the approximate similitude of my data to that used by Gruber and Yelowitz. [33] This similarity suggests that the differences in the results of my innovative models compared to those found by Gruber and Yelowitz are due to changes in regression specification as opposed to dramatic differences in data.

Interestingly, I find this same measure of eligibility to have no statistically-significant effect on liquid asset levels (columns 3 and 4), a measure that has not been considered in previous research.[34] This lack of effect on liquid assets indicates that the majority of the reduction in overall holdings comes in the form of lower home equity. If the reduction in overall wealth reported above is in fact due to a reduction in

[33] The magnitudes of these coefficients are not directly comparable to those found in Gruber and Yelowitz (1999), as that study considers a measure of the present value of current and future Medicaid eligible dollars. This analysis only considers current Medicaid eligible dollars. However, Gruber and Yelowitz report that future eligible dollars are approximately five times current eligible dollars, meaning that their total measure of Medicaid eligible dollars is approximately six times their current measure. If I multiply their coefficients by 6 to account for the fact that their regression considers current and future eligible dollars while mine considers only current eligible dollars and then divide by ten to account for the fact that their coefficients reflect the effect of $1000 of eligibility instead of $100 as in my regression, I achieve a value that can be used to compare my results to theirs. This value is equal to .0151, indicating that every $100 of current Medicaid eligible dollars reduces wealth by 1.5%. This is similar, though substantially lower, than my finding.

[34] To ensure that the difference in results between the two measures of wealth is not due to sample selection (as more households have positive assets with home equity than without) I also run the model using wealth with home equity as a dependent variable on the sample of households with positive liquid asset levels. The results are substantively unchanged. This is the case for all of my results using models with overall wealth as the dependent variable.

precautionary savings, the combination of these results suggests that home equity is an important vehicle for precautionary savings. I will return to this idea later on in the discussion of the results of my innovative models.

The control variables in this regression exhibit the expected coefficients. Wealth holdings of black households are substantially lower than those of white households, as are wealth holdings of other non-whites. Wealth increases with the age of the head but at a decreasing rate, as evidenced by the negative coefficient on the term for age squared of the household head. Wealth in households where the head is unemployed is lower than in those where the head is employed, and households headed by single females have lower levels of assets than do those headed by men or married women. Wealth also increases dramatically with education. I find that wealth holdings of college graduates are more than 90% higher on average than wealth holdings of high school dropouts, holding all else constant.

I am concerned that the regression model described above may not fully control for the confounding effect of AFDC eligibility. While the state x year interaction should capture variation in state AFDC policy, some variation in the value of AFDC within states and within years may remain due to variation in family structure. I therefore run a second regression specification, described in equation 9. In these regressions I employ separate measures of AFDC-related Medicaid eligible dollars and Medicaid-only eligible dollars, and I exclude the state x year interaction term. The separate measures of Medicaid eligibility allow for a specific examination of the effect of Medicaid as distinct from AFDC-related benefits, and the exclusion of the state x year interactions allows me

to exploit intra-state, inter-year variation in Medicaid eligibility. The results of this model are reported in Table 8.

In this model, Medicaid-only eligible dollars are shown to have no statistically-significant effect on overall wealth levels (columns 1 and 2). Though the coefficient on this term is not statistically significant using either sample, its negative sign suggests that, to the extent that Medicaid-only eligible dollars might have an effect of overall assets, the effect is most likely negative. The effect of this form of eligibility on liquid wealth is similarly statistically insignificant. The point estimates of positive 0.1% and negative 0.6% using head families and the full sample, respectively, indicate that any possible effect of Medicaid-only eligible dollars on liquid asset holdings is both statistically and economically negligible (columns 3 and 4). These results demonstrate that Medicaid eligibility by itself does not lead to a reduction in household wealth.

By contrast, I find that AFDC-related eligible dollars have a large negative effect on overall asset levels (columns 1 and 2). Every $100 of annual AFDC-related eligibility reduces overall asset holdings by 8.8% among head families and a comparable 8.4% in the full sample. The former coefficient is statistically significant at a confidence level of .90, and the latter is significant at a confidence level of .95. To ensure that these differing results are not the product of sample selection, as fewer households have positive liquid wealth than have positive overall wealth, I run the models using overall wealth as a dependent variable on the sample of households that have positive liquid wealth. The results are substantively unchanged.

The dramatic difference in the effects of AFDC-related eligible dollars and Medicaid-only eligible dollars highlights the importance of considering these measures

separately. It further suggests that the previously-discussed model that employed a combined measure of eligibility did not adequately control for the effect of AFDC-related eligibility. The magnitude and significance of AFDC-related eligibility compared with the small and insignificant effect of Medicaid-only eligibility in the second model suggest that AFDC-eligibility is likely the driving force behind the coefficient on the combined term in the first model.

Considering AFDC-related eligibility and Medicaid-only eligibility separately further provides valuable insight into household savings behavior. Importantly, the cash-based assistance of AFDC can reduce a household's need to save to guard against a wide range of uncertainties, including income uncertainty. By itself, Medicaid only reduces uncertainty related to medical expenditures. That Medicaid-only eligibility has no effect on savings levels indicates that households may not save as a precaution for medical expenses.[35] This may indicate that the hospital- and clinic-based safety net, whereby true emergency cases are admitted regardless of ability to pay or where some free care is given, may have a strong negative affect on the propensity of poor households to save for medical expenditures. Meanwhile, the negative relationship between AFDC-related eligibility and overall asset levels is consistent with a precautionary savings response to reduced income uncertainty resulting from cash-based assistance.

Interestingly, even AFDC-related eligibility has no effect on liquid asset levels. The difference in the effect of AFDC-related dollars on overall wealth compared to liquid wealth provides some insight into how families react to eligibility for cash-based

[35] It is important to remember that this analysis does not include households with elderly individuals, which may, in fact, save as a precaution for unexpected medical expenditures. Also, higher-wealth households are not contributing to my specification, and these households may also save as a precaution for unexpected medical expenditures.

assistance. In the context of precautionary savings, the large effect on overall assets but small effect on liquid assets demonstrates that home equity is an important vehicle for precautionary savings. With the receipt of cash, households may feel more secure and have less incentive to save in a precautionary way. As a result, they put less money into home equity. The small effect of AFDC-related dollars on liquid assets, by contrast, suggests that liquid assets make up a less significant part of precautionary savings. Consequently, their responsiveness to changes in financial uncertainty is minimal.

It is also possible that households are responding to decreased uncertainty about how unexpected medical expenditures will affect their ability to meet mortgage payments. Suppose that households face a high level of income or expenditure insecurity. Suppose also that the home is the household's most valuable asset and that households are furthermore afraid of defaulting on their mortgages. One possible scenario is that, if households are uncertain of their future income or expenditures, they will put more money into home equity in the present time period to guard against the possibility that they may not be able to pay in future time periods. Cash assistance reduces uncertainty about future income, so households no longer feel the need to build up home equity as a precaution. In a second scenario, households facing less financial uncertainty will decide to purchase a more valuable house and take on a larger mortgage. Therefore, their total home equity will be lower than similar households with more uncertainty who do not choose a more valuable house, as the unpaid value of their mortgage is greater.[36]

[36] It is initially tempting to posit that this decrease in home equity somehow reflects that households that become eligible for Medicaid may do so due to a temporary negative income shock. Because of this negative shock, they cease mortgage payments, resulting in a correlation between increased Medicaid eligibility and lower home equity. The instrumental variables approach I use makes such a scenario impossible, however, as actual household income is not used to determine instrumented eligibility. Instead, the instrumented measure varies only according to household characteristics that are unaffected by income

It is also interesting to note that, if the effect of AFDC-related eligibility is limited to measures of wealth that include home equity, its effect is also limited to home-owning households. The income profiles of households with home equity differ quite substantially from those of households without, in that those with home equity have much higher average and median income (Table 9). AFDC-related eligibility therefore affects the savings of households that are relatively better-off, calling into question the importance of this program in explaining savings differences between the wealthy and the poor.

It is also possible that these results reflect differing permanent income between households that have higher values of AFDC-eligible income and those with lower values. For example, suppose that single-parent households with more children have lower permanent income than do single-parent households with fewer children. If lower permanent income is reflected in housing decisions, these families will have lower home equity. Consequently, my regressions may simply be capturing differences in permanent income related to differing levels of AFDC eligibility. For this to be true, permanent income would have to be correlated with the interaction between family size and having a single female head.

I am concerned that the above model has the potential to be affected by factors that vary within states over time that are correlated with Medicaid and/or AFDC policy and that also affect wealth. To eliminate the influence of any possible state-specific time

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levels. I can therefore dismiss the possibility that the decrease in home equity is due to transitory negative income shocks. It is also tempting to posit that the differing results I find using measures of wealth with and without home equity are somehow related to the fact that I do not explicitly consider the asset test in my model. However, I would expect to find *higher* home values in states with asset tests, as households would have an incentive to transfer wealth to home equity. This is opposite to the result I find. There is no clear relationship between asset tests and household wealth that is pertinent to my results.

trends, I add state x year interaction terms to the model (equation 10). As noted previously, this model reduces the exploitable variation to that present within states and within years. The results of this model are also reported in Table 10.

Medicaid-only eligible dollars and AFDC-eligible dollars are again shown to have dramatically different effects on wealth. I find that increasing Medicaid-only eligible dollars has no effect on either measure of wealth. The coefficients on this term are highly insignificant and generally small in magnitude, confirming the results obtained from the previous regression specification. This demonstrates that household wealth levels are not affected by Medicaid eligibility alone.

I furthermore find that AFDC-related eligibility once again has a large negative impact on asset levels. Every $100 increase in this form of eligibility is associated with a 9.5% increase in liquid wealth holdings for head families, and a 9.4% increase using the full sample (columns 1 and 2). Both coefficients are statistically significant at a confidence level of .95, with the latter result also being significant at a confidence level of .99. The robustness and significance of this finding across models strongly supports the conclusion that household assets are sensitive to changes in AFDC-related eligibility. Furthermore, the significance of the AFDC-related term illustrates that the inclusion of state x year interaction terms alone does not eliminate all variation in eligible dollars resulting from AFDC-eligibility. This proves that the original specification described in equation 8 was not successfully isolating the effect of Medicaid eligibility.

My results suggest that households hold precautionary savings to guard against income uncertainty but not to guard against the risk of medical expenditures. There are two scenarios that could describe this lack of precautionary medical saving. First,

medical expenditures may simply come as unexpected shocks to poor households. These households may not regularly utilize health services, and they may regard the probability of a medical emergency as too small to self insure against. Additionally, hospitals cannot turn away true emergencies, resulting in a very basic medical safety net that some households may count on. They consequently hold no related precautionary savings. Secondly, households may not hold precautionary savings against medical expenses because they are already insured. Cutler and Gruber (1996) report that two-thirds of the population made eligible for Medicaid by the program expansions already held private insurance. Whether or not these insured households dropped their private coverage in order to take up the public option, their levels of precautionary savings would likely have been low to begin with. The population whose precautionary savings were likely affected is therefore rather small. In all of these cases public health insurance is immaterial to savings decisions, as households do not save for medical expenditures.

4.3 Results Using the Within Transformations and the Log of Wealth

It is possible that the models described above are affected by unobserved individual characteristics. For example, if those who qualify for more AFDC-related Medicaid coverage have lower permanent incomes and lower propensities to save, the observed effect of AFDC-related coverage may reflect these characteristics as opposed to the influence of eligibility on saving decisions. To account for this possibility, I alter the above models and run them as within transformations. While I provide the results of the fixed effect specification using a combined measure of Medicaid eligibility in Table 11, I

do so only for comparative purposes. The superiority of the models that employ separate measures of eligibility makes the results of these regressions more compelling.

The results of my first fixed effect specification, run with separate measures of eligibility and without state x year interactions, are reported in Table 12.[37] The effect of Medicaid-only eligibility on overall assets remains small and insignificant in this model. The highly-insignificant point estimates of the effect are positive 1.5% for head families and positive .01% for the full sample (columns 1 and 2). The effect on liquid wealth is similarly small and insignificant (columns 3 and 4).

The effect of AFDC-related eligibility changes in the fixed effect specification compared to the previous models. For head families, every $100 of eligibility is associated with a 31% decrease in overall wealth holdings, though this effect disappears in the full sample (columns 1 and 2). The lack of consistency across samples makes the evidence of its effect less compelling. Importantly, AFDC rules were not expanding much during this time period. Within households, the only real source of variation from one year to the next in instrumented AFDC-related eligibility would come from changes in family structure (having another child would increase the total value to the household) or from changes in age/education groups. Consequently, this term may drop out for many households if it is constant across years and probably exhibits little variation for

[37] As these models are specified on changes in variable values, race variables are not included in the regression; race is a constant. It so happens that the coefficient on the dummy variable for single-female headed households is zero. This is due to the way households are defined. If a single female head marries, her male spouse becomes the household head, which effectively creates a new household. Similarly, if a male spouse leaves a household, either through divorce or death, his female spouse becomes the new head. This also effectively creates a new household. Consequently, the same household cannot exhibit a change in female-headed status across years. As the coefficient on the dummy variable for single-female headed households is thus equal to zero, I have omitted it from the reported results.

most others. Therefore, it is not surprising that the significance of the AFDC term falls in this specification.[38]

Adding the state x year interaction term (Table 13) does not change the results in any substantive manner for either measure of eligibility.

While the difference in results for AFDC-related dollars in these specifications may be explained by lack of significant variation, this reasoning does not apply to Medicaid-only eligible dollars. The policy expansions should provide plenty of variation even in this fixed effect model. As the results for Medicaid-only dollars compared with the regressions that do not control for fixed effects are substantively unchanged, I take this robustness as support for my conclusion that Medicaid-only eligible dollars have no effect on household wealth levels.

4.4 Results Using the Wealth-to-Income Ratio

It is possible that some of the effects I observe in the regressions on asset levels may reflect differences in saving levels between those who experience increases in eligibility and to those who do not. Particularly, it is possible that the households that experience increases in Medicaid-only eligibility have higher wealth levels than those that do not. These wealth differences may be the result of higher incomes, the influence of which is not fully removed by the instrument. This may influence my coefficients, and it may hide the fact that eligibility decreases wealth for households compared to others of

[38] As fixed effects are estimated from changes occurring within households, the small amount of variation within households over years is problematic for another reason as well. The fixed effects model assumes time-invariant unobserved effects. To the extent that this "noise" is not perfectly constant, however, subtracting one year's unobserved effects from the next year's could leave some noise in the model. If changes in the variables of interest are small and changes in "noise" are substantial, this will create a high noise-to-signal ratio, making the results less valuable.

their same income level. To account for this, I replace the log of wealth with the log of the wealth-to-income ratio in a new set of regressions. Instead of considering the effect of eligibility on asset levels, these regressions examine the effect of eligibility on the amount a household saves relative to its income.

Using the cross-sectional specifications, I find no significant relationships between either Medicaid-only eligible dollars or AFDC-related eligible dollars and the ratio of wealth to income. Nonetheless, the general trends of the coefficients are supportive of my results using log values of asset levels. Notably, both without and with state x year interactions (Tables 14 and 15, respectively), the coefficient on AFDC-related dollars is much larger in magnitude and greater in significance on the ratio of overall wealth to income than on the ratio of liquid wealth to income. This is consistent with my earlier finding that AFDC-related dollars have a substantial effect on overall wealth levels but no effect on liquid wealth levels. Additionally, the effect of Medicaid-only eligible dollars on both ratio measures is small in magnitude and significance and inconsistent in sign across specifications. This demonstrates that the effect of these dollars is both statistically and economically insignificant, which is consistent with my previous finding that Medicaid-eligible dollars have no effect on wealth levels.

4.5 Results Using the Within Transformations and the Wealth-to-Income Ratio

My results when controlling for individual fixed effects are reported in Tables 16 and 17. Medicaid-only eligible dollars still have no effect on the wealth to income ratio, which further supports the conclusion that Medicaid eligibility does not affect household savings behavior. However, the effect of AFDC-related eligible dollars increases

substantially in magnitude. Whereas my cross-sectional regressions produce a point estimate of the reduction in the overall wealth-to-income ratio due to AFDC-related dollars at around 7%, the fixed effect models report point estimates of between 30% and 36% (Tables 15 and 16, columns 1 and 2). As discussed in the previous section, the small amount of variation in AFDC-eligibility over this time period makes the coefficient on this term less useful in the fixed effect specifications, as does the potential for a high noise-to-signal ratio.

CHAPTER 5: CONCLUSION

I find no evidence that Medicaid eligibility by itself has any significant effect on household savings levels or the amount that households save relative to their incomes. This finding refutes the notion that households save in a precautionary way to guard against the risk of medical expenditures. I do find, however, that eligibility for cash-based assistance from AFDC has a substantial and significant negative effect on household net wealth values. The robustness of this finding across samples and specifications confirms its importance. I find that every $100 dollars of AFDC-related eligibility reduces overall household asset levels by between 8% and 9%. This reduction, somewhat puzzlingly, is only seen as a decrease in home equity. Though this finding is consistent with a reduction in precautionary savings brought about by lessened income uncertainty due to AFDC cash assistance, it indicates that this response is confined to households with home equity. These households generally have higher incomes and higher wealth, which casts doubt on the importance of government insurance programs in explaining the difference in savings behavior between the rich and the poor. This finding is consistent with previous research showing that the effect of the combined measure of Medicaid eligibility on savings is greater among middle-wealth households than among the poorest households (Maynard and Qiu 2005).

The novel separation of Medicaid-only eligibility from AFDC-related eligibility in this analysis allows me to illuminate the effect of public health insurance on savings with an unprecedented degree of specificity and to separate the effect of health insurance from the effect of cash-based transfer assistance. By regressing measures of household wealth both with and without home equity on these separate measures of eligibility, I am

also able to determine which types of assets are affected by these programs. However, my finding cannot be generalized to all households, in particular to households with elderly members, to high-wealth households, or, in the case of AFDC-related eligibility, to households with zero or negative net worth; these households do not contribute to my specification. Consequently, my findings do not speak to the existence of precautionary medical savings among the elderly, for example.

Whether the lack of precautionary medical saving that I find is due to the fact that many households carried private insurance prior to the Medicaid expansions or to the fact that households do not feel the need to save for medical expenditures is beyond the scope of this paper, though it would provide an interesting avenue for future research. Either way, the lack of evidence for the effect of Medicaid eligibility on savings questions the importance of services-based public insurance in explaining the difference in savings behavior between rich households and poor households. However, my finding that the means-tested cash-based assistance from AFDC has a strong negative effect on household assets provides qualified support for the position put forth by Hubbard, Skinner, and Zeldes (1995) that means-tested public assistance may play a role in explaining the low asset holdings of poor households. That I find this effect only in relatively-better-off households with positive home equity, however, indicates that other factors are affecting the savings decisions of the poorest households.

That households do not self-insure against medical expenditure also highlights the importance of public health insurance programs. In the absence of insurance, be it self-, private-, or public-, households must either avoid medical services or face a significant expenditure shock. Particularly as households do not self-insure, public insurance would

be expected to increase medical services utilization among the newly-eligible, provided that public insurance is taken up by the target populations. However, there is a substantial body of evidence on the issue of take up in which many authors find very low rates (Ham and Shore-Sheppard 2003; Card and Shore-Sheppard 2004; Aizer 2003). Some research has also already explored the relationship between Medicaid eligibility and health outcomes among affected groups, particularly children and infants (Currie and Gruber 1996), though more research in this vein could prove insightful.

It is also possible, however, that households do not save as a precaution for unexpected medical expenditures due to the hospital- and clinic-based safety net that provides some care regardless of the ability of an individual to pay. Indeed, a variety of papers have examined the levels of uncompensated care provided by hospitals in the United States (Holleman et al 1991; Mitchell and Norton 1996; Kane and Wubbenhorst 2000), which is estimated to have amounted to over $17 billion in value in 1990 (American Hospital Association 1992).[39] While some research has examined the extent to which uncompensated care crowds out private insurance (Lo Sasso and Meyer 2003) I know of no papers that have examined whether the expansion of Medicaid programs affects levels of uncompensated care. If it were found that public health insurance decreased levels of uncompensated care, this would support the notion that newly-eligible households were relying on the hospital safety net to cover medical expenditures. In combination with my findings that increased Medicaid eligibility has little effect on savings, this would suggest that access to uncompensated care may crowd out self-insurance. This would be a very interesting avenue of further research.

[39] As reported by Mitchell and Norton (1996)

It is not fully clear what implications these results have on future public-insurance policy considerations. If it is important not to discourage savings among poor households, my results indicate that the current structure for the provision of public health insurance is compatible with that priority. As I show that cash-based assistance does decrease saving levels, policymakers seeking to not discourage savings may opt to design public assistance programs that provide services as opposed to transfer payments. Future research might look at the effect of other non-cash-based forms of assistance to see if they exhibit a similar relationship with household savings.

TABLES

TABLE 1

SUMMARY OF PSID WEALTH STATISTICS BY YEAR*

Wealth With Home Equity

Year	Mean	1st Centile	1st Decile	1st Quartile	Median	Top Quartile	Top Decile	Top Centile
1984	107903	-7106	0	4810	34277	98731	219330	1060573
1989	117937	-12093	0	4580	34814	114521	260560	1204763
1994	119526	-19929	0	4599	37559	117507	272114	1188564

Wealth Without Home Equity

Year	Mean	1st Centile	1st Decile	1st Quartile	Median	Top Quartile	Top Decile	Top Centile
1984	76332	-9512	0	1858	10933	47015	143232	945768
1989	80384	-12826	-137	1832	12601	54971	164910	966559
1994	84708	-19086	-460	1456	14180	62088	191629	987275

*All values are weighted and reported in 1987 dollars

TABLE 2

BREAKDOWN OF HOUSEHOLD TYPES IN THE PSID

Type	Frequency
Head Families	0.86
Cohabiting Families	0.04
Multigenerational Families	0.03
Extended Households	0.07

TABLE 3

MEDICAID ELIGIBLE DOLLARS OVER TIME*

Actual Eligibility	*1984*	*1989*	*1994*
AFDC-Related			
Head Families	176	162	157
Full Sample	188	190	170
Medicaid-Only			
Head Families	59	110	178
Full Sample	62	121	189
Simulated Eligibility	***1984***	***1989***	***1994***
AFDC-Related			
Head Families	190	165	174
Full Sample	196	171	184
Medicaid-Only			
Head Families	66	107	206
Full Sample	68	112	211

*All values are weighted and reported in 1987 dollars

TABLE 4

RESULTS USING CROSS-SECTIONAL DATA AND A COMBINED MEASURE OF ELIGIBLE DOLLARS, ON THE PROBABILITY OF HAVING POSITIVE WEALTH

	p(Positive Wealth With Home)		p(Positive Wealth Without Home)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid Eligible Dollars/100	-0.00583**	-0.00553**	-0.00695*	-0.00691**
	(0.0028)	(0.0024)	(0.0035)	(0.0028)
Head Black	-0.157***	-0.155***	-0.162***	-0.163***
	(0.021)	(0.019)	(0.022)	(0.022)
Head Other	-0.0630***	-0.0647***	-0.0590***	-0.0549***
	(0.017)	(0.017)	(0.015)	(0.014)
Age of Head	0.0253***	0.0245***	0.0188***	0.0195***
	(0.0040)	(0.0037)	(0.0040)	(0.0038)
Age^2 of Head	-0.000245***	-0.000235***	-0.000161***	-0.000175***
	(0.000044)	(0.000042)	(0.000044)	(0.000044)
Head Unemployed	-0.0212	-0.0155	-0.0293	-0.0252
	(0.024)	(0.022)	(0.022)	(0.021)
Female Head	-0.154**	-0.158***	-0.129	-0.124*
	(0.069)	(0.058)	(0.085)	(0.067)
High School Graduate	0.0629***	0.0495***	0.0594**	0.0598***
	(0.020)	(0.017)	(0.023)	(0.020)
Some College	0.0547**	0.0443**	0.0472	0.0482*
	(0.022)	(0.019)	(0.028)	(0.025)
College Graduate	0.0383**	0.0258*	0.0305	0.0336
	(0.016)	(0.013)	(0.024)	(0.022)
Sate x Year Interactions	Yes	Yes	Yes	Yes
Observations	11137	12264	11137	12264
R-squared	0.22	0.22	0.20	0.20

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 5:

RESULTS USING CROSS-SECTIONAL DATA AND SEPARATE MEASURES OF ELIGIBLE DOLLARS, WITHOUT INTERACTIONS, ON THE PROBABILITY OF HAVING POSITIVE WEALTH

	p(Positive Wealth with Home)		p(Positive Wealth Without Home)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid-Only Eligible Dollars/100	0.00224	0.00334	-0.00289	-0.00252
	(0.0035)	(0.0033)	(0.0051)	(0.0043)
AFDC-Related Eligible Dollars/100	-0.0146***	-0.0153***	-0.00942**	-0.0111***
	(0.0051)	(0.0037)	(0.0045)	(0.0038)
Head Black	-0.152***	-0.149***	-0.163***	-0.162***
	(0.021)	(0.019)	(0.021)	(0.021)
Head Other	-0.0716***	-0.0744***	-0.0645***	-0.0605***
	(0.017)	(0.018)	(0.016)	(0.015)
Age of Head	0.0262***	0.0249***	0.0195***	0.0197***
	(0.0040)	(0.0038)	(0.0040)	(0.0038)
Age^2 of Head	-0.000257***	-0.000241***	-0.000169***	-0.000176***
	(0.000044)	(0.000043)	(0.000044)	(0.000044)
Head Unemployed	0.00429	0.0162	-0.0232	-0.0117
	(0.029)	(0.027)	(0.023)	(0.024)
Female Head	0.123	0.162	-0.0419	0.0121
	(0.13)	(0.10)	(0.14)	(0.12)
High School Graduate	0.0526**	0.0463**	0.0573**	0.0595***
	(0.021)	(0.017)	(0.023)	(0.020)
Some College	0.0418*	0.0404**	0.0417	0.0457*
	(0.023)	(0.020)	(0.027)	(0.024)
College Graduate	0.0343**	0.0318**	0.0294	0.0363*
	(0.017)	(0.013)	(0.022)	(0.021)
State x Year Interactions	No	No	No	No
Observations	11137	12264	11137	12264
R-squared	0.20	0.19	0.19	0.19

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE 6

RESULTS USING CROSS-SECTIONAL DATA AND SEPARATE MEASURES OF ELIGIBLE DOLLARS, WITH INTERACTIONS, ON THE PROBABILITY OF HAVING POSITIVE WEALTH

	p(Positive Wealth with Home)		p(Positive Wealth Without Home)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid-Only Eligible Dollars/100	-0.000376	0.00156	-0.00721	-0.00477
	(0.0044)	(0.0041)	(0.0065)	(0.0053)
AFDC-Related Eligible Dollars/100	-0.0128**	-0.0139***	-0.00663	-0.00944**
	(0.0049)	(0.0037)	(0.0046)	(0.0041)
Head Black	-0.152***	-0.149***	-0.162***	-0.161***
	(0.021)	(0.019)	(0.022)	(0.021)
Head Other	-0.0671***	-0.0713***	-0.0589***	-0.0569***
	(0.017)	(0.017)	(0.015)	(0.015)
Age of Head	0.0257***	0.0248***	0.0188***	0.0196***
	(0.0039)	(0.0037)	(0.0039)	(0.0038)
Age^2 of Head	-0.000251***	-0.000240***	-0.000161***	-0.000177***
	(0.000043)	(0.000041)	(0.000044)	(0.000044)
Head Unemployed	0.000582	0.0126	-0.0303	-0.0167
	(0.028)	(0.027)	(0.023)	(0.024)
Female Head	0.0610	0.115	-0.139	-0.0418
	(0.14)	(0.11)	(0.15)	(0.14)
High School Graduate	0.0542**	0.0456**	0.0598**	0.0586***
	(0.021)	(0.018)	(0.024)	(0.020)
Some College	0.0469**	0.0426**	0.0476*	0.0477*
	(0.023)	(0.020)	(0.028)	(0.025)
College Graduate	0.0354**	0.0302**	0.0306	0.0350
	(0.017)	(0.014)	(0.023)	(0.021)
State x Year Interactions	Yes	Yes	Yes	Yes
Observations	11137	12264	11137	12264
R-squared	0.22	0.21	0.20	0.20

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 7

RESULTS USING CROSS-SECTIONAL DATA AND A COMBINED MEASURE OF ELIGIBLE DOLLARS

	Log(Wealth with Home)		Log(Wealth Without Home)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid Eligible Dollars/100	-0.0261	-0.0366**	0.00464	-0.0126
	(0.020)	(0.016)	(0.019)	(0.016)
Head Black	-0.833***	-0.813***	-0.767***	-0.767***
	(0.12)	(0.11)	(0.093)	(0.090)
Head Other	-0.266***	-0.287***	-0.296***	-0.332***
	(0.083)	(0.090)	(0.091)	(0.11)
Age of Head	0.200***	0.196***	0.158***	0.156***
	(0.025)	(0.022)	(0.022)	(0.019)
Age^2 of Head	-0.00160***	-0.00155***	-0.00129***	-0.00128***
	(0.00031)	(0.00026)	(0.00027)	(0.00024)
Head Unemployed	-0.501***	-0.463***	-0.737***	-0.702***
	(0.14)	(0.14)	(0.12)	(0.13)
Female Head	-1.066**	-0.919***	-1.431***	-1.285***
	(0.42)	(0.32)	(0.28)	(0.26)
High School Graduate	0.253*	0.189	0.380***	0.376***
	(0.13)	(0.12)	(0.13)	(0.12)
Some College	0.681***	0.623***	0.786***	0.800***
	(0.12)	(0.12)	(0.13)	(0.13)
College Graduate	0.964***	0.921***	1.149***	1.164***
	(0.13)	(0.13)	(0.14)	(0.13)
Sate x Year Interactions	Yes	Yes	Yes	Yes
Observations	9120	9946	8708	9470
R-squared	0.41	0.40	0.32	0.33

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 8

RESULTS USING CROSS-SECTIONAL DATA AND SEPARATE MEASURES OF ELIGIBLE DOLLARS, WITHOUT INTERACTIONS

	Log(Wealth with Home)		Log(Wealth Without Home)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid-Only Eligible Dollars/100	-0.0104	-0.0223	0.00136	-0.00580
	(0.021)	(0.018)	(0.024)	(0.020)
AFDC-Related Eligible Dollars/100	-0.0877*	-0.0844**	-0.0234	-0.0458
	(0.046)	(0.033)	(0.042)	(0.034)
Head Black	-0.825***	-0.795***	-0.753***	-0.748***
	(0.12)	(0.11)	(0.090)	(0.089)
Head Other	-0.286***	-0.303***	-0.293***	-0.338***
	(0.085)	(0.095)	(0.095)	(0.11)
Age of Head	0.201***	0.196***	0.157***	0.155***
	(0.026)	(0.022)	(0.022)	(0.018)
Age^2 of Head	-0.00163***	-0.00156***	-0.00127***	-0.00127***
	(0.00031)	(0.00027)	(0.00027)	(0.00024)
Head Unemployed	-0.348**	-0.325**	-0.657***	-0.606***
	(0.16)	(0.15)	(0.14)	(0.14)
Female Head	0.0841	0.000207	-1.010	-0.684
	(0.90)	(0.67)	(0.72)	(0.64)
High School Graduate	0.212	0.178	0.353**	0.360***
	(0.13)	(0.12)	(0.14)	(0.12)
Some College	0.628***	0.604***	0.753***	0.786***
	(0.11)	(0.11)	(0.13)	(0.13)
College Graduate	0.930***	0.920***	1.132***	1.163***
	(0.13)	(0.13)	(0.14)	(0.13)
State x Year Interactions	No	No	No	No
Observations	9120	9946	8708	9470
R-squared	0.39	0.38	0.32	0.31

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

TABLE 9

SUMMARY OF EARNED INCOME CHARACTERISTICS BASED ON HOME EQUITY

Households With Home Equity

Mean	1st Centile	1st Decile	1st Quartile	Median	Top Quartile	Top Decile	Top Centile
43441	0	12143	23000	37080	54998	78000	156000

Households Without Home Equity

Mean	1st Centile	1st Decile	1st Quartile	Median	Top Quartile	Top Decile	Top Centile
24497	0	4003	11500	21000	33498	47999	85475

*All values in 1987 dollars. Summary includes only households that have positive overall wealth.

TABLE 10

RESULTS USING CROSS-SECTIONAL DATA AND SEPARATE MEASURES OF ELIGIBLE DOLLARS, WITH INTERACTIONS

	Log(Wealth with Home)		Log(Wealth Without Home)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid-Only Eligible Dollars/100	0.00767	-0.00784	0.0239	0.00937
	(0.024)	(0.019)	(0.027)	(0.021)
AFDC-Related Eligible Dollars/100	-0.0950**	-0.0942***	-0.0329	-0.0546
	(0.043)	(0.031)	(0.044)	(0.034)
Head Black	-0.837***	-0.803***	-0.769***	-0.760***
	(0.12)	(0.11)	(0.093)	(0.090)
Head Other	-0.306***	-0.326***	-0.318***	-0.361***
	(0.085)	(0.094)	(0.094)	(0.11)
Age of Head	0.201***	0.196***	0.160***	0.157***
	(0.025)	(0.022)	(0.021)	(0.018)
Age^2 of Head	-0.00163***	-0.00156***	-0.00131***	-0.00129***
	(0.00031)	(0.00027)	(0.00026)	(0.00023)
Head Unemployed	-0.362**	-0.325**	-0.661***	-0.606***
	(0.16)	(0.14)	(0.14)	(0.14)
Female Head	0.294	0.222	-0.797	-0.511
	(0.90)	(0.64)	(0.76)	(0.64)
High School Graduate	0.207	0.169	0.350**	0.353***
	(0.13)	(0.12)	(0.14)	(0.13)
Some College	0.634***	0.604***	0.761***	0.786***
	(0.12)	(0.12)	(0.13)	(0.13)
College Graduate	0.941***	0.925***	1.133***	1.163***
	(0.13)	(0.13)	(0.14)	(0.13)
State x Year Interactions	Yes	Yes	Yes	Yes
Observations	9120	9946	8708	9470
R-squared	0.39	0.38	0.32	0.32

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 11

RESULTS USING PANEL DATA AND A COMBINED MEASURE OF ELIGIBLE DOLLARS

	Log(Wealth with Home)		Log(Wealth Without Home)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid Eligible Dollars/100	-0.0218	-0.0163	-0.0295	-0.0226
	(0.022)	(0.017)	(0.026)	(0.019)
Age of Head	0.164***	0.191***	0.172***	0.184***
	(0.053)	(0.049)	(0.062)	(0.060)
Age^2 of Head	-0.00228***	-0.00200***	-0.00205***	-0.00164***
	(0.00035)	(0.00031)	(0.00041)	(0.00036)
Head Unemployed	0.0260	-0.00624	-0.0623	-0.0786
	(0.11)	(0.10)	(0.13)	(0.12)
High School Graduate	0.0512	0.101	-0.158	-0.0865
	(0.12)	(0.12)	(0.15)	(0.14)
Some College	0.0801	0.0505	-0.144	-0.121
	(0.13)	(0.13)	(0.16)	(0.15)
College Graduate	0.0767	0.0276	-0.275	-0.252
	(0.14)	(0.14)	(0.17)	(0.16)
State x Year Interactions	Yes	Yes	Yes	Yes
Observations	9120	9946	8708	9470
Number of Households	5461	5945	5275	5736

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 12

RESULTS USING PANEL DATA AND SEPARATE MEASURES OF ELIGIBLE DOLLARS, NO INTERACTIONS

	Log(Wealth with Home)		Log(Wealth Without Home)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid-Only Eligible Dollars/100	0.0152	0.000112	0.00178	-0.0152
	(0.030)	(0.023)	(0.038)	(0.029)
AFDC-Related Eligible Dollars/100	-0.306*	-0.100	-0.284	-0.0737
	(0.18)	(0.070)	(0.25)	(0.068)
Age of Head	0.141**	0.176***	0.166**	0.180***
	(0.067)	(0.051)	(0.072)	(0.060)
Age^2 of Head	-0.00169***	-0.00176***	-0.00155***	-0.00147***
	(0.00051)	(0.00034)	(0.00058)	(0.00039)
Head Unemployed	0.654	0.207	0.547	0.0521
	(0.44)	(0.22)	(0.63)	(0.22)
High School Graduate	0.137	0.271	-0.118	0.00933
	(0.17)	(0.18)	(0.17)	(0.16)
Some College	0.189	0.221	-0.0365	0.00184
	(0.18)	(0.18)	(0.19)	(0.17)
College Graduate	0.220	0.216	-0.137	-0.130
	(0.20)	(0.19)	(0.22)	(0.19)
State x Year Interactions	No	No	No	No
Observations	9120	9946	8708	9470
Households	5461	5945	5275	5736

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 13

RESULTS USING PANEL DATA AND SEPARATE MEASURES OF ELIGIBLE DOLLARS, WITH INTERACTIONS

	Log(Wealth with Home)		Log(Wealth Without Home)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid-Only Eligible Dollars/100	-0.00104	0.00317	-0.0157	-0.0204
	(0.031)	(0.025)	(0.032)	(0.030)
AFDC-Related Eligible Dollars/100	-0.301	-0.0895	-0.184	-0.0290
	(0.22)	(0.078)	(0.23)	(0.071)
Age of Head	0.146**	0.182***	0.171**	0.184***
	(0.069)	(0.052)	(0.066)	(0.060)
Age^2 of Head	-0.00178***	-0.00184***	-0.00181***	-0.00162***
	(0.00059)	(0.00036)	(0.00056)	(0.00039)
Head Unemployed	0.681	0.196	0.312	-0.0608
	(0.53)	(0.24)	(0.58)	(0.23)
High School Graduate	0.130	0.235	-0.158	-0.0793
	(0.17)	(0.19)	(0.16)	(0.16)
Some College	0.198	0.186	-0.114	-0.113
	(0.19)	(0.19)	(0.18)	(0.17)
College Graduate	0.231	0.172	-0.222	-0.243
	(0.22)	(0.21)	(0.20)	(0.19)
State x Year Interactions	Yes	Yes	Yes	Yes
Observations	9120	9946	8708	9470
Households	5461	5945	5275	5736

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 14

RESULTS USING CROSS-SECTIONAL DATA AND SEPARATE MEASURES OF ELIGIBLE DOLLARS, NO INTERACTIONS

	Log(Wealth with Home/Income)		Log(Wealth Without Home/Income)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid-Only Eligible Dollars/100	-0.000466	-0.0123	0.00318	-0.00513
	(0.020)	(0.017)	(0.024)	(0.020)
AFDC-Related Eligible Dollars/100	-0.0723	-0.0683	0.0152	0.00196
	(0.059)	(0.050)	(0.046)	(0.046)
Head Black	-0.663***	-0.641***	-0.603***	-0.601***
	(0.11)	(0.11)	(0.082)	(0.083)
Head Other	-0.114	-0.122	-0.130	-0.158
	(0.074)	(0.075)	(0.091)	(0.096)
Age of Head	0.0882***	0.0852***	0.0422*	0.0400**
	(0.027)	(0.023)	(0.024)	(0.020)
Age^2 of Head	-0.000316	-0.000283	0.0000454	0.0000584
	(0.00033)	(0.00028)	(0.00030)	(0.00024)
Head Unemployed	0.389**	0.406**	0.0663	0.0796
	(0.17)	(0.16)	(0.14)	(0.14)
Female Head	0.709	0.853	-0.197	0.0248
	(0.85)	(0.71)	(0.54)	(0.67)
High School Graduate	-0.0860	-0.120	0.0948	0.103
	(0.13)	(0.11)	(0.13)	(0.12)
Some College	0.148	0.113	0.306**	0.330**
	(0.11)	(0.11)	(0.13)	(0.13)
College Graduate	0.232*	0.211*	0.470***	0.495***
	(0.13)	(0.12)	(0.14)	(0.13)
State x Year Interactions	No	No	No	No
Observations	8834	9571	8457	9153
R-squared	0.20	0.19	0.15	0.14

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 15

RESULTS USING CROSS-SECTIONAL DATA AND SEPARATE MEASURES OF ELIGIBLE DOLLARS, WITH INTERACTIONS

	Log(Wealth with Home/Income)		Log(Wealth Without Home/Income)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid-Only Eligible Dollars/100	0.0175	0.00322	0.0256	0.0113
	(0.024)	(0.019)	(0.028)	(0.022)
AFDC-Related Eligible Dollars/100	-0.0798	-0.0813	0.00444	-0.0101
	(0.056)	(0.049)	(0.046)	(0.045)
Head Black	-0.665***	-0.643***	-0.610***	-0.608***
	(0.11)	(0.11)	(0.084)	(0.084)
Head Other	-0.134*	-0.141*	-0.155*	-0.177*
	(0.074)	(0.073)	(0.092)	(0.097)
Age of Head	0.0897***	0.0866***	0.0460*	0.0427**
	(0.028)	(0.024)	(0.024)	(0.020)
Age^2 of Head	-0.000328	-0.000296	0.00000766	0.0000300
	(0.00034)	(0.00029)	(0.00030)	(0.00025)
Head Unemployed	0.353**	0.388**	0.0341	0.0553
	(0.17)	(0.16)	(0.14)	(0.14)
Female Head	0.907	1.087	-0.0934	0.308
	(0.83)	(0.68)	(0.55)	(0.60)
High School Graduate	-0.0956	-0.134	0.0822	0.0905
	(0.13)	(0.12)	(0.13)	(0.12)
Some College	0.145	0.104	0.300**	0.321**
	(0.12)	(0.11)	(0.13)	(0.14)
College Graduate	0.241*	0.212	0.464***	0.490***
	(0.13)	(0.13)	(0.14)	(0.14)
State x Year Interactions	Yes	Yes	Yes	Yes
Observations	8834	9571	8457	9153
R-squared	0.20	0.20	0.16	0.15

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 16

RESULTS USING PANEL DATA AND SEPARATE MEASURES OF ELIGIBLE DOLLARS, NO INTERACTIONS

	Log(Wealth with Home/Income)		Log(Wealth Without Home/Income)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid-Only Eligible Dollars/100	-0.00174	0.0138	-0.0134	-0.0197
	(0.033)	(0.039)	(0.039)	(0.034)
AFDC-Related Eligible Dollars/100	-0.361*	-0.295	-0.317	-0.178
	(0.22)	(0.19)	(0.24)	(0.12)
Age of Head	0.112	0.0733	0.131	0.114
	(0.078)	(0.076)	(0.084)	(0.071)
Age^2 of Head	-0.00115**	-0.000351	-0.000856	-0.000351
	(0.00052)	(0.00059)	(0.00055)	(0.00050)
Head Unemployed	1.374***	1.313***	1.292**	1.033***
	(0.48)	(0.46)	(0.54)	(0.32)
High School Graduate	0.0240	0.304	-0.212	-0.0272
	(0.18)	(0.26)	(0.20)	(0.18)
Some College	0.241	0.384	0.00841	0.0841
	(0.20)	(0.29)	(0.21)	(0.21)
College Graduate	0.196	0.349	-0.172	-0.0889
	(0.22)	(0.30)	(0.23)	(0.22)
State x Year Interactions	No	No	No	No
Observations	8834	9571	8457	9153
Households	5281	5715	5121	5543

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

TABLE 17

RESULTS USING PANEL DATA AND SEPARATE MEASURES OF ELIGIBLE DOLLARS, WITH INTERACTIONS

	Log(Wealth with Home/Income)		Log(Wealth Without Home/Income)	
	Head Families	Full Sample	Head Families	Full Sample
	(1)	(2)	(3)	(4)
Medicaid-Only Eligible Dollars/100	-0.0118	0.0222	-0.0254	-0.0248
	(0.034)	(0.045)	(0.036)	(0.034)
AFDC-Related Eligible Dollars/100	-0.319	-0.344	-0.225	-0.128
	(0.20)	(0.24)	(0.18)	(0.11)
Age of Head	0.117	0.0644	0.134*	0.121*
	(0.076)	(0.088)	(0.077)	(0.070)
Age^2 of Head	-0.00122**	-0.000235	-0.000960*	-0.000462
	(0.00052)	(0.00072)	(0.00052)	(0.00049)
Head Unemployed	1.290***	1.403**	1.076***	0.898***
	(0.43)	(0.57)	(0.41)	(0.29)
High School Graduate	0.00541	0.329	-0.253	-0.119
	(0.18)	(0.32)	(0.19)	(0.18)
Some College	0.232	0.438	-0.0752	-0.0179
	(0.20)	(0.36)	(0.20)	(0.20)
College Graduate	0.181	0.389	-0.263	-0.193
	(0.21)	(0.37)	(0.21)	(0.21)
State x Year Interactions	Yes	Yes	Yes	Yes
Observations	8834	9571	8457	9153
Households	5281	5715	5121	5543

Also included, but not shown, are controls for the number of children of each age from 1 to 18; total family size; number of women in each age group described in section 3.4; and state and year dummies

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

APPENDIX

APPENDIX A

CHARACTERISTICS OF THE PSID SAMPLE*

Variable	
Age of Head	40.15
Head is Unemployed	.10
Head is Single Female	.19
Head is White	.81
Head is Black	.13
Head is High School Graduate	.34
Head has Some College	.31
Head is College Graduate	.17
Number of Kids Under Age 18	.86

*Characteristics are weighted and exclude extended households

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