Technical Report:

THE EFFECTS OF WELFARE POLICY AND THE ECONOMIC EXPANSION ON WELFARE CASELOADS: AN UPDATE

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EXECUTIVE SUMMARY

This study investigates the causes behind recent changes in welfare caseloads, updating a 1997 CEA report of caseload change.

- *The fall in welfare caseloads has been unprecedented, wide-spread, and continuous, and employment of welfare recipients has increased.* 14.1 million people received welfare in January 1993, and this number had fallen to 7.3 million by March 1999, according to estimates released today (August 3, 1999). In 31 states the caseload is less than half of what it was when President Clinton took office, and all states have experienced double-digit percentage declines. For 22 states, the percent drop during 1998 was larger than during 1997 (from January to December). Previous analyses by the Department of Health and Human Services show that the percentage of welfare recipients working tripled between 1992 and 1997, and an estimated 1.5 million adults who were on welfare in 1997 were working in 1998.

- *The 1996 legislation has been a key contributor to the recent declines.* PRWORA produced a dramatic change in welfare policy: work and self-sufficiency became a primary goal; state and local governments were given much greater control of their programs; and states experimented with a host of program designs. The evidence suggests that these changes caused a large drop in welfare participation, a drop that is independent of the effects of the strong labor market. The estimates imply that TANF has accounted for roughly one-third of the reduction from 1996 to 1998, the last year of data analyzed in this study. In the earlier years, 1993-1996, most of the decline was due to the strong labor market, while welfare waivers played a smaller yet important role.

- *The strong labor market has made work opportunities relatively more attractive, drawing people off welfare and into jobs.* The unemployment rate has not declined as much in the post-TANF period as it did in the 1993-96 waiver period. As a result, the share of the decline in the caseload that is attributable to improvements in the labor market was much higher in the 1993-96 period (roughly 26 to 36 percent) than in the 1996-98 period (8 to 10 percent).

- *Past increases in the minimum wage have made work more attractive and, as a result, caused welfare participation to decline.* The estimates imply that about 10 percent of the caseload decline was due to increases in state and federal minimum wages.

- *The specific program design adopted by a state can affect its caseload declines.* The study examines the effects of a number of specific policies, including family caps, earnings disregards, time limits, work exemptions, and work sanctions on the size of the caseload.

The large sustained declines in caseloads provide one piece of evidence about the effectiveness of welfare reform efforts. However, there are multiple indicators of the impact of welfare reform, including changes in work and earnings among welfare leavers, in marriage rates and out-of-wedlock pregnancies, and in poverty rates. The Clinton Administration is collecting and tracking information on all of these measures in order to fully assess the impact of welfare reform.

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INTRODUCTION

The number of people receiving welfare has been declining at record rates. After peaking in March 1994, welfare caseloads have dropped by 48 percent through March 1999; At that time, just 7.3 million people representing 2.7 percent of the population were receiving welfare. Not since 1967 has such a small share of the population relied on welfare.

Not only have the declines been large, they have been widespread and continuous (Table 1). Between 1993 and 1998 (this report examines caseload changes through December 1998), all 50 states and the District of Columbia experienced double digit percent reductions in welfare participation, and in most states the declines were unprecedented. Thirty-seven states have experienced drops of at least one-third, and in 23 states the number of participants is less than half of what it was in 1993. And although a substantial share of the reduction occurred between 1994 and 1996, in many states the largest declines have occurred more recently. In fact, in 22 states the percentage decline in 1998 was greater than it was in 1997 (from January to December). And in almost all states (45) caseloads were still declining during the final months of 1998.

Two primary factors have been posited to explain the recent caseload changes: the strong labor market, and changes in welfare policy. The nation is in the midst of the longest peacetime expansion in its history, with low unemployment and rising wages. Moreover, gains in employment and wages have been experienced by groups who have typically had high rates of welfare use. Expanding labor market opportunities have made work more attractive to potential welfare participants, reducing their need for public transfers.

While the labor market has improved since 1992, there have been substantial changes in welfare policies throughout the past decade. In the early 1990s a growing number of states requested waivers from the traditional welfare program, Aid to Families with Dependent Children (AFDC), allowing them to experiment with alternative policies such as time limits, family caps, work requirements, and

Table 1. Changes in the Number of Recipients in Each State

State	Number of recipients		Percentage Change From		
	1993	1998	'93 to '96	'96 to '98	'93 to '98
Alabama	138,465	54,635	-26	-46	-61
Alaska	37,078	29,582	-1	-19	-20
Arizona	199,153	102,511	-16	-39	-49
Arkansas	71,989	32,633	-21	-43	-55
California	2,511,293	1,998,618	3	-23	-20
Colorado	122,890	50,746	-22	-47	-59
Connecticut	162,481	117,777	-2	-26	-28
Delaware	27,736	15,820	-16	-32	-43
DC	69,549	54,856	0	-21	-21
Florida	691,053	261,581	-22	-52	-62
Georgia	398,077	185,052	-15	-45	-54
Hawaii	57,336	46,724	16	-30	-19
Idaho	21,877	3,867	1	-83	-82
Illinois	694,050	476,576	-7	-26	-31
Indiana	215,367	111,176	-35	-21	-48
Iowa	102,438	65,665	-16	-24	-36
Kansas	88,363	34,536	-26	-47	-61
Kentucky	220,766	119,360	-22	-31	-46
Louisiana	259,762	124,800	-12	-46	-52
Maine	66,914	39,423	-18	-28	-41
Maryland	219,998	116,456	-11	-40	-47
Massachusetts	321,219	167,043	-28	-27	-48
Michigan	689,139	332,240	-26	-35	-52
Minnesota	192,173	143,685	-12	-15	-25
Mississippi	168,924	52,523	-26	-58	-69
Missouri	262,382	147,105	-14	-35	-44
Montana	34,875	19,540	-13	-35	-44
Nebraska	47,840	36,665	-20	-4	-23
Nevada	36,009	25,472	-2	-28	-29
New Hampshire	29,797	15,409	-22	-34	-48
New Jersey	345,370	196,947	-19	-30	-43
New Mexico	97,246	74,170	2	-25	-24
New York	1,215,526	886,746	-5	-23	-27
North Carolina	335,620	169,144	-20	-37	-50
North Dakota	18,215	8,541	-28	-35	-53
Ohio	712,277	340,179	-24	-37	-52
Oklahoma	135,762	61,191	-27	-38	-55
Oregon	117,852	46,001	-31	-43	-61
Pennsylvania	610,531	360,009	-14	-32	-41
Rhode Island	62,187	54,150	-8	-6	-13
South Carolina	146,280	60,110	-22	-48	-59
South Dakota	19,913	9,653	-21	-39	-52
Tennessee	310,486	149,089	-20	-40	-52
Texas	784,816	370,857	-16	-44	-53
Utah	52,144	28,258	-25	-28	-46
Vermont	28,301	19,643	-12	-21	-31
Virginia	194,765	99,053	-20	-36	-49
Washington	289,965	202,573	-6	-25	-30
West Virginia	118,113	38,638	-25	-56	-67
Wisconsin	235,247	40,167	-33	-75	-83
Wyoming	17,859	2,471	-32	-80	-86
Total	14,007,468	8,199,666	-13	-33	-41

Data are the average monthly caseloads for the calendar year.

a variety of other options. During the Clinton Administration (from the beginning of 1993 to 1996), 43 states received welfare waivers, more than any previous Administration. At the federal level, welfare policy was changed dramatically by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), which replaced the AFDC program with the Temporary Assistance for Needy Families (TANF) block grant. Under PRWORA, welfare became more work-focused and time-limited: with few exceptions, federal welfare assistance is strongly linked to the recipient's efforts to find a job. In most cases, adults cannot receive federal aid for more than a total of 5 years during their lifetime, and some states have chosen to set shorter time limits. PRWORA also shifted primary responsibility for welfare program design and management to States and localities.

In 1997, the Council of Economic Advisers issued a report using 1976 to 1996 data that examined the reasons for the decline in caseloads between 1993 and 1996. That study found that roughly 45 percent of the decline was accounted for by improved labor market conditions, about 30 percent was due to welfare waivers, and the remaining 25 percent was explained by other factors. Several subsequent studies were conducted that examined changes in welfare caseloads during this and earlier periods (Bartik and Eberts, 1998; Blank, 1997; Figlio and Ziliak, 1998; Levine and Whitmore, 1998; Moffitt, 1999; Stapelton, 1998; Wallace and Blank, 1998; Ziliak, Figlio, Davis, and Connolly, 1997).

Since 1996 caseloads have continued to fall, the labor market has grown even stronger, and welfare policy has been fundamentally changed, making it important to update the earlier report. This study extends the earlier study on several dimensions. Most importantly, the effects of TANF are assessed by analyzing data through 1998. In addition, the study provides more recent evidence of the effects of labor market conditions on changes in caseloads, and the study examines whether increases in the minimum wage also played a role.

The large sustained declines in caseloads provide one piece of evidence about the effectiveness of welfare reform efforts. However, there are multiple indicators of the impact of welfare reform, including changes in work and earnings among welfare leavers, in marriage rates and out-of-wedlock

pregnancies, and in poverty rates. The Clinton Administration is collecting and tracking information on all of these measures in order to fully assess the impact of welfare reform.

FACTORS AFFECTING CASELOAD TRENDS

Economic Conditions

Caseloads normally fluctuate with the business cycle, rising in periods of high unemployment and declining when unemployment falls. Chart 1 illustrates this relationship between labor market opportunities and welfare participation (i.e., the number of welfare recipients divided by the total population) over the past three decades. When unemployment increased in the early 1970s, so too did welfare participation. The increase in welfare participation in the late 1980s and early 1990s, as well as the decline that began in 1994, also correspond with changes in employment opportunities during these periods. However, the trend in welfare participation does not always match that in unemployment, most notably when other important changes are taking place, including changes in family structure and welfare policies. Indeed, increases in welfare participation during the recession of the early 1980s were truncated by eligibility restrictions that were part of President Reagan's welfare reform efforts in 1982. Over the entire 1980s the simple correlation between unemployment and welfare participation was much lower (0.23) than in the 1970s (0.41) or the 1990s (0.78).

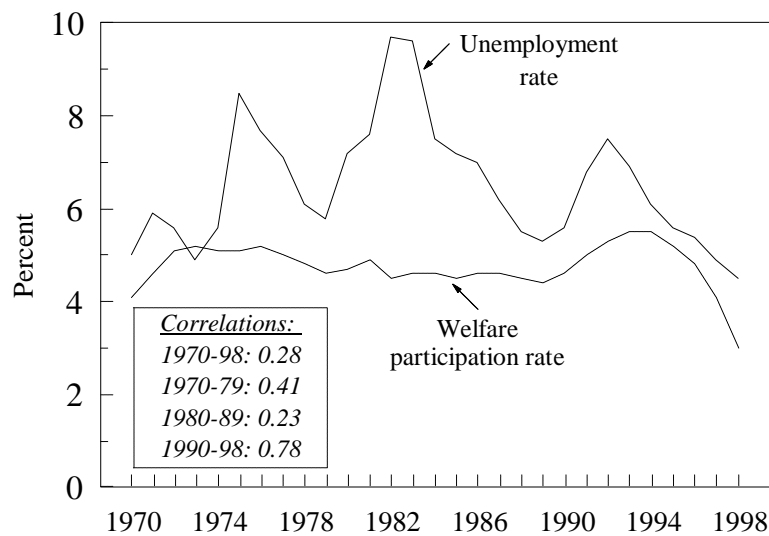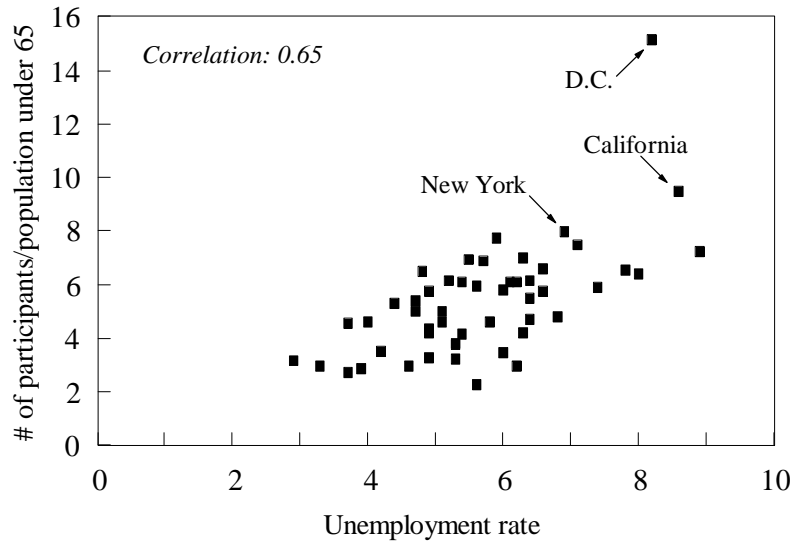Chart 1. Welfare Participation and Unemployment Rates

Correlations:
1970-98: 0.28
1970-79: 0.41
1980-89: 0.23
1990-98: 0.78

**Chart 2. Welfare Participation Rate Versus
Unemployment Rate for Each State, 1994**

Economic conditions vary across states as well as over time. Chart 2 displays a scatterplot of the
unemployment rate versus the welfare participation rate for each state and the District of Columbia in
1994, when participation was near its peak. (California and New York are highlighted because they
are home to roughly one-third of the nation's welfare recipients, and DC is highlighted because it is
an outlier on this Chart.) This relationship is quite strong, with a simple correlation of 0.65. While this
correlation suggests a strong role for economic factors, it is likely to over-state the true role of
economic factors. Fixed characteristics of states that cause them to have high unemployment rates
may also lead them to high welfare participation. These characteristics include the state's age
distribution, educational level, metropolitan/rural population shares, and racial and ethnic
composition. While these factors may change over time, such change occurs more slowly than
changes in policy or economic conditions. One way to abstract from these factors is to examine
changes over time within states, which is the approach employed in the econometric models below.
Chart 3 displays the simple relationship between the *change* in the unemployment rate and the *change*
in the welfare participation rate in each state between 1994 and 1998 to illustrate the potential
importance of these fixed characteristics. The chart demonstrates that once state fixed effects are
removed by examining changes in these variables, the relationship is not nearly as strong as the simple
cross-sectional one, with a correlation of 0.17.

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**Chart 3. Change in Welfare Participation Rate Versus
Change in Unemployment Rate for Each State, 1994-98**

Correlation: 0.17

Change in welfare participation rate (y-axis, from 0 to -5)

California

New York

Change in unemployment rate (x-axis, from -4 to 1)
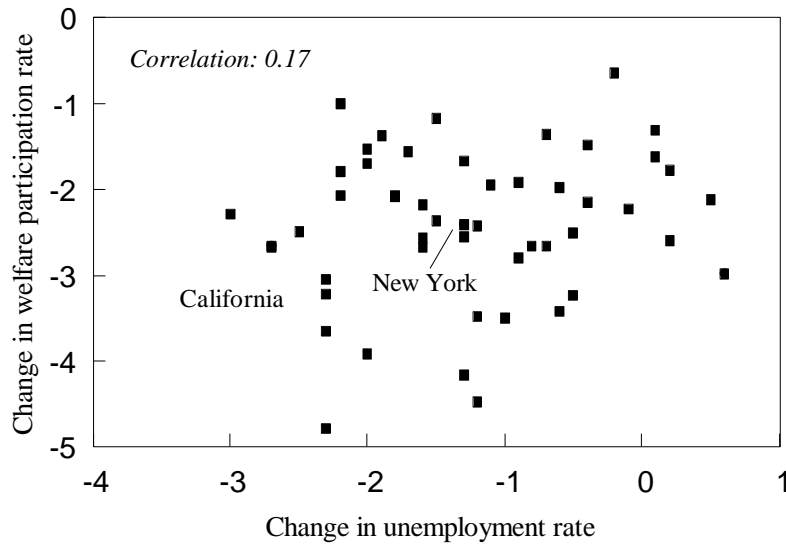
Federal and State Policies

Welfare Waivers. Since 1962, the Secretary of Health and Human Services has had the authority to waive federal welfare requirements if a state proposed experimental or pilot programs that furthered the goals of AFDC. Although there were a few waivers granted in the early 1980s, it was not until the early to mid-1990s that major, state-wide waivers became widespread.

These waivers varied substantially across states, and in many cases they differed greatly from the rules under AFDC. Some waivers increased the amount of earnings recipients were allowed to keep and still be eligible for welfare. Other waivers expanded work requirements to a larger number of recipients, established limits on the length of time recipients could remain on aid, permitted states to sanction participants who failed to meet work requirements, or allowed states to eliminate benefit increases to families who conceived and gave birth to children while on welfare (the so-called "family cap"). Given the widespread use of waivers and the degree to which these policies differed from traditional AFDC policy, there is substantial reason to believe that waivers contributed to changes in welfare caseloads.

PRWORA. In August of 1996, President Clinton signed the Personal Responsibility and Work

Opportunity Reconciliation Act into law, dramatically changing federal welfare policy. PRWORA was designed to emphasize self-sufficiency and employment in place of welfare dependency, and it gave states greater flexibility to design and implement programs to achieve these goals. Benefits are time-limited; adults usually cannot receive federal aid for more than 5 years during their lifetime, and some states have chosen to set shorter time limits. Most recipients must also participate in a work activity within two years to continue receiving aid.

Under the TANF block grant established by PRWORA, federal assistance consists of an annual fixed transfer to each state equal to the amount of federal transfers the state received in fiscal year 1994, 1995, or the average of 1992-4, whichever was higher. In addition, most of the authority to design welfare programs was passed along to the states, who are required to have half of all recipients working by 2002 (40 percent by 2000). As a result, there are now substantial differences in how welfare programs operate across the nation. Some states increase benefits to welfare families who have additional children, while others do not. Some states stop payment of benefits to the entire family at the first instance of their failure to meet work activity requirements, while other states never sanction more than the adult. And some states allow welfare recipients to keep a substantial portion of their labor market earnings without reducing their welfare payments, while others do not.

AFDC/TANF Benefit Levels. States have long set their own level of maximum monthly benefit payments, with variation by family size and composition. All else equal, higher benefit levels are expected to increase the number of participants. Over the period of this study, the inflation-adjusted level of welfare benefits fell in almost all states. In some cases the state explicitly changed benefits, but in most states benefit levels were fixed and eroded over time with inflation.

Minimum Wage. The real value of the federal minimum wage decreased substantially between 1976 and 1989. A $0.45 legislated increase in 1990, followed by a $0.45 increase in 1991, offset some of this long-run decline, but by 1995 the real minimum wage ($4.55) was nearly as low as it was in 1989. The minimum was then legislatively raised by $0.50 in 1996 and an additional $0.40 in 1997. During the period analyzed in this study, 1976-1998, several states established minimum wage levels

that were above the federal minimum that prevailed at that time.[1]

A higher minimum wage can make work more attractive, giving welfare participants a greater incentive to enter the workforce and leave public assistance. On the negative side, if a higher minimum wage reduces employment of low-skilled workers, some people may lose their jobs and enter welfare. At the same time, an increase in the minimum wage may lead employers to substitute away from teenagers (a relatively large share of whom work for the minimum wage) and towards older welfare workers (who are perhaps not as likely to work at the minimum wage, but more likely to be working just above the minimum than teenagers). The evidence on the disemployment effects of the minimum wage is mixed. Some studies have found that a 10 percent increase in the minimum wage causes a 1 to 2 percent decline in employment (e.g., Neumark and Wascher, 1992; Neumark and Wascher, 1994; or the estimates surveyed by Brown et al., 1982), while other studies have found no disemployment effects (e.g., Katz and Krueger, 1992; Card, 1992a; Card, 1992b; Card, Katz, and Krueger, 1994; Bernstein and Schmitt, 1998; Card and Krueger, 1998). Two recent studies have examined the effects of minimum wages on welfare caseloads, with one finding a negative effect over the 1990-91 period (Turner, 1999) and the other finding a positive effect over the 1983-96 period (Page, Spetz, Millar, 1999).

There are a variety of other factors that may affect caseloads, including the Earned Income Tax Credit, the availability of child care, transportation, and Medicaid coverage, family structure, and out-of-wedlock births. Although our models do not directly examine these factors, our approach controls for them indirectly, as described in the next section.[2]

ECONOMETRIC SPECIFICATION
Two approaches are implemented to estimate the effects of policy and economic conditions over the

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[1] The states that had minimum wages above the federal level during 1976-98, and the years in which they had such policy, are: Alaska from 1976-98, California from 1989-90, Connecticut from 1976-90 and 1992-98, DC from 1976-98, Hawaii from 1976-77, 1988-90, and 1993-98, Iowa from 1990 and 1992-95, Maine from 1985-1990, Massachusetts from 1987-89 and 1995, Minnesota from 1988-90, New Hampshire from 1987-89, New Jersey from 1993-96, Oregon from 1990-98, Rhode Island from 1987-90 and 1992-96, Vermont from 1987-89 and 1995-98, Washington from 1989-90 and 1995-96.

[2] Of particular interest is the EITC, but because the most significant EITC changes are enacted nationally and effect all

period 1976-1998. Both approaches utilize the same dependent variable, use the unemployment rate to capture the effects of labor market conditions, and specify the minimum wage and welfare benefit levels in identical ways. The difference between the two models is the specification of the remaining welfare policy variables. The first model uses two simple 0/1 indicator variables: one to capture the period during which a major waiver was in effect in each state, and one to capture the period during which TANF was in effect in each state. Specifically, Model (1) is:

$$(1) \quad lnR_{st} = Waiver_{st} \, \boldsymbol{b}_w + TANF_{st} \, \boldsymbol{b}_{tanf} + lnBenefits_{st} \, \boldsymbol{b}_b + lnMinWage_{st} \, \boldsymbol{b}_{mw} + Unemployment_{st} \, \boldsymbol{b}_u$$
$$+ \boldsymbol{g}_s + \boldsymbol{g}_t + trend * \boldsymbol{g}_s + \boldsymbol{e}_{st}$$

The variables are defined for state s in calendar year t as follows:

R:	the ratio of the number of recipients to the population under 65 years of age (the number of recipients is obtained from administrative reports on AFDC/TANF); the model estimates the natural log of this ratio.
Waiver:	an indicator variable that takes the value of one if the state had a major waiver in effect; the indicator is turned off when TANF is implemented in the state.[3]
TANF:	an indicator variable that takes the value of one if TANF was in effect in the given state (the TANF implementation date varied across states, as discussed below).
Benefits:	the maximum monthly benefit for a family of three on AFDC/TANF.
MinWage:	the value of the state-specific minimum wage expressed as a monthly amount (to make comparable with the benefits variable) assuming employment for 30 hours per week for 4.33 weeks. (In most cases, this is the federal minimum wage.)[4]

persons at the same time, these effects are subsumed by the model's time fixed effects.
[3] In most cases, the waiver concept becomes meaningless once TANF was implemented because states were given broad control over their welfare policies. In particular, states could operate the broad categories of policies under TANF, whether or not they were continuing a waiver. However, if a state continued a time limit waiver, then participants' time clocks in that state would have been running prior to TANF implementation. As a result, these participants would reach their time limits more quickly than if their clock would have been reset on the date of TANF implementation.

> *Unemployment*: the unemployment rate (current, lagged one year, lagged two years)
>
> $\boldsymbol{g_s}$: state fixed effects
>
> $\boldsymbol{g_t}$: year fixed effects
>
> *trend* $* \boldsymbol{g_s}$: linear state-specific time trends

All dollar values are expressed in 1998 dollars using the CPI-U-X1.

The second approach examines the effects of specific welfare policies, regardless of whether the policy was implemented under waivers or TANF. That is:

$$(2) \quad lnR_{st} = X_{st}\,\boldsymbol{b_x} + lnBenefits_{st}\,\boldsymbol{b_b} + lnMinWage_{st}\,\boldsymbol{b_{mw}} + Unemployment_{st}\,\boldsymbol{b_u}$$
$$+ \boldsymbol{g_s} + \boldsymbol{g_t} + trend * \boldsymbol{g_s} + \boldsymbol{e_{st}}$$

In Model (2), X_{st} represents a vector of variables that describe specific policies that are in effect in state *s* in year *t*. There are a variety of policies that could be analyzed. The five policies that were examined were chosen because, a priori, they were expected to significantly influence participation and they could be quantified based on available sources. The five policies are:

> 1. Termination or work requirement time limits are represented by an indicator variable for whether the state either terminates eligibility, reduces benefits, or requires participants to work (not just participate in a "work activity") after a given duration on aid. The date that participants first began to reach the time limit was used as the date that this policy came into effect. (These time limits had become binding in too few states for us to examine the distinct effects of each of these three policies.)
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> 2. A second indicator variable takes the value of 1 (0 otherwise) if the state has a family cap, that is, the state does not increase benefits for participants who give birth to or conceive a child while on aid.
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> 3. Work exemptions are represented by three indicator variables based on the state's policy toward families with young children: the first takes the value of 1 if the state exempts mothers with a child as old as 6 months to 3 years, 0 otherwise; a second indicator takes

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[4] If the state had a range of minimum wages, the highest minimum wage was used to construct this variable. In the year that the minimum wage changed, the weighted average of the minimums in effect during that year were used in the analysis, where the weights are equal to the share of the year in which each minimum wage was in effect.

the value of 1 if the exemption applies to mothers with a child newly born to 6 months old (and not older), 0 otherwise; and a third takes the value of 1 if the state allows no exemptions based on the age of the mother's children, 0 otherwise. Years in which a state has a traditional AFDC/JOBS exemption policy serves as the reference group. These four groups are mutually exclusive.

4. A set of three indicator variables capture the aggressiveness of <u>work sanction policies</u>. One indicator represents states that impose full family sanctions with the first offense ("full/full"), a second indicator represents states that impose full family sanctions only after repeated offenses ("partial/full"), and a third indicator represents states whose maximum sanction is a partial family sanction ("partial/partial"). States that impose no sanction or some lesser sanction, which was the case under traditional AFDC, serve as the reference group.

5. The aggressiveness of disregarding earned income is represented by the amount of <u>earnings disregard</u> if a welfare recipient earns $750 per month (in 1998 dollars). When the disregard formula varies with duration on welfare, the disregard applicable for the longest duration (typically more than 3 months) is assumed.

The "policy oriented" approach used in Model (2) has the advantage of being able to identify the specific policies that influence caseloads. However, there a number of TANF policies and practices that may affect participation that could not be captured in Model 2 because of data limitations, such as diversion policies, work requirements and targets, and welfare office culture. The simple indicator-variable approach used in Model 1 is more effective in capturing the total effect of waiver and TANF policies.

State, year, and state-specific time trends are included to capture unobserved factors, such as family structure and other policies, that may be correlated with the observed variables. Most policies were not in effect the entire calendar year that they were implemented. In these cases, fractional values are used corresponding to the share of the calendar year that the policy was in effect. The model is estimated with weighted least squares, where the weight is the population under 65 in state s in year t.

The standard errors of the coefficient estimates are corrected for general forms of heteroscedasticity.[5]

Before discussing the results, it should be acknowledged that a maintained assumption in this study is that welfare policies are exogenous to welfare participation (after controlling for the factors in the models described above). All previous studies have also made this assumption. Endogenous policy is probably more likely to affect the estimates of Model 2. While most states received waivers, and every state has implemented TANF, the specific types of policies vary considerably. For example, states whose caseloads were increasing (or not decreasing as much as desired), may have adopted relatively harsh policies.[6]

DATA

Using annual calendar year data from 1976 to 1998 on all states and the District of Columbia, the analysis is based on 1,173 observations. Most of the data used in the analysis come from well-known sources, with a few exceptions (described below). The federal and state minimum wage data were obtained from the Wage and Hours Division of the Bureau of Labor Statistics.

Welfare Waivers

The data that are unique to this study are the waiver implementation dates and TANF policies. These policies are difficult to categorize and measure, and the pace and intensity of their implementation typically vary across and within states. Experts from the Department of Health and Human Services as well as non-government research institutions were consulted to characterize these policies as fully as possible. Specifically, information on waivers was obtained from the Department of Health and Human Services. Most waivers permitted simultaneous implementation of various provisions. For example, the California Work Pays Demonstration increased the AFDC resource limit for recipients to $2,000, increased the excludable equity value for a vehicle to $4,500, allowed recipients to place

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[5]As a check of the robustness of the estimates, model 1 in Table 2 was re-estimated without correcting the standard errors, and all statistically significant coefficients remained so at the 0.01 level. Estimates when the weights are not used are reported in Table 4.

[6]One set of studies has modeled welfare caseloads by including the lagged value of the dependent variable as an explanatory variable (Zilaik et al, 1997; Figlio and Ziliak, 1998). This approach is an alternative way to control for past history. We have not chosen this specification, however, and we instead include year effects, state effects, and state-specific time trends in models of the level of welfare participation.

up to $5,000 in restricted accounts which did not count against the resource limit and which may only be withdrawn for certain uses, and (among other things) required pregnant or parenting teens (under 19) who did not possess a high school diploma or equivalent to participate in CalLEARN.

Like the 1997 CEA study, this report focuses on six "major" types of waivers that received approval to be implemented state-wide[7]: termination time limits, work requirement time limits, family caps, JOBS exemptions, JOBS sanctions, and the earnings disregard. Each of these policies was discussed in detail in the appendix to the 1997 CEA Technical Report.[8]

Some of the waivers that were approved for state-wide implementation were initially implemented state-wide, some were implemented in selected areas of the state, while still others began in small regions of the state but were eventually phased-in state-wide. Information on the pace of implementation is not available for all states. Therefore, the date that is used to signal implementation is the date that the waiver began to be implemented. The earliest dates that these waivers were approved and implemented in each state are listed in Table A1.[9]

PRWORA & TANF

PRWORA was signed into law in August of 1996, but a given state could not begin its TANF-funded program until that state submitted its TANF plan and it was certified as complete by the federal government. Beginning on the date the state formally implemented its TANF plan, the state could begin to draw down federal funds and was subject to all of the requirements and restrictions in TANF. The earliest *official* implementation date was September 1996 and the latest was July 1997,

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[7] In a few instances waivers were examined which were not approved to be implemented state-wide but affected a large share of the state's caseload.

[8] It was determined that the waiver in West Virginia, which was considered a "major" waiver in the 1997 CEA study, did not in fact meet this requirement (Martini and Wiseman, 1997), which is reflected in Table A1.

[9] Somewhat smaller effects are estimated when the date of implementation is used instead of the date of approval, which was utilized in the 1997 CEA study, as described in appendix A.

when all states were required to begin operating under TANF. The date that the state formally implemented its TANF plan is the date that is used to construct the TANF indicator variable in Model (1). However, in some states the initial plan was simply a placeholder, designed to allow the state to begin to draw down its TANF block grant, and some state policies were not changed until a later date. Therefore, the *actual* implementation date may differ from the *official* date. In particular, in five states (California, Mississippi, New Jersey, New York, and Wisconsin) specific information was available indicating that the policies most associated with TANF – time limits, work requirements, sanctions, etc. – were not implemented until a later date; in these cases, the later date was used to construct the TANF indicator.[10] Table A1 reports the official and actual TANF implementation dates for each state.

To specify Model (2) the policies that were in effect in each state in each year were determined. To construct indicator variables for the existence of a termination or work requirement time limit and a family cap, we used the date that the relevant waiver was implemented (for time limits, the date that participants began to hit the limit) and assumed that the waiver continued to be in effect until (at least) TANF was implemented in that state (i.e., the date listed in Table A1).[11]

For the TANF period, we use information on state TANF plans as of October 1997 (Gallagher et al., 1998) along with the date the current policy (as of October 1997) was implemented to determine which policies were in effect in each state in each year. It is assumed that the policies in place in October 1997 were not changed by December 1998, which is the end of our sample period. If a policy was implemented and rescinded between the date that TANF was implemented and October 1997, we would not capture this policy change. However, the earliest TANF implementation was October 1996, just one year prior to our TANF information, and many states implemented TANF in the first 6 months of 1997. Therefore, it is unlikely that a policy was both implemented and rescinded within such a short period.[12]

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[10] Model 1 in Table 2 was re-estimated without using this additional information for these five states. The coefficient estimates changed very little; the largest change was for the TANF indicator, which increased to -23.8 with a t-statistic of 2.70.
[11] Again, the date that was used was the date that the policy initially began to be phased in within the state.
[12] New Mexico implemented its TANF program in July 1997, but it was found unconstitutional in September of that

Table 2 contains the estimates of Models 1 and 2. The table also reports a version of each of these models that excludes state-specific time trends. The rationale for including these trends is to control for unobserved changes over time that are specific to each state. For example, if there is a long-run increase in female-headed households, and the rate of this increase varies between states, other variables in the models may be biased if this factor is not controlled. On the other hand, some of the interesting and important variation for identifying effects of some of the variables of interest may be reduced substantially by the inclusion of these trends, making it difficult to identify their effects. For example, cash benefit levels follow a long-run trend in some states, and including the state-specific trends leaves much less variation in benefits to identify its effects. Therefore, estimates with (Models 1 and 2) and without (Models 1A and 2A) the state-specific trends are reported.

Estimates from Model 1

Waivers had a large and precisely estimated effect on welfare participation (Table 2). The estimates in Models 1 and 1A imply that states that implemented a major waiver experienced a decline in participation that was 8 to 9 percent greater than other states. The implementation of TANF is associated with a decline in participation of 18 percent, roughly double the size of the effect of waivers.

All other statistically significant estimates in Models 1 and 1A alter participation in the expected direction. Higher cash welfare benefits raise participation. The estimates in Model 1 imply that a $50 increase in the monthly benefit above its 1998 average monthly value would increase participation by 1.8 percent. For the reasons described above, the estimates from Model 1A, which exclude the state-specific linear trends, are much larger and imply that the same $50 increase would lead to a 6.2 percent increase in participation.

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year. A revised TANF program was implemented in April 1998.

Table 2.

Baseline Specifications

(Coefficient estimates are multiplied by 100)

	Model 1		Model 1A		Model 2		Model 2A		
	Beta	t-stat	Beta	t-stat	Beta	t-stat	Beta	t-stat	Mean
Any waiver	-9.40	2.90	-7.99	2.90					0.08
TANF	-18.84	4.37	-18.12	1.75					0.09
Log maximum monthly benefit	14.98	1.93	51.74	6.20	15.01	2.37	53.84	7.63	1.55
Log monthly minimum wage	-39.59	4.02	-63.91	3.61	-25.59	2.27	-51.95	2.74	1.91
Unemployment rate:									
Current	-0.36	0.74	0.20	0.30	-0.30	0.61	-0.13	0.20	6.63
1-year lag	1.50	2.40	1.70	1.88	1.29	2.06	1.65	1.92	6.79
2-year lag	4.27	8.92	5.13	7.40	3.94	8.34	4.77	7.39	6.83
Specific welfare policy variables (X)									
Termination/work req. time limit					-3.75	0.76	-4.30	0.73	0.03
Family cap					6.71	2.19	8.21	2.35	0.05
Work exemption based on age of youngest child:									
Traditional AFDC & JOBS									
exemption (reference group)									
Child as old as 6 months to 3 years					12.37	2.46	-2.79	0.57	0.05
Child newly born to 6 months old					11.56	1.53	3.05	0.40	0.03
No exemptions based on age of youngest child					4.86	0.77	0.81	0.12	0.01
Work sanctions:									
Traditional AFDC or JOBS (reference group)									
Partial/Partial					-9.71	2.52	-1.36	0.32	0.05
Partial/Full					-18.14	3.76	-22.76	4.20	0.04
Full/Full					-39.36	5.57	-33.53	4.51	0.03
Log earnings disregard					5.38	2.40	5.86	2.00	0.64
State-specific trends?	Yes		No		Yes		No		

All models include state and year effects. Estimates use the population under 65 as weights
and robust calculation of standard errors. N=1173. Weighted mean of the dependent variable: 1.589

Increases in the minimum wage are found to decrease welfare participation. In particular, consider an increase in the minimum wage by $0.50. If this increase were on top of the average minimum that existed in 1998, monthly earnings at the minimum wage (evaluated at 30 hours per week, full month) would increase by $65. This rise would translate into a decline in welfare participation of roughly 3.7 to 5.9 percent.[13]

Tight labor markets, as measured by the unemployment rate, reduce welfare participation. The models demonstrate the lagged nature of the unemployment effects. In fact, the largest effects are for unemployment lagged two years. Model 1 implies that a one percentage point decrease in the unemployment rate that persists for three years is associated with a 5.41 percent (4.27+1.50-0.36) decline in welfare participation. The estimates are substantially higher if state-specific time trends are not included in the model.

Estimates from Model 2

The effects of cash benefits, minimum wages, and the unemployment rate estimated for Models 2 and 2A are similar to those estimated in Models 1 and 1A, respectively. The welfare reform policy variables included in Models 2 and 2A show mixed results. The coefficient on the time-limit indicator variable is negative, as expected, but it is not precisely estimated. It is important to note that all participants who have hit time limits by the end of 1998 were doing so under a waiver policy. And because only a small number of states had time limit waivers, a relatively small number of participants had hit a time limit. Therefore, it is not surprising that, through 1998, time limits had not significantly altered national caseloads.[14]

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[13] Some studies of the disemployment effects of the minimum wage have included a measure of average state wages in their specifications. Although there are problems that arise from including this variable (see Card, Katz, Krueger, 1994 for a discussion), Model 1 in Table 2 was re-estimated including the average wages of production workers because this variable is incorporated in a large number of studies. (This variable is not available for DC or for Indiana in some years.) Including this variable causes the effect of the minimum wage to fall somewhat, but it is still large (-30.45) and precisely estimated (t-statistic of 3.39).

[14]Time limits may alter participants' behavior before they actually hit the limit. For example, some recipients may leave the rolls sooner or not come on the rolls at all in order to save up time that could be used at a later date. When the date of implementation was used to construct this variable instead of the date that people first began to hit the limit, the estimated effects were actually positive. This counterintuitive result is likely due to the endogeneity issues raised earlier

As expected, a higher earnings disregard raises participation (at least in the short-run), but this effect is relatively small. The estimates suggest that an increase in the disregard equivalent to $50 on a monthly basis is associated with less than a 1 percent increase in participation. Family caps do not have the expected negative effect; in fact, they are positive and precisely estimated. Similarly, looking across Model 2 and 2A, it appears that work exemption policies based on the age of the youngest child do not play a substantial role in determining caseloads. In fact, the one significant effect is of unexpected sign.

Not surprisingly, policies that sanction recipients who do not go to work are associated with large declines in welfare participation. The effects of the work sanction policies may be due to the fact that impending sanctions cause welfare recipients (or potential recipients) to accelerate their job search and find employment, or the effect may be due to the fact that recipients did not find a job and were sanctioned. States with full family sanctions on the first violation of work requirements have much lower caseloads than other states. States whose most severe work sanction policy is a partial reduction in benefits also have lower participation, but not nearly as low as the rates for states with full family sanctions. As with all policies examined in the model, the effects of these sanctioning policies on the caseload may be distinct from their effects on other important factors, such as child health and development, illegitimacy, education, poverty, and work participation.

Relative Contribution of Each Factor

1993-96 Welfare Waiver Period. Table 3 provides estimates of the relative contribution of each factor to the change in welfare participation during two periods: 1993-1996 (the waiver period under the Clinton Administration) and 1996-98 (the TANF period). Specifically, the change in the national average of each variable (obtained by weighting by the state population under 65) is multiplied by its respective coefficient estimate to determine the change induced by that factor. The ratio of the share

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in the report. In particular, the states that chose to implement time limits under waivers may have been the states whose caseloads were increasing, or perhaps not declining as much as desired.

Table 3.
Percentage of Change in
Participation Attributable to Each Factor
(Based on Estimates of Models 1 and 1A in Table 2)

	Based on Model 1		Based on Model 1A	
Factor	1993-96	1996-98	1993-96	1996-98
Welfare waivers	14.6%		12.4%	
TANF		36.2%		34.8%
Decline in unemployment	26.4%	7.8%	35.6%	10.4%
Increased minimum wage	-9.7%	9.6%	-15.6%	15.5%
Lower cash benefits	6.3%	1.4%	21.7%	4.7%
Other	62.4%	45.0%	45.9%	34.5%

of this change to the total change in participation during this period is reported in Table 3. For example, 22 percent of the population under 65 lived in states with major waivers in place in 1993.

By 1996, this share increased to 53 percent. Multiplying the change in the share living under waivers (0.53-0.22=0.31) by the respective coefficient estimate in Model 1 (-9.40), it is found that the expansion of waivers led to a 2.91 percent decline in participation during this period. Participation in total dropped by about 20 percent between 1993 and 1996, which implies that roughly 14 percent of the decline can be attributed to the increase in waivers.

While waivers accounted for about 14 percent of the decline from 1993-96 according to Model 1, the lower unemployment rate was responsible for 26 to 36 percent of the decline (depending on the model). Cash benefits declined by about 8 percent from 1993 to 1996, which led to a decline in participation. The actual amount of the decline that can be attributed to the benefit reduction differs substantially between the two models; 6 percent for Model 1 and 22 percent for Model 1A. The real value of the minimum wage fell between 1993 and 1996 (the increase in 1996 was in October, so it

was not effective most of the year)[15], which is why the minimum wage explains a negative share of the caseload decline; the caseload would have increased between 1993 and 1996 if the only change that had occurred were the decline in the real minimum wage.

TANF Period: 1996-98. Welfare participation declined by roughly 33 percent between 1996 and 1998, and TANF was a major contributing factor. Roughly one-third of the decline is due to TANF. Economic factors are still important in drawing people off welfare, but since the unemployment rate has declined relatively little since 1996, it accounts for just 8 to 10 percent of the decline in participation over this period. Higher minimum wages accounted for about 10 percent of the drop in participation, and reductions in cash benefits accounted for an additional 1 to 5 percent decline. The remaining share is unexplained and may be due to other changes in policy, practice, or behavior.

ALTERNATIVE SPECIFICATIONS

Several alternative specifications were estimated to examine the robustness of the findings, and some of these results are reported in Table 4. All of the models in Table 4 include state-specific time trends, and the estimates from Model 1 of Table 2 ("Baseline") are listed for comparison.

It has been argued that analyses of waiver policies should not utilize population weights (Martini and Wiseman, 1997). Comparison 1 demonstrates that the effects of waivers, TANF, cash benefits, and the unemployment rate are not very sensitive to whether weighting is used. However, the effects of the minimum wage are substantially larger when the weights are not used.

Quite often it is said that welfare reform would not have been as effective in reducing caseloads if it had not been for the strength of the labor market. This hypothesis is tested in Comparison 2 by

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[15] Recall that the minimum wage measure used in the analysis is the weighted average of the minimum wages in effect in the state in the given year, where the weights are equal to the share of the year that the respective minimum was in effect.

Table 4.
Alternative Specifications of Model 1
(Coefficient estimates are multiplied by 100)

	Baseline Model 1		Comparison 1 Without Population Weights		Comparison 2 Policy & Economy Interactions		Comparison 3 Changing Economic Effects Model A		Model B		Comparison 4 With Leads of TANF and Waivers		Comparison 5 Population as an Explanatory Variable	
	Beta	t-stat	Beta	t-stat	Beta	t-stat	Beta	t-stat	Beta	t-stat	Beta	t-stat	Beta	t-stat
Any waiver	-9.40	2.90	-7.34	2.95	-1.90	0.21	-8.86	2.42	-9.34	2.54	-5.53	1.82	-8.29	3.01
Any waiver, lead											-6.84	2.39		
TANF	-18.84	4.37	-18.04	2.38	-46.23	2.77	-21.28	4.23	-22.07	4.14	-15.19	3.20	-15.94	3.94
TANF, lead											-4.84	1.19		
Log max. monthly benefit	14.98	1.93	20.92	3.34	-5.44	0.78	-6.99	0.87	-6.10	0.75	14.91	1.95	29.06	4.27
Log monthly min. wage	-39.59	4.02	-67.31	4.01	-53.00	3.73	-51.59	3.81	-47.44	3.44	-40.28	4.26	-15.14	1.48
Unemployment rate														
Current	-0.36	0.74	0.63	1.36	3.21	8.51	3.17	8.80			-0.26	0.54	0.74	1.70
One lag	1.50	2.40	1.80	3.23							1.51	2.44	1.25	2.31
Two lags	4.27	8.92	3.66	8.12							4.17	8.78	2.68	6.04
Current*1976-80									1.48	1.93				
Current*1981-86									3.20	7.97				
Current*1987-92									3.87	6.03				
Current*1993-98									4.37	3.54				
Waiver*Current					-1.01	0.63								
TANF*Current					5.32	1.57								
Log(Population under 65)													-136.77	4.62

All models include state effects, year effects, and state-specific time trends. Estimates use the population under 65 as weights and robust calculation of standard errors, except in Comparison 1 where the weights are not used.

interacting the unemployment rate with the waiver indicator and with the TANF indicator.[16] Although the precision of the estimate of the interaction between TANF and the unemployment rate is slightly below standard levels for determining statistical significance (with a p-value of 0.12), the coefficient estimate implies that TANF policy is more effective when unemployment is low. For example, after adjusting for other factors, TANF is estimated to reduce participation by 14.8 percent if the unemployment rate were 5.9 (as it was in California when it implemented TANF in 1998) and by 20.2 percent if the unemployment rate were 4.9 (as it was in Michigan when it implemented TANF in 1996).

It has been argued that the effects of waivers may be accounted for by an increase in the sensitivity of the caseload to labor market conditions in the 1990s (Moffitt, 1999). For this argument to hold, economic conditions must be correlated with waivers, the caseload must have become more sensitive to the unemployment rate over time, and the model must not have allowed the effects of the economic factors to change over time. Comparison 3 (Model B) tests this hypothesis by allowing the effects of the unemployment rate to differ between four periods: 1976-80, 1981-86, 1987-92, and 1993-98. (While Model B allows the effects of unemployment to vary across time, it does not include lagged unemployment effects. Therefore, the baseline model, which does not incorporate time-varying unemployment effects, is re-estimated with no lags in unemployment so that proper comparisons can be made. This specification appears as Model A in Comparison 3.) Indeed, the caseload has become more sensitive over the past two decades. A one percentage point increase in unemployment led to an increase in welfare participation of 1.5 percent in the 1976-80 period, 3.2 percent in the 1981-86 period, 3.9 percent from 1987-92, and 4.4 percent since 1993. (The 1976-80 period is statistically significantly different from each of the other three periods, but the three latter periods are not statistically significantly different from each other.) This rise may be due to the fact that most of the changes to AFDC introduced by waivers and TANF emphasize employment. This also suggests that the estimates of the contribution of the unemployment rate reported in Table 4 may be a lower bound. Most importantly for this study, however, the effects of waivers and TANF are robust to this

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[16]In reality, people who make such statements are sometimes referring to the direct effect of labor market conditions on participation, and not the interaction.

specification, changing very little from the baseline model.

Comparison 4 permits "lead" effects of TANF and waivers. The 1997 CEA study argued that welfare policies may begin to have an effect on behavior in the year leading up to their enactment because of the heightened awareness generated by the debate surrounding their passage. Indeed, the 1997 study found that state caseloads were declining significantly in the year prior to receiving approval for a waiver. The estimates with the data through 1998 and incorporating TANF imply a fairly large and statistically significant association between welfare participation and the one-year lead of waivers; the lead of TANF is not significant. However, it is difficult to interpret these estimates. While a true causal interpretation is plausible, an alternative interpretation is that the leads are picking up unobserved differences across states or within states across time. For example, perhaps states with recently declining caseloads (or caseloads declining more -- or increasing less – than expected) had slack resources and manpower to design and submit a waiver. In this case, waivers themselves may not be causing the decline. For this reason, the estimates without the leads are emphasized.[17]

The final alternative specification, Comparison 5, uses a less restrictive functional form by using the population variable as an explanatory variable instead of using it as the denominator in the dependent variable. In this model the dependent variable is simply the natural log of the number of recipients. The results are fairly stable to this specification change. However, the coefficient estimate on the minimum wage, while still negative, is reduced, and it has a p-value of 0.14.

CONCLUSIONS

There has been an unprecedented decline in welfare caseloads. The drop has occurred in every state in the nation, and it has persisted now for almost 5 years. In the earlier years, from 1993 to 1996, most of the decline was due to the strong labor market and welfare waivers. The declines in the more recent period, from 1996 to 1998, have been very large, and the single most important factor that can

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[17] Models that include lagged values of the waiver and TANF indicator variables were also examined to determine whether there was an effect of these policy changes above and beyond the initial-year change. Although in some specifications there were substantial lagged effects, the estimates were quite sensitive to specification, especially sample weighting and inclusion of data from California and New York.

be identified is the implementation of TANF. PRWORA produced a dramatic change in welfare policy: work and self-sufficiency became a primary goal; state and local governments were given much greater control of the programs they ran; and states experimented with a host of program design changes. The evidence suggests that these changes have caused a large drop in welfare participation, a drop that is independent of the effects of the strong labor market during this period. The estimates imply that TANF alone has accounted for roughly one-third of the reduction from 1996-98.

The strong labor market has made work opportunities relatively more attractive, drawing people off welfare and into jobs. In fact, the size of the caseload has become more sensitive to labor market changes in recent periods. However, the unemployment rate has not declined as much in the post-TANF period (1996-98) as it did in the 1993-96 waiver period. As a result, the share of the decline in the caseload that is attributable to improvements in the labor market was much larger in the 1993-96 period (roughly 26 to 36 percent) than in the 1996-98 period (8 to 10 percent).

While this study helps to explain the post-TANF changes in welfare participation, there is much about welfare participation that is unknown. In most models that were estimated, a large share of the variation over time could not be explained. The variation across states in welfare policy and management has increased as a result of TANF, and the research community will struggle to keep abreast of these changes. Merely documenting the changes, let alone understanding their effects on caseloads, work, self-sufficiency, child well-being and the like, is a major challenge.

Appendix A

Comparison with the 1997 CEA Study

A replication of the estimates reported in the 1997 CEA study is provided in Table A2. There are five reasons why the "old" estimates may differ from the "new" estimates:

    1. different time periods of analysis

    2. different variables included in the models

    3. use of approval vs implementation date of waivers

    4. use of calendar vs fiscal year data

    5. use of population under 65 instead of all population in calculating participation rates.

All models in Table A2 analyze the 1976-1996 period and include the same explanatory variables. Comparison between the "old CEA" estimates and the estimates in Model I of Table A2 shows that the effects of waivers are larger when calendar year data is used instead of fiscal year data. This finding is not surprising because the caseload continued to decline at the end of 1996, and some of this decline is attributed to waivers in Model I.[18] Table A2 also demonstrates that the effects of waivers is somewhat smaller when the implementation date (Model IV) is used instead of the approval date (Model II). Use of the population under 65 (Model IV) instead of the total population (Model III) in the denominator of the recipiency rate alters the results very little.

Although the use of the implementation date instead of the approval date and a different population control does not alter our results substantially, two other choices do. First, we include a second lag of the unemployment rate in our models in the current study (Table 2). The effect of the second lag is quite large and precisely estimated. It turns out that the inclusion of the second lag explains an important difference in the reported results between the two studies. With only one lag in unemployment, the 1997 study found that unemployment could explain 45 percent of the change in

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[18]Some of the effects of waivers in 1996 may be picking up the effects of PRWORA, or the heightened public awareness of reform prior to PRWORA (Moffitt, 1999). Re-estimating Model IV in Table A2 without 1996 data leads to a coefficient on the waiver dummy of -3.65 (t-statistic of 1.60).

participation from 1993-96. (See Table 3, column labeled (3), in the 1997 report.) Using the 1976-1998 data, and the full specification reported as Model 1 in Table 2 but without the second lag in unemployment, we find results that are almost identical to those reported in the 1997 study: unemployment explains 42 percent of the change between 1993 and 1996. But with the second lag included, the share explained by unemployment falls to 26 percent. Therefore, the specification of the lag structure does alter the results from the simulations. However, the effects of waivers change very little with the specification of the lag structure of unemployment: the share explained by waivers between 1993-96 based on Model 1 in Table 2 is approximately 15 percent with either one or two lags.

The studies also differ in their findings regarding the importance of waivers. However, the primary difference is not due to different estimates within the same specification, but in the choice of which specification to emphasize. The 1997 study emphasized results from a specification that included a lead value of the waiver variables (model 6 in Table 2 of the 1997 report) while the current study emphasizes models that exclude the leads (model 3 in Table 2 of the 1997 report). As described in the 1997 technical report, "... it may be that the waiver application process, the publicity surrounding it, and potential changes in case workers' behavior and attitudes may provide a signal to potential recipients that the environment in which the welfare system operates is about to change. It may lead some individuals contemplating applying for benefits to find other sources of income support, whether from work or elsewhere (p. 15)." While this is a plausible scenario, an alternative interpretation is that the leads are picking up unobserved differences across states or within states across time. For example, perhaps states with recently declining caseloads (or caseloads declining more -- or increasing less – than expected) had slack resources and manpower to design and submit a waiver. For this reason, the current study uses the simple contemporaneous value for waivers and TANF.

Excluding the leads does not change the estimates of the effect of unemployment rates. However, the waiver effects are substantially smaller without the leads. As reported in Table 3 of the 1997 study, the share of the 1993-96 change explained by waivers falls from 31 percent if the leads are included to 13 percent if the leads are not included. The 13 percent estimate in the 1997 study is comparable to

the estimate of 14.6 percent in Table 3 of the current study.

Other than these differences, the updated study is quite consistent with the earlier report. Most importantly, strong labor markets, as measured by the unemployment rate, and welfare waivers played important roles in explaining the declines from 1993-96. The new study builds on the 1997 report and finds that TANF has had an even more profound effect on participation than did waivers.

Table A1. Dates of TANF Implementation and Major Welfare Waivers

| | Date of First Major Waiver | | TANF Implementation | |
	Approval	Implementation	Official	Actual, if Different from Official
Alabama			November-96	
Alaska			July-97	
Arizona	May-95	November-95	October-96	
Arkansas	April-94	July-94	July-97	
California	October-92	December-92	November-96	January-98
Colorado			July-97	
Connecticut	August-94	January-96	October-96	
Delaware	May-95	October-95	March-97	
DC			March-97	
Florida	June-96		October-96	
Georgia	November-93	January-94	January-97	
Hawaii	June-94	February-97	July-97	
Idaho	August-96		July-97	
Illinois	November-93	November-93	July-97	
Indiana	December-94	May-95	October-96	
Iowa	August-93	October-93	January-97	
Kansas			October-96	
Kentucky			October-96	
Louisiana			January-97	
Maine	June-96		November-96	
Maryland	August-95	March-96	December-96	
Massachusetts	August-95	November-95	September-96	
Michigan	August-92	October-92	September-96	
Minnesota			July-97	
Mississippi	September-95	October-95	October-96	July-97
Missouri	April-95	June-95	December-96	
Montana	April-95	February-96	February-97	
Nebraska	February-95	October-95	December-96	
Nevada			December-96	
New Hampshire	June-96		October-96	
New Jersey	July-92	October-92	February-97	July-97
New Mexico			July-97	
New York			December-96	November-97
North Carolina	February-96	July-96	January-97	
North Dakota			July-97	
Ohio	March-96	July-96	October-96	
Oklahoma			October-96	
Oregon	July-92	February-93	October-96	
Pennsylvania			March-97	
Rhode Island			May-97	
South Carolina	May-96		October-96	
South Dakota	March-94	June-94	December-96	
Tennessee	July-96	September-96	October-96	
Texas	March-96	June-96	November-96	
Utah	October-92	January-93	October-96	
Vermont	April-93	July-94	September-96	
Virginia	July-95	July-95	February-97	
Washington	September-95	January-96	January-97	
West Virginia			January-97	
Wisconsin	June-94	January-96	September-96	September-97
Wyoming			January-97	

*New Mexico implemented its TANF program in July 1997. It was found unconstitutional in September 1997.
A revised TANF program was implemented in April 1998.

Table A2.
"Old CEA" Compared with "New CEA" for the 1976-1996 Period
(Coefficient estimates multiplied by 100)

| | Old CEA | | New CEA | | | | | | | |
| | | | Model I | | Model II | | Model III | | Model IV | |
	Beta	t-statistic	Beta	t-statistic	Beta	t-statistic	Beta	t-statistic	Beta	t-statistic
Any waiver	-5.17	2.97	-6.74	3.33	-6.81	3.33	-5.66	2.67	-5.71	2.67
Unemployment										
Current	-0.90	2.09	-0.58	1.18	-0.63	1.28	-0.61	1.24	-0.66	1.33
Lagged	4.97	11.83	4.60	9.50	4.66	9.52	4.61	9.47	4.67	9.49
Log max. monthly benefit	7.93	1.65	6.57	1.02	5.75	0.88	7.06	1.09	6.23	0.96
Years	1976-1996		1976-1996		1976-1996		1976-1996		1976-1996	
Date of waivers	Approval		Approval		Approval		Implementation		Implementation	
Population	All		All		Under 65		All		Under 65	
Calendar vs fiscal	Fiscal		Calendar		Calendar		Calendar		Calendar	

All models include state effects, year effects, and state-specific time trends. "Old CEA" refers to the estimates for Model 3 in
Table 2 of the 1997 CEA report. To be consistent with the 1997 CEA report, the waiver in West Virginia is assumed to be a "major" waiver.

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