

Welfare Reform, Saving, and Vehicle Ownership: Do Asset Limits and Vehicle Exemptions Matter?

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Abstract

Eligibility rules for the AFDC/TANF program prohibit recipients from accumulating wealth in excess of certain thresholds. These asset restrictions place high implicit tax rates on asset holdings, and may also affect asset allocation decisions, because some assets such as vehicles are partially exempt. This paper examines whether asset restrictions for eligibility under the AFDC/TANF program affect the asset holdings of low-educated single mothers. Using nationally representative family-level data, I examine the impact of these restrictions on both liquid and vehicle assets, exploiting variation in asset limits and exemptions across states and over time. There are important reasons to examine vehicle assets in this context. First, vehicles make up a very significant share of total wealth for poor families. Families with limited resources are more likely to have vehicle equity than any other type of asset. Second, the variation in vehicle exemptions over time and across states far exceeds the variation in asset limits, suggesting that policy changes are particularly important for vehicle equity. Nevertheless, there is little research that examines the effects of asset restrictions on vehicle assets. Consistent with other recent research, I find little evidence that asset limits have an effect on the amount of liquid assets that single mothers hold. However, I find evidence that vehicle exemptions do have an important effect on vehicle assets. The findings suggest that moving from a \$1500 vehicle exemption to a full vehicle exemption increases the probability of owning a car by 20 percentage points for low-educated single mothers relative to a comparison group. There is also evidence that more generous vehicle exemptions result in greater vehicle equity. The results indicate that single mothers are not substituting vehicle equity for liquid assets in response to more relaxed restrictions on vehicles. In addition, the findings suggest that total wealth increases in response to more generous vehicle exemptions.

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1. Introduction

The saving behavior of poor families has attracted the attention of both researchers and policy makers. Several studies have shown that poor families tend to have very few assets (Carney and Gale, 2001; Ziliak, 2003). Given that most of these families have limited access to formal credit markets (Sullivan, 2002a), low saving rates make it difficult for these families to invest in education, own a home, or make other significant investments in physical or human capital. Also, without a buffer of saving, poor families are not self-insured against negative income shocks, and these families may consequently become more dependent on public transfer programs. Some researchers have suggested that low saving rates among the poor limit economic mobility, exacerbating the cycle of poverty (Sherraden, 1991).

Previous studies have shown that, in theory, transfer programs can partly explain why saving rates are low among the poor (Hubbard, Skinner, and Zeldes, 1995). These programs can discourage saving, not only because they provide a consumption floor, but also because they are means tested—eligibility requires a recipient's income and assets to fall below specified thresholds. All of the major U.S. transfer programs that target low-income families including Temporary Assistance for Needy Families (TANF), Food Stamps, Medicaid, and Supplemental Security Income (SSI), have asset tests. These asset tests for program eligibility help these transfer programs target disadvantaged populations. However, these eligibility requirements may also have adverse incentive effects on saving. On the one hand, asset restrictions place high implicit tax rates on asset holdings, suggesting that the restrictions may discourage saving. On the other hand, more generous asset restrictions could make program participation attractive for more families, suggesting that relaxing these rules may induce some families to reduce asset holdings in order to maintain the option of participating in the transfer program. Thus, the net effect of relaxing asset restrictions is an empirical question.

This paper examines whether asset tests for eligibility for the AFDC/TANF program affect the asset holdings of families likely to participate in this program.¹ Many states implemented significant changes in their rules governing assets for the welfare program during the mid to late 1990s, resulting in an increase in both the limits on total assets and the exemptions for vehicle equity. Using nationally representative micro-data, I examine how this variation in eligibility rules across states and over time affects vehicle and liquid asset holdings for low-educated single mothers—a group with significant exposure to the welfare program.

There are important reasons to focus on vehicle assets within the context of a study of the saving behavior of the poor. First, recent policy changes for vehicle exemptions far exceed the changes in the asset limit, suggesting that policy changes may be particularly important for vehicle equity. Many states now fully exempt the value of at least one vehicle from the asset test, but the vast majority of state asset limits are no greater than \$5000. Second, vehicles are the single largest component of wealth for low-educated single mother families. These families are twice as likely to have vehicle assets as liquid assets, and vehicle equity accounts for two-thirds of all assets for these families. Third, vehicle exemptions may distort asset allocation by effectively making the implicit tax rate lower for vehicles than for liquid assets. Fourth, while vehicles are somewhat illiquid and are less likely than other assets to hold their value or appreciate, researchers have argued that durable goods such as vehicles are an important saving mechanism for families with limited exposure to financial institutions. Lastly, vehicle assets are not only an important component of saving among low-educated single-mothers, but vehicles are also an important consumption good, particularly for welfare recipients transitioning into the labor force. Restrictions on vehicle assets may make it more difficult for welfare recipients to find adequate transportation to work. Concerns about transportation for low-income families have risen as recent changes in welfare policy have placed significant emphasis on the importance of work (Ong and Blumenberg, 1998; Raphael and

¹ With the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in 1996, TANF replaced Aid to Families with Dependent Children (AFDC).

Rice, 2002). Nevertheless, very little research has addressed the effects of asset restrictions on vehicle assets.

Consistent with other recent research, I find little evidence that asset limits have an effect on the amount of liquid assets that single mothers hold. However, I find evidence that vehicle exemptions do have an important effect on vehicle assets. The findings suggest that moving from a \$1500 vehicle exemption to a full vehicle exemption increases the probability of owning a car by 20 percentage points for low-educated single mothers relative to a comparison group. There is also evidence that more generous vehicle exemptions result in greater vehicle equity. The results indicate that single mothers are not substituting vehicle equity for liquid assets in response to more relaxed restrictions on vehicles. In addition, the findings suggest that total wealth increases in response to more generous vehicle exemptions.

In the following section I discuss the relationship between asset restrictions and wealth holdings, highlighting how the incentive effects of these restrictions on saving behavior differ across families. I also summarize the major policy reforms affecting asset restrictions under AFDC/TANF since 1980, provide additional motivation for why vehicle assets are an interesting outcome to examine in this context, and review the empirical literature that investigates the effects of these reforms on the saving behavior of the poor. Section 3 describes the data that I use from the Survey of Income and Program Participation (SIPP), and outlines the methodology used to examine the effect of asset restrictions on both vehicle and liquid assets. Results are presented in section 4, and conclusions are offered in Section 5.

2. Background

2.1 Asset Restrictions and Wealth

Asset tests under the AFDC/TANF program typically apply to all assets except for owner-occupied housing equity and some fraction of the equity value of a vehicle.² For example, consider a state that imposes a \$1000 asset limit but allows a \$1500 vehicle exemption. In this state, an individual with \$250 in a checking account and \$2000 of equity in a vehicle satisfies the state's asset test because only \$500 of the vehicle equity will be counted towards the asset limit ($\$250 + \$500 < \$1000$). However, an individual with \$750 in a checking account and \$2000 in vehicle equity will not satisfy the state asset test.

Asset tests for eligibility for public transfer programs, in theory, will discourage families that participate in these transfer programs from holding assets. Likewise, with income uncertainty, asset restrictions will also discourage non-participants with a strong likelihood of participation in these transfer programs from accumulating wealth. Because some assets are exempt from the asset tests, these rules may affect not only total wealth but also the allocation of assets. It is also important to note that transfer programs such as AFDC/TANF may discourage saving even in absence of an asset test, because these programs may discourage precautionary saving by providing a consumption floor or a buffer against negative income shocks.³

Hubbard, Skinner, and Zeldes (1995) show that households with low permanent incomes can increase expected lifetime utility by maintaining low levels of assets, because holding assets

² Assets that are subject to this limit include all financial assets, non owner-occupied real estate, and durables such as vehicles or equipment. Many states exclude other assets such as jewelry and burial plots. Traditionally, states have assessed the equity value of the vehicle (market value less vehicle debt) for the purposes of the asset test. However, since 1996 an increasing number of states have moved to a fair market value assessment of vehicles.

³ While this paper focuses on the effects of a public transfer program on the saving behavior of the poor, there are many other hypotheses for why saving rates are particularly low for this group. For example, as implied by a full consumption insurance model, poor families have less incentive to save for precautionary reasons if they insure by transferring assets between families. See Cochrane (1991) or Townsend (1994) for a discussion of full consumption insurance. Also, poor families might discount future consumption differently than other families (Lawrance, 1991; Angeletos, Laibson, Repetto, Tobacman, and Weinberg, 2001). In addition, these families may exhibit less life-cycle saving due to the relatively high replacement rates of Social Security for low-income groups.

can result in ineligibility for public transfers. They simulate the potential effect of means-tested welfare benefits on the saving behavior of poor households using the Panel Study of Income Dynamics (PSID). Their results suggest that asset tests would discourage saving for families that see welfare benefits as a viable alternative source of income.

Although asset restrictions may discourage the permanent income poor from accumulating assets, the effect of asset limits and exemptions may be different for other households. Relaxing these restrictions, for example, will make transfer programs more attractive to some households that previously had not considered participating due to strict asset tests—in particular, households whose asset holdings are well above the old limits, but are relatively close to the new limits. These households have an incentive to respond to the increased limit by reducing asset holdings in order to have the option of participating in these transfer programs. There are also two groups of households that are not likely to exhibit any behavioral response to the presence of asset restrictions in public transfer programs: a) wealthy or high permanent income households and b) households with very few assets and very low permanent incomes. For the former, these restrictions are irrelevant because the probability of program participation is extremely low, while for the latter, the asset restrictions are not likely to be binding. This latter point is particularly relevant for an analysis of poor families such as low-educated single mothers because a large fraction of these families have asset levels well below those required for eligibility in public transfer programs. Nearly three-quarters of all single mothers without a high school degree have no liquid assets.

2.2 Policy Changes

Asset limits and vehicle exemptions under AFDC/TANF have varied over time and across states. These rules have undergone two periods of major reform during the 1980s and 1990s. The first was the Omnibus Budget Reconciliation Act of 1981 (OBRA 81), which made asset limits fairly uniform across states, and imposed dramatic reductions in the amount of vehicle equity that could be exempt from the asset test. OBRA 81 specified a maximum AFDC asset limit of \$1000,

although states could set a lower limit. OBRA 81 also imposed greater restrictions on vehicle equity. Prior to 1981, 32 states allowed the full value of one vehicle to be exempt from the AFDC asset test. OBRA 81 set a \$1500 maximum for this exemption.⁴

Between 1982 and 1992 asset restrictions for the AFDC/TANF program remained virtually unchanged in nominal terms. States changed eligibility rules between 1992 and 1996 through welfare waivers—applications to the Secretary of Health and Human Services (HHS) to change certain program requirements. As shown in Table 1, during this waiver period states moderately relaxed asset limits, but dramatically relaxed restrictions on vehicle equity. Twelve states relaxed asset limits, but even the most generous limits remained at or below \$5000 for a single recipient. During this same period, nearly half of the states offered more generous vehicle exemptions, with seven of these states exempting the full value of at least one vehicle. Changes in limits and exemptions continued after the passage of PRWORA in 1996. By 1999, seven states still had asset limits of \$1000, while twenty-one states had exempted the full value of a vehicle.⁵

At the same time that states changed asset limits and exemptions, they also changed other features of the AFDC program. Between 1992 and 1996, many states applied for HHS waivers to impose work requirements, time-limits, which placed a lifetime limit on welfare receipt, or family caps, which limited the degree to which benefits increased with family size. In addition, many states lowered the effective tax rate that AFDC placed on labor income. In 1996, PRWORA replaced the AFDC program with state administered TANF block grants. With PRWORA came mandated work requirements and time-limits and new stipulations for minor parents, requiring them to live with an adult and work toward a high school degree. Besides these requirements, PRWORA gave states broad authority to dramatically restructure the nature of their welfare programs.

⁴ Other changes resulting from OBRA 81 include the exemption of equity in owner-occupied homes from asset tests.

⁵ Changes in AFDC/TANF asset limits and exemptions have varied more widely than asset restrictions under other public transfer programs. For example, asset restrictions for eligibility for Food Stamps remained virtually unchanged until recently—the federally mandated vehicle exemption was set at \$4,650 from 1985 to 1996.

2.3 Vehicles

There are compelling reasons to examine vehicle assets in addition to liquid assets in the context of a study of the effects of welfare policy on saving. First, as discussed in section 2.2, the variation in vehicle exemptions far exceeds the variation in the limits on total assets. In the 1990s most states significantly relaxed the constraint on vehicle equity, so that by 1999 nearly half of all states offered a full exemption for at least one vehicle. At this same time, only eight states had relaxed their asset limits by more than \$2000 between 1992 and 1999 (see Table 1).

Another important reason to examine vehicle assets is that families with a high probability of participating in welfare are more likely to have vehicle equity than any other type of asset. As shown in Figure 1, forty-five percent of all single mothers without a high school degree have some vehicle equity. This is significantly higher than the twenty-two percent that have money in a checking or savings account. These families hold very little in other forms of assets. Thus, vehicles account for a very large share of the total asset portfolio for low-educated single mother families. As evident in Figure 4, vehicles account for sixty-seven percent of non-housing assets for single mothers without a high school degree. This is a much greater fraction than is evident for samples that include more educated single mothers (Figures 2 and 3).

It is also important to look at vehicle assets in addition to liquid assets because the AFDC/TANF eligibility rules treat these assets differently. Because some fraction of vehicle equity is exempt from the asset tests, the implicit tax rate is lower for vehicle assets than for liquid assets. Thus, vehicle exemptions may not only affect the level of asset holdings, but they may also distort asset allocation, encouraging families to substitute vehicle equity for other types of assets.

There are several reasons why policy makers who are concerned about the saving behavior of the poor might be less interested in changes in vehicle assets than changes in other assets such as housing or financial wealth. Vehicle assets are less likely than other assets to hold their value or appreciate. Also, vehicle assets are less liquid than other forms of saving, making them less

effective as a means of buffering against negative income shocks. Nevertheless, durable goods such as vehicles can be an important saving mechanism for poor households. Browning and Crossley (2001) argue that durable goods provide an important source of consumption smoothing for low-income households. For example, a household may purchase durables when transitory income is high while postponing purchases of durables during income shortfalls, effectively smoothing consumption over uncertain income streams. Fernandez-Villaverde and Krueger (2002) show that it is optimal household behavior to accumulate durables early in the life-cycle as these durables provide both consumption flows and collateral for insurance against variable income. Poor households may choose to save through durables simply because they have limited access to checking or savings accounts at financial institutions (Caskey, 1994).

The effect of welfare policy on vehicle ownership has important implications for the well-being of single mother families not only because vehicle assets account for a substantial fraction of saving for these families, but also because vehicles may be a particularly important consumption good for welfare recipients transitioning into the labor force. Some researchers have argued that vehicles are an important outcome to examine because concerns about transportation for poor families have risen in the wake of recent reforms to welfare policy that have placed significant emphasis on work. Smeeding (1993) advocates for non-cash transfers to help welfare recipients purchase vehicles in order to get to work. Ong and Blumenberg (1998) suggest that transportation is a major obstacle to sustainable employment for former welfare recipients. Other research finds positive effects of car ownership on both employment and hours of work (Raphael and Rice, 2000; Bansak, Mattson, and Rice, 2004). These effects are disproportionately large for workers that are spatially isolated from employment opportunities (Raphael and Stoll, 2001). Researchers have expressed concern over the spatial mismatch between welfare recipients and jobs; two-thirds of all newly created jobs are located in the suburbs, but 75 percent of all welfare recipients live in urban

cities or rural areas (Harbaugh and Smith, 1998). As I show in the following section, a vast majority of working single mothers use their own car to commute to work.

2.4 Previous Empirical Work

A couple of empirical studies examine the effect of asset restrictions under the AFDC/TANF program on the saving behavior of the poor: Powers (1998) and Hurst and Ziliak (2004).⁶ Powers (1998) considers how total net wealth, which includes housing equity but excludes vehicle equity, responds to the changes in the asset limit mandated by OBRA 81. She examines a small sample of single mothers (N=229) from the 1979 and 1984 waves of the National Longitudinal Survey-Young Women (NLS-YW), identifying the policy effect by exploiting cross-state variation in the change in the asset limit between 1978 and 1983. She finds a fairly large effect: a \$1 increase in the asset limit resulted in 25 cents of additional saving for households headed by a single mother between the ages of 24 and 34 in the base year.

Due to data limitations, Powers does not include vehicle equity in her measure of household assets. As explained in the previous subsection, excluding vehicle assets is particularly problematic for an analysis of the saving behavior of poor households. Also, due to other limitations in the data, the findings in Powers (1998) are not likely to be representative of the population of all single mothers. The NLS-YW originated in 1968 with a sample of women aged 14 to 24. Thus, the sample of single mothers in Powers (1998) is limited to women between the ages of 24 and 34 at the base year of her study and these women are at least 29 years old in the post-OBRA 81 wave. This excludes a substantial portion of single mothers who are exposed to these transfer programs. This may imply that the findings overstate the responsiveness of saving to asset restrictions for younger single mothers for whom the restrictions may not be binding because these younger mothers are much less likely to have accumulated assets.

⁶ Other studies have analyzed the effects of asset restrictions for different programs. For example, Gruber and Yelowitz (1999) examine the effect of asset restrictions under the Medicaid program. They show that Medicaid eligibility has a large negative effect on household wealth. Neumark and Powers (1997) also find significant effects of the asset tests imposed under SSI on the saving behavior of an elderly sample. See Orszag (2001) for a summary of the empirical literature on the effects of asset restrictions.

Hurst and Ziliak study the more recent reforms to asset restrictions under AFDC/TANF that were implemented either through waivers or PRWORA. Like Powers, they estimate how saving behavior responds to cross-state variation in changes in the asset rules. Using the PSID, which provides asset data for the same households in 1994 and 2001, they examine how asset holdings for single mother households change over this seven-year period. Unlike Powers, Hurst and Ziliak (2004) find that changes in asset restrictions have no measurable effect on changes in liquid assets for single mother families. The authors argue that one explanation for this finding is that a substantial fraction of these households have very few assets, and therefore the constraint on assets is not binding. They show that, for a sample of single mothers without a college degree, more than 80 percent have liquid wealth below the state-mandated limit of \$1000. However, this argument might be less applicable to constraints on vehicle equity. The limits on vehicle equity may be more likely to bind for this sample, because vehicle assets account for a very significant fraction of wealth for poor households (see Section 2.3). While the focus of Hurst and Ziliak is primarily on liquid assets, they do present one result for the effect of the asset limit on vehicle ownership. They find that, conditional on not owning a vehicle in 1994, every \$1000 increase in the asset limit increases the probability of owning a vehicle in 2001 by 13 percentage points. They do not consider the effect of vehicle exemptions on vehicle ownership, and they find no effect of asset limits or vehicle exemptions on the probability of having a positive change in vehicle equity over their seven-year period.

This paper contributes to the existing literature in several important ways. First, unlike previous studies, I present detailed evidence on changes in vehicle assets, which, as explained in Section 2.3, are a critical component of saving for single mother families. Moreover, recent policy changes may be particularly important for vehicle equity. Second, as discussed above the empirical literature investigating the effects of asset limits has reached little consensus. This study provides additional empirical evidence for this debate; my results for liquid assets confirm the findings of

Hurst and Ziliak using a different dataset—a more generous limit on assets does not increase liquid asset holdings. Third, in addition to examining the effects of policy changes that occurred after PRWORA, I also present evidence on the effect of policy changes that occurred during the pre-RRWORA waiver period. As I explain in Section 3.2, it is important to examine the waiver period in isolation because rules governing state welfare programs became highly idiosyncratic post-PRWORA, making it very difficult to characterize the nature of program changes using a few simple parameters. Fourth, I use a much larger dataset that provides a sample that is more than five times as large as those used in previous studies. The larger sample enables me to more precisely estimate the effects of recent policy changes by better targeting my analysis on a narrowly defined demographic group with significant exposure to welfare. I focus on single mothers with less than a high school degree, while previous research has looked at single mothers with less than a college degree. Single mothers without a high school degree are much more likely to participate in welfare. In the early 1990s 72 percent of these single mothers received welfare during the previous year, as compared to 42 percent for single mothers without a college degree. By 1998, these participation rates had fallen to 50 percent and 29 percent respectively.⁷

3. Data and Methodology

3.1 Data and Descriptive Statistics

The empirical analysis draws on data from the Survey of Income and Program Participation (SIPP). The SIPP provides data for a stratified sample representative of the U.S. civilian noninstitutionalized population. Sample sizes in the SIPP panels are quite large; more than 35,000 households were interviewed for the 1996 Panel. Respondents provide demographic and economic information over the course of several years at four-month intervals. Within each panel, the survey will occasionally include an asset and liability topical module which collects detailed wealth

⁷ These participation rates are based on the author's calculations using adjusted data from the March Current Population Survey. Because welfare receipt is significantly underreported in the March CPS, I adjust the reported numbers using administrative data reported in Bavier (1999). This adjustment process implicitly assumes underreporting is constant across educational attainment.

information. These wealth questions cover liquid assets such as checking and savings accounts, U.S. savings bonds, private equity investments, and other financial investments. Additional information is also provided for real estate wealth, vehicle assets including the market and equity value of all vehicles, business equity, as well as assets in retirement accounts. Unfortunately, the SIPP does not ask households to report the amount of cash held outside of financial institutions. However, data from the Survey of Consumer Finances (SCF), which does ask about cash assets, suggest that cash holdings are a small fraction of asset holdings, even for poor families.⁸

I pool data from the 1992, 1993, and 1996 Panels of the SIPP. In the 1992 Panel, respondents report asset information in the fourth wave (early in 1993) and again one year later in the seventh wave. Similarly, in the 1993 Panel respondents report asset information in the fourth wave (early in 1994) and again one year later. In the 1996 Panel, respondents are asked about their stock of assets and liabilities four times over the duration of the panel at one year intervals. Assets are first reported in the third wave which starts at the end of 1996.

Data on changes in various AFDC/TANF program rules over time and across states are gathered from four sources: Meyer and Rosenbaum (2001), the U.S. House of Representatives, Committee on Ways and Means (Various Years), HHS (Various Years), and Urban Institute (2002). Under the New Federalism project the Urban Institute has compiled data dating back to 1993 on asset limits and vehicle exemption levels as well as many other program parameters for each state.

As discussed in Section 21, the effect of asset restrictions on family saving behavior will depend on the family's likelihood of participating in the means-tested program. To concentrate on a group of families that is likely to have significant exposure to the AFDC/TANF program, the analysis that follows focuses on families headed by single mothers without a high school degree, but I also look at a larger sample of single mothers with a high school degree or less. By looking at low-educated single mothers I focus on the at-risk population that is most likely to be affected by

⁸ This is based on the author's calculations using the 1998 SCF.

reforms in AFDC/TANF asset restrictions. More than 70 percent of single mothers without a high school degree received means-tested cash benefits in 1991. This fraction dropped to 50 percent by 1998. Prior to PRWORA single mother families accounted for as much as 90 percent of the AFDC caseload.

Table 2 provides a preliminary look at samples of low-educated single women between the ages of 18 and 54 from the SIPP for the years 1992 through 1999. The SIPP data for these years include 5,153 single mothers with a high school degree or less, 1,837 of which did not finish high school, and 3,148 single women without children 792 of which did not finish high school.⁹ I present descriptive information for both single mothers as well as a comparison group of single women without children—a group which is much less likely to be affected by recent changes to welfare policy. Both groups of women, however, experience similar economic outcomes, and have similar wages—particularly when one conditions on educational attainment (Meyer and Sullivan, 2004a). As shown in Table 2, there are some differences across these two groups. Single mothers (Columns 1 and 2) are younger and more likely to be minority than the comparison group of single women without children (Columns 3 and 4). The mothers are also somewhat less educated than single women without children. Single women without children are more likely to own a car and they are wealthier than single mothers.

The evidence on asset holdings in Table 2 suggests that restrictions on vehicle equity are much more likely to bind than restrictions on liquid assets. Forty-three percent of all single mothers without a high school degree own an automobile (Column 1). For a sample of those with a high school degree or less, 58 percent own cars (Column 2). The majority of these women with a job drive their own vehicle to work.¹⁰ The median equity value of a single car (not reported) is \$1825 for single women with a high school degree or less and \$1500 for those without a high school

⁹ I delete observations that are missing the state of residence. I can uniquely identify the state of residence for forty-five separate states as well as the District of Columbia.

¹⁰ Data on transportation to work are only available in the SIPP in the 1996 panel.

degree. Average vehicle equity for low-educated single mothers far exceeds the average value of liquid assets. More than a quarter of all single mothers with a high school degree or less, and nearly half of those with cars, have vehicle equity greater than \$2500 in real terms, which alone would make them ineligible for AFDC under the pre-waiver rules.¹¹ By contrast, less than fifteen percent of these low-educated single mothers have liquid assets that exceed the restriction on liquid assets. Moreover, seventy-five percent of all low-educated single mothers, and more than eighty-five percent of those without a high school degree, have liquid assets valued at less than half of the pre-waiver asset limit, suggesting that the limit on liquid assets is not binding for many of these families.

Table 3 examines changes in vehicle ownership for single mothers over time, and compares this trend to that of single women without children. I compare vehicle ownership rates for single women living in states with vehicle exemptions above the 1992 level to those living in states with vehicle exemptions that have not been relaxed. The results in Table 3 show that vehicle ownership for single mothers increased both in absolute and relative terms after states relaxed vehicle exemptions. Vehicle ownership for single mothers with a high school degree or less increased by 7.1 percentage points after these limits were relaxed. The increase for the lowest educated single mothers was 10.5 percentage points. By contrast, vehicle ownership for single women without children remained virtually unchanged. For single mothers without a high school degree, vehicle ownership increased by 8.4 percentage points relative to the comparison group.

Table 3 also shows that the value of vehicle assets increased for single mothers. For those without a high school degree, vehicle equity increases in absolute terms by 32.5 percent. There is some evidence that vehicle equity for this group increases in relative terms as well, by 22 percentage points, but this change is not statistically significant. Traditionally, most states have applied the equity value of the vehicle against the asset test. By focusing on equity value states

¹¹ All dollar figures in the analysis are converted to constant 1996 dollars using the CPI-U.

with strict limits on vehicle assets may not only discourage vehicle ownership, but also provide an incentive for potential welfare recipients to accumulate vehicle debt. However, Table 3 shows that the market value of vehicles for low-educated single mothers increased by more than equity value both in absolute and relative terms, indicating that vehicle debt actually increased after vehicle exemptions become more generous. In fact, most of these women do not have car loans. Only 38 percent of low-educated single mothers with cars have any vehicle debt, while only nine percent have zero or negative vehicle equity.

For single mothers with a high school degree or less, liquid assets increase 7.6 percentage points relative to women without children, but this change is not statistically significant. There is also some evidence that liquid assets increase for the lowest educated women, but this change is not statistically significant and much of this increase is driven by a drop in liquid assets for the comparison group.

These differences in trends of vehicle assets need not be driven by changes in the vehicle exemption. As reported in Meyer and Rosenbaum (2001), and elsewhere, the employment rate of single mothers increased sharply after 1993, in absolute terms and relative to single women without children or married mothers. In 1996 the employment rate of single mothers was six percentage points higher than it was in 1993. While reforms to welfare policy almost surely contributed to the rise in relative employment rates, research has shown that other policy changes played a major role. For example, Meyer and Rosenbaum find that the EITC is responsible for a large share of employment increases through 1996, with a smaller, but still important role for welfare benefit cuts and changes in welfare programs under waivers.¹² If increased employment generates an increase in demand for vehicles as a means for transportation to work, then changes in relative employment rates could explain why vehicle ownership rises faster for single mothers than for single women without children. Although the difference in vehicle ownership rates in Table 3 may be driven by

¹² Also see Ellwood (2000), who attributes recent employment increases to welfare reform, the EITC, and improvements in macroeconomic conditions.

changes in employment rates across these groups of women, this evidence still suggests that policy changes did have an important effect on vehicle ownership rates for single mothers. The analysis that follows will isolate the effect of changes in asset limits and exemptions from other mitigating factors that are likely to affect the vehicle ownership rates of single mothers.

3.2 Methodology

As discussed in Section 2.2, AFDC/TANF asset restrictions have varied noticeably over time and across states. I exploit this variation to estimate the effects of changes in these asset restrictions on asset holdings for the period from 1992 through 1999. For a sample of low-educated single mothers I estimate the following model:

$$V_{ist} = \beta_1 \text{Veh_Lim_Dummy}_{st} + \beta_2 (\text{Veh_Lim_Dummy}_{st} * \text{Veh_Lim}_{st}) + \beta_3 \text{Asset_Lim}_{st} + \beta_4 (\text{Max_Ben}_{ist} * \text{Asset_Lim}_{st}) + \beta_5 \text{Max_Ben}_{ist} + \beta_6 X_{ist} + \beta_7 Z_{st} + g_s + u_t + e_{ist}. \quad (1)$$

where V_{ist} is an outcome for family i in state s in year t . In the analysis that follows, V_{ist} represents an indicator for whether a family owns a vehicle or a measure of vehicle or liquid assets or non-housing wealth. $\text{Veh_Lim_Dummy}_{st}$ is an indicator for whether state s has a limit on vehicles in year t (1 = no full exemption, 0 = full vehicle exemption), Veh_Lim_{st} is the real dollar value of the exemption given the state does not exempt the full value of a vehicle, and Asset_Lim_{st} is the real value of the restriction on total assets for eligibility for AFDC/TANF. X_{ist} is a vector of demographic variables including family size, number of kids, whether the family lives in a rural area, and the race, education, and a cubic in age of the single mother. Z_{st} is a vector of time-varying state characteristics including the average manufacturing wages in a state, the quarterly state-level unemployment rate, and indicators for other state welfare policies. g_s is a time-invariant state effect that reflects unobservable heterogeneity across states, while u_t is a time effect that reflects aggregate trends such as trends in vehicle ownership. In all of the results that follow, I report heteroskedasticity consistent standard errors that are assumed to be independent across states, but not across individuals within a state.

To capture differences in the value of participating in welfare across states and over time, I include in the model a measure of the maximum benefit in a state for a given family size ($Max_Ben_{i,st}$), as well as an interaction of the maximum benefit with the value of the asset limit. The interaction term allows the effect of the asset limit to differ across states depending on welfare generosity.¹³ The maximum benefit is adjusted to account for difference in the cost of living across states using the cost of living index from Meyer and Rosenbaum (2001). This measure of real benefits allows me to better express the attractiveness of welfare on a common scale across states and over time.

At the same time that asset restrictions changed as a result of waivers, states also restructured other program rules, affecting the probability that a family participates in AFDC/TANF. For example, during the 1990s many states imposed work requirements and time-limits, which placed a lifetime limit on welfare receipt. To capture other changes in state policies, I include in the analysis indicators for other major changes to state welfare rules. In particular, I include an indicator for whether the state has implemented a time-limit and an indicator for whether the state has terminated an AFDC case under waiver rules. These AFDC policy parameters follow Meyer and Rosenbaum (2001).

One potential complication with my analysis is that during the latter part of my seven-year sample period the passage of PRWORA allowed states to dramatically change the nature of their welfare programs. The rules governing state welfare programs became highly idiosyncratic post-PRWORA, making it very difficult to characterize the nature of program changes using a few simple parameters. The difficulty of characterizing the differences in reforms across states has become a major obstacle for cross-state studies (Ellwood, 2000). Furthermore, the effect of asset restrictions on saving will certainly depend on the probability of being on welfare, and this probability changed dramatically after 1996—caseloads fell by more than forty percent between

¹³ I also estimated models that include an interaction of the vehicle limit and welfare generosity. These models yield results very similar to those reported in Section 4.

1996 and 1999 (Meyer and Sullivan, 2004a). For this reason, in Section 4 I also examine the effects of policy changes that occurred prior to the passage of PRWORA.

Estimates from Equation (1) may also be subject to omitted variable bias if states that offer higher benefits or more generous asset restrictions differ from other states in ways that are important for determining vehicle ownership or saving decisions. For example, general attitudes towards saving may be different across states and these attitudes may be correlated with welfare policies. To address this, all specifications include state fixed-effects (α_s) which capture time-invariant characteristics of the state. I also control for some observable, time-varying characteristics of the state such as average manufacturing wages in a state and the quarterly state-level unemployment rate.¹⁴

Even in a model that includes state fixed-effects, estimates of Equation (1) will be biased if unobservable, time-varying factors that lead states to change asset rules are also correlated with the probability of owning a vehicle in that state. To address this important concern, I also estimate a model similar to Equation (1) for a sample including both single mothers and a comparison group of single women without children, interacting an indicator for single motherhood with the main policy variables and including the single motherhood indicator as an explanatory variable. Single women without children are an appropriate comparison group for reasons explained in Section 3.1. As long as the unobservable factors affect single mothers and single women without children similarly, this specification captures the effect of the policy changes on assets for single mothers relative to the comparison group.

Although one can follow families over time within panels of the SIPP, the panels are not long enough to estimate individual fixed-effects in this context. The 1992 and 1993 SIPP Panels only provide asset information in two waves, and both observations in these panels are prior to changes in asset restrictions for most states. The 1996 Panel offers up to four observations on assets

¹⁴ For state wages I take the average weekly earnings of production workers in manufacturing for each state in a given year (Moffitt, 2002).

for each family. However, for many families all four observations occur after the state has changed the rules for asset restrictions. Thus, I treat the SIPP waves as repeated cross-sections. An important concern with this approach is that the composition of who is a single mother may change over time, and single motherhood is not completely exogenous to changes in welfare policies; the level of welfare benefits and eligibility rules could affect marriage or fertility. However, the consensus in this literature is that the effect of welfare policies on single motherhood is small (Hoynes, 1997). Moreover, single motherhood is not likely to change significantly over short time periods. While the bulk of my analysis focuses on the period from 1992 to 1999, the results I report below are qualitatively similar, and in many cases stronger, for the much shorter pre-PRWORA period that covers only four years.

In the following section I present estimates for Equation (1) for vehicle assets, liquid assets and total non-housing wealth. I examine vehicle assets on both the extensive (vehicle ownership) and intensive (vehicle equity) margins because asset restrictions may not only affect vehicle ownership but also the value of vehicles that families own. For example, families may allow their vehicles to depreciate, or own vehicles of lower quality in order to satisfy the asset tests under AFDC/TANF. In order to determine the effects of welfare policy on total saving and the allocation of assets, I also consider whether changes in asset restrictions affect the holdings of liquid assets and total wealth. Results for these non-vehicle assets are reported in Section 4.2.

4. Results

4.1 Vehicle Assets

Exploiting cross-state variation in asset restrictions that resulted from the implementation of state waivers and post-PRWORA state reforms, I estimate Equation (1) for samples of low-educated single mothers from 1992 through 1999 to examine whether these changes affect vehicle assets for this group. Table 4 shows estimates of Equation (1) for single mothers without a high

school degree from the SIPP. Consistent with the difference-in-difference results in Table 3, the estimates in Table 4 indicate that vehicle exemptions have an important effect on vehicle assets.

Column 1 shows probit estimates for the effect of asset restrictions on an indicator for vehicle ownership. For single mothers without a high school degree, the probability of owning a vehicle is lower in states that have a limit on vehicle equity than in states that exempt vehicles, but this difference decreases as the exemption increases. As a test of the effect of a change in vehicle exemptions, I compare a single mother in a state with a \$1500 vehicle exemption in real terms, which was the limit for most states prior to the waiver period, to a single mother in a state with a full vehicle exemption, as was common by 1999. The estimates in Column 1 suggest that a single mother in a state with a \$1500 exemption is 11.6 percentage points less likely to own a car than a comparable single mother living in a state that fully exempts a vehicle ($\beta_1 + (1.5)\beta_2 = -0.147 + 1.5 * 0.021$; p-value = 0.137). This point estimate is fairly large given that only 45 percent of these single mothers own vehicles during this time period. Within states that do not fully exempt vehicles, each \$1000 increase in the exemption results in a 2.1 percentage point increase in vehicle ownership rates (p-value = 0.008).

For vehicle equity (Columns 2 through 6), I estimate quantile regressions in addition to mean regressions because the distribution of vehicle equity is highly skewed.¹⁵ For the quantile estimates, I report bootstrapped standard errors that allow for within state dependence.¹⁶ As shown in Table 4, the results for vehicle equity are consistent with those for vehicle ownership. A single mother in a state with a \$1500 exemption holds \$390 less vehicle equity than a comparable single mother living in a state that fully exempts a vehicle ($-471 + 1.5 * 53.9$). This effect is marginally

¹⁵ For all OLS regressions, I truncate the sample at the top 2.5% of the distribution of the dependent variable due to extreme outliers in the distribution of assets. Tobit models yield results similar to those for OLS. I do not estimate median regressions because only 45 percent of these single mothers have nonzero vehicle equity. See Section 4.4 for a discussion of other robustness tests.

¹⁶ I allow for within state dependence within the bootstrap procedure by resampling at the state level, taking all observations for a given state, rather than at the state-year level. These bootstrap standard errors are estimated using 200 replications. In general, this resampling procedure significantly increases the magnitude of the standard errors for the quantile regressions.

significant (p-value = 0.067) and represents a 44 percent change at the mean of vehicle equity for this sample.¹⁷ Similarly, moving from a vehicle exemption of \$1500 to a full vehicle exemption increases vehicle equity by \$342 for a single mother at the 60th percentile of the distribution of vehicle equity (p-value = 0.084) and by \$595 for a single mother at the 75th percentile (p-value = 0.136). These estimates represent 88 percent and 50 percent increases in vehicle equity at their respective points in the distribution. The effect of vehicle exemptions is slightly greater for the market value of vehicles (Column 7) than for the equity value. Moving from a vehicle exemption of \$1500 to a full vehicle exemption increases the fair market value of vehicles by \$579 (p-value = 0.074).¹⁸

As discussed in the previous section, states dramatically overhauled their welfare programs after the passage of PRWORA, making it more difficult to precisely characterize the nature of these changes. Thus, I also examine the effects of changes in asset restrictions during the pre-PRWORA period (Column 8). For this waiver period the effect of vehicle exemptions is somewhat larger. The likelihood of owning a car for a single mother in a state with a \$1500 exemption is 26.2 percentage points lower than the likelihood for a single mother in a state with a full exemption ($-0.274 + 1.5 * 0.008$) and this response is statistically significant (p-value = 0.016). For this pre-PRWORA period, I also find that vehicle equity and market value respond significantly to changes in vehicle exemptions (results not reported).

Unlike the results for vehicle exemptions, there is little evidence that the limits on total assets have any effect on vehicle assets. The estimates for both the direct effect of the value of the liquid asset limit as well as the effect of this value interacted with the maximum benefit are very small. Incorporating this interaction term, I consider the effect of the asset limit for a state with a real maximum benefit of \$380—the average maximum benefit for this sample of single mothers

¹⁷ 44 percent reflects the change relative to a mean of \$853. This mean is smaller than the one reported in Table 2 because it is for the sample used for OLS estimation, which is truncated at the top 2.5 % of the distribution of vehicle equity.

¹⁸ Estimates for quantile and tobit models for the fair market value of vehicles are quantitatively similar to those reported in Column 7.

across all states during this time period. In other words, my null hypothesis for the effect of the asset limit is $\beta_3 + 3.8\beta_4 = 0$. The effect of this policy change is not economically significant in any of the specifications in Table 4. The estimate of the effect of the asset limit on vehicle ownership (Column 1), for example, is -0.1 percentage points ($-0.003 + 3.8*0.001$).

Table 4 also reports the estimates for the coefficients on some of the other explanatory variables. For example, there is little evidence that vehicle ownership responds to welfare generosity—the effect of the maximum benefit level on vehicle assets is small and not statistically significant. Single mothers in rural areas—those outside of MSAs—are more likely to own a car and hold more vehicle equity than single mothers in urban areas. Single mothers living in states with high average earnings are less likely to hold vehicle assets. This, in part, reflects the fact that high earnings states tend to have more urban centers and thus greater access to public transportation. Race also appears to be an important predictor of vehicle ownership; white single mothers are significantly more likely to own a car. Included in all of these specifications are controls for other state-level changes in AFDC/TANF policy (not reported). In general, the indicator for whether the state has implemented a time-limit has little effect on vehicle assets. The point estimate on the indicator for whether the state has terminated a welfare case suggests that vehicle assets are higher in states that terminate cases, but the standard errors on these estimates are large.

The effect of vehicle exemptions and asset limits on vehicle assets is similar for a larger sample that includes single mothers with a high school degree (Table 5), although the magnitudes of the effects are smaller in percentage terms. One might expect the effects to be smaller for this sample, because single mothers with a high school degree have a lower probability of participating in welfare than those that do not graduate high school, and therefore, they are less likely to respond to changes in welfare policy. For this larger sample of single mothers with a high school degree or less, the likelihood of owning a car is 4.7 percentage points lower in a state with a \$1500 vehicle

exemption than in a state with a full exemption ($-0.059+1.5*0.008$; p-value = 0.187). Having a full vehicle exemption increases vehicle equity by \$472 at the 60th percentile (p-value = 0.042) of the distribution of vehicle equity and by \$741 at the 75th percentile (p-value = 0.021). These estimates represent 40 percent and 26 percent increases in vehicle equity at their respective points in the distribution. As in Table 4, all of the specifications in Table 5 show that there is virtually no effect of asset limits on vehicle assets.

As mentioned in Section 3.2, the analysis presented in Tables 4 and 5 may be biased if unobservable, time-varying factors that lead states to change asset rules are also correlated with the probability of owning a vehicle or holding vehicle equity. To determine whether the findings in Tables 4 and 5 are biased in this way, I estimate the effect of asset restrictions on vehicle assets for single mothers relative to a group of single women without children. The results for these relative effects of changes in asset restrictions are presented in Table 6 (for those without a high school degree) and Table 7 (for those with a high school degree or less). These results are quite similar to those presented in Tables 4 and 5, although the results for vehicle equity are somewhat less precise. Again, we see evidence that more generous vehicle exemptions result in greater vehicle ownership, but that the asset limit has no effect.¹⁹ For example, looking at single women without a high school degree (Table 6), the difference in vehicle ownership rates between those in states with a full vehicle exemption and those in states with a \$1500 exemption is 20 percentage points greater in absolute value for single mothers than for single women without children ($-0.237+1.5*0.025$), and this effect is statistically significant (p-value = 0.022). The results also show that moving to a full vehicle exemption increases vehicle equity in relative terms by \$565 (p-value = 0.090). The quantile estimates for the effect of vehicle exemptions on vehicle equity are similar to those reported in Table 4, although the standard errors are larger. The relative effect of vehicle

¹⁹ For single women without children, I assign a maximum benefit equal to the AFDC/TANF maximum for a family of two in each state. Consequently, for this sample of all single women the average state maximum AFDC/TANF benefit level is about \$300. Thus, to consider the effect of asset limits for this sample I test the hypothesis that $\beta_3 + (3.0)\beta_4 = 0$.

exemptions on the market value of vehicles is large ($\beta_1 + (1.5)\beta_2 = -1,011$) and statistically significant. Also, the effects are still evident, and larger, for the pre-PRWORA sample period. Comparing the results in Table 6 to those in Table 7, we again see that the effect of vehicle exemptions is stronger (in percentage terms) for the lowest educated group. As was evident for the samples of low-educated single mothers, the results for low-educated single women show no evidence that the limit on total assets affects vehicle asset holdings.

The results presented in Tables 4 through 7 indicate that vehicle ownership increases with the generosity of vehicle exemptions, but not with more generous limits on total assets. There is also some evidence that vehicle equity increases in response to higher exemptions. However, the response of vehicle assets to an incremental, \$1000 change in the vehicle exemption is small. The magnitudes of the effects are larger for the less educated sample of single mothers without a high school degree—a sample that has a much higher probability of participating in welfare. The results suggest that a policy that fully exempts vehicles would lead to approximately a \$565 increase in vehicle equity, which, holding other components of the asset portfolio fixed, implies a 28 percent increase in non-housing wealth for single mothers without a high school degree. However, total saving may not increase if these women are substituting vehicle equity for other assets that are not exempt for the AFDC/TANF asset test. The following section examines whether other assets also respond to changes in asset restrictions.

4.2 Liquid Assets and Wealth

In this section I examine liquid assets and total wealth to determine whether asset restrictions affect total saving for low-educated single mother families. There is some disagreement in the previous literature as to whether changes in asset limits affect asset holdings. While Hurst and Ziliak (2004) find that liquid assets do not respond to the recent changes in the limit on total assets, Powers (1998) reports a sizeable effect.²⁰ Evidence on how other components of wealth

²⁰ Powers' measure of assets includes liquid assets and housing equity, but not vehicle equity.

respond to asset restrictions will also shed light on whether these restrictions encourage families to reallocate assets within their total portfolio of wealth. For example, generous exemptions for vehicle assets may encourage single mothers to substitute vehicle equity for other wealth.

While the results presented in the previous subsection show evidence that asset restrictions have an important effect on vehicle assets, there are reasons to believe that the effects of these restrictions might be different for liquid assets. First, the limits for liquid assets do not appear to be binding for low-educated single mothers. As shown in Figures 1 through 4 and Table 2, these women have very few assets other than vehicles. Also, as shown in Table 1, recent changes to the asset tests for AFDC/TANF are much more generous for vehicle assets than for liquid assets.

The theoretical predictions for the effect of vehicle exemptions on liquid asset holdings are not clear. On the one hand, relaxing the vehicle exemption may encourage families to substitute vehicle equity for liquid assets in response to the more generous exemption. Also, more generous vehicle exemptions may make welfare more attractive to some families, encouraging them to hold fewer liquid assets for precautionary reasons. On the other hand, if the exemption is initially binding to the extent that some vehicle equity is counted towards the limit on total assets, then relaxed exemptions provide more room for liquid assets under the asset test, allowing families to increase liquid asset holdings.

Following the approach taken for vehicle assets, I examine the effect of changes in asset limits and vehicle exemptions on liquid asset holdings and non-housing wealth by re-estimating Equation (1), substituting a measure of liquid assets or non-housing wealth as the dependent variable.²¹ I estimate OLS models and quantile regressions for liquid assets and wealth as well as probit models where the dependent variable is an indicator for whether or not the family has any liquid assets. The estimates for the sample of low-educated single mothers are reported in Table 8, and the estimates for the effects relative to single women without children are reported in Table 9.

²¹ Liquid assets include money in checking and savings accounts, savings bonds, stocks, and other financial investments. Wealth includes all liquid assets and vehicle equity, but excludes real estate assets.

The results in Tables 8 and 9 suggest that families are not substituting out of liquid assets into vehicle equity in response to more generous vehicle exemptions. In fact, the sign of $\beta_1 + (1.5)\beta_2$ is negative in most cases, suggesting that liquid assets increase with more generous exemptions. Although the estimates are somewhat imprecise, in most cases I can reject the hypothesis that liquid assets or wealth fall significantly as vehicle exemptions become more generous. The findings for the lowest educated group suggest that a single mother in a state with a \$1500 vehicle exemption is 18.2 percentage points less likely to have any liquid assets than a comparable single mother living in a state with a full vehicle exemption (p-value = 0.002; Column 1 of Table 8). The analogous result for single mothers relative to the comparison group is very similar (Column 1 of Table 9). The OLS estimates (Column 2 of Tables 8 and 9) suggest that the level of liquid assets increases by \$196 in response to more generous exemptions (p-value = 0.034). However, the estimates for the effect of vehicle exemptions from quantile regressions at the 75th percentile of liquid assets are small and indistinguishable from zero (Columns 3 and 4). Also, the estimated effect is even smaller for the larger sample of single women with no more than a high school degree (Columns 7 through 10). Thus, while there is some evidence that relaxing vehicle exemptions results in an increase in liquid assets, this effect is small. Evidence on total wealth holdings (Columns 5, 6, 11 and 12), which include both liquid and vehicle assets, is consistent with the findings for the components of wealth. The response of total wealth to more generous vehicle exemptions is similar in magnitude to the response of vehicle assets. While the standard errors for these regressions with non-housing wealth are large, at the 90 percent level I can reject the hypothesis that wealth falls in response to a policy that exempts vehicle equity (Table 9, Column 5). Point estimates from median regressions are consistent with those from OLS, but are less precisely estimated (Table 9, Column 6).

If liquid assets do not fall, how do single mothers finance increases in vehicle assets? During the 1990s disposable income increased for many single mothers (Meyer and Sullivan, 2004b). Also, there is evidence that during this time low-educated single women spent a larger

fraction of their total income on vehicles. Data on expenditures from the Consumer Expenditure (CE) Survey show that vehicle spending as a share of total expenditures for low-educated single mothers has grown both in absolute terms and relative to single women without children.²²

Tables 8 and 9 also provide evidence on the effect of the asset limit on the holdings of liquid assets and non-housing wealth. These estimates show virtually no evidence that increases in the asset limit increase the liquid asset holdings of single mothers either in a statistical or economic sense. The point estimates for the effect of a \$1000 increase in the asset limit for a single mother without a high school degree in a state with an average maximum welfare benefit— $(\beta_1 + 3.8\beta_2)$ in Table 8—are negative in all specifications. Also, in many of the specifications in Tables 8 and 9, I can reject the null hypothesis that liquid assets increase in response to changes in the asset limit, and in all cases I can reject that liquid assets increase by an economically significant amount. These findings are consistent with Hurst and Ziliak (2004), who also find no effect of the asset limit on liquid assets for single mothers. The results in Tables 8 and 9 also suggest that the asset limit has no effect on total non-housing wealth (Columns 5, 6, 11 and 12)—in all cases the estimated effect is negative, and in most cases I can reject the hypothesis that wealth increases with these limits.

4.3 Assets Restrictions and Commuting to Work

As discussed in Section 2.3, in addition to accounting for a substantial fraction of total assets for low-educated single mothers, vehicles are a particularly important outcome to examine in light of recent reforms to welfare that require recipients to work in order to maintain eligibility. Previous studies have suggested that access to adequate transportation is critical for stable employment of welfare recipients. Recent research that examines the effect of owning a vehicle finds that car ownership increases both the probability of being employed as well as work hours (Bansak, Mattson, and Rice, 2004).

²² This analysis is based on the author's calculations using data from the 1993 through 1999 CE Interview Survey.

The 1996 SIPP panel provides some limited information on commuting for workers. Using these data, I can test the hypothesis that changes in AFDC/TANF asset restrictions affect how single mothers commute to work by examining whether these policy changes had an effect on the likelihood that a single mother drives to work. Unfortunately, due to data limitations, I can only examine the effect of asset restrictions on driving to work for the post-PRWORA period.²³ In general, these results show some evidence that more generous vehicle exemptions increase the likelihood that a single mother drives to work, but the results are not very precisely estimated. As shown in Table 10, there is some evidence that relaxing vehicle exemptions increases the probability that a single mother drives to work. A working single mother in a state with a \$1500 vehicle exemption is 16.9 percentage points less likely to drive her own car to work than a comparable single mother living in a state without a limit on vehicles (p-value = 0.158). The response for the larger sample of single mothers with a high school degree or less is smaller but statistically significant (p-value = 0.048). Comparing single mothers to single women without children, there is still some indication that vehicle exemptions affect whether a single mother drives to work, but these effects are smaller and not statistically significant. There is little evidence that more generous asset limits increase the likelihood that a single mother drives to work. In fact, the results in Column 4 suggest that more generous asset limits decrease the likelihood of driving.

4.4 Robustness Checks

One potential concern with the results for vehicle assets reported thus far is that they may not reflect true changes in vehicle assets, but rather indicate a nominal change in asset ownership. For example, tight asset restrictions may encourage potential welfare recipients to register a car in the name of a relative or friend outside the family. In this case, more generous vehicle exemptions may simply create greater incentives for potential recipients to keep assets in their own name. Using data on out-of-pocket vehicle expenditures, one can examine whether changes in asset

²³ Data on modes of transportation to work are only available in the 1996 panel of the SIPP, waves, 3, 6, 9, and 12.

restrictions affect not just vehicle assets but also out of pocket expenditures on new vehicles. Evidence from a similar sample of low-educated single mothers in the CE Survey shows qualitatively similar results for out-of-pocket vehicle expenditure as those reported for vehicle equity in Section 4.1.²⁴ This suggests that the findings reported here are not driven by nominal transfers of vehicle assets.

The findings reported thus far are robust to a variety of different specifications, sample restrictions, and estimation techniques. For example, I verify that the results hold for a sample of low-educated single women who do not own a home.²⁵ I also consider the effects for a sample of single women with less than a college degree, which is the sample used in previous studies on asset restrictions. My results for this larger sample are similar to those reported here for single women with a high school degree or less, although the point estimates for the larger sample are slightly smaller in absolute value. Also, the results are qualitatively similar for a variety of quantile regressions. The OLS results are fairly sensitive to outliers. In the results reported above, I truncate the dependent variable at the top 2.5% of the distribution. While truncation does not change any of the signs of the point estimates for the coefficients on the policy variables, the parameter estimates for these truncated samples tend to be smaller than those for the full sample. I also estimate a tobit model of the effect of asset restrictions on asset holdings, assuming the dependent variable is censored at zero. These models address the fact that desired assets may be negative. Estimates from these tobit models for vehicle equity, liquid assets, or wealth yield results similar to those reported for OLS.²⁶

I also considered how asset restrictions affect a variety of other outcomes that reflect the saving behavior of poor families. In general I find that asset restrictions have little impact on debt—either vehicle debt or other non-housing debt. This is not surprising given that very few low-

²⁴ See Sullivan (2002b) for a more detailed summary of results from the CE Survey.

²⁵ As shown in Figure 1, less than 15 percent of single mothers without a high school degree own a home.

²⁶ The results for these robustness checks are available from the author upon request.

educated single mothers have substantial amounts of consumer debt (Sullivan, 2002a). Also, the results for non-housing net worth are consistent with those reported for non-housing wealth above.

5. Conclusions

Asset tests for eligibility for public transfer programs place high implicit tax rates on asset holdings. This study examines whether recent changes to these restrictions for the AFDC/TANF program have an impact on the asset holdings of low-educated single mother families. While I consider the total asset portfolio, I focus on vehicle assets for several reasons. First, recent policy changes for vehicle exemptions far exceed the changes in the asset limit, suggesting that policy changes may be particularly important for vehicle equity. Many states now fully exempt the value of at least one vehicle from the asset test, but the vast majority of state asset limits are no greater than \$5000. Second, vehicles are the single largest component of wealth for low-educated single mother families. Vehicle equity accounts for two-thirds of all assets for these families. Third, vehicle exemptions may distort asset allocation by effectively making the implicit tax rate lower for vehicles than for liquid assets. Fourth, researchers have argued that durable goods such as vehicles are an important saving mechanism for families with limited exposure to financial institutions. Lastly, vehicle assets are not only an important component of saving among low-educated single-mothers, but vehicles are also an important consumption good, particularly for this group whose labor supply has increased dramatically in recent years. Concerns about access to adequate transportation for single mothers has grown as welfare policies have placed increasing emphasis on work.

Consistent with Hurst and Ziliak (2004), who argue that asset restrictions do not have an important effect on the saving behavior of the poor, I find little evidence that the limit on assets discourages asset accumulation for single mother families. This suggests that while asset limits may, in theory, discourage saving for some families, as suggested by Hubbard et. al. (1995), these limits do not appear to be binding for families most likely to participate in welfare. However, unlike

previous research, I show that exemptions for vehicle equity do have an important effect on vehicle assets. The findings suggest that moving from a \$1500 vehicle exemption to a full vehicle exemption increases the probability of owning a car by 20 percentage points for low-educated single mothers relative to a comparison group—an economically and statistically significant response. However, the response of vehicle ownership to an incremental, \$1000 change in the vehicle exemption is small. The evidence also suggests that more generous vehicle exemptions result in greater vehicle equity. For this low-educated sample, moving to a full vehicle exemption increases vehicle equity by about \$565, which represents nearly a 50 percent increase in vehicle equity. The results are even larger for a sample from the waiver period prior to the passage of PRWORA. Moreover, these findings hold across a wide variety of specifications. Unlike the results for vehicle exemptions, I find no effect of relaxing asset limits on either vehicle ownership or vehicle equity. I also present some evidence that more generous vehicle exemptions increase the probability that working single mothers drive to work, although these findings are not very robust. With increased emphasis on work for welfare participants, future research should address the role that vehicles play in employment stability.

A \$565 increase in vehicle equity in response to more generous vehicle exemptions translates into a 28 percent increase in non-housing wealth for single mothers without a high school degree. Does the increase in vehicle assets reflect an increase in total saving or just a change in the allocation of the asset portfolio, placing greater weight on vehicle assets? Previous research looking at policies that encourage retirement saving has shown that these saving incentives have strong effects on the allocation of assets but little effect on the level of saving (Engen, Gale, and Scholz, 1996). The evidence presented here, however, suggests that total non-housing wealth increases. Moreover, I show that more generous vehicle exemptions do not decrease liquid asset holdings for low-educated single mothers, suggesting that single mothers are not substituting out of liquid assets in response to more relaxed restrictions on vehicles.

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Figure 1
Fraction with Positive Values for Selected Assets:
Single Women

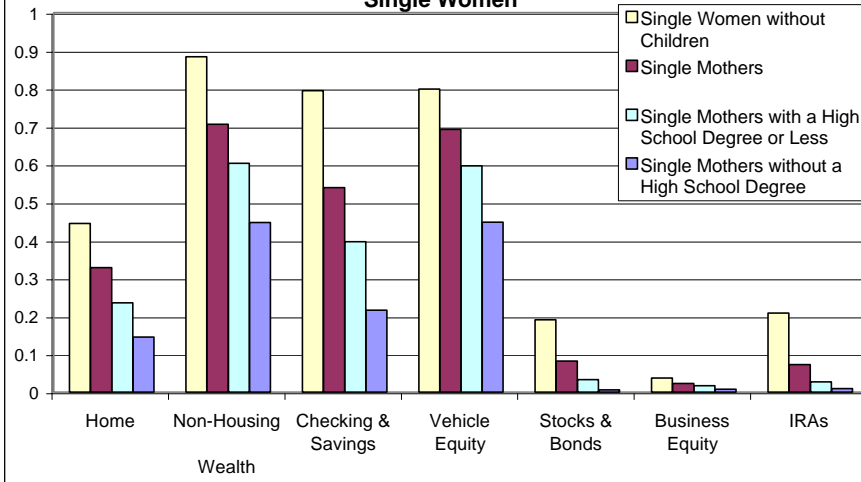


Figure 2
Components of Non-Housing Wealth:
All Single Mothers

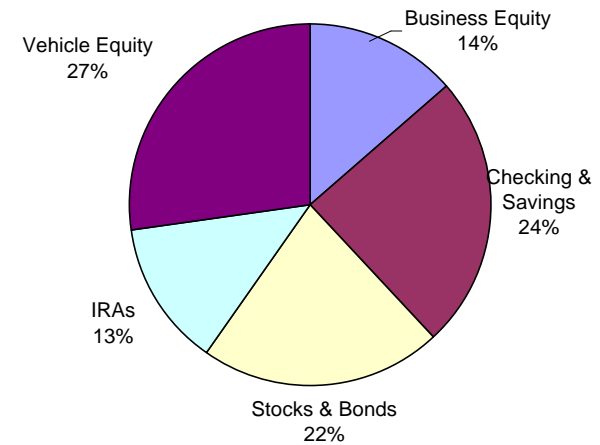


Figure 3
Components of Non-Housing Wealth:
Single Mothers with a High School Degree or Less

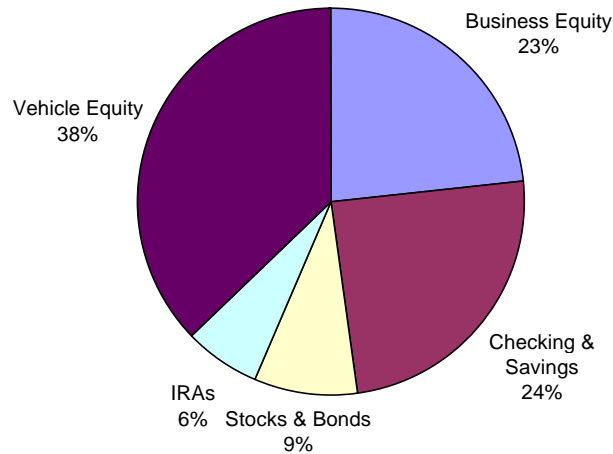
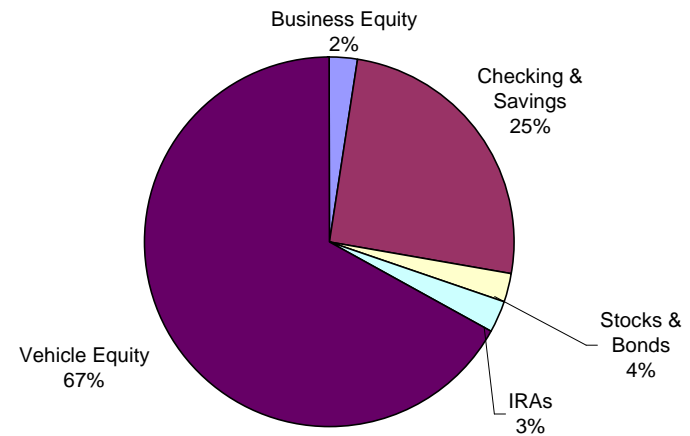


Figure 4
Components of Non-Housing Wealth:
Single Mothers without a High School Degree



Notes: Asset data are from the SIPP Panels 1992 (wave 4), 1993 (wave 7) and 1996 (waves 3, 6, 9 and 12). Non-housing wealth includes checking & savings accounts, savings bonds, stocks, other financial investments, vehicle equity, business equity, and IRA accounts.

Table 1--State Asset Rules and Benefit Amounts for the AFDC/TANF Program, 1992 - 1999

	Asset Limit			Vehicle Exemption			Maximum AFDC/TANF Benefit		
	1992	1996	1999	1992	1996	1999	1992	1996	1999
	Alabama	2,000	2,000	2,000	1,500	exempt	exempt	164	164
Alaska	1,000	1,000	1,000	1,500	1,500	exempt	923	923	923
Arizona	1,000	1,000	2,000	1,500	1,500	exempt	347	347	347
Arkansas	1,000	1,000	3,000	1,500	1,500	exempt	204	204	204
California	1,000	2,000	2,000	1,500	4,500	4,650	633	596	626
Colorado	1,000	2,000	2,000	1,500	exempt	exempt	356	356	356
Connecticut	1,000	3,000	3,000	1,500	exempt	exempt	680	636	636
Delaware	1,000	1,000	1,000	1,500	4,650	4,650	338	338	338
District of Columbia	1,000	1,000	4,650	1,500	1,500	2,000	409	415	379
Florida	1,000	1,000	2,000	1,500	1,500	8,500	303	303	303
Georgia	1,000	1,000	1,000	1,500	4,650	4,650	280	280	280
Hawaii	1,000	1,000	5,000	1,500	1,500	exempt	693	712	570
Idaho	1,000	1,000	2,000	1,500	1,500	4,650	315	317	293
Illinois	1,000	3,000	3,000	1,500	1,500	exempt	367	377	377
Indiana	1,000	1,000	1,500	1,000	1,000	5,000	288	288	288
Iowa	1,000	5,000	5,000	1,500	3,000	3,889	426	426	426
Kansas	1,000	1,000	2,000	1,500	1,500	exempt	403	429	429
Kentucky	1,000	1,000	2,000	1,500	1,500	exempt	228	262	262
Louisiana	1,000	1,000	2,000	1,200	1,200	10,000	190	190	190
Maine	1,000	1,000	2,000	1,500	exempt	exempt	453	418	450
Maryland	1,000	1,000	2,000	1,500	1,500	exempt	377	373	417
Massachusetts	1,000	2,500	2,500	1,500	5,000	5,000	579	579	565
Michigan	1,000	1,000	3,000	1,500	exempt	exempt	459	459	459
Minnesota	1,000	1,750	5,000	1,500	1,500	7,500	532	532	532
Mississippi	1,000	1,000	2,000	1,500	1,500	4,650	120	120	145
Missouri	1,000	5,000	5,000	1,500	exempt	exempt	292	292	292
Nebraska	1,000	5,000	6,000	1,500	exempt	exempt	364	364	364
New Hampshire	1,000	1,000	2,000	1,500	1,500	exempt	516	550	575
New Jersey	1,000	1,000	2,000	1,500	1,500	9,500	424	424	424
New Mexico	1,000	1,000	3,500	1,500	1,500	exempt	324	389	439
New York	1,000	1,000	2,000	1,500	1,500	4,650	577	577	577
North Carolina	1,000	3,000	3,000	1,500	5,000	exempt	272	272	272
Ohio	1,000	1,000	exempt	1,500	4,600	exempt	334	341	373
Oklahoma	1,000	1,000	1,000	1,500	5,000	5,000	324	307	292
Oregon	1,000	2,500	2,500	1,500	9,000	10,000	460	460	460
Pennsylvania	1,000	1,000	1,000	1,500	1,500	exempt	421	421	421
South Carolina	1,000	1,000	2,500	1,500	1,500	10,000	200	200	204
Tennessee	1,000	1,000	2,000	1,500	1,500	4,600	185	185	185
Texas	1,000	1,000	2,000	1,500	4,600	4,650	184	188	201
Utah	1,000	2,000	2,000	1,500	8,000	8,000	402	426	451
Virginia	1,000	1,000	1,000	1,500	7,500	7,500	354	354	354
Washington	1,000	1,000	1,000	1,500	1,500	5,000	531	546	546
West Virginia	1,000	1,000	2,000	1,500	1,500	exempt	249	253	328
Wisconsin	1,000	1,000	2,500	1,500	2,500	10,000	518	517	673

Notes: Maximum benefits are for a family of three (a parent with 2 children). Limits and exemptions reflect the restrictions that apply to the majority of the recipients in a given state in that year. Many states offer exceptions to these rules for some families. For example, some states exclude vehicles if used to transport disabled family members or for commuting for work or training. For the asset tests, most states assess the equity value of the vehicle, although some assess the fair market value. All numbers reported here are in nominal terms, but these state rules are converted to constant 1996 dollars for the empirical analysis.

Source: Asset Limits and Vehicle Exemptions: Urban Institute (2002), HHS (Various Years); Maximum benefit: Meyer and Rosenbaum (2001) and U.S. House of Representatives, Committee on Ways and Means (Various Years).

Table 2--Characteristics of Single Mother and Comparison Households, Single Women, Ages 18-54, 1992-1999, SIPP

	Single Mothers		Single Women without Children	
	No High School Degree	High School Degree or Less	No High School Degree	High School Degree or Less
	(1)	(2)	(3)	(4)
Educational Attainment				
No High School Degree	1.000 (0.000)	0.363 (0.007)	1.000 (0.000)	0.238 (0.008)
Age	33.19 (0.201)	33.42 (0.112)	42.75 (0.344)	40.24 (0.189)
Family Size	3.389 (0.030)	3.076 (0.016)	1.000 (0.000)	1.000 (0.000)
Race (White=1)	0.604 (0.011)	0.611 (0.007)	0.697 (0.016)	0.780 (0.007)
Fraction Owning Vehicles	0.428 (0.012)	0.582 (0.007)	0.548 (0.018)	0.729 (0.008)
Fraction of Workers who Drive to Work	0.600 (0.021)	0.728 (0.010)	0.660 (0.027)	0.780 (0.011)
Vehicle Equity	1,153 (65.8)	1,862 (50.3)	1,806 (125.0)	2,936 (77.1)
Vehicle Equity for those with Vehicles	2,692 (132.3)	3,197 (76.5)	3,293 (205.9)	4,026 (96.6)
Vehicle Market Value	2,057 (98.0)	3,355 (74.2)	2,958 (174)	4,768 (105.5)
Vehicle Market Value for those with Vehicles	4,802 (184.4)	5,760 (106.3)	5,394 (270)	6,538 (127)
Liquid Assets	861 (132.2)	2,161 (139.4)	2,158 (342)	6,425 (307)
Non-Housing Wealth	2,014 (156)	4,023 (159.8)	3,964 (374)	9,362 (330)
Vehicle Equity				
50th Percentile	0	490	474	1,470
75th Percentile	1,196	2,842	2,450	4,650
90th Percentile	3,920	5,845	5,730	8,173
Liquid Assets				
50th Percentile	0	0	0	291
75th Percentile	13	344	290	3,332
90th Percentile	870	2,661	3,792	17,330
Non-Housing Wealth				
50th Percentile	0	751	711	3,280
75th Percentile	1,764	3,889	3,915	9,226
90th Percentile	5,486	9,300	10,870	23,436
N	1,837	5,153	792	3,148

Notes: Statistics are means unless reported otherwise. Standard errors are in parentheses. Data are from the following SIPP panels: 1992 (waves 4 and 7), 1993 (waves 4 and 7), and 1996 (waves 3, 6, 9, and 12). Vehicles include all cars, vans, and light trucks, excluding recreational vehicles (RV's) and motorcycles. Liquid assets include checking and savings accounts, savings bonds, stocks, and other financial investments. Unlike Figures 1-4, non-housing wealth here does not include business equity, because data on business equity are not reported in wave 7 of the 1992 Panel or wave 4 of the 1993 Panel. Dollar values are in 1996 dollars.

Table 3--Vehicle Assets and Liquid Assets Before and After Changes in State Vehicle Exemptions, Single Women, Ages 18-54, 1992 - 1999

	Single Mothers			Single Women without Children			Diff in Diff (3) - (6)
	Pre Exemption Change	Post Exemption Change	Difference or Ratio	Pre Exemption Change	Post Exemption Change	Difference or Ratio	
	(1)	(2)	(3)	(4)	(5)	(6)	
High School Degree or Less							
Fraction owning a vehicle	0.549 (0.010)	0.620 (0.009)	0.071* (0.014)	0.727 (0.012)	0.732 (0.011)	0.005 (0.016)	0.066* (0.021)
Equity Value of Vehicles	1,885 (69.8)	1,836 (72.6)	0.974 (0.053)	3,046 (113.7)	2,816 (105.3)	0.925 (0.049)	0.049 (0.072)
Market Value of Vehicles	3,139 (111)	3,599 (98.9)	1.147* (0.051)	4,688 (159)	4,856 (141)	1.036 (0.046)	0.111 (0.069)
Financial Assets	2,411 (291)	2,575 (309)	1.068 (0.182)	7,977 (861)	7,911 (674)	0.992 (0.136)	0.076 (0.227)
N	2,353	2,800		1,399	1,749		
No High School Degree							
Fraction owning a vehicle	0.379 (0.017)	0.484 (0.016)	0.105* (0.023)	0.538 (0.028)	0.559 (0.023)	0.021 (0.036)	0.084* (0.043)
Equity Value of Vehicles	1,001 (82.3)	1,326 (102)	1.325* (0.149)	1,714 (174.3)	1,896 (178)	1.106 (0.153)	0.219 (0.214)
Market Value of Vehicles	1,682 (133)	2,481 (143)	1.475* (0.144)	2,877 (267.2)	3,038 (230)	1.056 (0.126)	0.419* (0.192)
Financial Assets	876 (236)	946 (202)	1.079 (0.371)	2,497 (689)	2,176 (517)	0.871 (0.317)	0.208 (0.488)
N	823	1,014		322	470		

Notes: Data are from the SIPP panels 1992 (waves 4 and 7), 1993 (waves 4 and 7), and 1996 (waves 3, 6, 9 and 12). Observations are separated according to whether the state exemption for vehicle equity has been changed since 1992. For example, the "Pre Exemption Change" group includes all observations from a state in a given year where the exemption on vehicles has not been changed since 1992. * denotes significance at the 5% level. Standard errors are in parentheses.

Table 4--Probit, OLS, and Quantile Estimates of the Effect of Asset Restrictions on Vehicle Ownership and Vehicle Equity, Single Mothers without a High School Degree, Ages 18-54, 1992-1999, SIPP

Dependent Variable	No High School Degree							
	Vehicle Ownership	Vehicle Equity	Vehicle Equity 60th	Vehicle Equity 75th	ln(Vehicle Equity) 60th	ln(Vehicle Equity) 75th	Vehicle FMV	Vehicle Ownership
Model	Probit ¹	OLS ²	Quantile	Quantile	Quantile	Quantile	OLS ²	Probit ¹
Sample Years	All	All	All	All	All	All	All	1992-1996
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
State Has Vehicle Limit (1=Yes) (β_1)	-0.147 (0.082)	-471 (222)	-379 (211)	-872 (489)	-0.814 (0.912)	-0.536 (0.755)	-597 (337)	-0.274 (0.110)
Has Vehicle Limit*Value of Limit (1000s) (β_2)	0.021 (0.008)	53.9 (24.8)	24.3 (25.4)	184.5 (101)	0.098 (0.103)	0.106 (0.095)	12.5 (42.0)	0.008 (0.016)
Asset Limit (1000s) (β_3)	-0.003 (0.001)	-7.90 (4.82)	-0.49 (259)	12.3 (448)	0.075 (0.584)	-0.002 (0.447)	11.33 (7.98)	0.027 (0.073)
Maximum AFDC/TANF Benefit (100s)	-0.018 (0.038)	33.5 (79.3)	64.7 (100)	140 (277)	0.182 (0.428)	-0.259 (0.485)	276 (195)	0.014 (0.059)
Asset Limit*Maximum Benefit (β_4)	0.001 (0.000)	-0.75 (1.13)	-1.90 (34.9)	-5.04 (77.3)	-0.026 (0.115)	-0.008 (0.093)	-5.64 (1.87)	-0.005 (0.015)
Age	0.040 (0.070)	-79.3 (231)	89.4 (54.5)	56.3 (115)	0.245 (0.163)	1.004 (0.369)	133 (382)	0.059 (0.107)
Race (White=1)	0.280 (0.034)	566 (114)	461 (34.4)	916 (71.1)	5.227 (0.100)	3.439 (0.238)	996 (176)	0.315 (0.042)
Family Size	0.058 (0.043)	122 (131)	211 (38.6)	558 (77.9)	0.373 (0.113)	0.642 (0.272)	-208 (186)	0.046 (0.046)
Average Weekly Earnings in State (100s)	-0.179 (0.074)	44.1 (175)	-30.9 (108)	10.7 (249)	-0.503 (0.322)	-0.913 (0.801)	-487 (337)	-0.275 (0.093)
Rural (1=Rural)	0.134 (0.044)	51.2 (142)	217 (44.1)	217 (93.9)	0.622 (0.131)	0.684 (0.308)	241 (273)	0.145 (0.054)
$\beta_1 + (1.5)\beta_2$	-0.116	-390.2	-342.4	-595.4	-0.667	-0.377	-578.8	-0.262
$\beta_3 + (3.8)\beta_4$	0.001	-10.77	-7.704	-6.854	-0.023	-0.032	-10.10	0.008
P-values from tests of linear restrictions:								
$H_0: \beta_1 + (1.5)\beta_2 = 0$	0.137	0.067	0.084	0.136	0.413	0.586	0.074	0.016
$H_0: \beta_3 + (3.8)\beta_4 = 0$	0.108	0.000	0.957	0.972	0.943	0.911	0.023	0.799
N	1,837	1,791	1,837	1,837	1,837	1,837	1,791	1,006

¹ Reported point estimates for the probit models are average derivatives.

² In OLS models, I truncate the sample at the top 2.5 percent of the distribution of the dependent variable.

Notes: "FMV" is the fair market value of a vehicle. In addition to the variables listed, all models include a full set of state and year dummies, a cubic in the age of the female head, the number of children in the household, and several state level variables including the quarterly unemployment rate and indicators of other welfare policy changes. See the text for more details. Average Weekly Earnings reflect those for production workers in the manufacturing sector for each state in a given year. All dollar values are in real terms (1996 \$). The standard errors in parentheses are heteroskedasticity consistent and corrected for dependence within a state.

Table 5--Probit, OLS, and Quantile Estimates of the Effect of Asset Restrictions on Vehicle Ownership and Vehicle Equity, Single Mothers with a High School Degree or Less, Ages 18-54, 1992-1999, SIPP

Dependent Variable	High School Degree or Less							
	Vehicle Ownership	Vehicle Equity	Vehicle Equity 60th Quantile	Vehicle Equity 75th Quantile	ln(Vehicle Equity) 60th Quantile	ln(Vehicle Equity) 75th Quantile	Vehicle FMV	Vehicle Ownership
Model	Probit	OLS	Quantile	Quantile	Quantile	Quantile	OLS	Probit
Sample Years	All	All	All	All	All	All	All	1992-1996
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
State Has Vehicle Limit (1=Yes) (β_1)	-0.059 (0.037)	-514 (211)	-517 (259)	-858 (348)	-0.731 (0.410)	-0.441 (0.239)	-591 (338)	-0.044 (0.075)
Has Vehicle Limit*Value of Limit (1000s) (β_2)	0.008 (0.006)	36.4 (23.0)	29.4 (38.0)	77.7 (44.8)	0.135 (0.051)	0.079 (0.035)	38.5 (39.5)	0.003 (0.020)
Asset Limit (1000s) (β_3)	-0.006 (0.001)	-12.0 (2.91)	-16.0 (166)	-46.3 (236)	-0.022 (0.363)	-0.032 (0.242)	-3.99 (5.5)	0.089 (0.070)
Maximum AFDC/TANF Benefit (100s)	-0.019 (0.030)	143 (107)	202 (134)	301 (222)	-0.075 (0.345)	-0.208 (0.354)	365 (203)	0.056 (0.052)
Asset Limit*Maximum Benefit (β_4)	0.001 (0.000)	1.17 (0.61)	1.47 (39.2)	8.19 (73.9)	0.003 (0.104)	0.007 (0.068)	-2.30 (1.13)	-0.014 (0.016)
Age	0.046 (0.044)	-106 (207)	-256 (138)	-329 (148)	0.576 (0.195)	0.321 (0.136)	41.4 (325)	0.044 (0.060)
Race (White=1)	0.313 (0.018)	939 (94)	1061 (76.0)	1607 (83.0)	4.011 (0.109)	1.228 (0.077)	1652 (147)	0.33 (0.022)
Family Size	0.04 (0.030)	69.6 (133)	244 (101)	474 (109)	0.523 (0.144)	0.421 (0.100)	99.0 (261)	0.014 (0.039)
Average Weekly Earnings in State (100s)	-0.169 (0.061)	-323 (227)	-406 (234)	-4.71 (258)	-0.721 (0.335)	-0.182 (0.246)	-1098 (416)	-0.188 (0.093)
Rural (1=Rural)	0.085 (0.027)	-18.7 (122)	-14.6 (94.7)	-15.6 (103)	0.311 (0.135)	0.041 (0.094)	-111 (205)	0.124 (0.036)
$\beta_1 + (1.5)\beta_2$	-0.047	-459.4	-472.9	-741.2	-0.529	-0.323	-533.2	-0.040
$\beta_3 + (3.8)\beta_4$	-0.002	-7.546	-10.43	-15.21	-0.011	-0.005	-12.74	0.036
P-values from tests of linear restrictions:								
$H_0: \beta_1 + (1.5)\beta_2 = 0$	0.187	0.023	0.042	0.021	0.155	0.129	0.102	0.555
$H_0: \beta_3 + (3.8)\beta_4 = 0$	0.000	0.000	0.902	0.904	0.952	0.926	0.000	0.182
N	5,153	5,024	5,153	5,153	5,153	5,153	5,024	2,691

Notes: In addition to the variables listed in the notes to Table 4, these models include an indicator for whether the single mother graduated high school. See notes to Table 4 and text for more details.

Table 6--Probit, OLS, and Quantile Estimates of the Effect of Asset Restrictions on Vehicle Ownership and Vehicle Equity, Single Mothers Relative to Single Women without Children, No High School Degree, Ages 18-54, 1992-1999, SIPP

Dependent Variable	No High School Degree							
	Vehicle Ownership	Vehicle Equity	Vehicle Equity 60th Quantile	Vehicle Equity 75th Quantile	ln(Vehicle Equity) 60th Quantile	ln(Vehicle Equity) 75th Quantile	Vehicle FMV	Vehicle Ownership
Model	Probit	OLS	Quantile	Quantile	Quantile	Quantile	OLS	Probit
Sample Years	All	All	All	All	All	All	All	1992-1996
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Single Mother*State Has Vehicle Limit (1=Yes) (β_1)	-0.237 (0.092)	-617 (373)	-586 (643)	-970 (957)	-1.544 (0.847)	-0.844 (0.872)	-1007 (580)	-0.524 (0.159)
Single Mother*Has Vehicle Limit*Value of Limit (1000s) (β_2)	0.025 (0.018)	34.85 (92.4)	29.18 (136.4)	36.63 (268)	0.171 (0.149)	0.033 (0.197)	-2.53 (118.0)	0.024 (0.045)
Single Mother*Asset Limit (1000s) (β_3)	0.058 (0.082)	-29.6 (414)	267 (770.2)	828 (936)	0.666 (0.844)	-0.176 (0.898)	-113.0 (448)	0.193 (0.098)
Single Mother*Maximum AFDC/TANF Benefit (100s)	0.066 (0.078)	-8.72 (346)	326 (529)	813 (805)	0.947 (0.728)	0.034 (0.871)	-297 (455)	0.208 (0.106)
Single Mother*Asset Limit*Maximum Benefit (β_4)	-0.028 (0.039)	7.55 (199)	-126 (320.0)	-412 (468)	-0.309 (0.376)	0.072 (0.438)	49.87 (215.0)	-0.107 (0.075)
State Has Vehicle Limit (1=Yes)	0.092 (0.090)	271 (353)	426 (641)	425 (1023)	1.143 (0.955)	0.155 (0.940)	364.1 (547)	0.288 (0.134)
Has Vehicle Limit*Value of Limit (1000s)	-0.003 (0.018)	24.6 (96.6)	-10.96 (127.5)	108 (270)	-0.119 (0.156)	0.128 (0.209)	30.8 (109.6)	-0.02 (0.041)
Asset Limit (1000s)	-0.063 (0.082)	18.4 (415)	-266 (692)	-818 (881)	-0.616 (0.727)	0.159 (0.869)	117 (450)	-0.157 (0.087)
Maximum AFDC/TANF Benefit (100s)	-0.101 (0.084)	44.6 (383)	-299 (684)	-617 (876)	-1.122 (0.772)	-0.183 (0.993)	586 (539)	-0.217 (0.125)
Asset Limit*Maximum Benefit	0.029 (0.039)	-7.63 (199)	125 (311)	407 (459)	0.289 (0.358)	-0.075 (0.450)	-54.98 (215)	0.102 (0.075)
$\beta_1 + (1.5)\beta_2$	-0.200	-564.6	-542.6	-915.5	-1.288	-0.795	-1011	-0.488
$\beta_3 + (3.0)\beta_4$	-0.026	-6.98	-111.4	-406.4	-0.261	0.040	36.56	-0.128
P-values from tests of linear restrictions:								
$H_0: \beta_1 + (1.5)\beta_2 = 0$	0.022	0.090	0.296	0.221	0.079	0.244	0.041	0.002
$H_0: \beta_3 + (3.0)\beta_4 = 0$	0.476	0.970	0.768	0.479	0.567	0.999	0.837	0.391
N	2,629	2,563	2,629	2,629	2,629	2,629	2,563	1,389

Notes: Models also include an indicator for single mother families. See notes to Table 4 for more details.

Table 7--Probit, OLS, and Quantile Estimates of the Effect of Asset Restrictions on Vehicle Ownership and Vehicle Equity, Single Mothers Relative to Single Women without Children, High School Degree or Less, Ages 18-54, 1992-1999, SIPP

Dependent Variable	High School Degree or Less							
	Vehicle Ownership	Vehicle Equity	Vehicle Equity 60th	Vehicle Equity 75th	ln(Vehicle Equity) 60th	ln(Vehicle Equity) 75th	Vehicle FMV	Vehicle Ownership
Model	Probit	OLS	Quantile	Quantile	Quantile	Quantile	OLS	Probit
Sample Years	All	All	All	All	All	All	All	1992-1996
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Single Mother*State Has Vehicle Limit (1=Yes) (β_1)	-0.114 (0.052)	-375 (207)	-692 (540)	-369 (761)	-0.146 (0.343)	-0.153 (0.181)	-1012 (339)	-0.186 (0.117)
Single Mother*Has Vehicle Limit*Value of Limit (1000s) (β_2)	0.017 (0.010)	32.21 (49.1)	50.83 (100)	-17.44 (99)	0.076 (0.061)	0.049 (0.031)	43.28 (72.6)	0.023 (0.035)
Single Mother*Asset Limit (1000s) (β_3)	0.04 (0.052)	152 (236)	122 (451)	-9.57 (598)	0.197 (0.372)	-0.058 (0.228)	112 (376)	0.113 (0.071)
Single Mother*Maximum AFDC/TANF Benefit (100s)	0.041 (0.042)	235 (190)	354 (330)	297 (491)	0.395 (0.308)	0.044 (0.161)	115 (299)	0.063 (0.060)
Single Mother*Asset Limit*Maximum Benefit (β_4)	-0.02 (0.025)	-73.6 (113)	-55.6 (190)	1.96 (279)	-0.091 (0.166)	0.024 (0.096)	-51.7 (180)	-0.051 (0.048)
State Has Vehicle Limit (1=Yes)	-0.005 (0.049)	-132 (286)	93.0 (580)	-247 (719)	-0.546 (0.371)	-0.147 (0.184)	325 (414)	0.111 (0.127)
Has Vehicle Limit*Value of Limit (1000s)	-0.004 (0.008)	-2.64 (57.3)	-8.81 (119.6)	65.4 (112.8)	0.033 (0.057)	-0.002 (0.036)	-3.25 (62.8)	-0.017 (0.027)
Asset Limit (1000s)	-0.045 (0.052)	-166 (237)	-133 (420)	-10.4 (570)	-0.196 (0.296)	0.026 (0.189)	-118 (377)	-0.02 (0.063)
Maximum AFDC/TANF Benefit (100s)	-0.082 (0.050)	-192 (233)	-293 (377)	-145 (532)	-0.489 (0.311)	-0.118 (0.191)	-42.2 (333)	-0.055 (0.069)
Asset Limit*Maximum Benefit	0.020 (0.025)	75.2 (114)	55.6 (190)	0.868 (278)	0.086 (0.143)	-0.017 (0.094)	49.52 (181)	0.031 (0.047)
$\beta_1 + (1.5)\beta_2$	-0.089	-327.1	-615.6	-395.5	-0.032	-0.080	-947.0	-0.152
$\beta_3 + (3.0)\beta_4$	-0.020	-69.11	-44.61	-3.7	-0.076	0.014	-43.54	-0.040
P-values from tests of linear restrictions:								
$H_0: \beta_1 + (1.5)\beta_2 = 0$	0.076	0.084	0.215	0.594	0.915	0.624	0.005	0.105
$H_0: \beta_3 + (3.0)\beta_4 = 0$	0.404	0.510	0.840	0.992	0.681	0.899	0.785	0.653
N	8,301	8,093	8,301	8,301	8,301	8,301	8,093	4,363

Notes: See notes to Table 6.

Table 8--Probit, OLS, and Quantile Estimates of the Effect of Asset Restrictions on Liquid Assets and Non-Housing Wealth, Single Mothers, Ages 18-54, 1992-1999, SIPP

Dependent Variable	No High School Degree						High School Degree or Less					
	Indicator of Liquid Assets>0	Liquid Assets	Liquid Assets	ln(Liquid Assets)	Total Wealth	Total Wealth	Indicator of Liquid Assets>0	Liquid Assets	Liquid Assets	ln(Liquid Assets)	Total Wealth	Total Wealth
	Model	75th Quantile	75th Quantile	50th Quantile	Model	75th Quantile	75th Quantile	50th Quantile	Model	75th Quantile	75th Quantile	50th Quantile
Sample Years	All	All	All	All	All	All	All	All	All	All	All	All
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
State Has Vehicle Limit (1=Yes) (β_1)	-0.209 (0.068)	-222 (97)	-23.5 (78.9)	-0.226 (0.878)	-505 (472)	-224 (155)	-0.082 (0.056)	6.53 (117)	83.4 (143)	-0.070 (0.554)	-343 (302)	-343 (392)
Has Vehicle Limit*Value of Limit (1000s) (β_2)	0.018 (0.007)	17.4 (11.0)	2.31 (9.63)	0.019 (0.115)	70 (46.0)	21.4 (29.3)	0.011 (0.006)	7.70 (14.9)	-6.35 (26.6)	-0.006 (0.060)	35.5 (32.4)	12.3 (56.4)
Asset Limit (1000s) (β_3)	-0.076 (0.023)	-78.5 (36.4)	-1.55 (46.8)	-0.018 (0.528)	-200.6 (128)	-40.8 (99.2)	-0.026 (0.013)	-36.5 (34.8)	-4.51 (131)	0.004 (0.317)	-371 (109)	-26.7 (193)
Maximum AFDC/TANF Benefit (100s)	0.038 (0.039)	42.2 (52.3)	5.51 (27.2)	0.035 (0.405)	74 (206)	30.3 (103)	0.049 (0.034)	98 (59)	109 (112)	0.600 (0.326)	173 (170)	202 (227)
Asset Limit*Maximum Benefit (β_4)	0.02 (0.006)	12.0 (8.88)	0.37 (5.75)	0.000 (0.081)	30.71 (33.5)	3.47 (21.8)	0.00 (0.00)	7.5 (8.6)	0.58 (24.6)	-0.006 (0.063)	77.1 (33.4)	3.22 (48.3)
$\beta_1 + (1.5)\beta_2$	-0.182	-196.3	-20.05	-0.198	-400.3	-191.6	-0.066	18.086	73.85	-0.078	-289.8	-324.1
$\beta_3 + (3.8)\beta_4$	-0.015	-32.91	-0.132	-0.018	-83.92	-27.60	-0.015	-7.904	-2.320	-0.017	-78.07	-14.4
P-values from tests of linear restrictions:												
$H_0: \beta_1 + (1.5)\beta_2 = 0$	0.002	0.034	0.782	0.805	0.358	0.140	0.207	0.864	0.569	0.880	0.312	0.351
$H_0: \beta_3 + (3.8)\beta_4 = 0$	0.006	0.019	0.997	0.991	0.039	0.912	0.000	0.420	0.974	0.880	0.047	0.905
N	1,837	1,791	1,837	1,837	1,791	1,837	5,153	5,024	5,153	5,153	5,024	5,153

Notes: See the notes to Table 4 for the list of other variables included in these specifications. Liquid assets include money held in checking and savings accounts, stocks and bonds, IRA accounts, and other financial assets.

Table 9--Probit, OLS, and Quantile Estimates of the Effect of Asset Restrictions on Liquid Assets and Non-Housing Wealth, Single Mothers Relative to Single Women without Children, Ages 18-54, 1992-1999, SIPP

Dependent Variable	No High School Degree						High School Degree or Less					
	Indicator of Liquid Assets>0	Liquid Assets	Liquid Assets	ln(Liquid Assets)	Total Wealth	Total Wealth	Indicator of Liquid Assets>0	Liquid Assets	Liquid Assets	ln(Liquid Assets)	Total Wealth	Total Wealth
Model	Probit	OLS	75th Quantile	75th Quantile	OLS	50th Quantile	Probit	OLS	75th Quantile	75th Quantile	OLS	50th Quantile
Sample Years	All	All	All	All	All	All	All	All	All	All	All	All
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Single Mother*State Has Vehicle Limit (1=Yes) (β_1)	-0.208 (0.073)	-736 (268)	-197 (292)	-1.216 (0.798)	-910 (596)	-740 (684)	-0.122 (0.045)	-460 (239)	-551 (1522)	-0.629 (0.464)	-481 (440)	-337 (679)
Single Mother*Has Vehicle Limit*Value of Limit (1000s) (β_2)	0.008 (0.011)	69.2 (57.0)	29.6 (22.7)	-0.001 (0.138)	-44.4 (117.2)	98.5 (121)	0.007 (0.006)	20.9 (38)	-96.0 (246)	0.028 (0.079)	-50.0 (82.6)	-50.2 (127)
Single Mother*Asset Limit (1000s) (β_3)	0.051 (0.066)	546 (302)	216 (204)	0.184 (0.889)	709 (589)	492 (1092)	0.119 (0.046)	543 (210)	1576 (1383)	0.634 (0.531)	562 (376)	373 (1019)
Single Mother*Maximum AFDC/TANF Benefit (100s)	0.059 (0.070)	603 (340)	241 (253)	0.483 (0.688)	873 (594)	532 (697)	0.063 (0.044)	312 (203)	828 (1438)	0.336 (0.406)	464 (370)	457 (652)
Single Mother*Asset Limit*Maximum Benefit (β_4)	-0.043 (0.031)	-311 (145)	-130 (118)	-0.243 (0.377)	-462 (275)	-262 (410)	-0.064 (0.023)	-300 (96)	-911 (748)	-0.368 (0.206)	-314 (186)	-269 (415)
State Has Vehicle Limit (1=Yes)	0.011 (0.077)	661 (266)	169 (207)	0.142 (0.971)	408 (556)	455 (772)	-0.042 (0.055)	284 (227)	843 (2004)	0.714 (0.402)	-183 (449)	-127 (833)
Has Vehicle Limit*Value of Limit (1000s)	0.011 (0.008)	-61.0 (52.0)	-24.7 (29.3)	0.136 (0.163)	156 (107.6)	-66.2 (85.3)	0.014 (0.005)	-17.4 (39)	74.3 (250.0)	-0.014 (0.058)	135 (71.6)	72.8 (145.1)
Asset Limit (1000s)	-0.124 (0.065)	-642 (305)	-215 (210)	-0.27 (0.709)	-963 (563)	-491 (863)	-0.14 (0.051)	-630 (205)	-1609 (1510)	-0.729 (0.376)	-881 (406)	-530 (920)
Maximum AFDC/TANF Benefit (100s)	-0.052 (0.075)	-638 (361)	-251 (253)	-0.457 (0.820)	-987 (684)	-596 (680)	-0.067 (0.055)	-299 (230)	-1095 (1857)	-0.297 (0.453)	-539 (396)	-542 (752)
Asset Limit*Maximum Benefit	0.059 (0.031)	324 (146)	130 (119)	0.254 (0.363)	505 (274)	258 (392)	0.066 (0.024)	306 (97)	913 (798)	0.377 (0.184)	378 (195)	282 (422)
$\beta_1 + (1.5)\beta_2$	-0.196	-631.9	-152.8	-1.218	-976.6	-591.7	-0.112	-429.1	-694.6	-0.587	-556.3	-411.9
$\beta_3 + (3.0)\beta_4$	-0.078	-385.6	-174.3	-0.545	-677.5	-292.4	-0.073	-355.2	-1156	-0.470	-379.9	-434.2
P-values from tests of linear restrictions:												
H ₀ : $\beta_1 + (1.5)\beta_2 = 0$	0.002	0.006	0.595	0.084	0.064	0.410	0.006	0.054	0.639	0.148	0.151	0.475
H ₀ : $\beta_3 + (3.0)\beta_4 = 0$	0.011	0.011	0.336	0.235	0.016	0.459	0.002	0.000	0.245	0.104	0.069	0.383
N	2,629	2,563	2,629	2,629	2,563	2,629	8,301	8,093	8,301	8,301	8,093	8,301

Notes: See the notes to Table 8.

Table 10--Probit Estimates of the Effect of Asset Restrictions on the Probability of Driving Own Car to Work, Single Mothers and Single Women without Children who Work, Ages 18-54, 1996-1999, SIPP

Dependent Variable Sample	1 = Drive to Work			
	Single Mothers		Single Women	
	No High School Degree	High School Degree or Less	No High School Degree	High School Degree or Less
	(1)	(2)	(3)	(4)
Single Mother*State Has Vehicle Limit (1=Yes) (β_1)			-0.086 (0.140)	-0.055 (0.055)
Single Mother*Has Vehicle Limit*Value of Limit (1000s) (β_2)			-0.011 (0.024)	0.005 (0.009)
Single Mother*Asset Limit (1000s) (β_3)			-0.077 (0.193)	0.142 (0.045)
Single Mother*Maximum AFDC/TANF Benefit (100s)			-0.175 (0.192)	0.091 (0.038)
Single Mother*Asset Limit*Maximum Benefit (β_4)			0.039 (0.093)	-0.066 (0.021)
State Has Vehicle Limit (1=Yes)	-0.184 (0.117)	-0.083 (0.044)	-0.017 (0.147)	-0.029 (0.047)
Has Vehicle Limit*Value of Limit (1000s)	0.01 (0.014)	0.002 (0.006)	-0.003 (0.024)	-0.006 (0.008)
Asset Limit (1000s)	0.00 (0.003)	0.003 (0.001)	0.078 (0.193)	-0.138 (0.045)
Maximum AFDC/TANF Benefit (100s)	-0.148 (0.101)	-0.071 (0.028)	0.070 (0.198)	-0.135 (0.045)
Asset Limit*Maximum Benefit	0.00 (0.001)	-0.001 (0.000)	-0.038 (0.093)	0.065 (0.021)
$\beta_1 + (1.5)\beta_2$	-0.169	-0.080	-0.103	-0.048
$\beta_3 + (3.8)\beta_4$	0.000	-0.001	0.071	-0.109
P-values from tests of linear restrictions:				
$H_0: \beta_1 + (1.5)\beta_2 = 0$	0.158	0.048	0.407	0.314
$H_0: \beta_3 + (3.8)\beta_4 = 0$	0.214	0.520	0.651	0.003
Mean of Dependent Variable (Fraction of Sample that Drives)	0.600	0.728	0.618	0.748
N	553	2,163	849	3,583

Notes: Samples include single women who are working at the time of the survey. Data are from the 1996 Panel of the SIPP. See notes to Tables 4 and 8 for more details.