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Evaluating the US Welfare Reform: Endogeneity and Multidimensionality of Welfare Policy

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Abstract

More than a decade after the 1996 US welfare reform, researchers continue to debate how much the reform contributed to the dramatic caseload declines of the 1990's. In particular, there is limited consensus on which specific policies worked. Our paper addresses two empirical challenges surrounding the welfare evaluation literature. First, we show that past caseloads affected the decision to adopt welfare waivers during the first half of the 1990's and propose characteristics of the ruling governor as an instrument for waiver adoption. Our instrumental variable estimates show that welfare waivers contributed as much to the caseload decline as the booming economy. Second, we use a comprehensive set of policy rules to shed light on the effectiveness of specific policies. We find strict sanctions and less generous exemptions from work requirements were most effective at reducing caseloads.

Keywords: Welfare Reform, Policy Endogeneity, Sanctions

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1. Introduction

More than a decade has passed since the *Personal Responsibility and Work Opportunity Reconciliation Act* (PRWORA), which is considered the most fundamental reform to US welfare policy since the New Deal. In 1996, the former *Aid to Families with Dependent Children* (AFDC) entitlement program was replaced with the new *Temporary Assistance for Needy Families* (TANF) program emphasizing a work first approach to welfare. Under TANF, the federal government ushered in a new era of strict work requirements, sanctions in case of non-compliance and time limits on welfare receipt among other changes. Moreover, states were given unparalleled flexibility to design and implement individual state specific programs, which has given rise to tremendous variation in policy choices over time and across states.

We face two important challenges in evaluating the economic effects of the welfare reform. First, although the reform overall is considered a success, researchers continue to debate, which of the many implemented policy changes are responsible for the observed decline in caseloads (see figure 1). Identifying the effective rules is of critical importance for making sound policy recommendations.

A second challenge for non-experimental evaluation studies is the endogeneity of the reform process. Even before the official passage of TANF, states could apply for welfare waivers. Many states used the new freedom to tighten their welfare rules between 1993 and 1996. Since TANF was implemented quickly within a 16-month period, non-experimental studies heavily rely on the variation induced by these state waivers. We show that caseloads were declining in many waiver states even before the approval of any waiver and these strong pre-existing trends make it difficult to accurately identify the effects of the reform. Moreover, past caseloads appear to be an

important determinant of adopting welfare waivers in the first place—states with larger caseloads were more likely to apply for a waiver. Existing studies using non-experimental data do not adequately address this endogeneity concern.

In this article, we propose new solutions to these challenges using state-level data from 1976 to 2005. To identify the causal effect on caseloads, we exploit information on the political economy of welfare reform. Case studies show that governors in many states played a key role in the decision to adopt a waiver and the specific set of welfare rules adopted under TANF (Foy, 2005; Mead, 2004; Weissert, 2000; Winston, 2002). Tommy Thompson, the Republican governor of Wisconsin, for example, was a leading figure in the Wisconsin reform process. He made welfare reform a top priority in his 1986 campaign for governor and immediately created a task committee to reform the existing AFDC system after his election. Under Thompson's leadership and using his line item veto power, the new Wisconsin Works, better known as W-2, implemented strict work requirements and harsh sanctions for noncompliance that became a role model for the federal TANF reform in 1996.

Recent political economy models have stressed that politicians' preferences (their 'ideology') have an important influence on policy outcomes. In particular, it appears that governors that cannot be reelected because of a binding term limit make systematically different policy choices than incumbent governors who can stand for reelection. Besley and Case (1995) and List and Sturm (2006) offer empirical support that term limits create differential electoral incentives. We use this insight from the political economy literature to construct an instrument for the adoption of welfare waivers. Our conjecture is that the reform of a state's social assistance program is

influenced by term limits and the electoral strength of the current governor. Hence, we use these characteristics of the current governor as instruments. After controlling for endogeneity, we find that welfare waivers reduced welfare caseloads by 30 percent and therefore contributed as much to the caseload decline as the booming economy of the 1990's.

Our second goal is to assess the relative effectiveness of different policies encompassed under the umbrella of welfare reform. Using the Urban Institute's Welfare Rules Database (WRD), we build policy indices for eligibility requirements, earned income disregards, work requirements and exemptions, sanctions, family cap and time limits using specific rules in each category from 1993 to 2005. As expected, welfare rules have become less generous over time. The average trend, however, masks tremendous heterogeneity across time and space. Policies within states are not strongly correlated with each other. For example, states with severe sanction policies do not necessarily impose the strictest work requirements or shortest time limits. In fact, the spearman correlation across our seven indices ranges from only 0.14 to 0.65. Even within policy categories, the correlations are surprisingly weak—for example, the correlation between the duration of the most severe sanction and whether a household loses the full family benefits under the state's most severe sanction policy is only 0.16.

Using our policy indices, we show that stricter initial eligibility requirements, work requirements and sanctions in case of non-compliance were most effective in reducing caseloads between 1993 and 2004. Moreover, their effectiveness is primarily driven by a single rule in each category: whether the state allows diversion payments to keep

people off welfare; the severity of the sanction for the first noncompliance with work requirements; and the reduction in the number of exemptions for work requirements.

Our findings make two important contributions to the large literature on welfare reform (see Grogger and Karoly 2005, Blank 2002, Moffitt, 2001 for excellent surveys). Many non-experimental studies have used a difference-in-difference approach in combination with a dummy variable to capture the sea change of policies introduced by welfare waivers and TANF (for example CEA 1997, Wallace and Blank 2000, Moffitt 1999). Our analysis addresses the endogeneity problem that plagues such studies. While we are not the first to highlight pre-existing trends (see for example, CEA 1999, Macurdy et al. 2002) or the endogeneity of waiver adoption (e.g. Blank 2002), we are the first to propose a solution in the form of instrumental variables. Based on our instrumental variable results, we conclude that previous studies have substantially understated the role of welfare waivers in contributing to the observed caseload decline.

A second strand of non-experimental evaluation studies has tried to estimate the relative contribution of individual policy dimensions to the reduction in welfare caseloads (CEA 1999, Fang and Keane 2004, Macurdy et al 2002, McKernan and Ratcliffe 2006).[1] Our detailed rules and indices provide a comprehensive picture of the policies encompassed in the US welfare reform and highlight that states adopted different policy bundles that were neither all strict nor all lenient. While previous studies have also found that sanctions were important for the caseload decline, we are able to quantify the relative contributions of sanctions, eligibility requirements and work requirements. We

[1] Most random assignment studies evaluate a whole bundle of policy changes in a single state with a single treatment and control groups. Hence, the y cannot typically isolate the impact of a single policy rule.

also provide evidence that the effectiveness of the welfare reform was driven by a relatively small set of policy changes.

The rest of the paper is organized as follows: section 2 provides the baseline estimates and discusses the roles of state trends. In section 3, we show that states' adopted welfare waivers in response to prior caseloads and economic conditions. We then propose and implement an instrumental variable estimator to address the policy endogeneity problem. In Section 4, we discuss our specific policy indices and evaluate their effect on caseloads. Section 5 concludes.

2. The Non-Experimental Evaluation Approach to Welfare Reform

Figure 1 plots the number of AFDC recipients and cases per-capita for the United States (except DC) from 1970 to 2000. Welfare caseloads are the most common outcome studied in the literature on welfare reform (for example CEA 1997 and 1999, Moffitt 1999 and Blank and Wallace 2000) and they have changed substantially over the last 30 years. Caseloads increased in the early 1970's, were stable over the 1980's and sharply increased beginning in the late 1980's followed by strong declines over the 1990's. The increase in the late 1980's was partially due to an increase in the eligible number of US-born children with non-citizen parents (AFDC child only cases), but a substantial fraction of the increase is unexplained (Blank 2000). The dramatic decline in the 1990's coincides with the adoption of waivers beginning in 1993 and the passage of TANF legislation after 1996. The 1990's, however was also a decade of strong economic growth and low unemployment rates, which makes it difficult to disentangle the role of policy reforms from a favorable economy.

The dominant approach in the non-experimental literature exploits the fact that states were allowed to experiment with welfare rules under waiver programs.[2] Although states could apply for waivers under the Reagan administration, large scale experimentation with waivers began in the early 1990's when the Clinton administration granted waivers to 43 states. Our study, as does the literature, focuses on statewide waivers implemented in thirty-five states (CEA 1997, Moffitt 1999, Blank 2000) rather than waivers introduced in only one or two counties. Table A1 shows the list of statewide waivers and their approval dates. For example, states applied for waivers to sanction recipients that failed to meet work requirements or to introduce life time limits on welfare receipt, among other policy changes. Some states such as Arkansas and Mississippi restricted their focus to a single policy dimension like family caps whereby families receiving cash benefits do not receive additional money if a new child is born. Most state waivers, however, changed their existing programs along a variety of dimensions simultaneously. On average states applied for at least 3 waivers before TANF.

2.1. Baseline Estimates for Welfare Waivers

Studies based on state waivers typically employ a difference-in-difference approach to estimate the effects of welfare reform on caseloads exploiting within state variation in welfare policies during the waiver period between 1992 and 1996. Some studies also extend the analysis to the 18-months window when TANF legislation was

[2] Important studies include CEA (1997), Bartik and Eberts (1999), Moffitt (1999), Figlio and Ziliak (1999), Wallace and Blank (1999). See Grogger and Karoly (2005) for a complete list.

adopted by states between 1996 and 1998. The parameter of interest is then the bundle of policy changes implemented under waivers and TANF.

Our analysis uses aggregate state-level AFDC caseload data on number of cases and recipients supplementing it with state-level demographic, economic and political data from 1976 to 2004. Appendix A describes the data in more detail and table A2 reports summary statistics. Welfare caseloads and recipients per-capita is a widely used outcome because many new welfare provisions increased the costs (or reduced the benefits) of welfare participation for both first time applicants and continuing recipients. Consequently, we expect the introduction of waivers and TANF over the 1990's to reduce caseloads.

Our main independent variable is a dummy variable equal to the share of the year in which any major statewide welfare waiver was approved in the state and one for subsequent years.[3] As noted earlier, the adoption of waivers occurred during the booming economy of the 1990's. Researchers have thus been particularly vigilant to disentangle the effects of waivers from economic factors. Hence, we include current and lagged (t-1 and t-2) unemployment rates, and other variables likely to influence the demand for welfare benefits such as the maximum AFDC benefit afforded to a family of four, the share of the black population and population above 65. We estimate the regressions with ordinary least squares for the time period from 1976 to 1996. We estimate Eicker-White standard errors to correct for potential heteroscedasticity.[4]

[3] An alternate measure of the welfare waiver policy would be to code a binary variable equal to one for the year the waiver was approved and zero otherwise. The results based on this measure are slightly weaker and available upon request. Note also that our measure focuses on the approval dates of a statewide waiver. However, the results are robust to using the implementation dates for waivers instead. Table A1 shows that implementation occurred typically (except for Hawaii) within 6 months of the approval date.

[4] Some papers in the literature estimate caseload regressions using weighted least squares with state population serving as weights to address concerns of potential heteroscedasticity in the data (Blank 2000). In evaluating policy effects, it is however unclear why we should put more weight on larger states versus treating each state equally.

Table 1 presents the results for per-capita caseloads and recipients measured in logs. Welfare waivers had a negative and statistically significant impact on AFDC caseloads controlling for both economic conditions and benefit levels in the pre-TANF period up to 1996. The results on caseloads and recipients are comparable although the effects are larger in magnitude for recipients as expected. Per-capita AFDC caseloads fell by 10 percent and recipients by 12 percent following the approval of any statewide waiver (specifications 2 and 4). The results are similar when we include the period after the passage of TANF up to 2004. For the longer period (1976-2004), the policy variable for states that did not adopt a waiver is coded as fraction of the year in which TANF was implemented and 1 for subsequent years For states with at least one waiver, the variable is coded as before. The joint effect of waivers and TANF is actually 1 and 2 percentage points smaller for caseloads and recipients respectively. Our estimates are well within the range found in previous caseload studies (Figure 5.8 in Grogger and Karoly, 2005) which show a median caseload reduction of 5.6 percent.[5] We find the effects of waivers to be generally robust to alternate time periods, additional controls and clustering.[6]

2.2. State-specific Trends

One concern with the waiver dummy approach is that other factors influence both welfare caseloads and the timing of waiver approval. For example, changes in wages could prompt state policy makers to adopt waivers and may also have an independent

[5]Bartik and Eberts (1999) and Figlio and Ziliak (1999) actually find a positive association in their dynamic models with lagged dependent variables. Their estimates likely suffer from small sample bias given the short panel length (T=20) and strong autocorrelation of welfare caseloads (Nickell, 1981; see also Grogger and Karoly 2005, Klerman and Haider 2000).

[6] Results are available upon request.

effect on caseloads. To address concerns of omitted variables, several studies include state specific time trends to capture unobserved state heterogeneity (CEA 1997, Levine and Whitmore 1998, Moffitt 1999). Other studies challenge the logic of including such trends and have advocated instead for a richer set of controls to address concerns of unobservable heterogeneity (Macurdy et al. 2002, Schoeni and Blank 2000). The key question is whether trends pick up changes in demographics or other unobservables affecting caseloads and waivers, or whether they just eliminate most of the available variation in caseloads.

Specification 1 in table 2 shows that state trends decrease the magnitude of the waiver effect to -3.6 percent as compared to -10 percent without trends. With state trends, the estimates are now identified from trend breaks in caseloads within a state after the adoption of a waiver. Using state trends, however, also raises concerns that a handful of states with sharp trend breaks in caseloads may be driving the waiver results. Specifications 2 to 5 indeed highlight the sensitivity of the waiver estimates with trends to the inclusion of four states—Michigan, New Hampshire, New Jersey and Wisconsin. If we exclude any one of these states, the waiver coefficient becomes statistically insignificant (specifications 2 to 5). If we exclude all four states, the effect of waivers becomes both economically and statistically insignificant (specification 6).

One interpretation of table 2 is that waivers were ineffective at reducing caseloads once we control for unobserved time-varying factors captured in state trends. An alternate explanation is that the waivers implemented in the four states of Michigan, New Hampshire, New Jersey and Wisconsin were extremely effective at reducing caseloads. All four states had waivers approved for JOBS sanctions, perhaps a unique

policy tool in reducing caseloads. Wisconsin, in particular, is well known for their tough requirements on welfare recipients during the waiver period.

Figure 2 provides more evidence on how these four states differ from other waiver states. The graph shows caseload residuals (net of the standard controls) of the four states and the average of all other states against time of waiver approval. Michigan, New Hampshire, New Jersey and Wisconsin clearly experienced marked trends breaks in caseloads. Other waiver states however, did not experience such sharp trend breaks; in fact, their decline is well captured by a slightly negative linear trend. Hence, it is no surprise that these other states do not contribute to the effect on waivers in regressions with trends.

State trends, however, have a limited effect on our estimates when we extend the sample period to post TANF years. Table 3 reports findings for the period up to 2004 and the policy variable is now a dummy variable for waivers or the passage of TANF. The magnitude of the joint effect of waiver and TANF is remarkably similar whether we include state time trends (specification 2) or not (specification 1). Moreover, when we drop Michigan, New Hampshire, New Jersey and Wisconsin, the results on waivers are essentially unchanged (specification 3). Specification 4 excludes state trends but includes more demographic controls such as the 20th percentile of the state wage distribution, median family income, the percentage of immigrants, high school dropouts and single female households. The similar results across specifications 2 and 4 suggest that the state trends in specification 2 are in fact picking up the effect of the controls included in specification 4. This conjecture is also borne out in specification 5, which

includes the additional controls and trends—the waiver coefficient is not significantly different from specification 4 without trends.

In sum, state trends appear to control for slow moving demographic variables in the longer time period (1976 to 2004), but not in the waiver period (1976 to 1996). The differences suggest that state-specific trends eliminate most of the variation in caseloads in the shorter, pre-TANF period. In the next section, we pursue an alternative approach to account for omitted variable bias and potential endogeneity of welfare reform.

3. The Endogeneity of Welfare Policy Reforms

3.1. Why do States Adopt Welfare Waivers?

The difference-in-difference approach assumes the precise timing of adopting a waiver is uncorrelated with state characteristics that may affect welfare caseloads conditional on the control variables. The raw data, however, suggests that states with higher caseloads were more likely to apply for and ultimately adopt welfare waivers. Two pieces of evidence cast doubt that the timing of waiver adoption was exogenous to or at least uncorrelated with prior caseloads and factors affecting caseloads.

Figure 3 plots the average caseload residual for the decade prior to adoption (represented by negative numbers along the x-axis) and ten years after waiver adoption (represented by positive numbers along the x-axis) separately for adopters and non-adopters of welfare waivers. The residuals were obtained from a baseline regression of log caseload on current and lagged unemployment rates, AFDC benefits, Black population share and the population share above 65 plus state and year fixed effects

(see section 2). For non-waiver states, we choose 1994, the median year of waiver adoption, as year zero. Adjusted caseloads began declining several years prior to the actual approval of a statewide waiver. In Florida, for example, caseloads began to fall in 1993, several years before a waiver was adopted in 1996. Wisconsin also had strong pre-existing caseload trends before the first waiver was adopted in 1994.

Table 5 more rigorously tests whether the decision to apply and implement waivers was endogenous to AFDC caseloads and the state of the economy more generally. Our dependent variable in the first two specifications is the log per capita caseload as before. In addition to our baseline controls (lagged unemployment rates, the maximum AFDC benefit level for a family of four, state and year fixed effects), we also include dummy variable for 1 to 3 years and 4 to 6 prior to the adoption of a waiver. The findings confirm the patterns in figure 3; caseloads were on average declining by around 5 percent even four to six years before the adoption of welfare waivers.

Our interpretation of these prior trends is that politicians used welfare caseloads as one argument to call for and support a welfare waiver in their respective states. An alternative interpretation would be the existence of anticipatory effects, i.e. current or potential welfare recipients cease applying for benefits even before the waiver is adopted.[7] We next study the explicit decision to adopt a welfare waiver between 1990 and 1996 by estimating an OLS regression where the dependent variable is the share of the year when a state was approved for a welfare waiver and zero otherwise. The results are robust to using the application date and a probit analysis for the year of adoption. We include the same controls as before and a two-year lag of per capita

[7] This interpretation was suggested by CEA (1997) who found that a dummy variable for waiver adoption next year reduced caseloads by 6 percent. Other studies also provide evidence that caseloads decline substantially one year (Blank, 2001; CEA, 1999) or several years (Macurdy et al., 2002) before waivers were approved or implemented.

AFDC caseload (in logs). The choice of a two-year lag was motivated by our study of the adoption history in several US states. On average, there is a one-year lag between the announcement of a waiver application by the executive and its passage in state legislatures. An additional ten months pass between application and approval by the federal government.

Consistent with our interpretation, high caseloads in the past raise the probability of adopting a waiver. Specifically, the right-hand side of table 5 implies that a 10 percent higher growth rate in per-capita caseloads lead states to adopt a waiver about two months or 4/10 of a standard deviation earlier. Further, states with generous AFDC benefits and high unemployment rates are less likely to adopt waivers, possibly because the state population is more favorable toward redistribution. Hence, it seems that states with high welfare caseloads were particularly concerned about rising welfare dependence and applied for welfare waivers in response.

3.2. State Governors and Waiver Adoption

The documented feedback effect from high caseloads to the adoption of a welfare waiver suggests that previous estimates are biased toward zero. Hence, welfare waivers by states may have been more effective in reducing caseloads than the 10 percent suggested in section 2 (see table 1). To purge the estimates from endogeneity bias, we build on the idea that a state's waiver policy was strongly determined by its political process.[8]

[8] Few studies have systematically analyzed the role of politics for welfare rules or employed instruments to account for the endogeneity of welfare policy (see Mead, 2004 for some descriptive evidence).

Rising AFDC caseloads and welfare dependence were hotly debated political issues in the mid and late 1980s. A prominent role in pushing welfare reform and welfare waivers on the political agenda was hereby played by state governors. Wisconsin's Republican governor Tommy Thompson, a leading state figure of welfare, nicely illustrates our conjecture. He made welfare reform a top priority in his campaign for governor in 1986 (Mead, 2004; Kaplan in: Weissert, 2000). When elected in 1987, Thompson immediately created a task committee to reform the existing AFDC system. Between 1987 and 1996, the Thompson administration applied for waivers in 1988, 1992 and 1993. In 1988, Wisconsin was the first state which conditioned a household's receipt of benefits on the school attendance of its teen children. Under Thompson's leadership and using his line item veto power, the new Wisconsin Works, better known as W-2, was implemented. Its focus on labor market participation with stricter work requirements and harsh sanctions for noncompliance made it a role model for the federal TANF reform. Similar prominent though often less publicized roles were played by governors in Delaware, Michigan, Minnesota, Nebraska and Ohio that shaped the speed and direction of welfare reform (see Weissert, 2000; Winston, 2002 for case studies).[9]

The above examples suggest that a state's adoption of waivers could be strongly influenced by the governor's political power and her preferences for redistribution (Foy, 2005). The strength of a governor's position is determined by both institutional and political forces. Institutions such as the line item veto, which strengthen the executive, rarely change over the waiver period and will be absorbed by state fixed effects. We

[9] Another indication for the role of state governor is that the National Governors' Association (NGA) was influential in lobbying for welfare reform at the federal level (see Weaver, 2000). Fourteen governors testified in welfare-related hearings of the 104th Congress, compared to only three state representatives (Winston, 2002, Appendix C).

propose instead the margin of victory in the last gubernatorial race as an instrument. A political walkover suggests strong popular support for the governor as a political leader and her campaign proposals; both factors increase her political power in the bargaining process with the legislature.

Preferences for redistribution should be another powerful determinant of a state's waiver activity. Since Democrats and Republics traditionally had very different positions on redistribution, a natural choice seems to use partisanship, e.g. the party of the governor or an indicator for a divided state government, as an instrument. However, the governor's party may influence other policies such as the overall budget and labor market and hence, indirectly welfare choices as well.[10] Instead, we use information on whether the governor could stand for reelection as our second instrument for waiver adoption. Lame ducks have different electoral incentives and these exert an important influence on the policy priorities and agenda of the governor (Besley and Case, 1995; List and Sturm, 2006). Without the prospect of reelection, lame ducks often defy the constraints imposed by their own parties in favor of their personal preferences in policy decisions. Indiana's governor Evans, for example, was a Democratic lame duck who pushed for a waiver that was enacted in 1995. Other examples can be found in Governor Wilder (Virginia), Governor Schaefer (Maryland) or Governor Waihee (Hawaii).[11]

[10] We found that the overidentification test failed to reject the null that a governor's party and her margin of victory could be excluded from the caseload regression.

[11] Regression results (not reported) show that a Republican governor that cannot be reelected is 4.4 percent less likely to have a waiver adopted in her state. On average, one-fourth of all Republican governors adopt a waiver. Hence, governors that cannot be reelected appear to defy their party's dominant position to reduce welfare.

The first stage of our instrumental variable approach is shown on the left side of table 6. The dependent variable is the share of year in which a statewide waiver was implemented in a state. The variable is zero before a waiver is adopted and one if the waiver was in place for the entire year. Our instruments are the governor's margin of victory (column (1)), whether she is a lame duck and their interaction effect (column (2)). The instruments are lagged two years to reflect the time gap between a waiver proposal and its implementation. We also include the standard controls (current and lagged unemployment rates, the benefit level under AFDC, the percentage of Blacks in the population and the share of the population that is above 65) as well as year and state fixed effects. We find that the margin of victory reduces the likelihood of adopting a waiver. Specifically, an increase by one standard deviation reduces the chances of adopting a waiver by 3 percent. The second specification shows that this result is largely driven by governors that can stand for reelection. Though the F-statistics at the bottom of the table suggest that our instruments are not very strong, the governor's political position influences the decision to adopt welfare waivers.

3.3. Instrumental Variable Estimates

Can we exclude a governor's margin of victory and lame duck status from the caseload regression? One concern with our instrument may be that the governor's position affects other policy decisions relevant to welfare caseloads. For example, Besley and Case (1995) find that term limits have a negative effect on the minimum wage. Since minimum wages increase earnings of the employed, this effect could decrease welfare use among the employed. Similarly, governors might affect the labor

market opportunities of welfare participants through other means. To control for these channels, we include a state's minimum wage, the wage at the lowest quintile and changes in labor force participation as additional controls. Furthermore, the governor might affect how child support is enforced in a state, which is a major source of income for single mothers. We therefore add state expenditures for child support enforcement as another control. Finally, we add state spending on hospitals and whether the state has an expanded state Medicaid coverage in the early 1990's to control for changes in health care. We do not explicitly control for Food Stamps or EITC because they are federal programs whose eligibility and expenditures are determined at the national level. While a number of states supplemented federal EITC with a state program, most of the expansion occurred in the late 1990's. Hence, we believe the year dummies pick up most of the variation in Food Stamps and EITC.

The results for the second stage are shown on the right-hand side of table 6. The first specification reports the least squares estimate as a benchmark. Given the feedback effect identified in section 3.1., we expect the instrumental variable estimate to show a stronger effect of waivers on caseloads. Column (4) supports this conjecture: the adoption of a waiver is associated with a 30.4 percent decline in per-capita caseloads. To address the weakness of our instruments, we employ two strategies. First, we interact our instruments with census regions. One rationale for this approach is that we expect the position of the governor to have a different effect between the Northern and Southern states. The results are of similar size but statistically stronger than the basic IV estimates. Second, we use Fuller's k-estimator (LIML) which is more robust to the presence of weak instruments (Hahn, Hausman and Kuersteiner, 2004).

The result for the Fuller estimator (with k=4) in column (6) are again similar in magnitude.

Are the instrumental variable estimates plausible given that they are three times larger than the OLS results? We think the estimates are reasonable. First, it is not uncommon to find instrumental variable estimates that are several times larger than least squares results. Second, large estimates might be an indication that the instruments should be included as controls in the second stage. The overidentification test reported at the bottom of table 6, however, does not speak to this concern: we cannot reject the null that our instruments should be excluded from the caseload regression. In sum, our results provide strong support for the hypothesis that the adoption of state waivers results in a substantial reduction of caseloads. In particular, the 30 percent reduction in caseloads due to welfare waivers is of the same magnitude as the low unemployment rates of the 1990s. Accounting for policy endogeneity, we thus conclude that states' waiver reforms played an equally important role for caseload reductions as the strong economy.

4. Unpacking the Policy Dimensions of Welfare Reform

Welfare waivers and TANF legislation involved policy changes along many dimensions ranging from higher earnings disregards to new work requirements, harsher sanctions and welfare time limits. Collapsing waiver activity and TANF adoption in a single dummy variable simplifies the analysis, but also leaves several questions unanswered. First, the set of policy rules adopted under waivers and TANF often have theoretically ambiguous effects on caseloads, income or labor market outcomes (see

also Bitler, Gehlbach and Hoynes, 2004, Gehlbach, 2006; Grogger and Karoly, 2005). For example, higher earnings disregard for recipients encourages labor force participation and welfare use, but work requirements and time limits should decrease welfare participation. If these effects exactly offset each other, we might mistakenly conclude that the implemented rules do not work. Second, this ambiguity might be increased further by states' choice of policies. Even within the same policy dimension state often combine strict and liberal rules. For example, several states have imposed strict life time limits for welfare receipt that are even shorter than the federal limit of 60 months. At the same time, some of the same states are quite generous in granting time limit extensions to individuals who are ill or elderly. Collapsing these into a single variable again might lead us to conclude that certain policies do not affect caseloads. Finally, the dummy approach fails to identify which specific policy dimension or rule contributes to the decline in caseloads. Identifying the policy dimensions that work (and how they work) is however important for policy recommendations. We next describe our approach to address these points.

4.1. Characterizing Welfare Policies

We coded detailed policy rules for the period from 1993 to 2005 using publications from the waiver period (Crouse, 1999; Koerper, 1999; U.S. Department for Health and Human Services, 1991) and the Urban Institute's Welfare Rules Database (WRD). The WRD covers more than 100 policy rules encapsulated in TANF ranging from initial eligibility requirements such as mandatory job search at application to ongoing eligibility requirements such as minimum hours of work requirements. We focus

on the following welfare categories—initial eligibility, financial and demographic eligibility requirements, earned income disregards pertaining to benefit computation, work requirements, sanctions in case of noncompliance with work requirements, time limits and family caps. The chosen policy categories represent significant policy departures from the pre-TANF period (see also Fang and Keane, 2004; Macurdy et al., 2002; McKernan and Radcliffe, 2006). Each category includes numerous rules some of which are related to very specific participation issues or populations. We select either the main policy rule or a small number of key rules to characterize a state's provision in each category.[12] We now briefly describe the 22 rules in the 7 policy categories. A detailed discussion of the rules, their sources and specific coding are reported in a separate web appendix available from the authors.

Initial eligibility represents two new TANF practices aimed at reducing caseloads —whether states require a mandatory job search prior to application and whether they offer small one-time payments known as diversion payments to help individuals tide over minor income shortfalls in lieu of applying for welfare. To characterize the demographic characteristics for initial eligibility, we coded whether a state allows pregnant women with no other children to be eligible for TANF benefits. In addition, we coded three indicator variables pertaining to the eligibility of two-parent households, which became a federal requirement only in 1990. The first indicator is whether the state imposes any limit on the number of hours worked by the principal earner in a two-parent household. The second indicator is whether a certain work history of the principal earner is required for a two-parent household to be eligible. The third indicator is

[12] In selecting the policy rules from the Welfare Rules database with several hundred variables, we follow the policies emphasized in the Welfare Rules Databook published annually by the Urban Institute.

whether two-parent households have to wait a certain period before they can actually apply for welfare. Finally, we coded two variables characterizing the financial requirements for eligibility. The first one specifies the maximum value of unrestricted assets (in $1,000) a family may have and still be eligible for cash benefits. Since there were important changes across states and over time, we also coded the monetary value of vehicles (in $1,000) that are exempted from the asset calculation test (i.e. vehicle asset exemptions).

Work requirements were an integral part of the work-first approach stressed by many state waivers and the TANF legislation. In this category, we focus on three rules: the number of hours recipients are required to participate in a certain work-related activity such as job training, education or subsidized work. In addition, we create a dummy variable for whether recipients are required to fulfill the work requirement upon application. The variable is zero if the work requirement only applies after the unit has started to receive benefits. Finally, we code the number of exemptions from work requirements that states allow for pregnancy, illness, caring for somebody that is ill, of old age, a young child or if the person is employed in an unsubsidized job. The rule ranges from 0 (no exemption) to 6 (all exemptions allowed as under AFDC). While recipients in principle participated in work, training, education or related activities as part of the Job Opportunities and Basic Skills Training Program (JOBS), there were many exemptions under AFDC and in practice, only a small share of the adult caseload actually participated in the activities. During the waiver period, 24 states implemented statewide waivers to impose more narrow standards for exemptions from work-related

activities that effectively reduced the number of families requesting exemptions. This trend continued under TANF.

To encourage work participation further, states under TANF allowed more generous earnings disregards. Under AFDC, labor earnings were 'taxed' away at a rate of 100% after the fourth month of work (67% in the first three months) and recipients were allowed to deduct $30 of earnings for the first year. Under waivers and TANF, more labor earnings were exempt from the benefit calculation and the benefit reduction rate of additional earnings was reduced to less than 100%. To characterize earnings disregards, we calculate earnings for a hypothetical individual working full time (40 hours per week) at the state or federal minimum wage in month 5 of employment using state specific disregard policies.[13] We focus on month 5 because many states allow recipients to disregard 100 percent of their income in the first three to four months of employment.

Under AFDC, participants failing to comply with the training requirements faced rather mild sanctions. In response, numerous states applied for a JOBS sanction waiver to introduce harsher sanctions such as loss of the entire family cash benefit against non-complying recipients. JOBS sanctions were the most common statewide waivers approved in 29 states between 1993 and 1996. We characterize benefit sanctions by four rules: the duration of the most severe sanction and the severity of the sanction imposed. The most severe sanction ranges from the full removal of benefits to a decline in the benefits by 25 percent or less or the removal of the adult portion of the benefit. Under AFDC, only the adult portion of the benefit was removed if at all. We also coded the severity of the initial sanction in case of a first noncompliance: whether the first and

[13] For states with no minimum wage laws, we use the federal minimum wage.

initial sanction involves a removal of full family benefits and whether households have to reapply for welfare following the most severe sanction.

Another key component of welfare reform was time limits which made welfare receipt a temporary assistance for up to 60 months. We code five rules for time limits: the first two specify the actual duration of the lifetime limit and the length of any periodic time limit, i.e. the number of consecutive months a household could receive welfare benefits, imposed. The third and fourth rule specifies the number of extensions and exemptions allowed. In particular, we count the number of extensions to the time limit granted for household heads that are working or earning income, searching for a job but unable to find employment, ill or incapacitated, caring for an ill or incapacitated person, caring for a young child, pregnant, a minor parent, aged 60 years or older, victim of domestic violence. Similarly, we count the number of exemptions from time limits, i.e. whether the state exempts household heads if they are ill or incapacitated, care for someone ill or incapacitated, work in an unsubsidized job, are fully cooperating but cannot find employment, care for a child under a certain age, are minor parents, are older than a certain age (typically 60), are pregnant or were fleeing from or receiving treatment for domestic violence. Both variables for time limit extensions and exemptions range from 0 (no extension or exemption allowed) to 9 (all exemptions or extensions allowed). Fifth, we create an indicator for whether the full benefit is lost upon reaching the time limit or whether the child continues to receive benefits beyond the time limit. Finally, family cap refers to whether states adopt policies to cap benefits of welfare recipients giving birth to an additional child while on TANF.

Our 22 rules ranging from initial eligibility for example, diversion payments, to requirements for continued eligibility requirements such as family caps provide the most comprehensive characterization of state welfare policy between 1993 and 2005. Summary statistics of all policy rules are reported in table 6.

We are now in a position to determine which of our 7 policy areas (e.g. time limits, sanctions, work requirements, etc.) are effective in reducing caseloads. In addition, we can determine which of the main rules in a given policy area is responsible for the effect. Table 7 shows several noteworthy patterns: first, diversion payments are more effective than mandatory job search in reducing caseloads. Since diversion payments prevent households from entering the welfare rolls while mandatory job search imposes behavioral requirements on recipients, this suggests that behavioral changes among actual welfare recipients are less important for caseloads. Second, granting eligibility to pregnant women has the strongest effect on caseloads among the initial eligibility criteria: it raises caseloads by around 46% in states that allow it. Third, the main effect of work requirements arises from a reduction in the numbers of exemptions which subjects a larger pool of recipients to work requirements. The effect is large: each exemption increases caseloads by almost 4 percent. Finally, the most effective sanction rule is strict initial sanctions. Initial sanctions have a much larger effect than a larger reduction in benefits or a longer duration for repeated non-compliance. We find little evidence that family caps or time limits have an effect on aggregate caseloads.

4.2. Policy Indices and Welfare Caseloads

Although the previous exercise focusing on detailed rules is more informative about the mechanism underlying the effects of welfare reform, using twenty-two policy rules also has drawbacks. The first is the obvious multidimensionality problem of more than twenty individual policy variables. Second and more importantly, we cannot compare and contrast the effects of different policies because some are dummy variables such as eligibility of pregnant women, while others capture an intensive policy margin such as the duration of sanctions. How then should we interpret the findings on the various policies as a whole?

In this section, we reduce the dimensionality of the policies by collapsing them into seven indices. To ensure comparability across indices, we first standardize the intensive policy variables into a unit free measure and then average the various policies in each category. Our approach is similar to the human development index (HDI), which standardizes each individual component using the minimum and maximum values before averaging them.[14] Our indices thus range from 0 to 1 and can be compared with each other. We also recode some of our policies such that higher values of both the policies and indices capture stricter or less flexible rules designed to reduce caseloads, while lower values represent less strict or more flexible rules.

We logically group similar rules into indices that capture a specific part of the welfare process as a recipient progresses from application to cash receipt to requirements for ongoing eligibility. Under this categorization, the rules pertaining to time limits form one index while those relating to sanctions are grouped into another

[14] The specific formula to transform the variable into a unit free measure is (X – min (X))/(max (X) – min(X)).

index. Our seven indices are similar to the categorization of rules discussed in the previous section and are as follows—initial eligibility, financial and demographic eligibility, earned income disregards, work requirements, sanctions, time limits and family caps.

Initial eligibility includes whether states offer diversion payments and whether they require a mandatory job search before application. The index for financial and demographic eligibility requirements, we combine six rules. We recode the rules for assets and vehicle asset exemptions before standardizing them so that higher values are associated with a lower probability of getting on welfare i.e. more strict.[15] We also recode the dummy for whether states allow eligibility of pregnant woman to 0 if states offer this policy and 1 otherwise. We then average the six rules (recoded assets plus vehicle asset exemptions, recoded pregnant eligibility and the three rules pertaining to two-parent eligibility) into a single financial and demographic eligibility index. In a similar fashion, we construct our seven indices that are summarized above the rules in each category in table 6.

Figure 4 plots the indices from 1993 to 2005 and as expected we see that state policies become stricter on average both for the waiver years (pre-1996) and after the implementation of TANF in 1996. The two exceptions are earned income disregards, and financial and demographic eligibility. In general, states offered higher earned income disregards as a carrot for labor force participation, while also increasing the asset and vehicle exemptions allowed for financial eligibility. Apart from the greater flexibility afforded by the policies under these two categories, the rest of the indices

[15] Lower assets limits in this case restrict the application pool and we just multiply assets by -1 so that higher values capture the stricter policy dimension.

sharply increased over the period. For example, only 14% of states had adopted any family cap policy in 1995, which increased to 41% by 2004. The number of states requiring mandatory job search prior to application increased from 12% in 1996 to 35% in 2005 and 65% of states now offer diversion payments versus 6% in 1996. Some of the most severe changes have been introduced under sanctions with over 84% of states reducing full family benefits as their most severe sanction against noncompliance by 2005.

In addition to the temporal changes, welfare policies also vary within and across different categories in each state. States in general have not adopted either very strict policies or very generous policies across the policy spectrum. Indiana, for example, increased the duration of their most severe sanction to 36 months in 1996 but the sanctioned household only lost the adult portion of their benefits and did not have to reapply. Mississippi in 2001 has among the harshest sanction policies with the most severe sanction involving a permanent loss of full family benefits but at the same time does not require a mandatory job search at application or offer diversion payments. Similarly, New York requires adult recipients to work full-time but the requirement comes into force only 30 days after orientation rather than immediately after application for benefits. New York also allows for many exemptions from work requirements though the exemption rules are less generous than under AFDC.[16]

In table 8 we use our policy indices to analyze how they affect caseloads. As a benchmark, we compare our results to specifications using dummies for individual waivers (as in CEA 1997, 1999). On average, states applied for at least 3 waivers but

[16]Table A3 in the appendix shows the ranking of states according to their value for each of the seven indices. A state at the top of the list has rather liberal rules in the respective policy dimension. States with the strictest rules are at the bottom of the table.

waivers were often adopted on the same date. The simultaneous adoption makes it difficult to separate the effects of, for example, sanction policies from family cap policies. Moreover, it is still difficult to isolate, for example, specific sanction rules that are more effective at reducing caseloads because waivers for sanctions varied across states.

The criticisms notwithstanding, specifications 1 to 3 focus on individual waiver dummies with additional controls added in specification 2 and 3. Waivers for tougher sanctions and less generous work requirement exemptions are associated with caseload declines of 22 percent and 11 percent respectively. There are however, several patterns that are difficult to interpret: waivers on earnings disregard (that became more generous) seem to have an implausibly large positive effect on caseloads of 20 percent. Work requirement waivers that became stricter in the waiver period increase caseloads by 22 percent similar to the effects for time limits (25%). Finally, waivers introducing family caps also have a surprisingly strong effect and reduce caseloads by almost 10 percent.

Specifications 4 to 6 characterize welfare rules by our indices instead of individual waiver dummies and cover both the waiver and TANF period. The results convey a cleaner picture. First, initial eligibility requirements such as diversion have a strong and negative effect on caseloads as compared to financial and demographic requirements that do not have a significant effect. Second, the effect of earnings disregard is similar to that for waivers. The coefficients, however, are not as precisely estimated and coupled with the lack of finding on earning disregards in table 7, we conclude that they are perhaps not an important policy determinant for caseloads. Third, stricter work requirements and sanctions for non-compliance have both economic and

statistically significant effects. Using the intensive margin for time limits, we find no effects of time limits on caseloads relative to the strange positive effect in specifications 1 to 3. Family caps also have no significant effect on caseloads.

Since our indices are averages of standardized components, we can directly compare across the different policy dimensions. Our findings suggest that sanctions are the most effective policy tool to reduce caseloads—a 10% increase in the sanction index reduces caseloads by 3.9% on average. The second most effective dimension is work requirements for ongoing eligibility where a 10% increase in the index reduces caseloads by 2.3%. The the third most effective set of rules are the initial eligibility requirements such as diversion payments to offset temporary income losses. Here, a 10% increase in strictness reduces caseloads by 1.9%.

Few other studies have analyzed individual policy rules and its effect on welfare use. Macurdy et al. (2002) and CEA (1999) also find that sanctions are important for the reduction in caseloads. However, they do find little on other dimensions or an implausibly large effect of family caps. While Fang and Keane (2004) found that work requirements are the most important dimension for reducing welfare use, our more detailed policy variables that they are less effective than sanctions. Further, the effect of work requirements is mainly driven by a reduction of work exemptions for welfare recipients. The impact of the novel initial eligibility requirements, mandatory job search and diversion payments, has so far not been studied.

Using individual policy rules and category specific indices, tables 7 and 8 provide a more coherent picture of how the US welfare reform worked in practice. In particular, tougher initial sanctions and less generous exemptions from work requirements are

highly effective tools in reducing welfare caseloads. In comparison, neither time limits nor family cap policies have any appreciable effects.

5. Conclusion

In this paper, we study the effects of US welfare reform on caseloads using detailed information on socio-economic variables, political variables and individual policy rules at the state-level. Our analysis addresses two limitations of the previous literature. First, we address the endogeneity in the timing of waiver adoption in the early 1990's and propose the electoral incentives of state governors as instruments. After accounting for the endogeneity problem, our IV estimates find large and significant effects of waivers on welfare caseload declines. In fact, waivers appear to have contributed as much to the 1990's decline as the robust economy. Second, we identify specific policies that were more effective at reducing caseloads. Using detailed information on rules and constructing new indices for different policy dimensions such as sanctions and time limits, we find that strict sanctions, diversion payments and harsher work requirements lead to significant declines in welfare participation from 1993 to 2004. While other policies such as earned income disregards and time limit may affect labor force participation and other social outcomes, we find no effects of these policies on welfare caseloads. Finally, despite the numerous policy changes captured in the 1996 reform, only one or two policy rules in each category appear to be significant determinants of caseloads.

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Appendix: Data Sources and Construction of Variables

Caseload, Demographic and Economic Variables: AFDC and TANF caseloads in each calendar year are taken from Moffitt (2002) for 1960 to 1998 and updated to 2005 using the Statistical Abstract. Average monthly payments for TANF recipients and families (by fiscal year) are also from Moffitt (2002) for 1960-1997 and updated to 2005 using the Annual Statistical Supplement to the Social Security Administration. Job entry, job

retention and earnings gain data for 1997-2005 are taken from the High Performance Bonus data (table 5:4) reported in the TANF-Annual Reports to Congress. The out-of-wedlock birth rate (births to unmarried women per 1,000 unmarried women between 15 and 44 years of age) is available for 1992 to 2003 from table 8:3 in the TANF Annual Reports to Congress and updated to 2005 from the Vital Statistics (VitalStats). Resident population and resident population by age (under 5, age 5-17, over 18, over 65) and the population by race (Whites, Blacks and Hispanic) is taken from the Statistical Abstract. The unemployment rate for 1960 to 1998 is from Moffitt (2002) and updated for 1998 to 2005 from the website of the Bureau of Labor Statistics. Labor earnings at the 20th percentile are calculated from the March Current Population Survey (CPAS) for 1963 to 2003. These data were downloaded from the Russell Sage Program on the Social Dimension of Inequality (www.inequalitydata.org).

Political Variables: Data on term limits for governors from 1960 to 2000 are taken from List and Sturm (2007) and updated to 2005 using the Book of the States. The data for the party composition of the state legislator, the party of the governor and indicators for a divided legislature come from Klarner (2003). Information on women legislators and women governors was collected from the website of the Center for American Women and Politics. Data for women legislators are available biannually from 1975 to 1983 and annually thereafter. Missing years were interpolated. The data for African American legislators for 1984 to 1993 is from Preuhs (2006) and for 1994 to 2005 from the website of the National Conference on State Legislatures. We use measures of voter and government ideology calculated by Berry et al. (1998) from ideology ratings of the state's congressional delegation, the American for Democratic Action (ADA) rating and the AFL/CIO's Committee on Political Education (COPE) rating. Berry et al. assign an ideology rating to the citizens of each congressional district using a weighted average of the congressional member's score and his or her election opponent's score, weighting the scores according to the number of votes they received. Zero denotes the most conservative and 100 the most liberal. They generate a state-wide measure by averaging over all congressional districts.

Welfare Rules under AFDC and TANF: We code policy rules under AFDC, state waivers and TANF for the period from 1993 to 2005. A detailed description of the definition of each variable, data sources and the coding procedure is available from the authors' web pages. The rules are combined from various sources: first and most importantly, the Welfare Rules Databook (Urban Institute), which provides an annual summary of important state TANF policy rules using the Welfare Rules Database as of July. We complement this information with detailed descriptions of the waivers in Crouse (1999), Koerper (1996) and DHHS (1997).

We classify the rules based on the categorization in the Welfare Rules Databook from initial eligibility to benefits, requirements and then finally ongoing eligibility. This organization follows the temporal sequence of rules an individual or family applying for TANF in any particular state would come across. While various combinations of rules determine each step of the process, we focus on key policies that apply to a large proportion of the potential welfare population and can be quantified in a consistent manner across states. Many of the rules do not lend themselves to a numerical categorization and so consequently they are not included in the analysis. To combine information from the Welfare Rules Database and waiver provisions, we

used the following procedure: we code waiver provisions from the date they are actually implemented in a state. If a waiver was implemented after July 1 in a given year, we code it as beginning in the following year. We only consider waiver provisions that were implemented statewide or in the majority of the state. Hence, we consider an implementation statewide if it was implemented in the whole state except for control groups or counties for the purpose of experimental evaluation studies. We double checked the coding of all rules for any inconsistencies between the Welfare Rules Database and the waiver provisions as outlined in Crouse (1999), Koerper (1996) and DHHS (1997). Any discrepancies are listed in a separate document available from the authors upon request.

	Ln(Caseloads per Capita)		Ln(Recipients per Capita)		Ln(Caseloads per Capita)		Ln(Recipients per Capita)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Any Waiver or TANF	-0.1090***	-0.1056***	-0.1257***	-0.1213***	-0.0909***	-0.0901***	-0.1075***	-0.1054***
	[0.0243]	[0.0237]	[0.0275]	[0.0268]	[0.0239]	[0.0237]	[0.0276]	[0.0273]
Unemployment Rate	0.0073	0.008	0.0058	0.0067	0.0065	0.007	0.0047	0.006
	[0.0053]	[0.0055]	[0.0059]	[0.0060]	[0.0069]	[0.0069]	[0.0079]	[0.0078]
Unemployment Rate $_{(t-1)}$	0.0196***	0.0199***	0.0227***	0.0231***	0.0188**	0.0184**	0.0222**	0.0219**
	[0.0071]	[0.0071]	[0.0076]	[0.0077]	[0.0091]	[0.0091]	[0.0102]	[0.0102]
Unemployment Rate $_{(t-2)}$	0.0336***	0.0329***	0.0366***	0.0359***	0.0380***	0.0375***	0.0411***	0.0402***
	[0.0053]	[0.0053]	[0.0056]	[0.0056]	[0.0071]	[0.0071]	[0.0079]	[0.0078]
Max. monthly AFDC benefit (in logs)	0.3509***	0.3530***	0.3950***	0.3986***	0.6653***	0.6651***	0.7857***	0.7853***
	[0.0569]	[0.0568]	[0.0631]	[0.0631]	[0.0846]	[0.0850]	[0.0986]	[0.0990]
Black Population		-0.0352***		-0.0376***		-0.0290***		-0.0347***
		[0.0098]		[0.0105]		[0.0106]		[0.0116]
Population above 65		0.0176		0.0221*		0.0043		0.0145
		[0.0111]		[0.0122]		[0.0115]		[0.0136]
Constant	-6.9197***	-6.2458***	-6.1054***	-5.4296***	-8.8595***	-8.1761***	-8.5079***	-7.7959***
	[0.3415]	[0.4128]	[0.3788]	[0.4597]	[0.5122]	[0.5945]	[0.5979]	[0.6856]
Time Period	1976-96	1976-96	1976-96	1976-96	1976-2004	1976-2004	1976-2004	1976-2004
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1050	1050	1050	1050	1450	1450	1450	1450
Adjusted R-squared	0.87	0.88	0.87	0.87	0.85	0.85	0.85	0.85

Notes: The dependent variable in columns (1), (2), (5) and (6) is the AFDC caseload per capita measured in logs and the number of AFDC recipicients (in logs) in columns (3), (4), (7) and (8). The AFDC benefits is the maximum monthly benefit level for a family of four. All specifications include year and state fixed effects. The regressions are based on data of the 50 states (DC is not included). Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

	Ln (AFDC Caseload per-capita)					
	(1)	(2)	(3)	(4)	(5)	(6)
Any Waiver	-0.0364**	-0.0267	-0.0287	-0.0267	-0.0284	0.0018
	[0.0184]	[0.0189]	[0.0181]	[0.0187]	[0.0182]	[0.0188]
Unemployment Rate	0.0045	0.0029	0.0043	0.0059	0.0039	0.0034
	[0.0041]	[0.0042]	[0.0039]	[0.0041]	[0.0040]	[0.0039]
Unemployment Rate $_{(t-1)}$	0.0184***	0.0192***	0.0164***	0.0189***	0.0178***	0.0170***
	[0.0047]	[0.0048]	[0.0046]	[0.0047]	[0.0047]	[0.0047]
Unemployment Rate $_{(t-2)}$	0.0262***	0.0261***	0.0241***	0.0261***	0.0253***	0.0226***
	[0.0037]	[0.0038]	[0.0035]	[0.0037]	[0.0036]	[0.0035]
Max. monthly AFDC benefit (in logs)	0.1703***	0.1726***	0.1413***	0.1701***	0.1342***	0.1051**
	[0.0506]	[0.0505]	[0.0486]	[0.0504]	[0.0495]	[0.0467]
Black Population	-0.0089	-0.011	-0.0055	-0.0078	-0.0093	-0.0062
	[0.0100]	[0.0101]	[0.0099]	[0.0107]	[0.0099]	[0.0105]
Population above 65	0.0309*	0.0300*	0.0226	0.0297*	0.0266	0.0152
	[0.0181]	[0.0177]	[0.0153]	[0.0178]	[0.0164]	[0.0122]
Constant	-5.4361***	-5.3754***	-5.2252***	-5.4673***	-5.1358***	-4.8799***
	[0.4566]	[0.4558]	[0.4326]	[0.4620]	[0.4393]	[0.4180]
State and Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
State Specific Time Trend	Yes	Yes	Yes	Yes	Yes	Yes
Excluding	-	Michigan	New Hampshire	New Jersey	Wisconsin	MI, NH, NJ, WI
Observations	1050	1029	1029	1029	1029	966
Adjusted R-squared	0.95	0.94	0.95	0.95	0.95	0.95

Notes: The dependent variable in all specifications is the AFDC caseload per capita measured in logs. The AFDC benefits is the maximum monthly benefit level for a family of four. All specifications include year and state fixed effects as well as state-specific time trends. The regressions are based on data of the 50 states (DC is not included). Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

	Ln (AFDC Caseload per-capita)					
	(1)	(2)	(3)	(4)	(5)	(6)
Any Waiver or TANF	-0.0843***	-0.0761***	-0.0772**	-0.0758***	-0.0726**	-0.0777**
	[0.0244]	[0.0290]	[0.0317]	[0.0239]	[0.0288]	[0.0314]
Unemployment Rate	0.0075	0.0098*	0.0132**	0.0047	0.0085	0.0123**
	[0.0073]	[0.0059]	[0.0061]	[0.0072]	[0.0059]	[0.0061]
Unemployment Rate $_{(t-1)}$	0.0170*	0.0133*	0.0122*	0.0124	0.0108	0.0108
	[0.0098]	[0.0072]	[0.0074]	[0.0097]	[0.0071]	[0.0073]
Unemployment Rate $_{(t-2)}$	0.0478***	0.0444***	0.0416***	0.0435***	0.0424***	0.0414***
	[0.0077]	[0.0059]	[0.0062]	[0.0077]	[0.0058]	[0.0060]
Max. monthly AFDC benefit	0.7459***	0.1704**	0.1518*	0.8098***	0.1671*	0.1424
	[0.0992]	[0.0868]	[0.0878]	[0.0973]	[0.0861]	[0.0870]
Black Population	-0.0343***	-0.013	-0.0141	-0.0239**	-0.0168	-0.0187
	[0.0115]	[0.0139]	[0.0153]	[0.0117]	[0.0133]	[0.0147]
Population above 65	-0.0066	0.0285	0.0174	-0.0184	0.0273	0.0176
	[0.0130]	[0.0178]	[0.0157]	[0.0136]	[0.0176]	[0.0159]
Ln (20th Percentile Wage)				-0.5826***	-0.4889***	-0.3911***
				[0.1247]	[0.1017]	[0.0992]
Ln(Median Family Income)				0.2671*	0.3632***	0.4205***
				[0.1572]	[0.1163]	[0.1173]
Percent Immigrants (t-1)				-0.0007	-0.0002	-0.0001
				[0.0006]	[0.0005]	[0.0006]
Percent Immigrants (t-2)				0.0003	0.0004	0.0002
				[0.0006]	[0.0005]	[0.0006]
Percent HS Dropouts				0.0011	-0.0049	-0.0026
				[0.0036]	[0.0045]	[0.0045]
Percent Single Female HH				-0.0632***	-0.0471***	-0.0476***
				[0.0162]	[0.0145]	[0.0147]
Constant	-8.5165***	-5.3567***	-5.0858***	-7.6317***	-5.4777***	-6.5684***
	[0.6476]	[0.6502]	[0.6635]	[1.5903]	[1.2294]	[1.2475]
Time Period	1979-2004	1979-2004	1979-2004	1979-2004	1979-2004	1979-2004
State and Year FE	Yes	Yes	Yes	Yes	Yes	Yes
State Trend	No	Yes	Yes	No	Yes	Yes
Excluding	-	-	MI, NH, NJ, WI	-	-	MI, NH, NJ, WI
Observations	1300	1300	1196	1300	1300	1196
Adjusted R-squared	0.857	0.925	0.924	0.862	0.927	0.926

Notes: The AFDC benefits is the maximum monthly benefit level for a family of four. The regressions are based on data of the 50 states (DC is not included). Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

[illegible]

	Log Caseload per capita Prior Trends		Waiver Adopted Is there a Feedback Effect?	
	(1)	(2)	(3)	(4)
Any Waiver	-0.0899	-0.09		
	[0.0271]***	[0.0263]***		
1-3 Years Prior to Waiver Adoption	-0.0674	-0.0605		
	[0.0201]***	[0.0197]***		
4-6 Years Prior to Waiver Adoption	-0.0462	-0.0467		
	[0.0165]***	[0.0164]***		
AFDC Caseload per capita $_{t-2}$ (in logs)			0.1707	0.1798
			[0.0429]***	[0.0434]***
Unemployment Rate	0.0074	0.0081	-0.0236	-0.0259
	[0.0053]	[0.0054]	[0.0047]***	[0.0053]***
Unemployment Rate $_{(t-1)}$	0.0186	0.0189	0.0047	0.0039
	[0.0071]***	[0.0071]***	[0.0054]	[0.0055]
Unemployment Rate $_{(t-2)}$	0.0328	0.0323	-0.0119	-0.0119
	[0.0052]***	[0.0052]***	[0.0040]***	[0.0041]***
Max. monthly AFDC benefit (in logs)	0.3384	0.3408	-0.4372	-0.5106
	[0.0569]***	[0.0569]***	[0.0436]***	[0.0737]***
Black Population		-0.0327		-0.0027
		[0.0096]***		[0.0228]
Population above 65		0.0163		-0.0214
		[0.0106]		[0.0168]
Year Fixed Effects	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes
Observations	1050	1050	1050	1050
R-squared	0.89	0.89	0.26	0.26

Notes: All regressions are based on data for the 50 states from 1976 to 1996. The dependent variable in columns (1) and (2) is AFDC caseload per capita measured in logs. To measure prior trends, we include dummy variables for 1-3 years and 4-6 years prior to the adoption to the specification. In columns (3) to (4), the dependent variable is the fraction of the year in which any waiver was approved in the state and 1 for all subsequent years. The main independent variable here is the log caseload per capita two years earlier. See notes to earlier tables for a description of the control variables. Robust standard errors in brackets. *** p<0.01, ** p<0.05 and * p<0.1.

	Waiver Share		Log Caseload per capita			
			OLS	IV	IV extended	Fuller est.
	(1)	(2)	(3)	(4)	(5)	(6)
Waiver Share			-0.0963	-0.3038	-0.3474	-0.3047
			[0.0227]***	[0.1801]*	[0.0963]***	[0.0955]***
Margin of Victory for Governor $_{(t-2)}$	-0.0032	-0.0011				
	[0.0010]***	[0.0014]				
Margin (t-2) if no Lameduck $_{(t-2)}$		-0.0037				
		[0.0016]**				
Lameduck $_{(t-2)}$		-0.0289				
		[0.0255]				
Unemployment Rate	-0.0029	-0.0019	0.012	0.0114	0.0113	0.0114
	[0.0102]	[0.0102]	[0.0069]*	[0.0069]*	[0.0070]	[0.0069]*
Unemployment Rate $_{(t-1)}$	0.0075	0.0082	0.0134	0.015	0.0153	0.015
	[0.0103]	[0.0103]	[0.0073]*	[0.0074]**	[0.0075]**	[0.0074]**
Unemployment Rate $_{(t-2)}$	-0.0133	-0.0134	0.0246	0.022	0.0215	0.022
	[0.0078]*	[0.0078]*	[0.0059]***	[0.0065]***	[0.0061]***	[0.0065]***
Max. monthly AFDC benefit (in logs)	-0.1875	-0.2007	0.3918	0.3506	0.3419	0.3506
	[0.0849]**	[0.0843]**	[0.0661]***	[0.0754]***	[0.0695]***	[0.0754]***
Minimum Wage	0.0567	0.0559	-0.0084	0.0029	0.0053	0.0029
	[0.0140]***	[0.0142]***	[0.0080]	[0.0126]	[0.0098]	[0.0126]
20th Percentile Log Wage	0	0	-0.0006	-0.0006	-0.0006	-0.0006
	[0.0000]	[0.0000]	[0.0001]***	[0.0001]***	[0.0001]***	[0.0001]***
Change in Log Employment	-0.455	-0.5	0.3318	0.2567	0.241	0.2567
	[0.5213]	[0.5225]	[0.3886]	[0.3885]	[0.3869]	[0.3885]
Child Support Enforcement (/1000)	-0.0005	-0.0005	0.0007	0.0006	0.0005	0.0006
	[0.0008]	[0.0008]	[0.0004]*	[0.0004]	[0.0004]	[0.0005]
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	882	882	882	882	882	882
R-squared	0.56	0.56	0.91			
Shea's Partial R Squared	0.014	0.02				
F Statistic Excluded Instruments	12.2	5.32				
Instruments	Margin	Political	None	Political	Political* Region	Political
Overidentification: J Statistic				2.4	10.6	2.44
(p value)				0.3	0.48	0.3

Notes : All the regressions are based on data for the 50 states from 1979 to 1996. The dependent variable in the first two columns is the waiver share

	Unit	Mean	Std. Dev.	Minimum	Maximum
Initial Eligibility					
Index:		0.29	0.34	0	1
Mandatory Job Search?	Indicator (0/1)	0.25	0.43	0	1
Diversion Payment?	Indicator (0/1)	0.34	0.47	0	1
Financial and Demographic Eligibility					
Index:		0.55	0.29	0	1
Assets	1,000 Dollars	2.04	1.89	1	14
Vehicle Asset Exemptions	1,000 Dollars	10.30	5.85	4	23
Eligibility of Pregnant Woman	Indicator (0/1)	0.65	0.48	0	1
Two parent work hours	Indicator (0/1)	0.43	0.50	0	1
Two parent work history	Indicator (0/1)	0.47	0.50	0	1
Two parent waiting period	Indicator (0/1)	0.45	0.50	0	1
Earnings Disregards					
Index:		0.74	0.18	0	1
Earnings Disregard (Month 5)	Dollars per Month	290.84	202.23	0	1136
Work Requirements					
Index:		0.44	0.30	0	1
Hours requirement	Hours	19.49	13.05	0	40
Upon Application?	Indicator (0/1)	0.52	0.50	0	1
Exemptions	Number	4.09	2.01	0	6
Sanctions for Noncompliance					
Index:		0.29	0.21	0	0.76
How Severe is Sanction?	Percent	75.75	25.84	25	100
Duration of Sanction	Months	10.13	17.31	0	60
Full Initial Sanction?	Indicator (0/1)	0.18	0.38	0	1
Reapply after Sanction?	Indicator (0/1)	0.14	0.35	0	1
Time Limits					
Index:		0.56	0.29	0.08	0.97
Life Time Limit	Months	31.00	28.46	0	60
Periodic Time Limit	Fraction of Year	0.12	0.29	0	1
Extensions	Number	4.67	3.70	0	9
Exemptions	Number	4.30	3.84	0	9
Benefit Reduction	Indicator (0/2)	0.93	0.97	0	2
Family Caps	Indicator (0/1)	0.32	0.47	0	1

Notes : See text and appendix to rules for detailed descriptions of the rules and how the indices were constructed.

	Ln (AFDC Caseload per-capita)		
	(1)	(2)	(3)
Mandatory Job Search	-0.0435	-0.0427	-0.0488
	[0.0354]	[0.0354]	[0.0364]
Diversion Payment	-0.1159***	-0.1185***	-0.1113***
	[0.0290]	[0.0292]	[0.0295]
Assets	-0.0282**	-0.0292**	-0.0284*
	[0.0143]	[0.0143]	[0.0150]
Vehicle Asset Exemptions	0.0061**	0.0059**	0.0053*
	[0.0028]	[0.0028]	[0.0028]
Eligibility of Pregnant Woman	0.4674***	0.4741***	0.4622***
	[0.1295]	[0.1311]	[0.1311]
Two parent work hours	-0.0174	-0.0295	-0.0514
	[0.0368]	[0.0373]	[0.0378]
Two parent waiting period	0.0365	0.0342	0.0463
	[0.0464]	[0.0473]	[0.0476]
Two parent work history	0.0211	0.0322	0.0347
	[0.0409]	[0.0409]	[0.0427]
Earnings Disregard	0.0000	0.0000	0.0001
	[0.0001]	[0.0001]	[0.0001]
Hours Requirement	-0.0005	-0.0006	-0.0004
	[0.0016]	[0.0016]	[0.0016]
Work Upon Application?	-0.0049	-0.0045	0.0071
	[0.0336]	[0.0336]	[0.0351]
Work Exemptions	0.0384***	0.0390***	0.0383***
	[0.0074]	[0.0074]	[0.0074]
Most Severe Sanction	-0.0016**	-0.0016**	-0.0014**
	[0.0006]	[0.0006]	[0.0007]
Duration of Sanction	-0.0022***	-0.0023***	-0.0023***
	[0.0008]	[0.0008]	[0.0008]
Full Initial Sanction?	-0.2259***	-0.2259***	-0.2344***
	[0.0386]	[0.0385]	[0.0381]
Reapply after Sanction?	0.0598*	0.051	0.0441
	[0.0329]	[0.0343]	[0.0345]
Life Time Limit	0.0006	0.0007	0.0006
	[0.0005]	[0.0005]	[0.0005]
Periodic Time Limit	0.0779	0.0912	0.0926
	[0.0717]	[0.0706]	[0.0711]
Benefit Reduction	-0.0291	-0.0277	-0.0172
	[0.0221]	[0.0218]	[0.0220]
Extensions	-0.0095*	-0.0097*	-0.0069
	[0.0051]	[0.0051]	[0.0049]
Exemptions	-0.0082	-0.0082	-0.0098*
	[0.0057]	[0.0057]	[0.0057]
Family Caps	0.0067	0.0089	0.0021
	[0.0363]	[0.0365]	[0.0371]
Employment Controls	Yes	Yes	Yes
Demographic Controls	No	Yes	Yes
Additional Socio-Economic Controls	No	No	Yes
Observations	600	600	600
Adjusted R-squared	0.931	0.931	0.933

Notes: All the regressions are based on data for the 50 states from 1993-2004. Employment controls include unemployment rate in t, t-1, and t-2 plus welfare benefits. Demographic controls include fraction black and over 65. Additional socio-economic controls include 20th percentile of wage distribution, median family income, percent of immigrants in t-1 and t-2 and percent of single female headed households. All regressions include state and year fixed effects. Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

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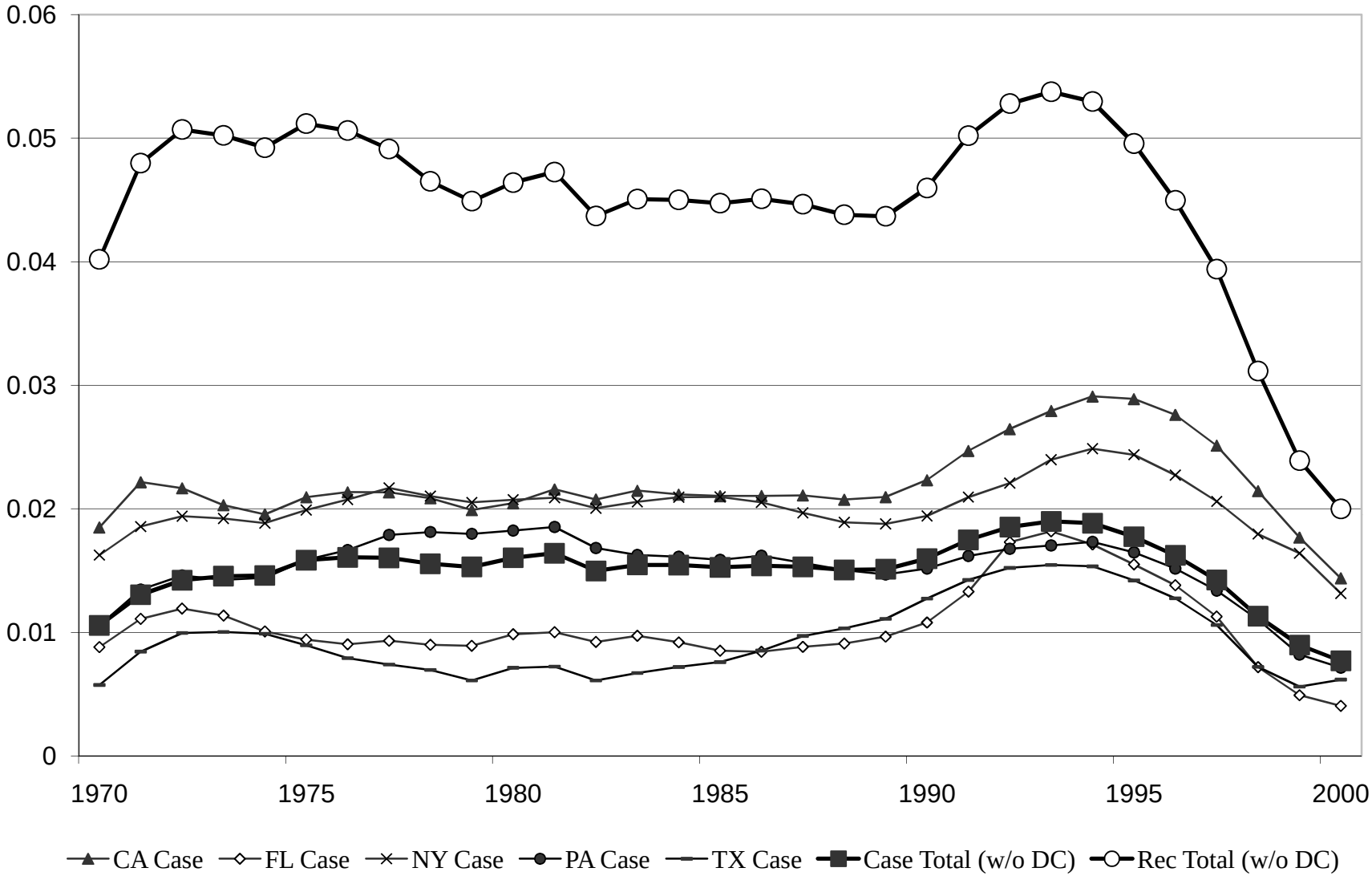
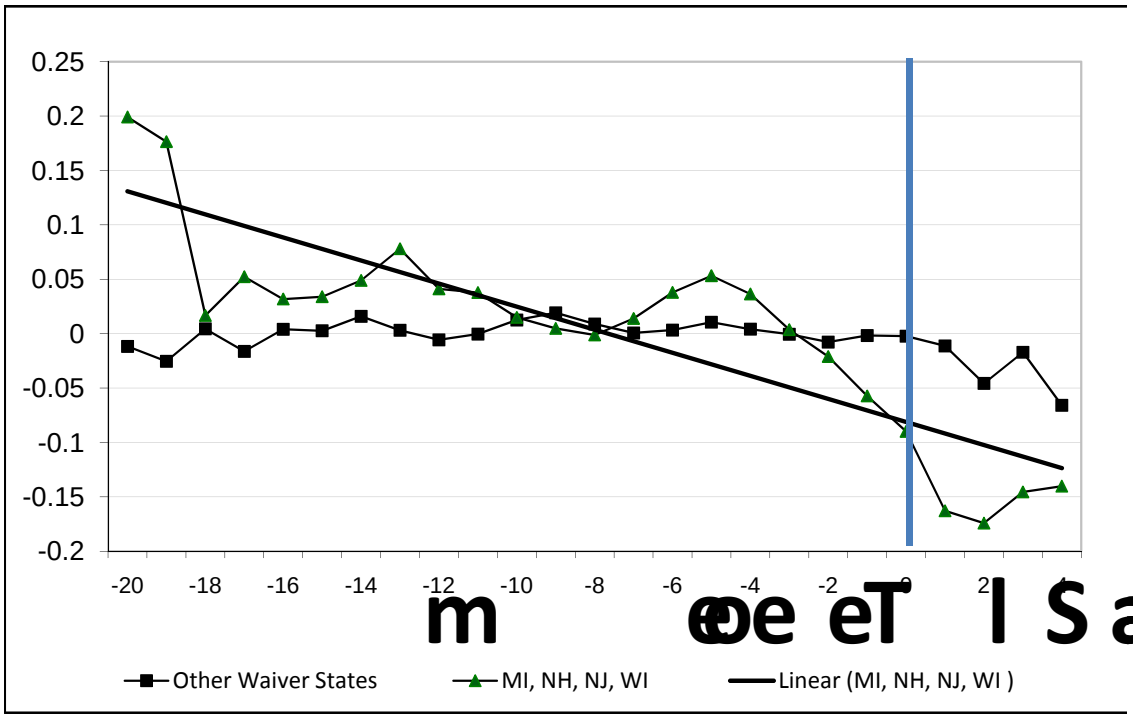
	Ln (AFDC Caseload per-capita)					
	Waivers	Waivers	Waivers	Policy Indices	Policy Indices	Policy Indices
	(1)	(2)	(3)	(4)	(5)	(6)
Initial Eligibility				-0.1865***	-0.1891***	-0.1867***
				[0.0588]	[0.0608]	[0.0608]
Financial and Demographic Eligibility				0.0355	0.0351	0.0154
				[0.0732]	[0.0739]	[0.0743]
Earnings Disregards	0.1671***	0.1938***	0.1971***	-0.1614*	-0.1622*	-0.2136**
	[0.0469]	[0.0497]	[0.0494]	[0.0909]	[0.0906]	[0.0939]
Work Requirements	0.2283***	0.2225***	0.2222***	-0.2288***	-0.2316***	-0.2026**
	[0.0471]	[0.0476]	[0.0458]	[0.0787]	[0.0776]	[0.0808]
Work Exemptions	-0.1245**	-0.1076**	-0.1128**			
	[0.0492]	[0.0525]	[0.0533]			
Sanctions for Noncompliance	-0.1886***	-0.2156***	-0.2151***	-0.3819***	-0.3879***	-0.3972***
	[0.0554]	[0.0583]	[0.0603]	[0.0674]	[0.0692]	[0.0701]
Time Limits	0.2390***	0.2453***	0.2466***	0.0333	0.0431	0.0362
	[0.0517]	[0.0564]	[0.0565]	[0.0741]	[0.0791]	[0.0788]
Family Cap	-0.0849**	-0.0948**	-0.1005**	-0.038	-0.0364	-0.046
	[0.0406]	[0.0418]	[0.0441]	[0.0426]	[0.0436]	[0.0448]
TANF Implementation	-0.2272**	-0.2349**	-0.2163**			
	[0.0977]	[0.0974]	[0.0962]			
Employment Controls	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	No	Yes	Yes	No	Yes	Yes
Additional Socio-Economic Cont	No	No	Yes	No	No	Yes
Observations	600	600	600	600	600	600
Adjusted R-squared	0.894	0.894	0.897	0.91	0.911	0.914

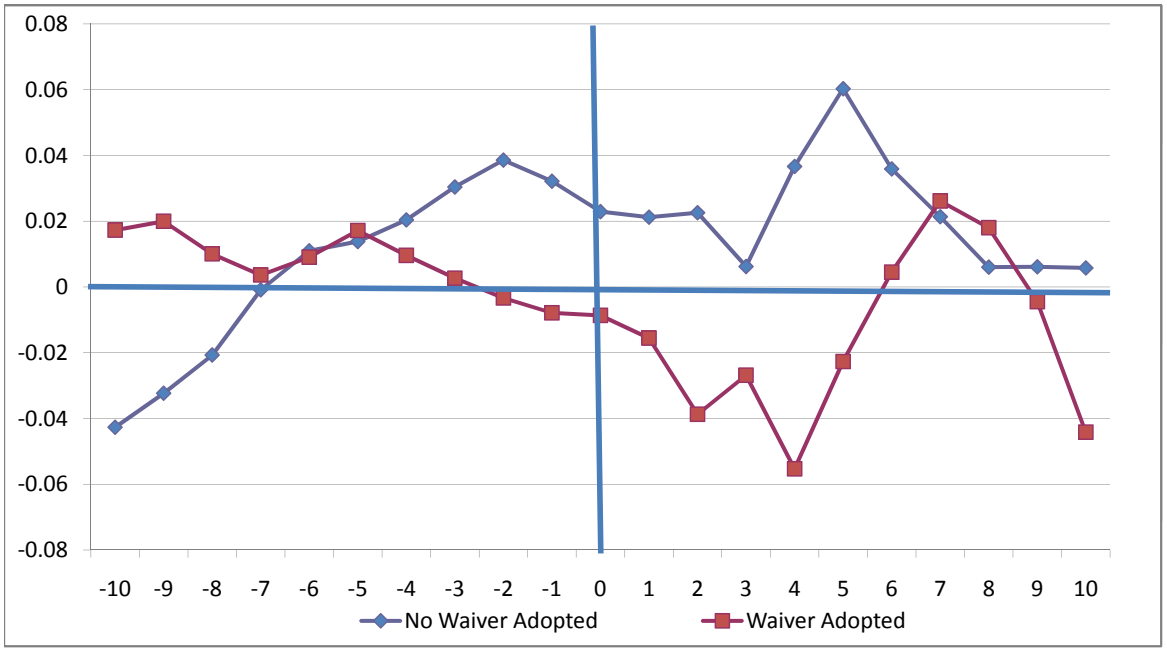
Notes : All the regressions are based on data for the 50 states from 1993-2004. Employment controls include unemployment rate in t, t-1, and t-2 plus welfare benefits. Demographic controls include fraction black and over 65. Additional socio-economic controls include 20th percentile of wage distribution, median family income, percent of immigrants in t-1 and t-2 and percent of single female headed households. All regressions include state and year fixed effects. Robust standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%.

Figure 1: AFDC Caselaod per Capita 1970-2000

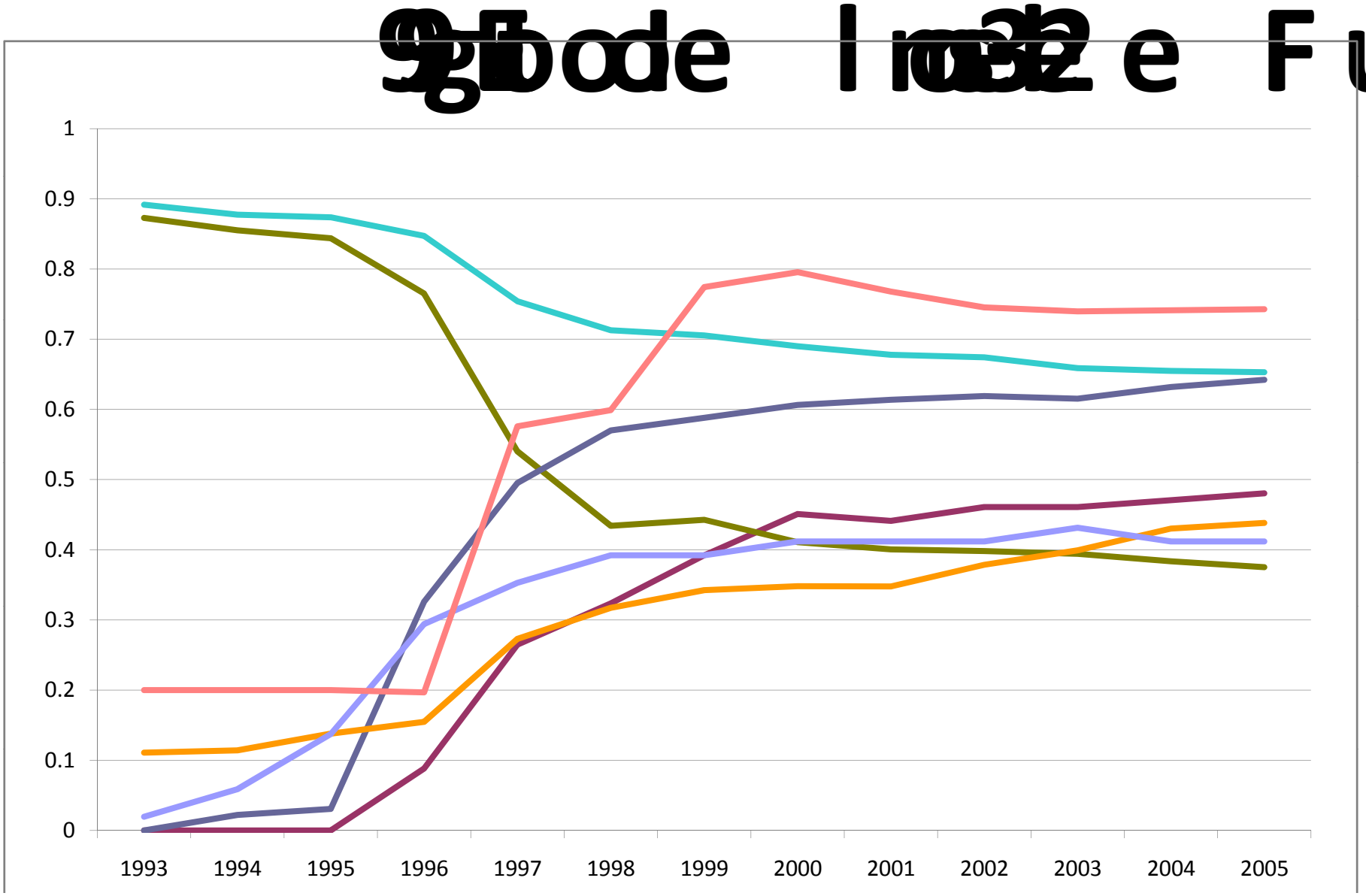




Notes: The figure shows residuals from the caseload regression on unemployment rates (t, t-1, t-2), fraction Black population, log welfare benefits as well as state and year fixed effects. The x-axis reports the years prior to (negative numbers) and since (positive numbers) the adoption of a waiver (negative numbers). The value 0 indicates the year a state approved a waiver. The green line with triangles shows the residuals for Wisconsin, New Hamshire, New Jersey and Michigan while the straight line shows the trend line for these four states. The black line with squares reports the residuals for all other waiver states.



Notes : The figure shows the evolution of log caseload separately for states that adopted a waiver and for those that did not. The caseload variable is the residual of a regression of log caseload on current and lagged (t-1 and t-2) unemployment rates, the log of maximum AFDC benefit for a family of four as well as year and state dummies. The value zero on the x-axis denotes the year the waiver was adopted, negative (positive) numbers represent years prior to (after) adoption. For states that did not adopt a waiver, we assigned the value zero to the mean adoption year 1994.


1
0.9
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1993
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1995
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1997
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1999
2000
2001
2002
2003
2004
2005

	Date of First Major Waiver		TANF Implementation Date	
	Approval	Implementation	Official	Actual if Different
Alabama			Nov-96	
Alaska			Jul-97	
Arizona	May-95	Nov-95	Oct-96	
Arkansas	Apr-94	Jul-94	Jul-97	
California	Oct-92	Dec-92	Nov-96	Jan-98
Colorado			Jul-97	
Connecticut	Aug-94	Jan-96	Oct-96	
Delaware	May-95	Oct-95	Mar-97	
Florida	Jun-96		Oct-96	
Georgia	Nov-93	Jan-94	Jan-97	
Hawaii	Jun-94	Feb-97	Jul-97	
Idaho	Aug-96		Jul-97	
Illinois	Nov-93	Nov-93	Jul-97	
Indiana	Dec-94	May-95	Oct-96	
Iowa	Aug-93	Oct-93	Jan-97	
Kansas			Oct-96	
Kentucky			Oct-96	
Louisana			Jan-97	
Maine	Jun-96		Nov-96	
Maryland	Aug-95	Mar-96	Dec-96	
Massachusetts	Aug-95	Nov-95	Sep-96	
Michigan	Aug-92	Oct-92	Sep-96	
Minnesota			Jul-97	
Mississippi	Sep-95	Oct-95	Oct-96	Jul-97
Missouri	Apr-95	Jun-95	Dec-96	
Montana	Apr-95	Feb-96	Feb-97	
Nebraska	Feb-95	Oct-95	Dec-96	
Nevada			Dec-96	
New Hampshire	Jun-96		Oct-96	
New Jersey	Jul-92	Oct-92	Feb-97	Jul-97
New Mexico			Jul-97	
New York			Dec-96	Nov-97
North Carolina	May-96		Jan-97	
North Dakota			Jul-97	
Ohio	Feb-96	Jul-96	Oct-96	
Oklahoma			Oct-96	
Oregon	Jul-92	Feb-93	Oct-96	
Pennsylvania			Mar-97	
Rhode Island			May-97	
South Carolina	Mar-96		Oct-96	
South Dakota	Mar-94	Jun-94	Dec-96	
Tennessee	Jul-96	Sep-96	Oct-96	
Texas	Mar-96	Jun-96	Nov-96	
Utah	Oct-92	Jan-93	Oct-96	
Vermont	Apr-93	Jul-94	Sep-96	
Virginia	Jul-95	Jul-95	Feb-97	
Washington	Sep-95	Jan-96	Jan-97	
West Virginia	Jul-95		Jan-97	
Wisconsin	Jun-94	Jan-96	Sep-96	Sep-97
Wyoming			Jan-97	

Notes: The measure of welfare waivers is calculated as the share of year since the first statewide waiver was approved.
Source: Council of Economic Advisors (1997)

Table A2: Summary Statistics

Variable	Observations	Mean	Std. Dev.
AFDC/TANF Caseload per capita (in %)	1450	0.012	0.005
AFDC/TANF Caseload per capita (in logs)	1450	-4.516	0.528
AFDC Recipients per capita (in %)	1450	0.034	0.017
Any waiver as share of year	1450	0.2431	0.4233
Waiver or TANF (as share of year)	1450	0.3239	0.4610
Unemployment Rate (in %)	1450	6.007	2.036
Unemployment Rate $_{(t-1)}$ (in %)	1450	6.106	2.093
Unemployment Rate $_{(t-2)}$ (in %)	1450	6.102	2.103
Max. monthly AFDC benefit for a family of 4 (in $)	1450	629.77	263.17
Maximum AFDC Benefits (in logs)	1450	6.354	0.439
Population over 65 (in %)	1450	12.026	2.212
Size of Black Population (in %)	1450	9.558	9.235
Minimum Wage (in $)	1396	3.118	1.796
20th Percentile Wage (in $)	1450	1174	191
Change in log Employment	1450	0.020	0.020
Expenditures for Child Support per Child (in 1,000$)	1350	36.75	44.26
Margin of Governor's Victory $_{(t-2)}$ (in %)	1391	8.702	7.622
Margin of Victory if No Lameduck $_{(t-2)}$ (in %)	1391	5.515	6.536
Lameduck $_{(t-2)}$	1500	0.265	0.442

Notes: The data are for the 50 states from 1976 to 2005. State expenditures for child support enforcement are only available since 1979. The variable Waiver Share denotes the fraction of the year in which any waiver was approved in the state and 1 for all subsequent years. The variable lameduck is a binary variable equal to one if the current governor faces a term limit, and zero otherwise.

Table A3: Ranking of States by Welfare Policy Indices in 2005

Initial Eligibility	Financial & Demogr. Eligibility	Earnings Disregards	Work Requirements	Sanctions for Noncompliance	Time Limits	Family Caps
Alabama	Ohio	Wisconsin	Massachusetts	Missouri	Vermont	Vermont
Indiana	Michigan	Arkansas	Mississippi	New Hampshire	Maine	Maine
Kansas	Vermont	South Carolina	Tennessee	Vermont	DC	DC
Massachusetts	Oregon	Texas	Missouri	Washington	Michigan	Michigan
Michigan	Connecticut	Delaware	Texas	California	Washington	Washington
Mississippi	Hawaii	Georgia	New Mexico	Maine	Massachusetts	New York
Montana	New Mexico	Kentucky	West Virginia	DC	New York	Oregon
Nebraska	Illinois	Tennessee	California	New York	Oregon	Louisiana
New Hampshire	Kansas	South Dakota	New York	Oregon	Arkansas	Pennsylvania
Oregon	Maryland	Nebraska	North Dakota	Kentucky	Louisiana	Utah
Pennsylvania	Montana	Alabama	Indiana	Rhode Island	Pennsylvania	Illinois
Tennessee	Utah	Wyoming	Colorado	Utah	New Jersey	Kansas
Wyoming	Alaska	Kansas	Connecticut	Massachusetts	Utah	New Hampshire
Arizona	Nevada	North Carolina	Vermont	Colorado	Illinois	Kentucky
California	Delaware	Louisiana	Illinois	Illinois	Minnesota	Missouri
Colorado	Colorado	Virginia	North Carolina	Alabama	Tennessee	Alabama
Connecticut	Louisiana	Minnesota	Oregon	West Virginia	Mississippi	West Virginia
Delaware	Florida	Arizona	Wisconsin	Indiana	Florida	Nevada
Florida	Nebraska	Michigan	Arkansas	Pennsylvania	South Carolina	Wisconsin
Georgia	Rhode Island	West Virginia	DC	Wyoming	Kansas	Hawaii
Hawaii	Idaho	Maryland	Nebraska	Delaware	New Hampshire	Texas
Iowa	Arizona	Idaho	Pennsylvania	Georgia	Nebraska	Rhode Island
Kentucky	Minnesota	Montana	Rhode Island	Nevada	Kentucky	Montana
Maine	North Carolina	Vermont	Virginia	Oklahoma	Missouri	New Mexico
Minnesota	Washington	Pennsylvania	Arizona	Wisconsin	Alabama	Alaska
Missouri	Massachusetts	Nevada	Nevada	Arkansas	West Virginia	Iowa
Nevada	New York	New Hampshire	New Hampshire	Montana	Nevada	Colorado
New Mexico	Wyoming	New Jersey	Hawaii	Arizona	Wisconsin	South Dakota
North Dakota	Wisconsin	New York	Washington	Minnesota	Hawaii	Ohio
Ohio	Alabama	DC	Delaware	South Dakota	Texas	Idaho
Oklahoma	Arkansas	Utah	New Jersey	Maryland	California	Massachusetts
Rhode Island	South Carolina	Ohio	Ohio	Kansas	Rhode Island	Arkansas
South Carolina	Virginia	Oklahoma	Alaska	Tennessee	Connecticut	New Jersey
South Dakota	Iowa	New Mexico	Kansas	Connecticut	Wyoming	Minnesota
Texas	Pennsylvania	Alaska	South Carolina	Florida	Montana	Tennessee
Utah	California	Iowa	South Dakota	Hawaii	Maryland	Mississippi
Vermont	New Jersey	North Dakota	Utah	New Jersey	New Mexico	Florida
Virginia	West Virginia	Colorado	Alabama	Iowa	North Dakota	South Carolina
Washington	Texas	Maine	Maryland	New Mexico	Alaska	Nebraska
West Virginia	Missouri	Washington	Michigan	Ohio	Iowa	California
Alaska	North Dakota	Oregon	Florida	Virginia	Colorado	Connecticut
Arkansas	Maine	Illinois	Maine	Nebraska	South Dakota	Wyoming
DC	DC	Florida	Georgia	North Dakota	North Carolina	Maryland
Idaho	Georgia	Massachusetts	Kentucky	Mississippi	Delaware	North Dakota
Illinois	Tennessee	Hawaii	Louisiana	Alaska	Oklahoma	North Carolina
Louisiana	South Dakota	Indiana	Minnesota	Idaho	Georgia	Delaware
Maryland	Oklahoma	Rhode Island	Oklahoma	North Carolina	Indiana	Oklahoma
New Jersey	Kentucky	Missouri	Wyoming	Michigan	Ohio	Georgia
New York	New Hampshire	California	Idaho	South Carolina	Arizona	Indiana
North Carolina	Mississippi	Mississippi	Montana	Texas	Virginia	Arizona
Wisconsin	Indiana	Connecticut	Iowa	Louisiana	Idaho	Virginia