

*Welfare Reform, Earnings, and Income: New Evidence from the Survey of Program Dynamics*

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ABSTRACT

An important but somewhat neglected question in the literature on welfare reform is "How have welfare reform policies affected the earnings and incomes of actual and potential welfare recipients and their families?" We address this question by examining the impacts of welfare reform policies on the earnings and income of working aged women and their families, broken down by educational attainment. Using a detailed nationally representative longitudinal data set (the Survey of Program Dynamics) covering the period from 1992 through 1997, we find that welfare reform policies increase the individual earnings of women who have not graduated from high school in the short-run, but these additional earnings do not translate into higher earnings for the family as a whole. In addition, the longer term effect on family incomes is negative, reducing the likelihood that welfare reform will allow the families of less educated women to become self sufficient. The outlook is better for the families of women who have graduated from high school. Welfare reform appears to have increased the family incomes of women in this group, while it has had little effect on women who have education beyond high school.

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## **Introduction**

Ending welfare dependence is one of the primary goals specified in the Personal Responsibility and Work Opportunity Act of 1996 (Title I, sec.401(a)(2)), henceforth referred to as PRWORA. However, implicit (and often explicit) in much of the discussion surrounding welfare reform is a loftier goal: that former welfare recipients will become self-sufficient. Families who rely on public assistance often live below the poverty line, so self-sufficiency will require more than the simple replacement of public assistance income with earnings; it will require a substantial increase in recipients' total incomes. The key question addressed in this paper is whether welfare reform has affected the earnings and incomes of working-age women and their families.

Welfare reform includes waivers at the state level that occurred pre-PRWORA, as well as Temporary Assistance to Needy Families (TANF) policies that were implemented in 1996-1997. We combine these two categories hereafter and refer to them collectively as welfare reform policies. Welfare reform encompasses a wide variety of policies including work requirements, increased earnings disregards, and changes in sanctions for noncompliance.

We address the research question by using data from the recently released Survey of Program Dynamics (SPD) to analyze the effect of welfare reform policies on the incomes and earnings of working-age women and their families. The SPD is a longitudinal data set that was designed to evaluate the impact of PRWORA. The Census Bureau (2002) has collected subsequent data from persons who participated in the 1992 and 1993 panels of the Survey of Income and Program Participation (SIPP). The longitudinal nature of these data allow us to utilize a fixed effects model, thus minimizing the impact of individual differences and reducing error in our estimates.

## **Literature Review**

One of the primary components of the PRWORA legislation is the focus on work requirements and, to a lesser extent, enrollment in an approved training or educational program. More specifically, states have created welfare policies that have stressed quick entry into the paid labor market. This system is often referred to as “work-first” (Weil 2002, Holcomb and Martinson 2002). The emphasis on getting welfare recipients to work right away may mean that some will fail to obtain additional schooling or will be unable to find a job with potential for advancement. In contrast, under former policies it was possible for welfare recipients to enter longer-term job training or educational programs (Marston 1998).

It has been well documented that there has been a large decrease in the number of families receiving cash assistance since the introduction of welfare reform. The number of families receiving welfare fell by 56 percent between 1994 and 2000 (Haskins 2001, Weil 2002). The issue of how current and former welfare recipients are faring after the implementation of welfare reform is not as clear.

Brauner and Loprest (1999) report that there some general patterns that characterize persons who left the welfare rolls. There are more current and former welfare recipients working in paid employment than previously. For example, in 1999, 32 percent of welfare recipients reported some paid work compared to 22 percent in 1997. Acs and Loprest (2001) synthesized 15 other studies on this topic, finding that between 55 and 65 percent of former welfare recipients were employed three months after leaving welfare. It is important to note that when one examines the successes of welfare leavers, it appears that most accrue to the top third of welfare leavers (Bavier 2002).

Additional studies on welfare reform's effect on income and earnings show that despite the increase in labor force participation levels of former recipients, many are earning relatively low wages due to limited education and prior work experience. Most welfare leavers state that their incomes are lower than or about the same as their combined earnings and benefits before leaving welfare. Even though earnings may increase over time, families are unlikely to attain self-sufficiency since their own earnings are apt not to be sufficient. In addition, increased earnings tend to be primarily due to an increase in hours worked and not in hourly wages (Cancian et. al. 1999). According to Loprest (2002), the median wage of employed former recipients in 1999 was \$7.15 per hour. More than two thirds of these employees worked at least 35 or more hours per week. Many of these jobs provided limited benefits; for example, approximately one third of their employers offered health insurance.

Zedlewski (2002) discusses the fact that many of the dire predictions that welfare reform would increase poverty and homelessness rates have not materialized. Instead, family incomes have increased while poverty rates have declined. However, after making adjustments to data from the National Survey of America's Families (NSAF) data, Zedlewski found that independent single parents, who were in the lowest income quintile (less than 70 percent of the federal poverty level) and who were most likely to receive TANF, experienced an 8 percent decrease in their real incomes between 1996 and 1998. Furthermore, the number of persons who live in extreme poverty increased significantly during this same time period. It is also important to note that these outcomes occurred during robust macroeconomic conditions.

One of the reasons that previous empirical studies in this area have yielded mixed results may be in part because they rely on cross-sectional data sets such as the Current Population Survey (e.g., Moffitt 1999, Schoeni and Blank 2000, Connolly 2002). For example, Schoeni and

Blank (2000) use the Current Population Survey (CPS) and report that federal welfare reform led to a slight increase in incomes while state level experiments prior to PRWORA ("waivers") had somewhat larger effects.

In an attempt to address the limitations of cross-sectional data sets, Connolly (2002) constructs a 'synthetic' panel from the CPS by predicting post-reform income based on pre-reform characteristics to calculate an estimate of what income would have been in the absence of reform. This makes it possible to focus on the important issue of how the incomes of those who were actually receiving welfare were affected by the policy changes, which cannot easily be done with simple cross-sectional data. Connolly focuses only on the state waivers, especially those with work requirements or increased work incentives. In contrast to Schoeni and Blank, she finds that these types of reforms have little effect on earnings growth and a small but statistically significant negative effect on income growth for families who receive welfare.

One of the other significant changes resulting from the PRWORA legislation, and the replacement of AFDC by TANF, was the introduction of time limits for cash assistance. Heads of households with dependent children who qualify for TANF may only receive assistance for 24 months during any given time period unless they are participating in an approved work activity. There is a lifetime limit of 60 months although states have the right to exempt up to 20% of their caseload from this requirement. A recent paper by Grogger (2001) demonstrates that time limits appear to have substantial effects on welfare use (for families with children under the age of 13) but lesser effects on employment and no significant effect on income.

The majority of our attention in this paper and in the preceding discussion focuses on the income and earnings effect of welfare reform. This is partly due to the availability and ease of measurement of monetary variables. It is also due to the importance of these factors in

determining quality of life. Though money does not buy happiness, a severe lack of it often does lead to serious family problems. Of course, we are aware that welfare reform also has many non-monetary impacts on families. For example, PRWORA encourages the formation of two-parent households, but Sigle-Rushton and McLanahan (2002) find that unmarried parents vary greatly from married parents in their demographic characteristics and employment behavior, and the differences in earnings and poverty rates are due to factors other than marital status.

Other nonmonetary impacts directly affect the children in the household, although PRWORA focuses on the behavior of the adults in the family. For example, if a parent is required to work outside of the home, she will likely have less contact with her children, affecting the children's well-being. On the other hand, a child who has a working parent may develop a stronger work ethic than one whose family relies on public assistance. Therefore, the impacts may be negative or positive (Phillips 2002; Hofferth 2002). Trzcinski and Brandell (2002) utilized an early experimental version of the SPD data and suggested that there is a correlation between negative outcomes for children in middle childhood and early adolescence in the era of welfare reform.

### **Economic Theory**

We estimate the effect of welfare reform on four dependent variables: earnings and income for both the individual and her family. As mentioned, monetary variables are not perfect measures of overall well-being, but they are obviously an important component. Earnings are important given the emphasis on work contained in most welfare reform provisions. Income is probably even more crucial since it measures resource availability and is used to determine welfare eligibility and benefit levels. If the goal of ending welfare dependence is to be achieved without eroding current standards of living, income levels must remain constant. Further, if welfare recipients are expected to attain self-sufficiency, incomes will need to increase. Neither

of these outcomes is guaranteed because public assistance benefits decrease as earned income increases. Although many states have expanded earnings disregards, the implicit tax rate remains high implying that work does not always increase a family's standard of living.

We estimate the effects on both individual and family earnings and incomes for two reasons. Individual outcomes are important because welfare reform policies are often directed at influencing individual labor market behavior and researchers have often been interested in knowing how much welfare leavers are earning. However, family outcomes are also of interest for three main reasons. First, poverty rates and eligibility for public assistance programs is determined by family incomes. These are better measures of the overall resources available to support the family than those of the individual. Second, many welfare recipients are actually children whose parent or guardian receives the benefit on the child's behalf. Third, families with more than one potential wage earner must make joint labor market decisions that are affected by welfare rules as well as the labor market opportunities of each adult. Using family earnings and incomes captures the net effect of welfare reform policies taking into account both direct effects of work rules and indirect effects on family labor market decisions.

#### *Effects of welfare reform on earnings and incomes*

Welfare reform includes provisions such as job training, work requirements, and work incentives. Each of these has ambiguous effects on earnings and incomes. Most recipients of Temporary Assistance to Needy Families (TANF) are now required either to work or to participate in job training programs in order to be eligible for public assistance. According to the theory of human capital (Becker 1964), the job training and work experience gained through these welfare work requirements should increase the probability that welfare recipients will have higher earnings and be able to leave welfare.

However, work requirements could also potentially decrease earnings in several ways. For example, family members may hurry to take jobs in order to avoid loss of benefits, rather than spending time looking for a better paying job or continuing their education (Grogger 2001). In addition, because families make joint labor supply decisions, some may decide that a previously working member should quit if another is required to work as a condition of public assistance receipt.

Another way in which work requirements could decrease earnings would be if some recipients originally worked without reporting their earnings to the local welfare office. Edin and Lein (1997) report that this behavior is typical among this population. When a work requirement provision is implemented recipients must report their work, so they may choose to discontinue working surreptitiously. This could result in an overall decrease in earnings.

A final explanation draws on the fact that many work requirement waivers allowed participation in a state-sponsored job training program in lieu of working. It may have been beneficial for some recipients who were originally working (whether reported or not) to participate in the job training program instead.

Work incentive provisions also have ambiguous effects. These take the form of increased earnings disregards, which by themselves would be expected to increase earnings. However, they might have little effect on earnings if other barriers to work are not reduced. Many states have implemented reforms that attempt to alleviate major barriers, for example, by providing Medicaid and child care coverage for a transitional period beyond the end of eligibility for cash assistance. These policies lower the cost of labor force participation, complementing work requirements by allowing recipients to build additional human capital after leaving TANF. This may help ensure they are able to stay off public assistance after the transitional benefits expire.

However, empirical studies show that only 34 percent of former welfare recipients and 53 percent of their children have Medicaid coverage. Additionally, only 27 percent of these workers receive food stamps (Loprest 2002). Perhaps to increase the effect of these transitional benefits, a larger proportion of the caseload will need to be enrolled. In addition, other barriers to employment including physical and mental illnesses or disabilities, or illiteracy, among others, may remain problematic enough to keep recipients from working even with increased incentives (Burt 2002).

The interaction between public assistance benefits and earned income are complex making it difficult to predict how welfare reform will affect total incomes. Tapogna and Witt (2002) demonstrate how little discretionary income changes as hourly wages increase. For example, they show that in the state of Oregon, a single TANF recipient with two children who earns \$12.00 per hour has less discretionary income than she would if she earned \$6.00. This is due to the loss of public assistance.

#### *Effects of other factors on earnings and incomes*

Human capital theory also suggests that personal characteristics are important in determining earnings potential. Several empirical studies have confirmed that demographic variables such as marital status, age, and education, among others, have a strong influence on the income of welfare recipients (e.g., Blank 1995, Mead 1997, Moffitt 1996). Many states have recently argued that those who currently remain on the welfare caseload are those who face the highest barriers to employment. Moffitt and Stevens (2001) conclude that welfare reform *per se* cannot be blamed for the high proportion of less-skilled women remaining on the rolls. Nonetheless, the inclusion of demographic variables ensures that we are not attributing changes in income or earnings to welfare reform when they are actually due to personal characteristics.

Economic conditions also affect the income of welfare recipients through their effect on labor demand. The strength of the economy during the period under study (1992-1997) made it easier for welfare recipients to make the transition to the paid labor market. Previous research has shown that strong economic conditions have accounted for a significant portion of the decline in welfare caseloads in recent years, though this appeared to be stronger for pre-PRWORA state level reforms (e.g., Ziliak, et. al. 2000; Wallace and Blank 1999; U.S. Council of Economic Advisers 1997, 1999).

Theoretically, strong labor demand should also lead to increased wages for welfare recipients who enter the labor market. However, many welfare recipients work for minimum wage or slightly above (Loprest 2002). Since the mid 1970s, a full-time, full-year worker earning minimum wage has not been able lift a family of three above the poverty line (Abramovitz 1996; Levitan, Gallo, and Shapiro 1993). Though little is directly known about the effect of the strong economy on financial well-being of welfare recipients, it is clearly important to control for these effects.

## **Methodology**

We use regression analysis to identify the separate effects of welfare reform, demographic characteristics, and economic conditions. We are primarily interested in the ways in which welfare reform affects the incomes and earnings of welfare recipients, but we recognize that nonrecipients can also be affected in a number of ways. For example, some nonrecipient families may have been intentionally diverted or indirectly discouraged from applying for benefits as a result of reform policies (Holcomb and Martinson 2002). Alternatively, policies that emphasize job training and placement may draw some nonrecipient families into the program (Moffitt 1996). Because reciprocity itself is endogenous, we estimate the effect of

reform on females who were aged 16-54 at the time of welfare reform, by their educational status at the time of welfare reform. Using all working age females allows us to capture the effects on both current and potential recipients. Education is separated into three categories: less than high school, exactly high school, and more than high school.

### *Model*

The general form of the model we estimate is:

$$y_{ist} = \alpha_i + \theta_s + \gamma_t + W'_{st} \beta + X'_{it} \delta + E'_{st} \varphi + \varepsilon_{ist} \quad (1)$$

$y_{ist}$  is the dependent variable for individual  $i$  living in state  $s$  in time  $t$ . We estimate the model separately for four different dependent variables: individual and family earnings and individual and family income. All dependent variables are measured in natural logs. This captures the potential nonlinearity in the relationship between the dependent variable and the explanatory variables but presents a problem also: earnings and incomes are zero for a significant portion of the sample in several cases. Table 1 shows the number and percentage of observations with zero earnings or income for each education level. Not surprisingly, individual earnings have the highest percentage of zeros. At the upper extreme, 73.5 percent of females with less than a high school education have no earnings, compared with 26.5 percent of females with more than a high school education. The percentage of women with less than high school who have no individual income is also much higher than that of women with more than high school: 38.3 percent compared with only 6.6 percent. Since we want to keep as much information as possible, we reset the value of earnings and income to \$1 for these observations so  $\ln(\text{earnings})$  or  $\ln(\text{income})$  equals 0.

While we control for a number of important variables (discussed below), there will inevitably be other unobservable factors affecting earnings and income. To capture these effects, we

estimate a fixed effects model by including dummy variables for family, state, and year.<sup>1</sup> These effects are represented by  $\alpha_i$ ,  $\theta_s$ , and  $\gamma_t$ , respectively, in the above model. The ability to control for unobservable family characteristics is one of the main advantages of the longitudinal data set.

$W_{st}$  is the welfare reform variable. It is a modified dummy variable that indicates the fraction of the year for which a welfare reform policy was in effect for each state. We define this variable in two ways. In our first set of estimates, it is a scalar that indicates whether the state had any type of welfare reform policy in the given year. In the second set of estimates, it is a vector with three components. The first is an indicator for the presence of a reform policy that specifically requires work related activities. The second is an indicator for reform policies that increase work incentives by increasing the earned income disregard. The last is a catch-all category containing all other types of reform policies. The construction of these variables is discussed in more detail in the data section below.

The vector  $X_{it}$  contains the woman's marital status (married with the spouse present versus any other status), the number of children in the family, and the woman's age and age squared. Because we use a fixed effects model, family characteristics that do not change over time, such as race, are not included.

The vector  $E_{st}$  contains state level economic variables that are expected to affect earnings and incomes. These are the state level unemployment rate, the gross state product, the maximum AFDC or TANF benefit for a family of three, and the maximum earned income tax credit available, each for state  $s$  at time  $t$ . All of the monetary variables are adjusted for inflation using the CPI-U (base 1982-84).

$\beta$  is the parameter of interest since it measures the difference in the dependent variable for a family living in a state with a reform policy compared to a similar family living in an otherwise

similar state with no welfare reform.  $\delta$  and  $\varphi$  are also parameters to be estimated and  $\varepsilon_{ist}$  is a random error term assumed to be independent and normally distributed.<sup>2</sup>

### *Timing*

One additional consideration in the estimation of both models concerns the timing of the effects. In the models presented above, it is assumed that the effects of all variables, including welfare reform, are contemporaneous. It may be more reasonable to assume that there is a lag between the implementation of a welfare reform policy and its effect on earnings or incomes. To examine this possibility, we re-estimate the models discussed above, using one and two year lags of the waiver variables instead of their contemporaneous values. Thus,  $\beta$  in the lagged models represent the effect of a reform policy in the current year on income or earnings one or two years later.

### **Data**

#### *Earnings, income, and demographics*

Data on family earnings, incomes, and demographics are taken from the first longitudinal data set created by combining the Survey of Program Dynamics (SPD) and the Survey of Income and Program Participation (SIPP).<sup>3</sup> Collection of data for the SPD was mandated by PRWORA for the express purpose of evaluating the impact of the legislation. The SPD collected post-1995 data from families who participated in the 1992 or 1993 SIPP and completed all waves. The original SIPP panels contain data from their inception through 1994 for all participants but do not have full data for 1995. The first two SPD surveys, conducted in 1997 and 1998, gathered data relating to the 1996 and 1997 calendar years. Therefore, the data cover 1992 or 1993 through 1997, excluding 1995. While the gap in the data is somewhat inconvenient, the

existence of data for three years prior and two years following 1995 still make it possible to estimate the effect of welfare reform occurring during the 1992-1997 period.

Mean values of these variables over the full time period are shown in table 2. Average family earnings for working aged women without a high school diploma are \$19,460 and their average family income is \$22,903. As expected, this is substantially lower than for high school graduates, who have average family earnings and incomes of \$24,911 and \$27,680, respectively. The family earnings and incomes of women between the ages of 16 and 54 with more than a high school education average \$34,061 and \$37,174, respectively. Individual earnings for women in each category are substantially lower than the corresponding family levels. A more complete depiction of the distribution of earnings and income distributions are shown in figures 1 and 2.

Less educated women average 1.7 children under the age of 18 and are about 30 years old on average. Those with exactly a high school education do not differ much from those with more than high school in these respects: they average 1.2 to 1.3 children and are not quite 36 years old.

#### *Comparison with CPS*

Although the Census Bureau has made strong efforts to contact original members of the SIPP panels, maximize the response rate, and follow movers, attrition is a major concern. By the end of the of our sample period (the 1998 SPD), the sample loss rate was 50 percent (Census 2002, p.13). In part, the sample selection bias is alleviated by weighting the estimates to account for differences in selection probabilities and response rates. For comparison purposes, table 3 shows the means from the 1997 SPD sample and from the March 1997 Current Population Survey (CPS). In each of these data sets, the information covers the 1996 calendar year. There is not a drastic difference in the average age, marital status, or number of children of working aged

women across these two samples. However, the CPS sample has substantially higher earnings and incomes, both at the individual and family levels.

### *Measures of welfare reform*

Many states received waivers from federal regulations governing public assistance programs (especially AFDC) during the mid-1990s allowing them to experiment with work requirements, time limits, and a number of other policies. Others had no welfare reform policy until the implementation of their TANF programs as mandated by PRWORA. To measure welfare reform, we use two different approaches. First, we calculate an indicator for any type of reform. We start with the date on which each state first implemented some type of welfare reform (a waiver or TANF). The variable equals the fraction of the year for which the new policy was in effect. For example, if a state implemented a waiver in October of 1993 this variable would equal 0 before 1993, 0.25 in 1993, and 1.0 thereafter for that state. There were many waivers that covered only small portions of the caseload, e.g., a single county, but we use only waivers that applied statewide because these are likely to have the greatest impact.<sup>4</sup> The implementation dates are those used by the Council of Economic Advisers (1999) and are available from the U.S. Department of Health and Human Services website (Crouse 1999). Figure 3 shows the number of states with any type reform in place in each year for the full year, part of the year, or none of the year.

The aggregate welfare reform variable is useful because it allows us to address the effect of welfare reform at a very general level. However, in most states, 'welfare reform' consists of a number of different provisions, many of which may offset each other. For this reason, we also break up the welfare reform variable into three categories; those that require recipients to work, those that increase the earnings disregards, and all other types of reforms. These are constructed

in the same way as the combined variable. Each equals zero in years prior to their implementation, equals the fraction of the year in which they were in effect during the year of implementation, and equals one thereafter. This approach is similar to that employed in other studies using waiver data to examine the effects of welfare reform on caseloads (e.g., Council of Economic Advisors, 1997, 1999; Ziliak et al., 2000). We define fewer categories than these earlier studies for two reasons. First, we wish to focus on work related reforms. Second, the individual components of the composite waiver variable may have less the explanatory power than the aggregated data. Figure 4 shows the number of states with each type of reform for each year.

#### *Measures of other public assistance*

We control for the level of AFDC or TANF benefits as well as the level of the earned income tax credit (EITC). For AFDC/TANF, we use the maximum monthly benefit level for a family of three in a given state for each year adjusted for inflation using the CPI-U. The data on benefits were taken primarily from the Urban Institute (2001). They were supplemented with data from the U.S. Department of Health and Human Services (2001). The CPI-U is from the U.S. Bureau of Labor Statistics (1999).

For the EITC, we use the maximum annual federal credit available for those states with no supplemental state-level EITC. For states that provide a supplemental EITC, we use the sum of the maximum benefit available at both the federal and state levels. Again, these are adjusted using the CPI-U. The data on state and federal EITC levels are those used by Meyer and Rosenbaum (2001).

The average values of each of these variables are shown in table 2. These differ slightly across the education categories due to differences in the numbers of women in each category

living in each state. The mean value of the monthly AFDC/TANF benefit over the period, measured in 1982-84 dollars, was about the same for women without a high school degree (\$242) and those with exactly high school (\$241) and slightly higher for those with more than high school (\$253). The maximum annual EITC credit averaged \$853 for the sample of less educated women, \$857 for high school graduates, and \$865 for those with more than high school.

#### *Measures of economic conditions*

We use the state-level unemployment rate and the gross state product in each year to control for differences in economic conditions. These data are taken from the U.S. Bureau of Labor Statistics (1999). The average state-level unemployment rate ranged from a low of 5.86 percent over the 1992-1997 period for women with more than high school to 5.97 percent for those without a high school diploma (table 2). The average real gross state product ranged from \$235.3 to \$266.4 billion 1982-84 dollars.

## **Results**

#### *Effects of the combined welfare reform variable*

Table 4 shows the effect of the combined waiver variable. Working aged women who have not graduated from high school saw a large and significant increase in both their earnings and income in the year in which welfare reform took place. The individual earnings of these women rose by 32 percent and their individual incomes rose by 36 percent. However, the effect on the family's economic outcomes was much smaller. The increase in family earnings is not statistically significant and the 11.4 percent increase in family income is less than one-third of

the increase in individual income. This implies that there is substantial substitution in labor market participation among family members in these households.

It is also important to note that these gains are short-lived. There is no significant effect on any of the earnings or income variables for less educated women one or two years after the reform is implemented – unless one is willing to accept a significance level of 0.10, in which case there was a significant *decrease* in family income both one and two years after reform.

The implications of these findings are that less educated women may have benefited from welfare reform in the short-run, but these gains did not persist. In fact, these families appear to be worse off economically than they were before reform.

A different pattern emerges for women who have graduated from high school but do not have education beyond that level. There is no significant effect on earnings at either the family or individual level, even after reforms have been in place for some time. However, family income for these women does increase as the time since reform increases. The increase after the first year is significant only at the 0.10 level, but the two-year lag is significant at the 0.05 level and implies that family incomes increase by almost 12 percent two years after a welfare reform policy is implemented. Interestingly, the increase in family income after one year is not due an increase in the individual income of these women, which is significantly *lower* one year following reform.

Since earnings were not affected for this group of women, the policies that work through earnings cannot be the cause of increased family income. One type of policy change that did not directly affect earnings was a change in the way income is counted. For example, some states began counting income from a step-parent or a grandparent when it had previously been excluded (Urban Institute, April 2001).

Although it is less likely that higher educated women will be affected by welfare reform, the number of such women who are poor is not negligible. For example, in 1993, 22.4 percent of poor families had at least some education beyond high school (Blank 1997). Although our estimates indicate that welfare reform did not have much effect on more educated women, their family income does increase by about 5 percent in the year that a reform is implemented. As with those who have a high school diploma but no more, this increase is not accompanied by an increase in the woman's individual income. In the one and two years after reform, there is no effect on individual or family income.

There is also no change in individual or family earnings in the year after reform. If one accepts the 0.10 level of significance, there is a 6 percent increase in family earnings but no change in individual earnings in the second year after welfare reform is implemented. Again, this must be due to changes in labor force participation dynamics within the household.

In summary, these estimates suggest that welfare reform had a positive and significant effect on some economic outcomes for less educated women in the short-run, but the effect disappeared one year after the reforms were implemented. There is weak evidence that the effect on family incomes for this group is actually lower as a result of welfare reform. On the other hand, the family incomes of women who have graduated from high school does rise significantly in the second year after reform, suggesting that this group benefited from welfare reform.

#### *Effects of different types of welfare reform policies on earnings*

As discussed earlier, the aggregation of the combined variable may obscure the effects of the individual reform provisions. Thus, we re-estimate each of the models discussed above with the welfare reform variable broken into three categories: work requirements, increased earnings

disregards ('work incentives'), and other types of provisions. The effects of the separate reform policies on earnings are shown in table 5.

*Effects of different types of welfare reform policies on earnings*

When broken into different categories, welfare reform effects are somewhat harder to summarize. We still see a contemporaneous increase in the individual earnings of less educated women. This impact is associated with reforms other than work requirements or work incentives. Work incentives do have a strong positive effect by the year after their implementation, but this disappears by the second year following implementation. On the other hand, work requirements take longer to affect individual earnings, but once they do, the effect is quite large (an 88 percent increase in individual earnings two years after the implementation of a work requirement). This appears to provide some support for the claim that, in time, work requirements help less educated recipients increase their earnings even if it does not help in the short run. This would be the case if welfare recipients are working at jobs or getting training that increases their skills, leading to higher wages over time. However, it would also occur if recipients are working more hours, even if their hourly wages do not increase (Cancian, et. al. 1999). Unfortunately, this increase does not translate into higher family earnings, suggesting again that families are making adjustments in their labor force participation in response to the work requirements. In addition, much of this gain is offset by a 61 percent decrease in individual earnings resulting from other types of reforms.

None of the different policies had much effect on women with a high school education but not more. The only estimate that is significant at the 0.05 level is the contemporaneous effect of other reforms on family earnings. These reforms reduced family earnings by almost 15 percent. However, this decrease in earnings does not persist one or two years after reform. Thus, families

may have rushed into jobs, decreasing their immediate earnings, but may earn higher wages (or work more hours) over time.

Using the 0.05 level of significance, none of the different types of welfare reform has any significant effect on the family or individual earnings of women with education beyond high school. At the 0.10 level, work requirements have an initial negative effect, but this turns positive two years after the requirements are implemented.

Summarizing, the impacts of different types of welfare reform policies on earnings are greatest for less educated women. Different types of policies had very different effects that changed over time, perhaps due to changes in the ways in which the policies were implemented at the state and county levels, or to adjustments made by families in response to the changing policy climate. Despite large effects on individual earnings, family earnings were largely unaffected by these policies, with none of effects on family earnings significant at the 0.05 level or better. There was little impact of any of these reforms on the incomes of women with a high school education or more.

#### *Effects of different types of welfare reform policies on incomes*

The effects of different types of policies on income are similar to the effects they have on earnings. Women who have not graduated from high school are affected most strongly. The immediate impact of work requirements is negative, but this turns positive after two years. As with earnings, much of the effect of work requirements is offset by other reforms. There is little overall effect on family income in the short term, but two years after the implementation of a work requirement, family incomes have fallen by over 32 percent. This loss is not offset by increases in family incomes due to other policies, so the families of less educated working aged women appear to be substantially harmed by work requirement policies.

Only one of the estimates is significant at the 0.05 level for high school graduates. This is the effect of other reforms on family income after one year. These reforms lead to a modest increase of 7 percent. The same effect is significant at the 0.10 level in the second year after reform. Otherwise, none of these policies has a significant impact on individual or family earnings of high school graduates.

None of the estimates of different reform types is significant at the 0.05 level for women who have more than a high school education.

## **Conclusion**

As noted earlier, the effect of welfare reform policies on families' economic well-being is ambiguous. As a result, additional empirical research in this area is particularly appropriate. Using the newly released first longitudinal data set from the Survey of Program Dynamics, we estimate the effect of welfare reform policies on the earnings and incomes of working aged women and their families, separating the sample by education level.

The results presented here indicate that welfare reform policies do increase the individual earnings of women who have not graduated from high school, at least in the short run. However, these additional earnings do not translate into higher earnings for the family as a whole. Perhaps many families adjust their labor force participation in response to welfare reform policies. More disturbing is the fact that the family incomes of less educated women appear to have decreased as a result of welfare reform. This is problematic if the goal of welfare reform is to increase the ability of these families to become self-sufficient.

The outlook is better for the families of women who have graduated from high school. Welfare reform appears to have increased the family incomes of women in this group, with reforms other than work requirements or increased earnings disregards getting most of the credit.

Not surprisingly, there was little impact of welfare reform on the families of women who have more than a high school education.

Our findings should be of interest to many people, including lawmakers, advocates for the poor, academic researchers, and welfare recipients themselves. Our results are consistent with those of other authors using other data sets (e.g., Connolly 2002, Grogger 2001, Moffitt 1999), so we are fairly confident that the qualitative findings will be upheld. Since the current policies do not appear to be leading to an increase in family incomes of current or potential welfare recipients, members of Congress may want to reconsider the 'success' of welfare reform. Policy makers will have to decide whether the ultimate goal is simply to end welfare dependency or if it is to help low income families become self-sufficient. If it is the latter then we will need to explore alternative policies.

Further research in this area, including additional statistical analysis of the SPD data, should enable a deeper understanding of this topic. This will shed additional light on the ways in which current policies can best be modified, regardless of the overall impact on earnings and incomes. Currently, other social scientists are developing more detailed classification systems for welfare reform policies of individual states (De Jong, Graefe and St. Pierre 2002; Urban Institute 2002). Once these systems are completed and available for public use, it will be possible to further analyze the data to see how specific reform policies affect the earnings, incomes, and other outcomes of working aged women and their families.

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**Table 1. Number and percent of individuals and families with no earnings or income, by education level**

	<b>Less than High School</b>		<b>Exactly High School</b>		<b>More than High School</b>	
	Number of observations	Percent of sample	Number of observations	Percent of sample	Number of observations	Percent of sample
Family earnings equal zero	1590	19.8	995	7.7	887	4.5
Individual earnings equal zero	5896	73.5	4938	38.0	5213	26.5
Family income equals zero	108	1.3	87	0.7	74	0.4
Individual income equals zero	3070	38.3	1684	13.0	1302	6.6

**Table 2. Means by education level**

<b>Family Level Variables</b>			
	Less than HS	Exactly HS	Greater than HS
<b>Dependent Variables</b>			
Real family earnings	19460	24911	34061
Real individual earnings	3241	7417	12325
<i>ln</i> (real family earnings)	8.29	9.39	9.92
<i>ln</i> (real individual earnings)	4.09	6.64	7.67
Real family income	22903	27680	37174
Real individual income	4400	8442	13603
<i>ln</i> (real family income)	9.61	9.94	10.27
<i>ln</i> (real individual income)	5.83	7.74	8.54
<b>Demographic Variables</b>			
Married, spouse present	0.24	0.40	0.40
Number of children	1.7	1.3	1.2
Age	30.1	35.7	35.5
<b>State Level Variables</b>			
<b>Public Assistance Benefits</b>			
Maximum real AFDC/TANF benefit	242	241	253
Maximum Earned Income Credit	853	857	865
<b>Economic Conditions</b>			
State unemployment rate	5.97	5.87	5.86
Real gross state product (x \$1 billion)	266.4	235.3	250.4

**Table 3. Comparison of means from the 1997 SPD and March 1997 CPS\***

	SPD			CPS		
	Less than HS	Exactly HS	Greater than HS	Less than HS	Exactly HS	Greater than HS
<b>Dependent Variables</b>						
Family earnings	18800	25737	35700	30853	39282	57967
Individual earnings	3702	8015	13302	4178	12794	21167
<i>ln</i> (family earnings)	8.18	9.40	9.97	8.48	9.62	10.27
<i>ln</i> (individual earnings)	4.56	6.89	7.95	4.19	7.23	8.18
Family income	21955	28436	38593	35630	43691	64024
Individual income	4839	8978	14473	5598	14383	23706
<i>ln</i> (family income)	9.46	9.93	10.29	9.80	10.24	10.66
<i>ln</i> (individual income)	6.27	7.79	8.61	5.83	8.25	9.06
<b>Demographic Variables</b>						
Married, spouse present	0.38	0.59	0.57	0.33	0.58	0.57
Number of children	1.5	1.2	1.0	1.4	1.0	0.9
Age	32.3	36.6	36.1	29.2	36.4	35.7

\*Earnings and income variables from both data sets are for the 1996 calendar year. SPD means are weighted by the annual weight provided in the data set. CPS means are weighted by the CPS March supplement weight.

**Table 4. Effect of combined waiver/TANF variable on female log earnings and log income, by education status**

<i>Dependent Variable</i>	<i>Contemporaneous Effects</i>		<i>One-year Lagged Effects</i>		<i>Two-year Lagged Effects</i>	
	N	Estimate (std. error)	N	Estimate (std. error)	N	Estimate (std. error)
	<b>Less than High School</b>					
<i>ln</i> (family earnings)	8020	0.0798 (0.1301)	7039	-0.0341 (0.0748)	5298	-0.1395 (0.0899)
<i>ln</i> (individual earnings)	8022	0.3235** (0.1277)	7041	0.0923 (0.0941)	5300	-0.1660 (0.1156)
<i>ln</i> (family income)	8021	0.1143** (0.0477)	6186	-0.1015* (0.0582)	4449	-0.1684* (0.0897)
<i>ln</i> (individual income)	8017	0.3625*** (0.1155)	7036	-0.0454 (0.0867)	5297	-0.1608 (0.1079)
	<b>Exactly High School</b>					
<i>ln</i> (family earnings)	13000	-0.0803 (0.0582)	11426	0.0512 (0.0445)	8595	0.0610 (0.0534)
<i>ln</i> (individual earnings)	12998	-0.0836 (0.0939)	11424	-0.1106 (0.0712)	8593	0.0519 (0.0848)
<i>ln</i> (family income)	13001	-0.0012 (0.0266)	10008	0.0584* (0.0309)	7178	0.1174** (0.0498)
<i>ln</i> (individual income)	12992	-0.0634 (0.0732)	11421	-0.1338** (0.0564)	8592	0.0967 (0.0695)
	<b>More than High School</b>					
<i>ln</i> (family earnings)	19680	0.0631 (0.0401)	17346	0.0381 (0.0303)	13038	0.0625* (0.0364)
<i>ln</i> (individual earnings)	19676	0.0763 (0.0744)	17342	0.0380 (0.0553)	13034	0.0073 (0.0664)
<i>ln</i> (family income)	19677	0.0469** (0.0218)	15148	-0.0131 (0.0257)	10833	-0.0021 (0.0408)
<i>ln</i> (individual income)	19650	0.0563 (0.0541)	17323	0.0253 (0.0406)	13022	0.0079 (0.0513)

\* Significant at the 0.10 level

\*\* Significant at the 0.05 level

\*\*\* Significant at the 0.01 level

All models control for the maximum AFDC/TANF benefit for a family of three, the maximum Earned Income Tax Credit, the state unemployment rate, gross state product, and the individual's age, age squared, marital status, and number of children. All models include year, state, and individual fixed effects.

**Table 5. Effect of different types of waiver/TANF variables on female log earnings, by education status**

<i>Dependent Variable</i>	<i>Type of reform variable</i>	<i>Contemporaneous Effects</i>		<i>One-year Lagged Effects</i>		<i>Two-year Lagged Effects</i>	
		N	Estimate (std. error)	N	Estimate (std. error)	N	Estimate (std. error)
<b>Less than High School</b>							
<i>ln(family earnings)</i>	Work requirements	8020	-0.2905* (0.1510)	7039	0.0442 (0.1358)	5298	0.0931 (0.2162)
	Work incentives		-0.0687 (0.1109)		-0.0806 (0.1150)		-0.2705* (0.1427)
	Other reforms		0.2108* (0.1165)		-0.0365 (-0.0998)		-0.1171 (0.1567)
<i>ln(individual earnings)</i>	Work requirements	8022	-0.3049 (0.1868)	7041	-0.0462 (0.1708)	5300	0.8797*** (0.2779)
	Work incentives		0.0772 (0.1374)		0.3652** (0.1446)		-0.1854 (0.1833)
	Other reforms		0.4392*** (0.1443)		-0.1189 (0.1255)		-0.6146*** (0.2015)
<b>Exactly High School</b>							
<i>ln(family earnings)</i>	Work requirements	13000	0.1179 (0.0938)	11426	-0.0935 (0.0855)	8595	-0.1526 (0.1284)
	Work incentives		0.0444 (0.0629)		0.0380 (0.0699)		0.1090 (0.0872)
	Other reforms		-0.1454** (0.0664)		0.0865 (0.0594)		0.0720 (0.0906)
<i>ln(individual earnings)</i>	Work requirements	12998	-0.1390 (0.1513)	11424	-0.0976 (0.1368)	8593	0.2589 (0.2040)
	Work incentives		-0.1326 (0.1016)		0.0879 (0.1118)		0.1303 (0.1384)
	Other reforms		0.0096 (0.1071)		-0.0938 (0.0950)		-0.2409* (0.1439)
<b>More than High School</b>							
<i>ln(family earnings)</i>	Work requirements	19680	-0.0337 (0.0585)	17346	0.0382 (0.0553)	13038	-0.0130 (0.0850)
	Work incentives		-0.0340 (0.0433)		0.0107 (0.0466)		0.0066 (0.0571)
	Other reforms		0.0525 (0.0455)		0.0471 (0.0415)		0.0860 (0.0641)
<i>ln(individual earnings)</i>	Work requirements	19676	-0.1826* (0.1086)	17342	0.0697 (0.1009)	13034	0.2852* (0.1549)
	Work incentives		0.0580 (0.0804)		-0.0085 (0.0850)		-0.1303 (0.1040)
	Other reforms		0.0983 (0.0845)		0.0536 (0.0757)		0.0154 (0.1167)

\* Significant at the 0.10 level; \*\* Significant at the 0.05 level; \*\*\* Significant at the 0.01 level

All models control for the maximum AFDC/TANF benefit for a family of three, the maximum Earned Income Tax Credit, the state unemployment rate, gross state product, and the individual's age, age squared, marital status, and number of children. All models include year, state, and individual fixed effects.

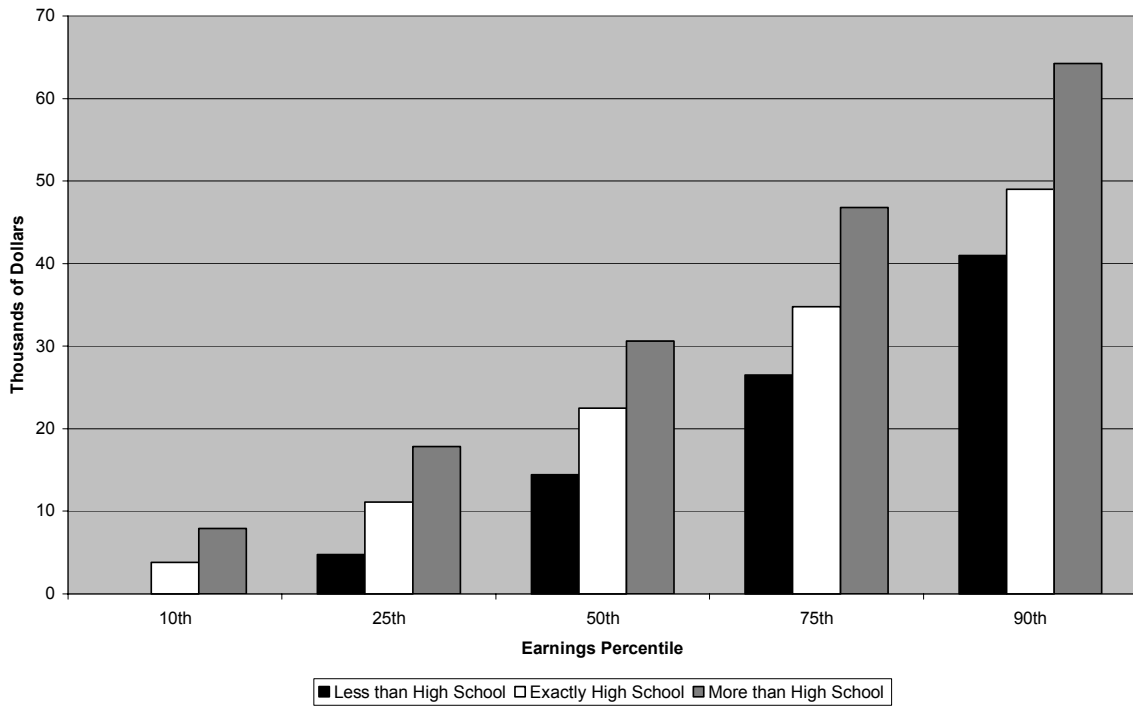
**Table 6. Effect of different types of waiver/TANF variables on female log income, by education status**

<i>Dependent Variable</i>	<i>Type of reform variable</i>	<i>Contemporaneous Effects</i>		<i>One-year Lagged Effects</i>		<i>Two-year Lagged Effects</i>	
		N	Estimate (std. error)	N	Estimate (std. error)	N	Estimate (std. error)
<b>Less than High School</b>							
<i>ln(family income)</i>	Work requirements	8021	0.0866 (0.0698)	6187	-0.1154 (0.1110)	4449	-0.4045 (0.3422)
	Work incentives		-0.0598 (0.0514)		-0.1515* (0.0799)		-0.3224*** (0.1220)
	Other reforms		0.1019* (0.0539)		0.0258 (0.0648)		0.0090 (0.1113)
<i>ln(individual income)</i>	Work requirements	8017	-0.5279*** (0.1689)	7036	0.0842 (0.1579)	5297	0.7403*** (0.2600)
	Work incentives		-0.0032 (0.1242)		0.0522 (0.1338)		-0.1232 (0.1718)
	Other reforms		0.4252*** (0.1305)		-0.0818 (0.1157)		-0.4861*** (0.1882)
<b>Exactly High School</b>							
<i>ln(family income)</i>	Work requirements	13001	0.0064 (0.0428)	10008	-0.0443 (0.0620)	7182	0.0739 (0.1860)
	Work incentives		0.0216 (0.0287)		0.0152 (0.0440)		0.0512 (0.0685)
	Other reforms		0.0214 (0.0303)		0.0732** (0.0337)		0.0991* (0.0591)
<i>ln(individual income)</i>	Work requirements	12992	-0.1198 (0.1180)	11421	-0.0154 (0.1082)	8592	0.1697 (0.1669)
	Work incentives		-0.0875 (0.0792)		0.0442 (0.0886)		0.1735 (0.1133)
	Other reforms		0.0663 (0.0835)		-0.1073 (0.0753)		-0.1064 (0.1178)
<b>More than High School</b>							
<i>ln(family income)</i>	Work requirements	19677	-0.0171 (0.0318)	15149	-0.0164 (0.0472)	10838	-0.1368 (0.1354)
	Work incentives		0.0322 (0.0236)		0.0128 (0.0362)		-0.0066 (0.0553)
	Other reforms		0.0373 (0.0248)		-0.0160 (0.0293)		0.0303 (0.0528)
<i>ln(individual income)</i>	Work requirements	19677	-0.1322* (0.0790)	17323	0.0817 (0.0741)	13022	0.1292 (0.1197)
	Work incentives		0.0196 (0.0585)		-0.0226 (0.0624)		-0.1246 (0.0805)
	Other reforms		0.0756 (0.04615)		0.0274 (0.0555)		0.1147 (0.0902)

\* Significant at the 0.10 level; \*\* Significant at the 0.05 level; \*\*\* Significant at the 0.01 level

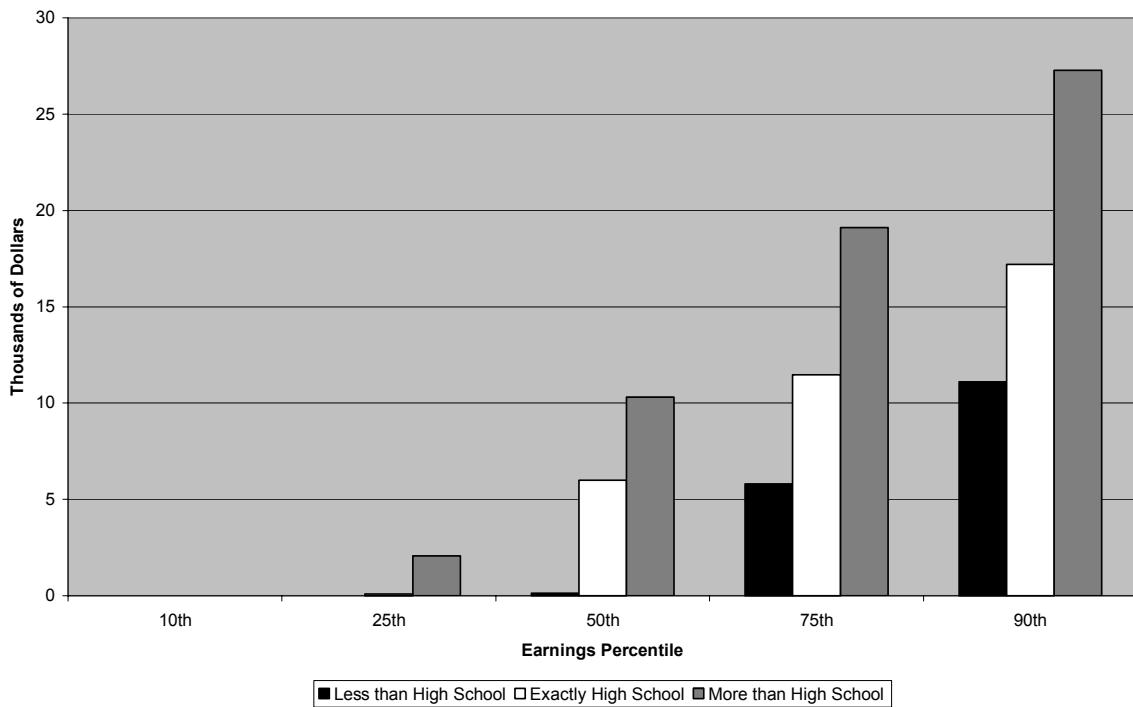
All models control for the maximum AFDC/TANF benefit for a family of three, the maximum Earned Income Tax Credit, the state unemployment rate, gross state product, and the individual's age, age squared, marital status, and number of children. All models include year, state, and individual fixed effects.

**Family Earnings Distribution, by Education**



**Figure 1a**

**Individual Earnings Distribution, by Education**



**Figure 1b**

### Family Income Distribution, by Education

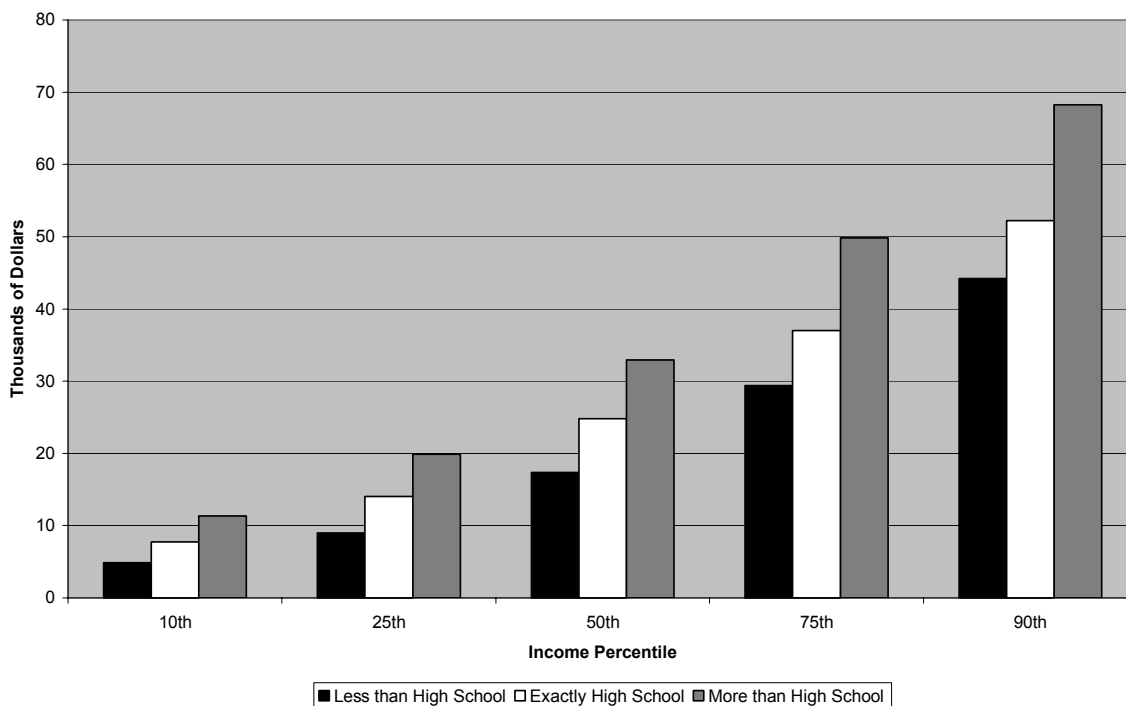


Figure 2a

### Individual Income Distribution, by Education

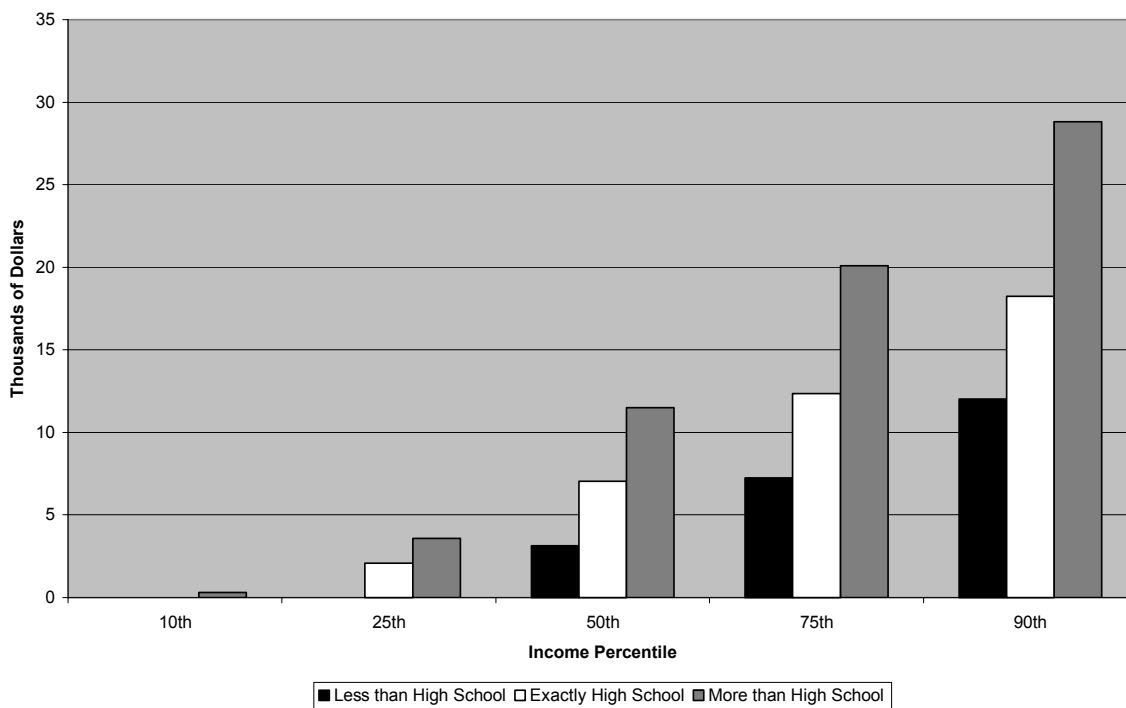


Figure 2b

### Number of States with Any Type of Welfare Reform, by Year

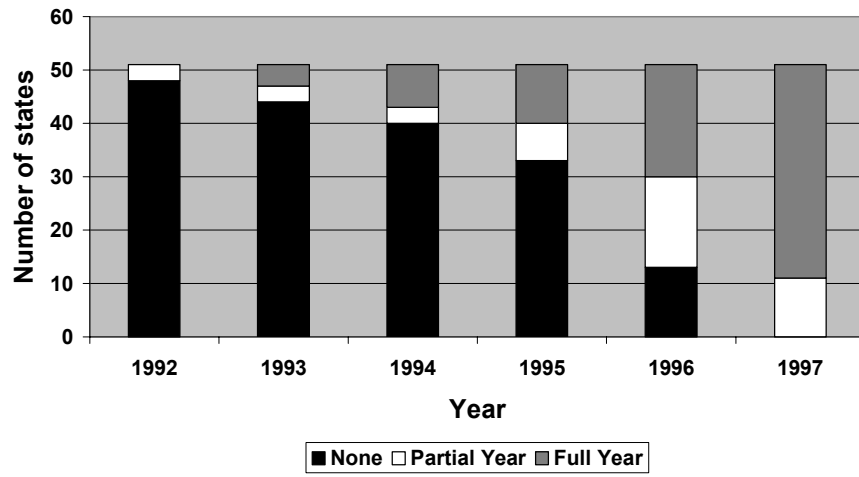
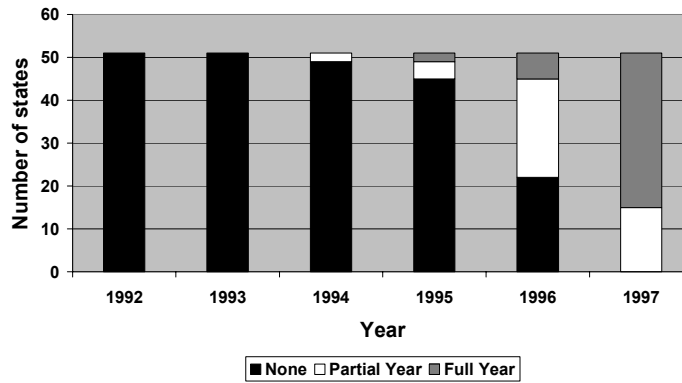


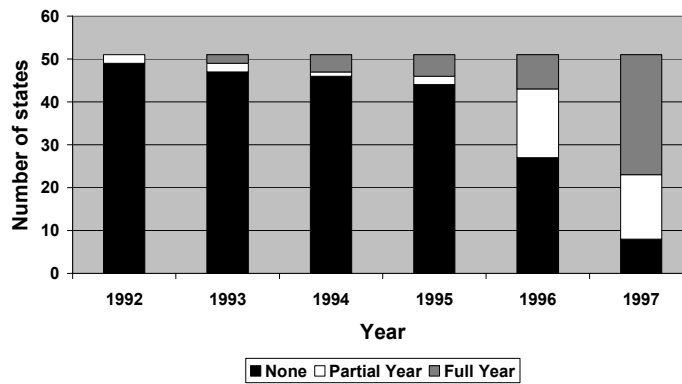
Figure 3

**Number of States with a Work Requirement, by Year**



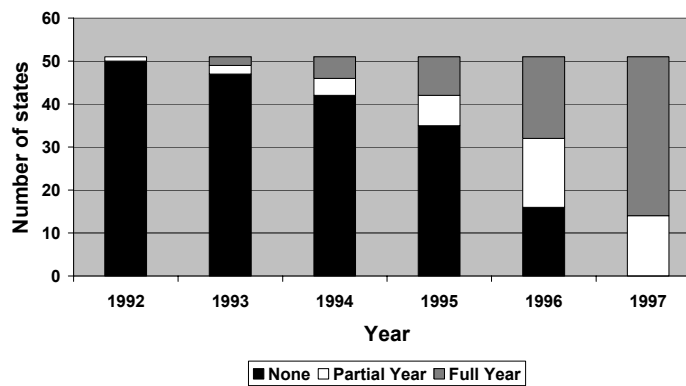
**Figure 4a**

**Number of States with an Increased Earnings Disregard, by Year**



**Figure 4b**

**Number of States with any Other Type of Reform, by Year**



**Figure 4c**

### *Endnotes*

<sup>1</sup> We considered using a "mixed" model in which state and year effects are fixed and family effects are random, as well as one in which both state and family effects are random. However, random effects are not consistent if the effect is correlated with included regressors (Wooldridge 2002, p.266). This is a potentially serious problem in our model, so we are more confident in the fixed effects model.

<sup>2</sup> Several of the independent variables are observed only at the state level, meaning that their values will be the same for every family living in the same state. The inclusion of state level fixed effects account for this clustering.

<sup>3</sup> See U.S. Census Bureau (2002) for details on the construction of this data set.

<sup>4</sup> Schiller (1999) makes a compelling case that local discretion in county welfare offices can lead to wide variation in the degree to which particular provisions are implemented within a given state. This means that statewide waiver data may not provide accurate information about the ways in which welfare reforms actually affect recipients. Unfortunately, no data measuring implementation at the county level, especially in terms of the behavior of case workers, are available.