

# **The Impact of Welfare Reform on the Employment and Labor Supply of Female High School Dropouts**

**Jeffrey T. Lewis\***

## **I. INTRODUCTION**

Welfare participation began to decline dramatically and low-skill female employment began to rise substantially in the United States during the 1990's. Two competing explanations for these developments are the strong economy and welfare reform. The U.S. experienced a remarkable economic boom during the 1990's. From 1992 to 2000, the unemployment rate fell steadily from 7.5 percent to 4.0 percent, and total non-farm employment grew by over 20 percent from 109 million to 132 million.<sup>1</sup>

The 1990's were also a period of unprecedented welfare reform in the U.S. The policy of liberally granting waivers to the states so that they could experiment with reform was adopted by the first Bush administration and later continued by the Clinton administration. From 1992-1996, 29 states ultimately implemented waivers. States that were granted waivers typically pursued a bundle of reform policies. A 1999 Council of Economic Advisors study classifies six types of waivers as "major": termination time limits, work requirement time limits, family caps, strict work exemptions, sanctions, and liberalized earnings disregards. Under termination time limits, after the time limit is reached, welfare recipients' benefits are cut off. Under work requirement time limits, on the other hand, after the time limit is reached, welfare recipients must work in order to continue receiving benefits. Under family caps, benefits are not increased when a woman has an additional child while on welfare. Strict work exemptions exempt only single mothers with very young children from having to participate in work activities.<sup>2</sup> Sanctions are levied when welfare recipients violate their work requirements. Liberalized earnings disregards allow women to retain more of their earnings while on welfare.

Time limits, work requirements, strict work exemptions, and sanctions are expected to decrease welfare use and increase employment. Although the primary aim of family caps is to discourage welfare beneficiaries from having more children while receiving public assistance, family caps could reduce welfare participation by making life on welfare less attractive. Liberalized earnings disregards, by increasing the return to working while on welfare, encourage both employment and welfare participation.

---

\*Cornell University, Department of Policy Analysis and Management, Ithaca, NY 14853, 607-254-5496, [jt128@cornell.edu](mailto:jt128@cornell.edu)

FALL 2007

President Clinton signed into law the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) in August 1996. The federal guarantee of cash assistance to the poor was abolished and replaced by a program called Temporary Assistance for Needy Families (TANF), which empowered states to run their own welfare programs with block grants from the federal government. Under TANF, a five-year lifetime time limit and a two-year continuous-use time limit on benefits were established, and states were allowed to implement shorter versions of each type of time limit if they so desired. States were, however, also permitted to exempt up to 20 percent of their caseloads from the lifetime time limit. Work participation requirements were established by the federal government, and states that failed to meet their targets faced a reduction in block grant funds. The federal government also gave states the power to impose family caps and regulate earnings disregards and asset limits. Like the state waiver programs, TANF was expected to reduce caseloads and boost employment.

Numerous papers that attempt to econometrically disentangle the effects of the strong economy and welfare reform on increases in female employment have been written. These papers are marked somewhat by a lack of consensus. Summarizing the findings in the literature, Blank (2001) notes, "Both the economy and waivers appear to have raised employment in the early 1990s; studies that look at the effect of TANF on employment in the late 1990s show more mixed results" (32).

Using March Current Population Survey (CPS) and CPS Outgoing Rotation Group (CPS-ORG) data, Meyer and Rosenbaum (2001) examine the impact of numerous policy variables on the employment of single women over the 1984-1996 period. The authors construct two welfare reform variables. One dummy is turned on when a time limit waiver is implemented, and a second is turned on once any welfare case has been terminated in a state under a waiver. Meyer and Rosenbaum find that both the fraction of single female high school dropouts who were employed last week, and the fraction who were employed last year, rose due to both time limit waivers and the onset of terminations. The authors do not examine the effects of TANF on employment.

Theorizing that families with younger youngest children should be less likely to use welfare than families with older youngest children under time limits since families with younger children face a longer time horizon over which they might experience an adverse economic event and, therefore, have a greater need to stockpile their benefits, Grogger (2003) investigates how the effects of welfare reform on outcomes for female heads of family vary depending on the age of the youngest child. Using March CPS data and examining the 1978-1999 period, Grogger focuses on the effects of time limits. He uses one dummy that is turned on if a time limit is in effect under either waivers or TANF, and another dummy that is turned on if any reform is in effect under either waivers or TANF. Grogger finds that the employment of female family heads rose because of both time limits and other reforms, and that the employment gains were largest for families with younger youngest children in both cases. He also finds that reforms other than time limits resulted in an increase in weeks worked by female family heads.

Using March CPS data, Fang and Keane (2004) examine the impact of reform on the employment of single mothers over the 1993-2002 period by, similar to Grogger (2003), exploiting the demographic dimensions of policy variation from different welfare program rules. Commenting on their paper, Grogger (2004a) contends that “Fang and Keane push [the] demographic dimensions of policy variation further than any previous study” (104). The authors find that both time limits and work requirements contributed to an increase in the employment of single mothers, and, consistent with Grogger (2003), they estimate larger impacts for families with younger children.

Examining the 1995-1999 period with the March CPS surveys, Kaushal and Kaestner (2001) employ a difference-in-difference strategy to determine the effects of time limits and family caps on work. They use one dummy that is turned on if a time limit is in effect under either waivers or TANF, and one dummy that is turned on if a family cap is in effect under either waivers or TANF. The authors find that both time limits and family caps caused the employment and labor supply of unmarried female high school dropouts with children to rise relative to married female high school dropouts with children.

Kaestner and Kaushal (2005) also employ a difference-in-difference strategy using 1994-1999 CPS-ORG data to study the effects of reform on work. In this paper, the authors use separate dummies for waivers and TANF, although they only report their TANF results. They find that the employment of unmarried female high school dropouts rose relative to married female high school dropouts under TANF. Their results for usual hours worked are statistically insignificant.

Using the March CPS surveys to examine the 1983-2000 period, O’Neill and Hill (2001) find that the employment of single mothers rose under both waivers and TANF. Blank (2002) points out, however, that the “lack of time fixed effects in the O’Neill and Hill study almost surely results in a larger coefficient on the TANF dummy variable than in other studies” (1140).

Moffitt (1999) uses the March CPS surveys from 1977-1995 to determine the effects of waivers on labor supply. Unlike the above-mentioned authors, Moffitt does not restrict his sample to some group of unmarried women or single mothers. He finds that under waivers there was an increase in annual weeks and hours worked by female high school dropouts, and an increase in annual hours worked by female high school graduates. Moffitt does not investigate the impact of TANF on labor supply.

Also not restricting their sample to some group of unmarried women or single mothers, Schoeni and Blank (2000) examine the 1976-1998 period with the March CPS surveys to determine the effects of reform on employment and labor supply. Because they have more years of data, the authors, unlike Moffitt, analyze the effects of both waivers and TANF. They find that, under waivers, employment and labor supply increased for female high school dropouts, but not for women with either a high school degree or some college experience. Interestingly, Schoeni and Blank find no statistically significant employment or labor supply increases for any group under TANF.<sup>3</sup> Since marital status is likely endogenous with welfare reform, it is noteworthy that the only paper using post-1996 data that

FALL 2007

does not estimate TANF policy effects is the only one that does not restrict its sample to some group of unmarried women or single mothers.

While welfare reform could have been expected to affect employment, it also could have been expected to affect marriage. Indeed, using vital statistics data, which contain a near-universe of new marriages and divorces, Bitler et al. (2004) estimate that reform had a sizable impact on marriage and divorce. The authors find that marriage rates fell by about 5 percent under waivers and 20 percent under TANF, and that divorce rates fell by about 5 percent under waivers and 10 percent under TANF. Further, it should be noted that welfare reform plausibly could have affected the marital status of women of different skill levels differently. Less-skilled women, particularly burdened by the stringent elements of reform, might have become more likely to marry or remain married under reform. On the other hand, more-skilled women, better able to take advantage of the elements of reform that increased the return to working, might have become less likely to marry or remain married under reform.

Since welfare reform could have caused the pool of unmarried women to become more skilled, relying on a sample of some group of unmarried women or single mothers to determine the effects of reform on employment could produce upward-biased estimates. This is why it is a concern that, as noted above, the only paper using post-1996 data that does not find that TANF caused women to work more is the only one that does not restrict its sample to some group of unmarried women or single mothers. In this paper, however, using pooled cross-sectional data from the 1989-2004 CPS-ORG surveys and employing a sample of female high school dropouts that is not restricted to unmarried women or single mothers, I do find that TANF is associated with an increase in both employment and labor supply. The results in this paper, then, strengthen the case in the literature that it was not just the strong economy but also federal welfare reform that contributed to the work gains of low-skill women in the post-1996 period.

Here is how this paper proceeds. In Section II, I describe my data. In Section III, I discuss my model specifications. In Section IV, I present my results first for regressions run on all women, pooling over race and ethnicity, and then for regressions run separately by race or ethnicity. Lastly, I conclude in Section V.

## **II. DATA**

Numerous papers that examine the impact of welfare reform on a variety of different outcomes use March CPS data. When examining the impact of reform on employment, however, using CPS-ORG data might be preferable. The CPS is a nationally representative survey of approximately 60,000 households that is administered every month. The appeal of the March CPS surveys is that individuals are asked detailed questions about their employment, labor supply, and earnings during the previous calendar year. In the CPS-ORG surveys, individuals are asked questions about their employment, labor supply, and earnings only during the previous week.

The principal advantage of using CPS-ORG data instead of March CPS data is sample size. In the CPS, a household is interviewed for four consecutive months, not interviewed for eight months, and then interviewed for another four consecutive months. The CPS-ORG consists of observations from households in either their fourth or eighth month of being interviewed. Every month, then, one-fourth of the CPS observations are included in the CPS-ORG. The March CPS includes observations from every household that is interviewed in March. Hence, because CPS-ORG data are collected every month of the year, while March CPS data are collected only once a year, the CPS-ORG is approximately three times the size of the March CPS.

Sample size is particularly important when examining the impact of welfare reform on employment because the groups that are most likely to be affected by reform are low-education minority groups with the highest welfare participation rates. Table 1 displays, for various groups of women, the percentage that lived in a household that received any AFDC income during the year.<sup>4</sup> The table demonstrates that there is much heterogeneity in welfare use among racial and ethnic groups with different levels of educational attainment. Since black dropouts are highly likely to be affected by reform since such a large percentage of them live in households receiving welfare income (31.4 percent), one would want to look at a sample of black dropouts when investigating the impact of reform on employment. A concern is that the sample mean for black dropouts in a given state-year cell will be a good estimate of the true mean for black dropouts in that state-year only if the sample size is sufficiently large. Since the CPS-ORG is three times as large as the March CPS, the sample mean for black dropouts is more likely to be representative of the group's true mean when CPS-ORG data are used.

Many researchers have pointed out that because all states implemented TANF within a seventeen-month period, identifying the effects of TANF is difficult.<sup>5</sup> Respondents are asked about their employment status last week in both the March CPS surveys and the CPS-ORG surveys. Using the March CPS surveys, in a given state-year in which reform is implemented, all women will have been interviewed in that state-year either before or after the onset of reform. Using the CPS-ORG surveys, on the other hand, in a given state-year in which reform is implemented, some women will have been interviewed before the onset of reform, and some afterwards. One, then, might be better able to identify the effects of TANF using CPS-ORG data as opposed to March CPS data.

### III. MODEL SPECIFICATIONS

Using the CPS-ORG surveys from 1989-2004, I examine the impact of welfare reform on the employment and labor supply of women.<sup>6</sup> My empirical approach is similar to that of Schoeni and Blank (2000). The first model specification I use is:

$$(1) y_{ist} = W_{st}*\beta_W + T_{st}*\beta_T + X_{ist}*\beta_X + L_{st}*\beta_L + \gamma_s + v_t + \bar{\delta}_m + trend*\gamma_s + \varepsilon_{ist}$$

**Table 1- Sample sizes and percentages receiving AFDC income**

	Sample size for employment regressions (1989-2004)	Sample size for hours worked regressions (1989-2004)	Percentage who had AFDC income during the year (1989-1992)
All women, <HS	217,099	217,097	15.7%
All women, =HS	576,580	576,560	5.2%
All women, >HS	867,678	867,612	1.9%
Black women, <HS	34,109	34,109	31.4%
Black women, =HS	70,519	70,517	15.9%
Black women, >HS	81,146	81,144	6.5%
Hispanic women, <HS	60,284	60,284	13.9%
Hispanic women, =HS	46,246	46,246	7.5%
Hispanic women, >HS	44,495	44,495	3.6%
White women, <HS	110,072	110,070	10.8%
White women, =HS	435,426	435,408	3.1%
White women, >HS	693,584	693,522	1.2%

The black samples consist of non-Hispanic black women and the white samples consist of non-Hispanic white women. The employment and hours worked samples include women aged 16-54 who are not enrolled in school. Women whose CPS-ORG weight or employment status is missing are excluded from both samples. Women who were working last week whose hours worked last week are missing are also excluded from the hours worked samples. The last column gives the percentage of non-enrolled women aged 16-54 who lived in a household that received AFDC income during the previous year. The data, which come from the 1990-1993 March CPS surveys, refer to calendar years 1989-1992. The percentages are weighted by the March CPS supplemental weight.

The variables are defined for women  $i$  who lives in state  $s$  in year  $t$ :

- $y$ : outcome of interest (employed last week<sup>7</sup> or hours worked last week).
- $W$ : a dummy that equals one if a waiver is in effect.
- $T$ : a dummy that equals one if TANF is in effect.<sup>8</sup>
- $X$ : demographic variables (age, age-squared, non-Hispanic black dummy, Hispanic dummy).
- $L$ : state-level labor market variables (current and lagged average annual state unemployment rate, current and lagged annual state employment growth rate, log real maximum AFDC benefit for a family of three).
- $\gamma_s$ : state fixed effects.
- $\nu_t$ : year fixed effects.
- $\delta_m$ : month fixed effects.
- $trend^*\gamma_s$ : linear state-specific time trends.

I run separate regressions for three different education groups (less than 12 years, 12 years, more than 12 years), thereby allowing each right-hand-side variable to vary by education group.<sup>9</sup> Robust standard errors corrected for clustering in state-year cells are used. Regressions and means are weighted by the CPS-ORG weight variable.

Welfare reform was implemented while the U.S. economy was booming. The numerous state-level labor market variables that are used (the unemployment rate and its lag and the employment growth rate and its lag) are designed to control for the effects of the strong economy on female employment. The inclusion of year effects, which control for unobservable factors that affect employment that vary over time, but not across states, is important for a number of reasons. First, if the state-level labor market variables that are used inadequately describe the economic expansion of the 1990's, then the year effects can help to soak up some of the effects of the nationwide economic boom on female employment. Second, year effects can also absorb the effects of policy changes besides welfare reform that were implemented nationally in the 1990's that could also be expected to boost female employment, such as the expansions of the EITC and the increases in the federal minimum wage. For both of these reasons, the exclusion of year effects from Model (1) would likely cause the effect of welfare reform on female employment to be significantly overstated. Finally, state effects control for unobservable factors affecting employment that vary across states but not over time, linear state-specific time trends control for unobservable factors that affect employment that vary over time within states, and month effects control for seasonal factors that could affect employment.

With the inclusion of all of the above-mentioned controls, the coefficients on the waiver and TANF dummies should estimate the causal impact of each reform regime on employment. In a given state, the waiver dummy is turned off once TANF is implemented. Thus, the coefficient on the waiver dummy estimates the effect of waivers relative to the old AFDC system, and the coefficient on the TANF dummy also estimates the effect of TANF relative to the old AFDC system.

Table 1 indicates that, before the onset of welfare reform, 15.7 percent of female high school dropouts lived in a household that received AFDC income during the year, compared to 5.2 percent of female high school graduates, and 1.9 percent of females with some college experience. Since the low-education group is the one most likely to be affected by welfare legislation, finding the effects of reform to be concentrated among high school dropouts would lend credibility to the notion that policy effects are truly captured. As noted previously, Table 1 also suggests that running regressions separately by race or ethnicity is important. Hence, besides examining the effects of reform on all female high school dropouts, all high school graduates, and all females with some college experience, I also examine the effects of reform on black, Hispanic, and white women of the three different education levels.<sup>10</sup>

Bitler et al. (2002) note that the effects of TANF in waiver states and non-waiver states might have been different. States that had already implemented a waiver might have made few adjustments to

FALL 2007

their welfare system under TANF, whereas states that had never implemented a waiver might have made significant changes under TANF, which might have resulted in a bigger employment increase under TANF in non-waiver states than in waiver states. On the other hand, states that had already had experience with waivers might have implemented more far-reaching reform measures under TANF, which might have caused the employment increase under TANF to be larger in waiver states than in non-waiver states.

Accordingly, the second model specification I use is:

$$(2) y_{ist} = W_{st} * \beta_W + TNOW_{st} * \beta_{TNOW} + THADW_{st} * \beta_{THADW} + X_{ist} * \beta_X + L_{st} * \beta_L + \gamma_s + v_t + \delta_m + trend * \gamma_s + \epsilon_{ist}$$

The new reform variables are:

*TNOW*: a dummy that equals one if TANF is in effect in a state that had never implemented a waiver.

*THADW*: a dummy that equals one if TANF is in effect in a state that had previously implemented a waiver.

Again, the waiver dummy is turned off once a state implements TANF. Hence,  $\beta_{TNOW}$  measures the impact of TANF in states that had never implemented a waiver relative to the old AFDC system, and  $\beta_{THADW}$  measures the impact of TANF in states that had previously implemented a waiver relative to the old AFDC system.

While many papers have attempted to determine the impact of specific reform policies on outcomes of interest, numerous researchers have pointed out the difficulty of such an undertaking (Bell, 2001; Blank, 2002; Moffitt, 2002; Bitler et al., 2004; Bitler et al., 2006). First, because data on the details of state policies are limited, researchers typically code only major reform policies. Since states implemented many other reforms, however, the effects of the coded reform policies might be overstated.<sup>11</sup> Second, since there is no way to measure how different states implemented and enforced the same reform policies, this makes it hard to attribute changes in outcomes of interest to specific reform policies.<sup>12</sup>

A research strategy that presents fewer difficulties is to code the intensity of work incentives in each state, and then compare the effects of reform in states that implemented policies with strong work incentives to the effects of reform in states that implemented policies with weaker work incentives. Basing their categorization on information about benefit levels, earnings disregards, time limits, and sanctions, Blank and Schmidt (2001) characterize the work incentives of each state's TANF program as either "strong," "mixed," or "weak."<sup>13</sup> This coding scheme is used by Blank and Schoeni (2003) to examine the effects of TANF on the distribution of children's family income, by Bitler et al. (2004) to examine the effects of TANF on marriage and divorce, and by Bitler et al. (2006) to examine the effects of TANF on children's living arrangements.<sup>14</sup>

Also adopting the coding scheme developed by Blank and Schmidt (2001), I use the following as my third model specification:



$$(3) y_{ist} = W_{st} * \beta_W + TSTRONG_{st} * \beta_{TSTRONG} + TMIXED_{st} * \beta_{TMIXED} + TWEAK_{st} * \beta_{TWEAK} + X_{ist} * \beta_X + L_{st} * \beta_L + \gamma_s + v_t + \bar{\delta}_m + trend * \gamma_s + \varepsilon_{ist}$$

The new reform variables are:

*TSTRONG*: a dummy that equals one if a TANF program that is characterized as having strong work incentives is in effect.

*TMIXED*: a dummy that equals one if a TANF program that is characterized as having mixed work incentives is in effect.

*TWEAK*: a dummy that equals one if a TANF program that is characterized as having weak work incentives is in effect.

As in the previous two specifications, the waiver dummy is turned off once a state implements TANF. The coefficients  $\beta_{TSTRONG}$ ,  $\beta_{TMIXED}$ , and  $\beta_{TWEAK}$ , then, measure the impact of each particular TANF reform regime relative to the old AFDC system. Finding larger effects on employment under TANF in states with strong work incentives than in states with weak work incentives would strengthen the case that policy effects are in fact captured.<sup>15</sup>

#### IV. RESULTS

I begin by showing the results of regressions run on samples of all women, pooling over race and ethnicity. The summary statistics for these samples of women appear in Table 2. Results of regressions run using specification (1), in which the effects of TANF are constrained to be the same in states that had previously implemented waivers and in states that had never implemented waivers, appear in Panel A of Table 3. The first two rows of Panel A of Table 3 display the coefficient estimates for the waiver dummy and the TANF dummy for both the employment regression and the hours worked regression run on the sample of female high school dropouts. The analogous coefficient estimates for female high school graduates and females with at least some college education appear in the bottom four rows of Panel A.<sup>16</sup> The pre-reform (1989-1992) means of the dependent variables appear at the bottom of Table 3. Results of regressions run using specification (2), in which the effects of TANF are allowed to vary between waiver states and non-waiver states, appear in Panel B of Table 3. Lastly, results of regressions run using specification (3), in which the effects of TANF are allowed to vary between states that implemented TANF programs that were characterized as having either “strong,” “mixed,” or “weak” work incentives, appear in Table 4.

Table 3 indicates that while, under waivers, the employment of high school dropouts did not increase, weekly hours worked by that group did rise by 0.32 hours (an increase of 2.3 percent relative to the pre-reform mean of 14.1 hours). Under TANF, on the other hand, dropouts experienced both an employment increase (4.6 percent), and a labor supply increase (5.4 percent, p-value= 0.104). Further, the employment gain for dropouts under TANF was larger in waiver states (5.0 percent) than

**Table 2. Summary statistics for employment samples (1989-2004)**

	(ed<HS)	(ed=HS)	(ed>HS)
Waiver	0.107 (0.309)	0.091 (0.288)	0.102 (0.302)
TANF	0.463 (0.499)	0.474 (0.499)	0.538 (0.499)
Unemployment Rate	5.78 (1.40)	5.56 (1.39)	5.52 (1.40)
Unemployment Rate (lagged one year)	5.77 (1.44)	5.55 (1.42)	5.52 (1.44)
Employment Growth Rate	1.46 (1.83)	1.40 (1.81)	1.38 (1.81)
Employment Growth Rate (lagged one year)	1.60 (1.88)	1.54 (1.85)	1.49 (1.87)
Log Real Maximum Welfare Benefits	6.08 (0.46)	6.09 (0.42)	6.12 (0.42)
Age	34.23 (11.37)	36.49 (10.03)	37.00 (9.14)

The employment samples include women aged 16-54 who are not enrolled in school. Women whose CPS-ORG weight or employment status is missing are excluded from the samples. The means are weighted by the CPS-ORG weight and the standard deviations appear in parentheses. See the text for a more detailed description of the explanatory variables.

in non-waiver states (4.1 percent), and the increase in hours worked by dropouts under TANF was larger in waiver states (7.7 percent) than in non-waiver states (2.6 percent, p-value= 0.444). These findings suggest that states that had previously implemented waivers might have adopted more comprehensive reform measures under TANF than states that had had no prior experience with reform.<sup>17</sup>

Because the welfare participation rate for women with at least some college experience is so low, that weekly hours worked by this group are found to have risen under TANF is somewhat surprising.<sup>18</sup> The estimated labor supply increase for the high-education group, however, is quite small. For instance, in line with expectations, the increase in hours worked by women with some college experience under TANF in waiver states (1.7 percent) was, in percentage terms, less than one-fourth the size of the increase in hours worked by dropouts under TANF in those same states (7.7 percent).

Table 4 indicates that, under TANF, dropouts experienced the largest employment and labor supply gains in states that implemented TANF programs with strong work incentives. In such states, the employment of dropouts rose by 7.2 percent and hours worked by dropouts increased by 7.3 percent. In states with TANF programs characterized as having only mixed work incentives, the employment of dropouts rose by 4.2 percent and hours worked by dropouts increased by 5.4 percent

**Table 3. Results for all women, TANF effects constrained and unconstrained (1989-2004)**

Panel A	Employed	Hours Worked
Waiver (ed<HS)	0.0065 (0.0054)	0.323* (0.193)
TANF (ed<HS)	0.0199* (0.0102)	0.759 (0.466)
Waiver (ed=HS)	0.0013 (0.0032)	0.091 (0.137)
TANF (ed=HS)	0.0004 (0.0054)	0.039 (0.219)
Waiver (ed>HS)	0.0014 (0.0025)	0.174 (0.136)
TANF (ed>HS)	0.0026 (0.0035)	0.408** (0.182)

Panel B	Employed	Hours Worked
Waiver (ed<HS)	0.0074 (0.0060)	0.510** (0.218)
TANF (no waiver) (ed<HS)	0.0179* (0.0108)	0.365 (0.476)
TANF (had waiver) (ed<HS)	0.0216* (0.0121)	1.091* (0.564)
Waiver (ed=HS)	-0.0016 (0.0036)	0.081 (0.155)
TANF (no waiver) (ed=HS)	0.0060 (0.0063)	0.059 (0.245)
TANF (had waiver) (ed=HS)	-0.0051 (0.0065)	0.019 (0.262)
Waiver (ed>HS)	0.0011 (0.0028)	0.210 (0.153)
TANF (no waiver) (ed>HS)	0.0033 (0.0041)	0.336 (0.208)
TANF (had waiver) (ed>HS)	0.0021 (0.0041)	0.473** (0.214)

Means (1989-1992)	Employed	Hours Worked
ed<HS	0.433	14.1
ed=HS	0.689	23.9
ed>HS	0.786	27.6

\*\*\*, \*\*, \* indicate statistical significance at the 1%, 5%, and 10% levels respectively. Robust standard errors that are corrected for clustering in state-year cells appear in parentheses. Regressions and means are weighted by the CPS-ORG weight. Results from regressions run using specification (1) appear in Panel A, and results from regressions run using specification (2) appear in Panel B.

**Table 4. Results for all women, coding the intensity of TANF (1989-2004)**

	Employed	Hours Worked
Waiver (ed<HS)	0.0066 (0.0054)	0.330* (0.192)
TANF (weak work incentives) (ed<HS)	0.0017 (0.0187)	0.031 (0.759)
TANF (mixed work incentives) (ed<HS)	0.0182* (0.0109)	0.755 (0.508)
TANF (strong work incentives) (ed<HS)	0.0310*** (0.0114)	1.036** (0.486)
Waiver (ed=HS)	0.0016 (0.0032)	0.099 (0.136)
TANF (weak work incentives) (ed=HS)	-0.0157 (0.0111)	-0.362 (0.463)
TANF (mixed work incentives) (ed=HS)	0.0019 (0.0059)	0.072 (0.229)
TANF (strong work incentives) (ed=HS)	0.0032 (0.0066)	0.124 (0.287)
Waiver (ed>HS)	0.0016 (0.0025)	0.187 (0.137)
TANF (weak work incentives) (ed>HS)	-0.0080 (0.0078)	-0.120 (0.344)
TANF (mixed work incentives) (ed>HS)	0.0055 (0.0036)	0.511** (0.200)
TANF (strong work incentives) (ed>HS)	0.0007 (0.0042)	0.408* (0.236)

Means (1989-1992)	Employed	Hours Worked
ed<HS	0.433	14.1
ed=HS	0.689	23.9
ed>HS	0.786	27.6

\*\*\*, \*\*, \* indicate statistical significance at the 1%, 5%, and 10% levels respectively. Robust standard errors that are corrected for clustering in state-year cells appear in parentheses. Regressions and means are weighted by the CPS-ORG weight. The results are from regressions run using specification (3).

(p-value= 0.138). Lastly, dropouts in states with TANF programs characterized as having weak work incentives experienced neither an employment nor a labor supply gain.

The bottom of Table 4 indicates that, after the enactment of federal welfare reform, hours worked by women with at least some college education rose slightly in states that implemented TANF programs with both mixed work incentives (1.9 percent) and strong work incentives (1.5 percent). The labor supply increase for the high-education group in states with TANF programs characterized as having strong work incentives, in percentage terms, was only about one-fifth the size of the labor supply increase for dropouts in those same states. Arguably, the generosity of welfare was reduced

more in states that implemented TANF programs with either strong or mixed work incentives than in states that implemented TANF programs with weak work incentives.<sup>19</sup> A possible reason why the labor supply of high-education women increased despite their low welfare participation rate is that they perceived the implementation of TANF as a signal that their state government would adopt legislation in the future that would make other government assistance programs, such as family leave programs, less generous, and responded by working more.

Next, I present the results of regressions run separately by race or ethnicity. The results of regressions run on samples of black women appear in Table 5. While black dropouts did not work more under waivers, they experienced large employment and labor supply gains under TANF (11.9 percent and 17.4 percent, respectively). As is found for all dropouts, pooling over race and ethnicity, the employment gain for black dropouts under TANF was larger in waiver states (13.2 percent) than in non-waiver states (10.9 percent, p-value= 0.103), and the increase in hours worked by black dropouts under TANF was larger in waiver states (23.3 percent) than in non-waiver states (13.0 percent). That large work gains are estimated for black dropouts under TANF is unsurprising since, as was noted previously, this group has such a high welfare participation rate.

**Table 5. Results for black women, TANF effects constrained and unconstrained (1989-2004)**

Panel A	Employed	Hours Worked
Waiver (ed<HS)	-0.0141 (0.0161)	0.134 (0.618)
TANF (ed<HS)	0.0434** (0.0207)	2.075*** (0.783)
Waiver (ed=HS)	0.0042 (0.0083)	0.145 (0.356)
TANF (ed=HS)	0.0036 (0.0131)	-0.041 (0.507)
Waiver (ed>HS)	-0.0052 (0.0071)	-0.025 (0.334)
TANF (ed>HS)	0.0054 (0.0097)	0.540 (0.456)
Panel B	Employed	Hours Worked
Waiver (ed<HS)	-0.0118 (0.0173)	0.470 (0.666)
TANF (no waiver) (ed<HS)	0.0397 (0.0243)	1.549* (0.893)
TANF (had waiver) (ed<HS)	0.0483* (0.0259)	2.772*** (1.021)

Waiver (ed=HS)	0.0060 (0.0093)	0.374 (0.409)
TANF (no waiver) (ed=HS)	0.0002 (0.0163)	-0.469 (0.611)
TANF (had waiver) (ed=HS)	0.0072 (0.0154)	0.402 (0.649)
Waiver (ed>HS)	-0.0094 (0.0079)	-0.073 (0.372)
TANF (no waiver) (ed>HS)	0.0143 (0.0111)	0.643 (0.569)
TANF (had waiver) (ed>HS)	-0.0023 (0.0125)	0.451 (0.534)

Means (1989-1992)	Employed	Hours Worked
ed<HS	0.365	11.9
ed=HS	0.638	22.4
ed>HS	0.785	28.3

\*\*\*, \*\*, \* indicate statistical significance at the 1%, 5%, and 10% levels respectively. Robust standard errors that are corrected for clustering in state-year cells appear in parentheses. Regressions and means are weighted by the CPS-ORG weight. Results from regressions run using specification (1) appear in Panel A, and results from regressions run using specification (2) appear in Panel B.

The results of regressions run on samples of Hispanic women appear in Table 6. Hispanic high school dropouts and high school graduates realized similar work gains under waivers.<sup>20</sup> While, during that reform regime, Hispanic dropouts experienced an employment gain of 5.1 percent and a labor supply gain of 5.2 percent, Hispanic high school graduates experienced an employment gain of 5.3 percent and a labor supply gain of 4.3 percent. No work gains are estimated for any group of Hispanic women under TANF.

**Table 6. Results for Hispanic women, TANF effects constrained and unconstrained (1989-2004)**

Panel A	Employed	Hours Worked
Waiver (ed<HS)	0.0199** (0.0086)	0.691** (0.331)
TANF (ed<HS)	0.0268 (0.0175)	0.605 (0.858)
Waiver (ed=HS)	0.0330*** (0.0110)	0.938** (0.472)
TANF (ed=HS)	0.0005 (0.0182)	0.312 (0.728)

Waiver (ed>HS)	-0.0141 (0.0098)	-0.307 (0.469)
TANF (ed>HS)	0.0045 (0.0124)	0.485 (0.644)

Panel B	Employed	Hours Worked
Waiver (ed<HS)	0.0199** (0.0100)	0.883** (0.401)
TANF (no waiver) (ed<HS)	0.0266 (0.0166)	0.118 (0.749)
TANF (had waiver) (ed<HS)	0.0269 (0.0207)	0.876 (1.024)
Waiver (ed=HS)	0.0261** (0.0131)	0.659 (0.585)
TANF (no waiver) (ed=HS)	0.0150 (0.0216)	0.893 (0.957)
TANF (had waiver) (ed=HS)	-0.0102 (0.0207)	-0.116 (0.771)
Waiver (ed>HS)	-0.0198 (0.0120)	-0.416 (0.564)
TANF (no waiver) (ed>HS)	0.0146 (0.0140)	0.677 (0.670)
TANF (had waiver) (ed>HS)	-0.0045 (0.0169)	0.314 (0.828)

Means (1989-1992)	Employed	Hours Worked
ed<HS	0.393	13.3
ed=HS	0.623	21.7
ed>HS	0.738	26.4

\*\*\*, \*\*, \* indicate statistical significance at the 1%, 5%, and 10% levels respectively. Robust standard errors that are corrected for clustering in state-year cells appear in parentheses. Regressions and means are weighted by the CPS-ORG weight. Results from regressions run using specification (1) appear in Panel A, and results from regressions run using specification (2) appear in Panel B.

**Table 7. Results for white women, TANF effects constrained and unconstrained (1989-2004)**

Panel A	Employed	Hours Worked
Waiver (ed<HS)	0.0074 (0.0084)	0.265 (0.320)
TANF (ed<HS)	0.0196 (0.0140)	0.866 (0.529)
Waiver (ed=HS)	-0.0027 (0.0040)	-0.025 (0.167)
TANF (ed=HS)	-0.0010 (0.0069)	-0.069 (0.282)

Waiver (ed>HS)	0.0025 (0.0028)	0.219 (0.147)
TANF (ed>HS)	0.0027 (0.0037)	0.400** (0.200)

Panel B	Employed	Hours Worked
Waiver (ed<HS)	0.0086 (0.0093)	0.447 (0.356)
TANF (no waiver) (ed<HS)	0.0173 (0.0163)	0.506 (0.588)
TANF (had waiver) (ed<HS)	0.0220 (0.0155)	1.222** (0.614)
Waiver (ed=HS)	-0.0068 (0.0045)	-0.076 (0.186)
TANF (no waiver) (ed=HS)	0.0069 (0.0084)	0.029 (0.328)
TANF (had waiver) (ed=HS)	-0.0090 (0.0080)	-0.168 (0.323)
Waiver (ed>HS)	0.0035 (0.0032)	0.295* (0.161)
TANF (no waiver) (ed>HS)	0.0007 (0.0044)	0.252 (0.225)
TANF (had waiver) (ed>HS)	0.0044 (0.0044)	0.538** (0.233)

Means (1989-1992)	Employed	Hours Worked
ed<HS	0.478	15.3
ed=HS	0.707	24.4
ed>HS	0.792	27.7

\*\*\*, \*\*, \* indicate statistical significance at the 1%, 5%, and 10% levels respectively. Robust standard errors that are corrected for clustering in state-year cells appear in parentheses. Regressions and means are weighted by the CPS-ORG weight. Results from regressions run using specification (1) appear in Panel A, and results from regressions run using specification (2) appear in Panel B.

Lastly, the results of regressions run on samples of white women appear in Table 7. While, under TANF, white dropouts worked 5.7 percent more weekly hours (p-value= 0.102), white women with at least some college education also experienced a small labor supply increase (1.4 percent).<sup>21</sup> For both groups, labor supply gains following the implementation of the federal welfare bill were concentrated in waiver states. In percentage terms, however, the increase in hours worked by high-education women under TANF in waiver states (1.9 percent) was less than one-fourth the size of the increase in hours worked by white dropouts under TANF in those same states (8.0 percent).



## V. CONCLUSION

I find that female high school dropouts worked more hours under waivers, and experienced both an employment and labor supply increase under TANF. Although I also find that the labor supply of women with at least some college education rose under TANF, the estimated increase is quite small. That work gains under TANF are concentrated among dropouts, the education group that has the highest welfare participation rate and is thus most likely to be affected by reform, lends credibility to the notion that federal welfare reform caused women to work more. Further, I estimate that under TANF there were large gains in employment and labor supply for black dropouts, a group in which, prior to reform, over thirty percent lived in a household that received some AFDC income. This result strengthens the case that policy effects are captured.

I generally estimate that women experienced larger work gains under TANF than under waivers. This result is not surprising since states implemented more comprehensive reform packages under TANF than under waivers.<sup>22</sup> I also find that employment and labor supply gains under TANF were larger in waiver states than in non-waiver states. This finding suggests that states that had previously adopted waivers, having had more experience with welfare reform, might have implemented more far-reaching reform initiatives under TANF than states that had never adopted waivers. Lastly, consistent with expectations, I generally find that, after the enactment of federal welfare reform, women experienced the largest employment and labor supply gains in states that implemented TANF programs with strong work incentives. This finding lends further support to the notion that policy effects are indeed captured.

Since reform could have affected marriage and caused the pool of unmarried women to become more skilled, relying on a sample of some group of unmarried women or single mothers could produce upward-biased estimates of the effects of reform on employment. Hence, it is a concern that the only previous paper using post-1996 data that does not find that TANF increased female employment is the only one that does not restrict its sample to some group of unmarried women or single mothers. In this paper, however, using a sample of female high school dropouts that is not restricted to unmarried women or single mothers, I do find evidence that federal welfare reform contributed to the post-1996 employment and labor supply gains of low-skill women.

## ENDNOTES

1. These figures come from the Bureau of Labor Statistics Website: <http://www.bls.gov>.
2. The age of the youngest child which would relieve women from having to participate in work activities varied from state to state. Some states did not allow work exemptions based on the age of the youngest child.
3. Both Blank (2002), in her literature review of the effects of welfare reform on various outcomes of interest, and Moffitt (2002), in his literature review of the effects of different welfare programs on

## FALL 2007

labor supply, point out that the results in the Schoeni and Blank (2000) paper differ from other results in the literature.

4. The data refer to calendar years 1989-1992, before the onset of reform. By the end of 1992, only three states had implemented a waiver program.
5. See Bitler et al. (2003).
6. I start my analysis in 1989 because that starting point precedes the 1990-1991 recession and the implementation of the first state waiver programs in 1992. A number of researchers begin their analysis in 1989 (Bitler et al. (2004), Bitler et al. (2006)).
7. This dependent variable takes on a value of one if the woman was employed last week and a value of zero otherwise. The dependent variable Schoeni and Blank (2000) use is employment status last year. When examining the impact of welfare reform on employment, using employment status last week as the dependent variable is probably preferable. Suppose that in a given state-year in which reform was implemented a woman is recorded in the March CPS as having been employed for part of that year. The researcher cannot determine whether that woman was employed before the implementation of reform, after the implementation of reform, or during both periods. When employment status last week is used as the dependent variable, on the other hand, the researcher can always tell whether or not the woman was employed while reform was in effect.
8. Waiver and TANF implementation dates come from Table A1 in Schoeni and Blank (2000). Between October 1992 and February 1997, 29 states implemented waivers. Between September 1996 and January 1998, all 51 states (including Washington DC) implemented TANF.
9. Schoeni and Blank (2000) use the March CPS surveys from 1977 to 1999 to examine the impact of welfare waivers and TANF on a variety of outcomes. Pooling all women into their sample, they create three education groups (less than 12 years, 12 years, more than 12 years) and four age groups (16-25, 26-34, 35-44, 45-54). The authors regress each variable of interest against a waiver dummy interacted with each education group, a TANF dummy interacted with each education group, education dummies, age group dummies, interactions between the age group dummies and the education dummies, interactions between state economic variables (current and lagged unemployment rate and current and lagged employment growth rate) and the education dummies, interactions between the log maximum AFDC benefit for a family of three and the education dummies, year effects, year effects interacted with the education dummies, state effects, linear state-specific time trends, a Hispanic dummy, and a non-Hispanic black dummy. Notably, Schoeni and Blank do not interact all of their right-hand-side variables with the education groups. Education group-specific state fixed effects, for instance, are potentially important omitted variables since the education differential between high-education and low-education women could differ from state to state for any number of reasons.

Using individual-level data from the CPS-ORG surveys from 1989-2004, I regress employment status against the same right-hand-side variables listed above, as well as month effects and the interactions between the state effects and the education dummies. Performing an F-test, I reject the null that the interactions between the state effects and the education dummies equal zero ( $F\text{-stat} = 12.29$ ,  $p\text{-value} = 0.000$ ). Pooling women over education group and not allowing the state effects to vary by education group is not a specification that is supported empirically.

10. The black samples consist of non-Hispanic black women and the white samples consist of non-Hispanic white women. When regressions are run separately by race or ethnicity, the non-Hispanic black dummy and the Hispanic dummy are dropped.
11. Blank (2002) notes that the specific reform policies that are typically coded are time limits, family caps, benefit reduction rates, work exemptions, work requirements, and sanctions.
12. Reviewing studies that investigate the effects of specific reform policies on various outcomes, Blank (2002) notes that there is a “regular occurrence of perverse signs on some of [the] policy variables” (1137), Bell (2001) argues that “the analysis of individual reform measures tells us little on which we can depend” (38), and Moffitt (2002) concludes that “there are almost no credible studies of the impact of different individual components of reform taken individually” (2423). Moffitt notes that Grogger’s papers on time limits (2003 and 2004b) are exceptions.
13. See Table 3-5 in Blank and Schmidt (2001) for a detailed explanation of the coding scheme. The authors characterize 10 states as having TANF programs with weak work incentives (including Washington DC), 27 states as having TANF programs with mixed work incentives, and 14 states as having TANF programs with strong work incentives.
14. Blank and Schoeni (2003) find that between the 1992-1995 and 1997-2000, the family income gains for children without both parents present in states with strong work incentives were greater than the family income gains for children without both parents present in states with weak work incentives.
15. Because small sample sizes might produce unreliable estimates, I do not run regressions separately by race or ethnicity using specification (3). TANF programs that were characterized as having weak work incentives were implemented in only 10 states. Only 1,259 of the observations from the black high school dropout sample come from state-year cells in which a TANF program with weak work incentives was in effect. In two of the ten states with weak work incentives, the fraction of the female population aged 16-54 that was black was less than 1 percent, and in four other of those states, the fraction of the female population aged 16-54 that was black was less than 4 percent.
16. Coefficient estimates for additional explanatory variables for the employment regressions are displayed in Appendix Table 1.

FALL 2007

17. The most recent data Schoeni and Blank (2000) use, because fewer years of data were available to them when they initially wrote their paper, are data that refer to 1998. In Appendix Table 2, I report my results from regressions run on all female high school dropouts, all female high school graduates, and all females with at least some college education when the samples are restricted to the 1989-1998 time period. Whether examining the 1989-2004 time period or the 1989-1998 time period, the effects of TANF on the employment and labor supply of female high school dropouts are estimated to be quite similar. While, when the longer time frame is used, female high school dropouts are found to have experienced an employment increase of 1.99 percentage points (p-value=0.052) and a labor supply increase of 0.759 hours (p-value=0.104) under TANF, when the shorter time frame is used, this group is found to have experienced an employment increase of 1.53 percentage points (p-value=0.106) and a labor supply increase of 0.654 hours (p-value=0.121) during the same reform regime.
18. Table 1 indicates that, prior to reform, 1.9 percent of women with at least some college education lived in a household that received some AFDC income during the year.
19. Blank and Schmidt (2001) note that, according to their coding scheme, a “state with unambiguously strong work incentives would have low benefit generosity, high earnings disregards, strict sanctions, and strict time limits” (85). Low benefit levels, strict sanctions, and strict time limits reduce the generosity of welfare. High earnings disregards, however, increase the generosity of welfare.
20. Table 1 indicates that, prior to reform, 13.9 percent of Hispanic high school dropouts and 7.5 percent of Hispanic high school graduates lived in a household that received some AFDC income during the year.
21. Table 1 indicates that, prior to reform, 10.8 percent of white high school dropouts and 1.2 percent of white women with at least some college education lived in a household that received some AFDC income during the year.
22. For instance, the five-year lifetime time limit and the two-year continuous-use time limit established in the federal welfare bill became components of every state’s TANF program.

#### DATA APPENDIX

Unemployment rates and employment growth rates: BLS website, <http://www.bls.gov>.

CPI: BLS website, <http://www.bls.gov/cpi/home.htm>. I use the CPI for All Urban Consumers. AFDC benefit levels are expressed in 2000 dollars.

Maximum AFDC benefits for a family of three: *Green Book, Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means*, various years. The values I use for the benefit levels in 1999, 2001, and 2004 are the previous year’s benefit levels adjusted for inflation.

Waiver and TANF implementation dates: Table A1 in Schoeni and Blank (2000).

Coding the intensity of work incentives of each state's TANF program: Table 3-5 in Blank and Schmidt (2001).

## REFERENCES

- Bell, Stephen H. 2001. "Why Are Welfare Caseloads Falling?" *Assessing the New Federalism* Discussion Paper 01-02. Washington, DC: Urban Institute.
- Bitler, Marianne P., Jonah B. Gelbach, and Hilary W. Hoynes. 2002. "The Impact of Welfare Reform on Living Arrangements." NBER Working Paper 8784. Cambridge, Mass.: National Bureau of Economic Research.
- Bitler, Marianne P., Jonah B. Gelbach, and Hilary W. Hoynes. 2003. "Some Evidence on Race, Welfare Reform, and Household Income." *American Economic Review* 93(2): 293-298.
- Bitler, Marianne P., Jonah B. Gelbach, and Hilary W. Hoynes. 2006. "Welfare Reform and Children's Living Arrangements." *Journal of Human Resources* 41(1): 1-27.
- Bitler, Marianne P., Jonah B. Gelbach, Hilary W. Hoynes, and Madeline Zavodny. 2004. "The Impact of Welfare Reform on Marriage and Divorce." *Demography* 41(2): 213-236.
- Blank, Rebecca M. 2001. "Declining Caseloads/ Increased Work: What Can We Conclude About the Effects of Welfare Reform?" *Economic Policy Review* 7(2): 25-36.
- Blank, Rebecca M. 2002. "Evaluating Welfare Reform in the United States." *Journal of Economic Literature* 40(4): 1105-1166.
- Blank, Rebecca M. and Lucie Schmidt. 2001. "Work, Wages, and Welfare," in *The New World of Welfare*. Rebecca M. Blank and Ron Haskins, eds. Washington, DC: Brookings Institution. pp. 70-102.
- Blank, Rebecca M. and Robert F. Schoeni. 2003. "Changes in the Distribution of Children's Family Income over the 1990's." *American Economic Review* 93(2): 304-308.
- Council of Economic Advisors. 1999. "Economic Expansion, Welfare Reform, and the Decline in Welfare Caseloads: An Update." Washington, D.C.: Executive Office of the President.
- Fang, Hanming and Michael P. Keane. 2004. "Assessing the Impact of Welfare Reform on Single Mothers." *Brookings Papers on Economic Activity* 2004(1): 1-95.
- Grogger, Jeffrey. 2003. "The Effects of Time Limits, the EITC, and Other Policy Changes on Welfare Use, Work, and Income Among Female-Headed Families." 2003. *The Review of Economics and Statistics* 85(2): 394-408.
- Grogger, Jeffrey. 2004a. "Comment on 'Assessing the Impact of Welfare Reform on Single Mothers.'" *Brookings Papers on Economic Activity* 2004(1): 102-112.
- Grogger, Jeffrey. 2004b. "Time Limits and Welfare Use." *Journal of Human Resources* 39(2): 405-424.

FALL 2007

Kaestner, Robert and Neeraj Kaushal. 2005. "Immigrant and Native Responses to Welfare Reform." *Journal of Population Economics* 18(1): 69-92.

Kaushal, Neeraj, and Robert Kaestner. 2001. "From Welfare to Work: Has Welfare Reform Worked?" *Journal of Policy Analysis and Management*. 20(4): 699-719.

Meyer, Bruce D. and Dan T. Rosenbaum. 2001. "Welfare, the Earned Income Tax Credit, and the Labor Supply of Single Mothers." *The Quarterly Journal of Economics* 116(3): 1063-1114.

Moffitt, Robert A. 1999. "The Effects of Pre-PRWORA Waivers on AFDC Caseloads and Female Earnings, Income, and Labor Force Behavior." NBER Working Paper 7627. Cambridge, Mass.: National Bureau of Economic Research.

Moffitt, Robert A. 2002. "Welfare Programs and Labor Supply," in *Handbook of Public Economics: Volume 4*. A.J. Auerbach and M. Feldstein, eds. New York, NY: Elsevier Science B.V. pp. 2393-2430.

O'Neill, June E. and M. Anne Hill. 2001. "Gaining Ground? Measuring the Impact of Welfare Reform on Welfare and Work." Civic Report 17, Center for Civic Innovation. New York, NY: Manhattan Institute

Schoeni, Robert F. and Rebecca M. Blank. 2000. "What Has Welfare Reform Accomplished? Impacts on Welfare Participation, Employment, Income Poverty, and Family Structure." NBER Working Paper 7627. Cambridge, Mass.: National Bureau of Economic Research.

Schoeni, Robert F. and Rebecca M. Blank. 2000. "What Has Welfare Reform Accomplished? Impacts on Welfare Participation, Employment, Income Poverty, and Family Structure." NBER Working Paper 7627. Cambridge, Mass.: National Bureau of Economic Research.

**Appendix Table 1. Detailed results for employment regressions (1989-2004)**

	Employed (ed<HS)	Employed (ed=HS)	Employed (ed>HS)
Waiver	0.0065 (0.0054)	0.0013 (0.0032)	0.0014 (0.0025)
TANF	0.0199* (0.0102)	0.0004 (0.0054)	0.0026 (0.0035)
Unemployment Rate	-0.0088** (0.0042)	-0.0091*** (0.0021)	-0.0066*** (0.0018)
Unemployment Rate (lagged one year)	-0.0035 (0.0034)	-0.0036** (0.0018)	-0.0008 (0.0014)
Employment Growth Rate	-0.0020 (0.0018)	-0.0011 (0.0010)	0.0006 (0.0007)
Employment Growth Rate (lagged one year)	-0.0001 (0.0017)	-0.0003 (0.0010)	-0.0001 (0.0007)
Log Real Maximum Welfare Benefits	-0.0233 (0.0266)	-0.0052 (0.0165)	-0.0040 (0.0139)

Age	0.0197*** (0.0008)	0.0140*** (0.0006)	-0.0051*** (0.0005)
Age-squared	-0.0002*** (0.0000)	-0.0002*** (0.0000)	0.0001*** (0.0000)
Non-Hispanic Black	-0.0864*** (0.0050)	-0.0497*** (0.0035)	0.0083*** (0.0024)
Hispanic	-0.0581*** (0.0061)	-0.0604*** (0.0039)	-0.0355*** (0.0035)

Mean (1989-1992)	0.393	0.623	0.738
------------------	-------	-------	-------

\*\*\*, \*\*, \* indicate statistical significance at the 1%, 5%, and 10% levels respectively. Robust standard errors that are corrected for clustering in state-year cells appear in parentheses. Regressions and means are weighted by the CPS-ORG weight. Results are for regressions run using specification (1).

**Appendix Table 2. Results for all women, TANF effects constrained and unconstrained (1989-1998)**

Panel A	Employed	Hours Worked
Waiver (ed<HS)	-0.0029 (0.0057)	0.019 (0.197)
TANF (ed<HS)	0.0153 (0.0095)	0.654 (0.421)
Waiver (ed=HS)	-0.0005 (0.0035)	0.034 (0.151)
TANF (ed=HS)	-0.0035 (0.0051)	-0.114 (0.224)
Waiver (ed>HS)	0.0025 (0.0024)	0.160 (0.140)
TANF (ed>HS)	0.0042 (0.0035)	0.392** (0.183)

Panel B	Employed	Hours Worked
Waiver (ed<HS)	-0.0041 (0.0066)	0.050 (0.229)
TANF (no waiver) (ed<HS)	0.0177* (0.0101)	0.592 (0.417)
TANF (had waiver) (ed<HS)	0.0133 (0.0113)	0.706 (0.507)
Waiver (ed=HS)	-0.0046 (0.0042)	-0.039 (0.181)
TANF (no waiver) (ed=HS)	0.0038 (0.0059)	0.020 (0.253)
TANF (had waiver) (ed=HS)	-0.0106* (0.0061)	-0.242 (0.267)

FALL 2007

Waiver (ed>HS)	0.0032 (0.0029)	0.213 (0.169)
TANF (no waiver) (ed>HS)	0.0029 (0.0041)	0.294 (0.209)
TANF (had waiver) (ed>HS)	0.0054 (0.0041)	0.480** (0.229)

Means (1989-1992)	Employed	Hours Worked
ed<HS	0.433	14.1
ed=HS	0.689	23.9
ed>HS	0.786	27.6

\*\*\*, \*\*, \* indicate statistical significance at the 1%, 5%, and 10% levels respectively. Robust standard errors that are corrected for clustering in state-year cells appear in parentheses. Regressions and means are weighted by the CPS-ORG weight. Results from regressions run using specification (1) appear in Panel A, and results from regressions run using specification (2) appear in Panel B.