

The Decline of Welfare in Wisconsin

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Abstract

The recent decline in the national welfare rolls suggests that mandatory work programs can reduce dependency by more than evaluations suggest. The nonexperimental literature does not test that possibility well. This study uses field interviewing and program data more fully than previously to portray the forces shaping caseload decline. It focuses on Wisconsin, the state with the most dramatic caseload fall.

A time series analysis of the state caseload trend over 1986–94 casts doubt on the view that good economic conditions and benefit cuts alone account for the caseload decline. Cross-sectional analyses comparing counties find strong evidence that both a good economy and demanding work requirements helped drive the caseload down. However, the consequences for recipients are unclear, and to reduce dependency this way makes heavy political and administrative demands on government.

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I. INTRODUCTION

Until recently, welfare dependency seemed to be an intractable problem in the United States. The most controversial welfare program has been Aid to Families with Dependent Children (AFDC), which mostly supports needy single mothers and their children. The AFDC rolls doubled in the late 1960s and early 1970s to 11 million people, then jumped a further 30 percent in 1989–94, reaching over 14 million people (U.S. House of Representatives 1996, p. 467). Few welfare mothers work regularly. Starting in the 1960s, Congress enacted a succession of work, training, and incentive programs meant to move more recipients into jobs and thus reduce dependency, but none of them had much effect. In 1996, Congress changed AFDC radically in an attempt to drive the rolls down. The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) recast AFDC as Temporary Assistance to Needy Families (TANF). States received new control over welfare rules, but they also faced unprecedented federal demands to enforce work on welfare.

After the AFDC rolls peaked in March 1994, they dropped by over 4.4 million, to under 10 million, through August 1997, the most dramatic decline in the program's history. How much TANF had to do with this is unclear. Perhaps the recent sharp rise in the rolls simply reversed itself. One clear cause is the favorable current state of the nation's economy, which generates many jobs for low-skilled individuals. Another cause is probably that the income levels needed to qualify for aid have gradually fallen in most states since the early 1970s, as legislatures, which control benefit levels, have failed to raise them in step with inflation.

Still another possibility is that government's efforts to compel work on welfare are at last succeeding. Stipulations that adult recipients enter work programs in return for aid date from 1967. The demands were strengthened by the Family Support Act of 1988, which established the Job Opportunities and Basic Skills Training Program (JOBS) to put AFDC adults to work. Many states received waivers of

normal AFDC rules to run still more demanding work programs. Then in 1996, PRWORA stipulated that states move at least half of their adult recipients into work activities by 2002, on pain of cuts in their federal funding.

Some observers think this buildup of work demands has begun to reduce the rolls. Some families now on aid are going to work and leaving welfare. Many more who might be eligible, officials say, are being “diverted” from seeking aid by the prospect of work requirements. Knowing they will have to work, they get a job directly and bypass welfare, or they get aid from friends or families (DeParle, 1997). According to one simulation, a moderately tough work requirement, if fully implemented, might reduce the welfare rolls by as much as a quarter (Moffitt 1996).

The idea that work requirements might drive down the rolls was unanticipated by the experimental evaluations of mandatory welfare work programs. These studies suggest that such programs can raise the earnings of their clients by as much as 50 percent and their employment by as much as 25 percent, compared with equivalent clients not in the program. But they reduce the welfare rolls by only 15 percent or less (Gueron, Pauly, and Lougy 1991; Riccio, Friedlander, and Freedman 1994, chap. 4; Gueron 1996, pp. 551–553). However, evaluations only capture the effects on people already on welfare. They largely miss diversion effects, because these occur mostly among eligibles or recipients before they enter work programs.

II. PAST RESEARCH

To consider all the forces now reducing welfare, one must turn to the nonexperimental literature on welfare. But these studies do not appraise work enforcement seriously, mainly because they do not measure well the administrative forces that now appear to be driving caseloads down.

There is a large academic literature on the determinants of whether people enter or leave welfare, but it is based mostly on academic databases, especially the Panel Study of Income Dynamics (PSID) and

the National Longitudinal Survey of Youth (NLSY). These surveys have much information about the economic and family background of the respondents, but little about their relationship to the welfare system other than any benefits received. One cannot tell whether recipients were subject to work tests or child support requirements and what effect these had.¹ Academic analyses of poverty often suggest that little change is possible; the recipients are seen as forced into dependency by the conditions making them poor.

Time series studies of caseload dynamics also measure mostly the economic dimensions of welfare. Such models, often developed to help states forecast their caseloads, trace changes in dependency over time to changes in welfare policy, usually meaning changes in eligibility or benefits, controlling for socioeconomic conditions affecting the demand for welfare, such as the incidence of female-headed families and job availability (Plotnick and Lidman, 1987). There is no direct measurement of the behavioral demands that currently seem to be driving many recipients off the rolls. The one published time series study of recent national caseload dynamics also omits enforcement variables (Congressional Budget Office 1993).

Also, the time series approach confronts what statisticians call the unit root problem. Chronological series may violate an assumption of ordinary least squares (OLS) regression analysis, which is that the data represent varying observations around some stable mean. Raw welfare levels tend to be “nonstationary”; they rise or decline without a clear mean. OLS analyses of such data can be highly misleading (Chinn 1991). A definitive solution often requires transforming the dependent term into a different series that is stationary. As the datum for each month, one uses not the raw caseload figure but the difference or percentage change from the previous month. The Congressional Budget Office study of

¹An exception is Plotnick (1990), who augmented NLSY with additional data on the administrative policies and other conditions affecting welfare for each case. He found that work and child support requirements limit unwed childbearing by blacks and whites, although not Hispanics.

the national caseload trend lacks these adjustments, so its results are questionable. But with transformation, one is no longer explaining caseload change as such.

Other problems occur among the independent terms. Time series studies of welfare commonly require observations of explainers every month or every quarter. The data demands limit the range of social and economic explainers that can be included. This in turn means that models may be underspecified, with much of the variation accounted for by a large error term. The unmeasured influences may be correlated over time, leading to autocorrelation in the residuals, which again violates OLS assumptions. The inclusion of lagged values of the dependent term as explainers can moderate the specification problem, but at the cost of weakening the substantive conclusions that can be drawn from the model.

Recent studies of the national caseload by Blank (1997) and the Council of Economic Advisors (1997) attempt to escape these problems through pooled analyses where all states are studied over time. The observations are the annual levels of state caseloads and accompanying controls. With annual observations, more controls are available, so these studies produce a fuller picture of the forces affecting caseload change. However, they do not account well for recent caseload changes, and they still provide only a very general measurement of the administrative suasions. Both studies include controls for whether a state was running special welfare reform programs allowed under waivers, and which dimensions of normal AFDC policy were changed, such as disregards for earned income or penalties for nonparticipation in work programs. They do not show in detail what demands the states made of recipients that might cause them to leave or avoid welfare. Such studies also assume that the meaning of the policy terms is constant across states, which is doubtful.

There are state-level studies that connect caseload trends to work policies using time series or pooled cross-sectional/time series methods (Englander and Englander 1985; Brasher 1994). These find that “workfare,” or the policy of putting welfare recipients in unpaid jobs, has some tendency to reduce

the caseload in AFDC or in general assistance, meaning local welfare programs for groups ineligible for federal aid. Because these studies are done within states rather than the nation and focus on a single work policy with a clear meaning, their findings raise fewer doubts about data and interpretability. However, this research dates from before the recent toughening of work demands; today, the influence of work policies might well be greater.

More important, these studies, like the national-level studies, still fail to incorporate all available information about the administrative process. They do not use the reporting data generated by mandatory work programs in welfare, and they do not employ interviewing of officials to interpret those data. Program reporting tells how recipients are treated in more detail than simply whether a work program exists, while interviews generate hypotheses about which policies within a program produce results. Each type of data helps to interpret the other and also serves as a check on its reliability. When the reporting indicates that clients are assigned within a program the way the staff say they are, one can be reasonably sure that the program is accurately described.

Some studies use administrative sources more fully, but they aim to explain program performance rather than caseload change. They take the performance measures used by mandatory work programs and model them using administrative variables alongside environmental controls. The question is whether the way clients are served in a program affects what proportion of them enter work or at what wage, for example, controlling for the demographics of the caseload and the local labor market. The units of analysis are subunits within the program, such as county offices within a state, or states within the nation, and the inference is cross-sectional. In the case of state-level studies, the use of program data is backed up by interviewing of officials at the state level and in a sampling of localities (Mitchell, Chadwin, and Nightingale 1980; Mead 1985, 1988).

In the following sections, I adapt this approach to the analysis of caseload decline in Wisconsin, building on an earlier performance analysis of JOBS in the state (Mead 1997). I first describe the

Wisconsin welfare decline, then seek to explain it using field interviewing, a time series, and several cross-sectional analyses that make full use of administrative data. The latter give the best picture of the forces driving change.

III. WELFARE DECLINE IN WISCONSIN

During the 1989–94 welfare boom, when the average state experienced a 34 percent increase in AFDC, Wisconsin was one of only four states to record a decline. It achieved this despite paying among the highest benefits in the nation; the other three decliners—Arkansas, Louisiana, and Mississippi—were all Southern states with low benefits. Over the longer 1987–95 period, the caseload grew 29 percent in the average state but fell 27 percent in Wisconsin, or 9 percentage points more than in the next-best state (Mississippi). In the last few years, many other states have registered dramatic declines in their caseloads, but much of this is attributable to their late start and a favorable economy. Wisconsin was the only Northern, urban state to escape the recent boom and the only one that has reduced AFDC across an entire business cycle.²

Table 1 details welfare decline within Wisconsin. Caseload figures are shown for January 1987, December 1994, and August 1997, the most recent available. The percentage change is calculated over the whole span, then over both subperiods. Figures are shown for the state, the average county, and Milwaukee, the state's largest city. Since January 1987, the statewide caseload has dropped by 65 percent, or almost 64,000 cases. In the average county, the fall was 84 percent. The decline was also broad-based. Although it was greatest in smaller, rural counties, it was half or three-quarters in most cities and 41 percent even in Milwaukee, which has by far the largest and most troubled caseload.

²Caseload decline rates calculated from state welfare caseload data in U.S. House of Representatives, *Green Book: Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means*, various years.

TABLE 1**Trends in Wisconsin and County AFDC Caseloads, 1987-95**

	Caseload (cases)			Percentage change (base 1/87)		
	Jan. 1987	Dec. 1994	Aug. 1997	1/87-8/97	1/87-12/94	12/94-8/97
The state	98,295	73,714	34,491	-65	-25	-40
The average county	1,356	1,017	668	-84	-45	-39
Milwaukee	38,803	36,865	22,947	-41	-5	-36

Source: Wisconsin Department of Workforce Development.

Finally, one would think that the rate of decline would slow as the less dependent cases left the rolls and the more dependent remained. But the fall actually accelerated after 1994, with over half the statewide decline and most of the fall in Milwaukee coming in the last 3 years.

IV. POSSIBLE CAUSES

Most academic observers trace the fall in welfare in Wisconsin, as in the nation, to a favorable economy and cuts in welfare benefits, not to other policy changes (Wiseman 1996). The state has typically enjoyed robust job growth and unemployment rates below the national norm. During the recession of the early 1990s, when most of the recent welfare growth occurred, joblessness barely rose above 5 percent in Wisconsin, while it touched nearly 7 percent in the average state.³ As for benefits, in January 1987, when Tommy Thompson became governor, Wisconsin's maximum AFDC payment for a family of three was \$544 a month, fifth highest in the county. Thompson cut it to \$517. By 1996, Wisconsin's benefit had fallen to twelfth in the nation (U.S. House of Representatives 1988, pp. 406–407; 1996, pp. 437–438). The grant also declined due to inflation. Overall, the value of AFDC benefits fell 31 percent between 1986 and 1995. The value of AFDC plus Food Stamps, which increase to offset cuts in cash aid, fell 14 percent (Wiseman 1996, pp. 523–524). The grant was not raised again until 1997.

Rather than frame my own hypotheses about the decline, in 1994 and 1995 my research assistant and I interviewed state and local officials in Wisconsin to seek their opinions. Our respondents agreed that economic conditions were helping to drive the caseload down. In several counties, they noted, unemployment was below 3 percent. Employers were desperate for labor, so they cooperated with welfare officials to move more recipients into jobs. A tight job market also enables more fathers of

³Unemployment data from U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States*, various years.

welfare families to pay their child support judgments. Those transfers allow some welfare mothers to escape aid provided they can work at least part-time.

Officials, however, seldom mentioned benefit cuts as a cause of the decline. Most had not observed the cuts to cause any immediate or evident drop in the caseload. They attached much more weight to other policy changes initiated by Governor Thompson. One of these was to change the incentives in welfare. Assistance places a “tax” on work and marriage by aiding needy families, generally, only if they are nonworking and fatherless. In Wisconsin as elsewhere, many people believe that these disincentives help to explain dependency. They also fear that recipients migrate to states like Wisconsin that pay generous benefits and thus become “welfare magnets.”

To counter work disincentives, federal rules before PRWORA allowed recipients who worked to disregard \$30 in monthly earnings for the first year on a job plus one-third of the remainder for the first 4 months. In 1987, Thompson obtained a waiver to disregard \$30 and one-sixth of the remaining income for a year, so that incentives would stretch out longer. He was also allowed to extend the transitional Medicaid coverage then available to recipients who leave the rolls for work from 4 months to a year. In 1991, another waiver countered the marriage disincentive by making it easier for two-parent families to obtain aid. Finally in 1994, to counter the “welfare magnet” effect, still another waiver established that, in four trial counties, recipients arriving from other states would be paid the benefit they previously received for the first 4 months

But there is little evidence that financial disincentives actually have much to do with whether welfare recipients work. Studies of the former federal work incentives showed negligible effects on work levels (Moffitt 1992, pp. 13–18). None of the Thompson work incentive waivers appear to have shown an

impact, although the evaluations are unfinished (Pawasarat and Quinn 1993, chap. 15; Wiseman 1996, pp. 525–529). It is thus improbable that these innovations influenced welfare decline.⁴

Officials also mentioned improved enforcement of child support, and this is a more plausible cause of reduced welfare. Until the early 1980s, child support judgments in Wisconsin were made by local judges in a highly discretionary manner. Payment orders typically claimed only a small proportion of an absent parent's income and were seldom updated over time to reflect rising wages. To change this, the state in the 1980s set a standard scale relating judgments more closely to what parents could pay. The scale increased awards as a percentage of parents' income (Meyer et al. 1994). Due to this and improving collection of judgments, the share of AFDC cases where the state collected child support rose from 38 percent in 1985 to 46 percent in 1995, the latter figure exceeded only by Idaho and Kansas. The share of AFDC payments recovered through child support in Wisconsin jumped from 10 percent to 27 percent between 1979 and 1995, compared to figures of 6 percent and 14 percent for the nation (U.S. House of Representatives 1996, pp. 593–594, 610–611).

V. WORK PROGRAMS

Above all, officials mentioned mandatory welfare work programs. Here, too, Wisconsin had been a leader among states. It effectively implemented the Work Incentive (WIN) program, a national welfare work structure that predated JOBS, although the program lacked the funding and authority to have much

⁴A theory we could not test is that Wisconsin is simply making it tougher for people to establish eligibility for welfare by questioning their financial documentation. This "quality control" theory is sometimes asserted by academic critics who think falling rolls simply reflect improper denials of aid. I did receive one message from a student in Madison who alleged that Dane County was using such methods to shrink its rolls. But no administrator we interviewed in the state mentioned such a policy, even in liberal counties (including Dane and Milwaukee) where many staff oppose the conservative trend of reform. No Thompson initiative has been aimed at toughening eligibility determination other than by establishing conduct requirements. The state performs above average in the accuracy of its grant payment, according to federal statistics; it denied aid improperly in only 1,394 cases in 1993 (U.S. House of Representatives 1996, pp. 496–502). We attempted to test this theory in the quantitative analyses. The state tried to provide the requisite data but found that they were unavailable.

effect on the rolls (Mead 1986, chaps. 6–7).⁵ Dissatisfied, the welfare department and the legislature combined in 1986 to create the Work Experience and Job Training program. WEJT was meant to serve more of the caseload more intensively than WIN. It provided not only job search but education and training and—for those failing to find work—unpaid government jobs. WEJT replaced WIN initially in five counties in 1987, then expanded to cover much of the state in the next 2 years. Funding was generous, and it came mainly from Madison, the state capital.

Several of our respondents suggested that the buildup of WEJT had triggered the caseload fall. The program for the first time involved enough welfare adults so that the work test became more than a formality. However, WEJT was implemented in a rush, leading to several years of administrative confusion and underspending. There is little evidence that the program, in itself, reduced caseloads. Indeed, it appears to have slowed departures from the rolls in some counties by shifting clients out of job search and into education and training. But WEJT resembled the JOBS program that Congress created for the nation in 1988. Due to its head start with WEJT, Wisconsin was able to implement JOBS early and well (Pawasarat and Quinn 1993; Wiseman 1996, pp. 518–519, 529–531).

At first, Madison gave little guidance to counties on how to run JOBS. This was partly because, at the time of the Family Support Act, the best approach was unclear. Some experts argued for voluntary programs, some for mandatory. Some favored an emphasis on education and training, some on immediate job placement. The new law permitted all of these approaches (Wiseman 1991). Compared with localities elsewhere, counties in Wisconsin usually enforced participation in JOBS well, but many at first emphasized education and training as their main strategy.

Within a few years, however, evaluations in San Diego and Riverside, California, made reasonably clear that mandatory work programs outperform voluntary ones because they achieve higher

⁵The state exemplified the model for WIN developed in the major study of WIN implementation by Mitchell et al. (1980).

participation, and that programs focused on immediate employment outperform those seeking to train clients for “better” jobs (Hamilton and Friedlander 1989; Riccio et al. 1994). Under Thompson, JOBS became tougher about participation and work. A series of legislative and rule changes subjected more of the caseload to JOBS, and the state applied financial incentives to reward counties that stressed actual employment over education and training (Mead 1996, pp. 7–8).

In 1994, Wisconsin began replacing JOBS with still tougher work programs, first in selected counties and then statewide. The new programs aimed to reorient policy from education and training toward immediate work, and from serving people on welfare to diverting them from coming on aid at all. Work First, implemented in over half the counties in 1994–95, encouraged applicants for aid to look for work while their applications were processed. Work Not Welfare, piloted in Pierce and Fond du Lac counties starting in 1995, required recipients to “earn” their aid by putting in specified hours of activity and limited cash aid to 2 years. In March 1996 for all counties, Self-Sufficiency First mandated job search for aid applicants and Pay for Performance required that recipients “earn” their benefits with documented activity. State officials credit these programs with much of the recent acceleration of caseload decline, particularly in Milwaukee (Mead 1996, pp. 6–11).

Academic observers think these projects took effect too recently to have contributed much to the caseload fall through 1994 or 1995 (Pawasarat and Quinn 1993, chap. 14; Wiseman 1996, pp. 525–529). But our respondents repeatedly asserted that the Thompson experiments helped drive the rolls down by a political dynamic. Allegedly, controversies about the experiments, and the aggressive antiwelfare rhetoric surrounding them, motivated many recipients to leave AFDC as early as the late 1980s—before many of the new requirements were enacted, let alone implemented.

VI. A TIME SERIES OF WISCONSIN'S CHANGE

One way to test the possible explanations for the Wisconsin caseload fall is a time series analysis that links the shifts with other changes over time. A time series done by Pawasarat and Quinn (1993, chap. 14), based on 1984 to 1988, attributed the decline mostly to low unemployment and falling benefits, dismissing any influence from the Thompson experiments. That study, however, does not correct for the unit root problem, and it does not directly test the influence of work programs or other policy changes.

My analysis focuses on the monthly change in the state caseload between January 1986 and December 1994. The analysis starts in 1986 because the more or less continuous fall of the caseload began in that year. The analysis ends at 1994 because that is the last year for which JOBS data are available and meaningful. Through 1994, JOBS was the main instrument of work enforcement, and its reporting gives a valid picture of how the treatment of clients influenced decline. After that, experimentation in the state was so extensive that the JOBS reporting categories no longer have reliable meanings across counties. Also, the diversion programs became the main force behind decline, and statewide indicators for diversion have not yet been developed. Another advantage of stopping in 1994 is that Wisconsin's policies through that year were more typical of the work enforcement efforts now going on nationwide under PRWORA, so the findings are more generally applicable.

The raw series suffers from nonstationarity, so it was transformed to the percentage change in the caseload from month to month (see Appendix 2 for tests). Explainers include benefit levels, several measures of economic and social conditions,⁶ and indicators of when WEJT and JOBS took effect. The WEJT dummy is positioned in January 1988, when widespread implementation of the program began.

⁶We originally included a control for change in population, but eliminated it because we could not obtain valid measurements on a monthly basis. As measured, its coefficient was large and negative, the reverse of expectations.

The JOBS dummy is positioned in October 1989, when the program officially went into effect.⁷ The model includes two lags of the dependent term (that is, the percentage change in the caseload in the previous 2 months). Results are also adjusted for slight residual autocorrelation (see Appendix 2). Dummy variables are added for each year and the months of the year.⁸

Table 2 shows the results, which are weak. The lagged values of the dependent term dominate the model. Benefit effects are unclear. The Thompson benefit cut in October 1987 has a sizable coefficient and a negative sign, implying as expected that it depressed the rate at which the caseload grew, here meaning that it accelerated its fall. The coefficient of the real value of benefits over the period, a variable that reflects cuts due to both policy and inflation, has the expected positive sign. But both these terms fail of significance. A brief increase in benefits in April 1987—reversed in the Thompson cut—is significant but has a negative sign, the reverse of expectations.

The dummies marking the initiation of WEJT and JOBS are significant and positive. These findings accord with the evaluation cited above, which found that WEJT slowed the caseload fall by involving more recipients in education and training, thus lengthening their stays on welfare. JOBS apparently did the same. The fact that WEJT and JOBS slowed the *rate* of caseload fall, however, says little about their impact on caseloads over time. The training clients received may eventually have made them more employable. And by raising participation, the new work programs exposed recipients to the later policy changes designed to promote work and diversion.

Economic factors show surprisingly little influence. The unemployment rate is positive as expected, since higher joblessness should mean a faster growth in welfare, or a slower decline. Changes in employment are positively associated, and high labor force participation negatively associated, with

⁷Both variables measure “0” before this date and “1” afterward. Both dates, of course, are only approximate measures for a gradual implementation process. Shifting the dates back and forth in the series produced little change in the results.

⁸Several of the monthly dummies are significant; these results are not reported.

TABLE 2
Time Series Model of Monthly Percentage Change in the Wisconsin AFDC Caseload, 1986–94

	Coeff.	S.E.	Signif.
Percentage change in caseload in previous month	-1.05	.078	.000
Percentage change in caseload 2 months prior	-.843	.072	.000
Percentage change in real AFDC benefit level (adjusted for inflation)	.084	.120	.489
Benefit increase in April 1987	-1.40	.570	.017
Benefit cut in October 1987	-.531	.521	.312
Initiation of WEJT (January 1988)	3.21	.924	.001
Initiation of JOBS (October 1989)	2.21	.471	.000
Percentage change in employment	.096	.311	.757
Labor force participation rate	-.243	.215	.261
Unemployment rate	.505	.356	.160
1987	1.86	.604	.003
1989	3.69	1.05	.001
1990	3.16	1.11	.005
1991	3.27	1.07	.003

(table continues)

TABLE 2, continued

	Coeff.	S.E.	Signif.
1992	2.33	1.31	.079
1993	2.71	1.38	.0533
1994	2.04	1.61	.208
Intercept	9.89	15.06	.514
R ²	.88		

Source: For precise definitions, descriptive statistics, and sources of variables, see Appendix 1.

Notes: Results are adjusted for serial correlation. Dummy for 1988 is omitted because it is collinear with the WEJT dummy.

caseload change. But none of these terms is significant at usual levels. The yearly dummies suggest that the passage of time tended to slow the caseload fall, perhaps because the remaining caseload became less employable.

These results cast doubt on the view that Wisconsin's welfare decline is due mainly to low unemployment and falling benefits. More precisely, we cannot directly test those hypotheses because of the econometric problems. Not only was it necessary to transform the caseload series, but the inclusion of two lags of the dependent term as explainers renders the meaning of the results unclear. These difficulties are typical of those that befall time series analysis of caseload change.

VII. CROSS-SECTIONAL MODELS OF CHANGE

If one explores change by comparing counties, these problems can be avoided. It is also possible to use both administrative and control data to measure more determinants, and there is more real variation in them. Counties vary widely in the extent of their caseload decline and in the features that may be linked to that. However, what is explained is variations in change among the jurisdictions rather than change for the whole state.

At the local, as at the state, level, fieldwork can help elucidate how decline occurs. In 1994–95, my research assistant and I visited ten Wisconsin counties running JOBS and the Thompson experiments. These included the counties with the largest populations (Milwaukee, Dane), two that the state viewed as exemplary JOBS operators (Kenosha, Sheboygan), several that it had chosen as pilots for experiments (Fond du Lac, Grant, Winnebago), and several that it deemed less successful.

Kenosha originated the "work first" philosophy that the state adopted in 1994. It enforced a high level of participation among recipients referred to JOBS, and it insisted that clients enter at least part-time work before undertaking education or training. Sheboygan was similar. The state's praise for these programs was corroborated by JOBS performance results for 1993, which showed that they generally

moved more clients into jobs and thus closed more cases than did counties that were less stringent and work-oriented, such as Dane and Milwaukee. The superiority of this approach held up in statistical analysis covering all 72 counties: Counties that achieved high enrollment and insisted on work in their JOBS programs tended to place more recipients in jobs and close more cases, even controlling for differences in the demographics of their caseloads and labor markets. These policies, however, did not improve the quality of jobs obtained, a result consistent with earlier cross-sectional research on work program performance (Mead 1995, pp. 16–33; 1996, pp. 9–11; 1997, pp. 118–121).⁹

Staff in most of the counties that we visited assumed that tough work programs reduced the rolls by moving recipients into jobs and also by diversion. That is, counties known to have demanding JOBS operations deterred some eligibles from seeking welfare; people would get jobs on their own, knowing that if they entered welfare they would immediately have to seek work anyway. In counties running Thompson experiments, staff reported that intake to welfare had fallen and that, as a result, the caseload had fallen. Fond du Lac was the exemplar. There the number of families on welfare had already fallen 47 percent over the 8 years from January 1987 to December 1994. But with the start of Work Not Welfare in January 1995, the caseload dropped a further 43 points by August 1997. The county had 1,172 cases on AFDC in January 1987, only 127 by August 1997.¹⁰

The following regression analyses parallel the JOBS performance analyses just referred to, except that now the dependent term is the percentage caseload decline in the county between 1986 and 1994, using annual data. The data cover the 72 Wisconsin counties, omitting Indian tribes. The analysis

⁹1993 is the last year for which this assessment is possible. In 1994, changeover to a new computer system made the reliability of JOBS reporting suspect, according to state officials. For the same reason, JOBS data in the analyses reported below are limited to 1991, the earliest year of program reports, and 1993.

¹⁰Data are from the Wisconsin Department of Workforce Development.

is cross-sectional, not pooled time series, although some terms measure change over time.¹¹ The following were the main causal dimensions explored and the specific hypotheses about them, gleaned from earlier research:

- The JOBS program: The higher the percentages of JOBS clients in program activities, and the lower the share in inactive statuses, the more people should enter work and the faster welfare should fall, if other conditions are equal.
- Child support enforcement: The more child support collected in a county, relative to the welfare caseload or benefit levels, the greater should be the caseload decline.
- Population trends: The more population is growing in a county, the more its welfare rolls should grow, or the slower they should fall, all else equal.
- Demographics: If unwed pregnancy is higher, and if the welfare caseload is more disadvantaged or less employable, welfare should grow faster or fall slower.¹²
- Labor market : If wages are higher relative to welfare benefits, unemployment is lower, or other economic conditions are more favorable, welfare should fall faster.

In many cases, I used the level of the variables at the beginning of the period, or as close to it as possible, and also the change in level over the period.

¹¹There was not enough evidence that the policy determinants changed over time to justify trying to collect data on every year for a pooled model. Fieldwork and earlier research established that most of the variation was geographical. Counties differed from each other in how willing they were to reform welfare, and the differences were stable, reflecting long-standing political and administrative contrasts. The required data were also unavailable for every year. We do present separate cross sections for two subperiods, but because the economic environment shifted, even to do this strains the available data.

¹²Welfare demographics came from a special analysis, done by the Wisconsin Department of Workforce Development, of adult recipients by county in December 1986.

Regression Results

I then constructed a regression model of caseload change across the counties. Given limited degrees of freedom and many possible explainers, we could not test just one model as in the time series. Rather, we assembled the strongest terms from each of the above groupings, using prior research as a guide. Terms were preferred that covered each of the dimensions and were significant. Table 3 shows the results, which are potent. Twenty-two terms, all significant at .10 or better, account for 87 percent of the variation in caseload change. There is little evidence of multicollinearity or other violations of standard regression assumptions (see Appendix 2 for tests).

The main finding is that counties that had more of their JOBS clients active tended to have less welfare growth, or more decline, while those with more in inactive statuses suffered the opposite fate. Active status here is a composite of several assignments within JOBS that make demands on clients to work, look for work, or attend training programs. Inactive statuses, such as being “unassigned,” are those that make more limited demands.¹³

Having more clients in training, remedial education, and postsecondary education in 1991 were all associated with faster caseload fall. The evaluation literature suggests that putting recipients in available jobs is a better way to raise their employment and reduce dependency than training them for “better” jobs, but that verdict stems from experimental evaluations that look at programs over short intervals. Here we are explaining caseload change over 8 years. Counties that placed many clients in remediation by the middle of that period may have gained a payoff later. Either the clients gained

¹³Active status means the sum of clients in job readiness, job search, full-time or part-time work, on-the-job training, unpaid work, other unpaid work experience, work supplementation, remedial education, postsecondary education, and training—all expressed as a percentage of registrants. Inactive status means the sum of clients in post-job-search status, not due for services, in holding status, scheduled for participation, unassigned, or the object of an exemption request—all expressed as a percentage of registrants. Because clients may be in more than one of these statuses over a year, the range of both measures extends above 100.

TABLE 3
Cross-Sectional Model of Caseload Change, Wisconsin Counties, 1986–94

	Coeff.	S.E.	Signif.
Change in percentage of JOBS clients in active status, 1991–93	-.159	.045	.000
Percentage of JOBS clients in inactive status, 1991	.174	.055	.003
Change in percentage of JOBS clients in inactive status, 1991–93	.121	.065	.069
Percentage of JOBS clients in training, 1991	-.760	.430	.083
Percentage of JOBS clients in remedial education, 1991	-.765	.245	.003
Percentage of JOBS clients in postsecondary education, 1991	-.569	.297	.061
Change in percentage of JOBS clients in counseling, 1991–93	.248	.117	.039
Percentage of JOBS clients in adjudication, 1991	-.262	.111	.022
Change in percentage of JOBS clients sanctioned, 1991–93	-.773	.254	.004
Change in percentage of AFDC benefit costs recovered in child support, 1989–94	-4.18	1.13	.000
Change in unwed pregnancy rate, 1986–93	.505	.244	.044
Percentage of welfare adults aged <21, December 1986	-1.66	.686	.019
Percentage of welfare adults aged 21–25, December 1986	3.07	.584	.000
Percentage of welfare adults male, December 1986	.779	.284	.009

(table continues)

TABLE 3, continued

	Coeff.	S.E.	Signif.
Percentage of welfare adults Asian, December 1986	.196	.090	.036
County is metropolitan rather than rural	14.1	3.21	.000
Number of persons employed, 1986	.00008	.00002	.000
Percentage change in number of persons employed, 1986–89	-.352	.196	.079
Percentage change in number of persons employed, 1990–94	.916	.169	.000
Unemployment rate, 1986	1.88	.717	.012
Change in unemployment rate, 1986–89	3.96	1.66	.021
Change in unemployment rate, 1990–94	4.87	1.09	.000
Intercept	-113.3	15.06	.000
R ²	.87		
Adjusted R ²	.81		

Note: For precise definitions, descriptive statistics, and sources of variables, see Appendix 1.

something from the training or, because participation rates were higher, they were more subject to later pressures to move into immediate employment.

Increases in clients in counseling during 1991–93 meant slower caseload fall, perhaps because this component exempts clients from pressure to be active. Adjudication is the process JOBS uses to discipline clients who drop out or otherwise fail to cooperate with the program. Higher levels of adjudication and sanctions—clients with grants reduced for noncooperation—meant faster caseload fall, because these are among the processes that enforce participation.¹⁴

Notably, rising sanctioning tends to reduce dependency over time even though the performance analysis of Wisconsin JOBS found that sanctioning depresses the short-term performance of local programs. Counties that do best at placing people in jobs and closing cases in a single year tend to motivate their clients by informal means, not by cutting grants (Mead 1995, pp. 21, 27, 30). The different result here probably means that, over more time, a program that sanctions a lot diverts more people from welfare, even if it also underperforms in placing people already on welfare.

Another strong influence is child support, as our respondents suggested. Every point increase in the percentage of AFDC benefit costs recovered in child support between 1989 and 1994 was worth over 4 points more in caseload reduction.

Since welfare benefits are constant across the state, a cross-sectional analysis is less able to test their influence than the time series. However, the attractiveness of welfare varies with average wages, which do vary. We tested welfare benefits as a proportion of average wages in the counties, and the term was nonsignificant, another indication that benefit cuts are not an important cause of Wisconsin's welfare fall. This was also true in the analyses of subperiods reported below.¹⁵

¹⁴Adjudication here includes clients in reconciliation, a consultative process designed to restore participation, plus clients on whom JOBS has requested a sanction.

¹⁵We tried substituting wages, not overall but in specific low-wage industries (retail and service trades), and these terms also were nonsignificant.

The social influences on the caseload are less explicable. It is apparent why counties with rising unwed pregnancy rates would tend to have slower caseload declines, but not why the percentage of welfare adults in certain age ranges influences caseload change. It is clear why having many Asian recipients makes for slower caseload decline—Hmong refugees from Southeast Asia are difficult to place—but not why having more men in the caseload does so, since men are usually more employable than women. The fact that metropolitan counties had, on average, 14 points less caseload fall than rural counties reflects the greater difficulty of reducing large urban caseloads.

It is equally apparent why growth in the number of persons employed over 1986–89 should have driven caseloads down. It is unclear why the level of employment in 1986 or gains in employment during 1990–94 retarded caseload fall, although one possibility is that rising employment means more people not on welfare are going to work, so employers do not press welfare agencies to make more labor available.¹⁶ But unemployment in all dimensions—level in 1986, change from 1986 to 1989, change from 1990 to 1994¹⁷—has its expected large and slowing effect on welfare decline.

Subperiods

I also performed separate analyses for the subperiods 1986–90 and 1991–94. The impetus was a hunch that, although the relative policies of the counties were unlikely to change much, the relative importance of program and nonprogram influences might shift. The first period saw an economic boom and the early implementation of WEJT and JOBS, while the second was a time of worse economic conditions but fuller implementation. Table 4 shows the terms that best explain caseload change in 1986–90. In this model, no JOBS terms appear because the program did not report data until 1991. We do

¹⁶We tried substituting employment and change in employment, not overall but in specific low-wage industries (retail and service trades). In both cases, the level of employment in 1986 was significant but the change during 1986–94 was not. The terms reported seemed preferable because they were broader and more powerful.

¹⁷The variables for change in employment and unemployment during 1986–94 are broken into 1986–89 and 1990–94 because the data for the two periods are incompatible.

TABLE 4
Cross-Sectional Model of Caseload Change, Wisconsin Counties, 1986–90

	Coeff.	S.E.	Signif.
Unwed pregnancy rate, 1986	.794	.184	.000
Percentage of welfare adults aged <21, December 1986	-2.28	.805	.006
Percentage of welfare adults aged 21–25, December 1986	1.51	.599	.014
Percentage of welfare adults working >20 hours a week, December 1996	-.922	.458	.049
Percentage of welfare adults black, December 1986	-.255	.149	.093
Size of JOBS caseload relative to the statewide JOBS caseload, 1991	5.25	2.49	.039
County is metropolitan rather than rural	8.52	3.99	.037
Milwaukee	-180	87.6	.044
Percentage change in number of persons employed, 1986–89	-.543	.217	.015
Intercept	-45.3	11.8	.000
R ²	.62		
Adjusted R ²	.56		

Note: For precise definitions, descriptive statistics, and sources of variables, see Appendix 1.

not have comparable data on work programs prior to JOBS, but a dummy variable for when a county started WEJT was nonsignificant. Higher unwed pregnancy, as expected, tended to slow welfare decline, and the same age terms as in Table 3 appear. The percentage of welfare adults working more than 20 hours a week tended to hasten welfare fall, as expected, and the percentage of caseload black did the same.

Interestingly, while growth in employment in this period meant faster welfare decline, as in Table 3, none of the unemployment terms was significant. This does not mean that unemployment was unimportant, but that it did not in this period explain *variations* in caseload change across the counties. Jobs were plentiful virtually everywhere. Other factors determined whether a county used the available jobs to drive the rolls down. As in the earlier model, metropolitan counties realized much less welfare decline than the norm; those that had larger JOBS populations relative to the statewide caseload realized 5 points less. Of course, much of the variation tapped by these variables reflects Milwaukee, in which over half of Wisconsin's welfare caseload resides. Controlling for these terms, however, the dummy for Milwaukee itself is negative.¹⁸

Table 5 shows the equivalent model for 1991–94. In this period, the story looks different. Now we have JOBS measures, and the variables for active status and counseling show much the same power as in Table 3. The level and change in assessment for employability problems, which was not included in the active status measure, also promoted caseload fall. But the education and training terms that were significant for the whole period 1986–94 do not appear. These activities were perhaps worth less to programs in the more austere 1990s than they had been earlier. What counts now is general participation levels as captured by the activity and assessment terms. The more clients a county had in *some* JOBS function, the greater was its welfare decline. And while the dummy for counties that instituted WEJT was

¹⁸The enormous coefficient on this term is not to be taken literally. It is an offset to the terms measuring a county's relative size of caseload and whether it is metropolitan. A model with just these terms would have a large residual for Milwaukee, for which the dummy compensates.

TABLE 5
Cross-Sectional Model of Caseload Change, Wisconsin Counties, 1991–94

	Coeff.	S.E.	Signif.
Percentage of JOBS clients in active status, 1991	-.147	.059	.015
Change in percentage of JOBS clients in active status, 1991–93	-.202	.048	.000
Percentage of JOBS clients in assessment, 1991	-.227	.090	.014
Change in percentage of JOBS clients in assessment, 1991–93	-.159	.084	.063
Change in percentage of JOBS clients in counseling, 1991–93	.260	.125	.042
County began WEJT in June 1988	-8.52	4.60	.069
Poverty rate for female-headed families with children <5 years	-.247	.083	.004
Percentage of population Hispanic	2.25	1.23	.073
Percentage change in persons employed, 1991–94	.335	.198	.096
Change in unemployment rate, 1991–94	2.01	1.02	.054
Intercept	15.5	7.65	.047
R ²	.50		
Adjusted R ²	.41		

Note: For precise definitions, descriptive statistics, and sources of variables, see Appendix 1.

not important in the earlier period, it is now significant and negative.¹⁹ This is consistent with the view, suggested earlier, that counties that had a head start with WEJT implemented JOBS better and received an eventual payoff.

Social factors are different from the earlier models, mainly because welfare caseload demographics were unavailable and the variables here are from census data. It is not clear why a high poverty rate for young female-headed families should accelerate caseload decline. A higher population percentage Hispanic is positive presumably because Hispanics have language programs that can impede employment. Consistent with Table 3, in this period both change in employment and growing unemployment are positive and slow welfare fall. Now, JOBS appears to be the major force driving the caseload down, while the labor market is the major constraint.

The overall picture fits earlier indications: Both the economy and government get credit for Wisconsin's welfare decline. The caseload's rapid fall during the late 1980s was driven mainly by a tight labor market. Work programs were still being implemented but job availability was not a constraint in most places, and local variation in caseload decline was driven mainly by social differences, with cities less able to reduce dependency. In the more austere 1990s, however, the ability to sustain decline had much to do with JOBS performance. With fewer jobs available, the counties that had well-run work programs and enforced activity well were those that maintained or accelerated their caseload fall.

Milwaukee

Some observers believe that the welfare problems of Milwaukee, Wisconsin's major city, are fundamentally worse than those of the rest of the state. Milwaukee's caseload is 60 percent black, while caseloads in the rest of the state are 69 percent white (Department of Health and Social Services 1994,

¹⁹The WEJT dummy used in the time series model applied to the whole state. It was positioned in January 1988, when widespread implementation of WEJT began. The variable used here applies to counties, so it was positioned at the point that was most likely to differentiate among them. I chose June 1988, when several large counties went over to the program.

pp. 44–47). It is easy to conclude that unusual disadvantage explains why the city has trailed the rest of the state in reducing its caseload.

However, in the model for 1986–90 above, cities in general had special trouble reducing their caseloads, but controlling for that the influence of Milwaukee cut the other way. And dummy variables for Milwaukee were nonsignificant in both of the other cross sections. Estimating all these models without Milwaukee changed the results only slightly. Similarly, adding a Milwaukee dummy or omitting that case made almost no difference in the JOBS performance analyses mentioned above (Mead 1997, p. 115). The implication is that what is most distinctive about the city is not its demographics but its JOBS program, which traditionally did not enforce participation or work search as well as elsewhere in the state. However, JOBS in Milwaukee has tightened up since 1994, under pressure from Madison, and the county's caseload decline has sharply accelerated, as Table 1 shows. State officials say that the institution of Self-Sufficiency First and Pay for Performance in the city in 1996 dramatically cut intake to welfare while speeding departures.

VIII. DISCUSSION

The main limitation of the foregoing analyses is that the effect of work policies on the caseload cannot be tested as definitively as program impacts at the individual level. One must separate program effects from other influences statistically. A time series must estimate something other than change in the raw caseload level, and the cross sections explain variations in change around the state rather than the overall trend. Thus, conclusions cannot be definitive. Anomalous results for some variables counsel caution about details. Yet all the analyses *tend* toward the same conclusion, that both the economy and work enforcement have driven Wisconsin's caseload down.

The combination of field interviewing and cross-sectional analyses using full program data provides a richer sense of the forces behind change than any other approach. However, such research

depends crucially on the available data. Control data are less available at the county than the state level. Wisconsin has unusually good reporting on JOBS, and it was willing to generate special data on the demographics of the county caseloads for this study. Not all states would be so forthcoming. And due to the rapid change that has overtaken welfare in many states, JOBS reporting may not currently provide valid or reliable measures of work program features.

The findings do confirm that work requirements can drive the rolls down by more than the evaluations suggest. As yet, we know little about what happens to people who are diverted from welfare before they enter work programs. Rapid caseload fall driven by diversion might well cause hardship, although there is little sign of this to date (U.S. General Accounting Office 1997). Surveys of the affected populations are under way now to find out more.

Polls show that the voters want a welfare system that both aids the needy and expects the adults to work (Farkas et al. 1996). Hence, reforming welfare with work is more popular than either giving aid without conditions or denying all assistance. To enforce work within welfare, however, is demanding. It costs money for staff, computerized tracking systems, and support services such as child care. Wisconsin has spent liberally for these things, although it has probably saved money overall due to the rapid caseload fall (Mead 1996, pp. 27–29). Poorer states will have more difficulty affording the initial investments.

Most important, work-oriented reform is institutionally demanding. It requires a political order capable of agreement about welfare. In Wisconsin in the mid-1980s, most liberals as well as conservatives came to a consensus that adults on welfare must work. In the legislature, majorities of both parties supported WEJT and Governor Thompson's welfare experiments. Finally, in 1997, the state implemented Wisconsin Works, or W-2, a new welfare structure that conditions virtually all assistance on work. W-2 denies aid to nonworkers, yet it also offers new health and child care subsidies to the working poor (Corbett 1995; Wiseman 1996). Just as much, mandatory work programs make tough

administrative demands. They require staffs, payment, and reporting systems able to support large numbers of people while also assigning them to work activities and monitoring their compliance. In meeting that challenge, Wisconsin calls upon its superlative bureaucracy, a legacy of its Progressive, “good government” traditions.

Few other states are yet equal to these changes. While some rural states, such as Iowa and Utah, have successfully reduced welfare, the larger, urban states are too divided politically to move quickly. In New York, California, and Massachusetts, liberals tend to defend existing welfare, while conservatives resist spending money on the administration needed to raise work levels. The welfare bureaucracy often lacks the energy and the enterprise to master the administrative challenges. The current caseload fall has taken some of the pressure off states to reform, but most are well behind Wisconsin in institutionalizing change.

Academics tend to approach welfare as an economic problem. People are seen as poor or dependent for material reasons, and the solution is to give them more resources or opportunities. The Wisconsin experience, however, suggests that the main instrument of change may be public authority. Recipients leave welfare in part because they are required to work, and diversion occurs when the authorities are directive about avoiding aid. To institutionalize such effects, welfare reformers need to construct a system that can both assist and require recipients to work. To do that may be more difficult than redistributing income or opportunity. In the end, welfare reform is a challenge mostly within government. Politics, not economics, remains the master science.

APPENDIX 1

Below are descriptive statistics and sources for the variables used in the statistical analyses. I include only terms included in the final models. Data on other terms tried are available from the author.

Wisconsin time series analysis (January 1986–December 1994)

Descriptive Statistics	Mean	S.D.	Lowest	Highest
<i>Dependent Term</i>				
1. Percentage change in AFDC caseload	-0.3	1.3	-3.5	3.5
<i>Independent Terms</i>				
2. Percentage change in AFDC caseload in previous month	-0.3	1.3	-3.5	3.5
3. Percentage change in real AFDC benefit level (adjusted for inflation)	-0.4	0.6	-6.1	0.6
4. Benefit increase in April 1987	0.05	0.2	0	1
5. Benefit cut in October 1987	0.8	0.4	0	1
6. Initiation of WEJT (January 1988)	0.8	0.4	0	1
7. Initiation of JOBS (October 1989)	0.6	0.5	0	1
8. Percentage change in population	0.06	0.03	-0.01	0.1
9. Percentage change in employment	0.2	1.2	-3.0	3.0
10. Labor force participation rate	66.9	2.5	59.9	71.7
11. Unemployment rate	5.1	1.2	3.3	8.5

Sources:

1: Wisconsin monthly welfare caseload data.

2: Wisconsin monthly welfare caseload data.

3–5: Income Maintenance Manual Chapter VI - Historical Tables: Part A (AFDC).

6–7: Information on implementation dates from Wisconsin Department of Health and Social Services (DHSS).

8: Wisconsin Demographic Services Center, "Population Time Series."

9–11: Monthly statewide data on employment and unemployment, Current Population Survey, Bureau of Labor Statistics, U.S. Department of Labor, 1986 through 1994.

Wisconsin cross-sectional analysis, 1986–94

Descriptive Statistics	Mean	S.D.	Lowest	Highest
<i>Dependent Term</i>				
1. Percentage change in persons on AFDC, 1986–94	-45.5	16.5	-71.	60.1
<i>Independent Terms</i>				
2. Change in percentage of JOBS clients in active status, 1991–93	-5.5	27.3	-127	98.4
3. Percentage of JOBS clients in inactive status, 1991	67.9	23.4	13.1	117.8
4. Change in percentage of JOBS clients in inactive status, 1991–93	-1.9	18.7	-41.4	46.8
5. Percentage of JOBS clients in training, 1991	3.7	2.7	0.5	16.4
6. Percentage of JOBS clients in remedial education, 1991	11.1	5.1	1.5	27.7
7. Percentage of JOBS clients in postsecondary education, 1991	10.3	4.2	1.8	20.8
8. Change in percentage of JOBS clients in counseling, 1991–93	-3.6	8.4	-25.7	23.7
9. Percentage of JOBS clients in adjudication, 1991	27.7	11.3	3.8	51.8
10. Change in percentage of JOBS clients sanctioned, 1991–93	1.9	3.9	-7.3	12.1
11. Change in percentage of AFDC benefit costs recovered in child support, 1989–94	1.0	0.9	-1.2	3.6
12. Change in unwed pregnancy rate, 1986–93	6.6	4.3	-10.9	19.9
13. Percentage of welfare adults aged < 21, December 1986	8.8	1.9	4.2	12.6
14. Percentage of welfare adults aged 21–25, December 1986	19.0	3.0	9.7	25.3

(table continues)

Wisconsin cross-sectional analysis, 1986–94, continued

Descriptive Statistics	Mean	S.D.	Lowest	Highest
15. Percentage of welfare adults male, December 1986	25.9	5.8	11.9	42.8
16. Percentage of welfare adults Asian, December 1986	5.8	12.8	0	59.5
17. County is metropolitan rather than rural	0.3	0.4	0	1
18. Number of persons employed, 1986	31027	58909	610	446500
19. Percentage change in number of persons employed, 1986–89	10.9	5.8	-3.6	33.7
20. Percentage change in number of persons employed, 1990–94	9.6	7.5	-5.5	43.0
21. Unemployment rate, 1986	8.6	3.5	4.4	33.7
22. Change in unemployment rate, 1986–89	-3.2	1.5	-11.7	-0.9
23. Change in unemployment rate, 1990–94	0.7	1.0	-2.6	3.8

Sources:

1: Wisconsin DHSS, yearly welfare caseload data.

2: [Wisconsin WPRS #61 (1993), col 2 + col 4 + WPRS #63 (1993), col 1 + col 2 + col 3 + col 4 + col 5 + col 6 + WPRS #64 (1993), col 1 + WPRS #65 (1993), col 1 + col 6, expressed as a percentage of 1993 registrants (“Total individuals” from WPRS #56, Dec. 31, 1992, plus “Referrals,” from Wisconsin WPRS #60 (1993), col 1)] – [Wisconsin WPRS #61 (1991), col 2 + col 4 + WPRS #63 (1991), col 1 + col 2 + col 3 + col 4 + col 5 + col 6 + WPRS #64 (1991), col 1 + WPRS #65 (1991), col 1 + col 6, expressed as a percentage of 1991 registrants (Sum of “Total” from p. 25 of AFDC Work Programs/On Board (Active File) Report, December 31, 1990 and “Referrals,” from Wisconsin WPRS #60 (1991), col 1)].

3: Wisconsin WPRS #61 (1991), col 6 + WPRS #62 (1991), col 1 + col 2 + col 3 + col 4 + col 7, expressed as a percentage of 1991 registrants.

4: [Wisconsin WPRS #61 (1993), col 6 + WPRS #62 (1993), col 1 + col 2 + col 3 + col 4 + col 7, expressed as a percentage of 1993 registrants] – [Wisconsin WPRS #61 (1991), col 6 + WPRS #62 (1991), col 1 + col 2 + col 3 + col 4 + col 7, expressed as a percentage of 1991 registrants].

5: Wisconsin WPRS #65 (1991), col 6, expressed as a percentage of 1991 registrants.

6: Wisconsin WPRS #64 (1991), col 1, expressed as a percentage of 1991 registrants.

7: Wisconsin WPRS #65 (1991), col 1, expressed as a percentage of 1991 registrants.

8: [Wisconsin WPRS #61 (1993), col 3, expressed as a percentage of 1993 registrants] – [Wisconsin WPRS #61 (1991), col 3, expressed as a percentage of 1991 registrants].

9: Wisconsin WPRS #62 (1991), col 5 + col 6, expressed as a percentage of 1991 registrants.

10: [Wisconsin WPRS #62 (1993), col 6, expressed as a percentage of 1993 registrants] – [Wisconsin WPRS #62 (1991), col 6, expressed as a percentage of 1991 registrants].

11: [Wisconsin Bureau of Child Support, Child Support Program Incentive Calculation, “Total Collections,” FY89 expressed as a percentage of total AFDC benefits from Wisconsin Yearly Welfare Data (DHSS), 1989] – [Wisconsin Bureau of Child Support, Child Support Program Incentive Calculation, “Total Collections,” FY94 expressed as a percentage of total AFDC benefits from Wisconsin Yearly Welfare Data (DHSS), 1994].

12: Wisconsin DHSS, “Maternal and Child Health Statistics in Wisconsin,” 1986 and 1993.

13–16: Wisconsin DHSS, special demographic analysis of the AFDC adult caseload, December 1986.

17: “Wisconsin Metropolitan Counties,” per Office of Management and Budget, Bulletin 93-05, December 1992.

18–23: Annual county data on employment and unemployment, Current Population Survey, Bureau of Labor Statistics, U.S. Department of Labor, 1986 and 1994.

Note: “WPRS” refers to reports from the Wisconsin Integrated Data System-Work Programs Reporting System, the primary JOBS reporting system in 1991 and 1993.

1986–90

Descriptive Statistics	Mean	S.D.	Lowest	Highest
<i>Dependent Term</i>				
1. Percentage change in persons on AFDC, 1986–1990	-34.9	14.7	-60	20.5
<i>Independent Terms</i>				
2. Unwed pregnancy rate, 1986	15.8	8.2	6.8	67.6
3. Percentage of welfare adults aged < 21, December 1986	8.8	1.9	4.2	12.6
4. Percentage of welfare adults aged 21–25, December 1986	19.0	3.0	9.7	25.3
5. Percentage of welfare adults working > 20 hours per week, December 1986	11.9	3.2	2.8	19.6
6. Percentage of welfare adults black, December 1986	4.1	14.8	0	83.7
7. Size of JOBS caseload relative to the statewide JOBS caseload, 1993	1.4	4.7	0.1	40.1
8. County is metropolitan rather than rural	0.3	0.4	0	1
9. Milwaukee	0.01	0.1	0	1
10. Percentage change in number of persons employed, 1986–89	10.9	5.8	-3.6	33.7

Sources:

1: Wisconsin yearly welfare caseload data.

2: Wisconsin DHSS, "Maternal and Child Health Statistics in Wisconsin," 1986 and 1993.

3–6: Wisconsin DHSS, special demographic analysis of the AFDC adult caseload, December 1986.

7: Wisconsin yearly welfare caseload data.

8: "Wisconsin Metropolitan Counties," per Office of Management and Budget, Bulletin 93-05, December 1992.

10: Annual county data on employment and unemployment, Current Population Survey, Bureau of Labor Statistics, U.S. Department of Labor, 1986 and 1990.

1991–94

Descriptive Statistics	Mean	S.D.	Lowest	Highest
<i>Dependent Term</i>				
1. Percentage change in persons on AFDC, 1991–94	-16.6	10.8	-37.5	8.5
<i>Independent Terms</i>				
2. Percentage of JOBS clients in active status, 1991	93.1	24.0	22.8	177.0
3. Change in percentage of JOBS clients in active status, 1991–93	-5.5	27.3	-127	98.4
4. Percentage of JOBS clients in assessment, 1991	30.8	14.2	2.0	56.0
5. Change in percentage of JOBS clients in assessment, 1991–93	2.0	13.6	-30.9	48.5
6. Change in percentage of JOBS clients in counseling, 1991–93	-3.6	8.4	-25.7	23.7
7. County began WEJT in June 1988	0.07	0.3	0	1
8. Poverty rate for female-headed families with children < 5, 1989	60.3	12.8	15.5	85.1
9. Percentage of population Hispanic, 1990	0.8	1.0	0.1	5.2
10. Percentage change in number of persons employed, 1991–94	9.5	5.4	-2.9	29.4
11. Change in unemployment rate, 1991–94	-0.5	1.1	-4.6	2.7

Sources:

1: Wisconsin yearly welfare caseload data.

2: Wisconsin WPRS #61 (1991), col 2 + col 4 + WPRS #63 (1991), col 1 + col 2 + col 3 + col 4 + col 5 + col 6 + WPRS #64 (1991), col 1 + WPRS #65 (1991), col 1 + col 6, expressed as a percentage of 1991 registrants.

3: [Wisconsin WPRS #61 (1993), col 2 + col 4 + WPRS #63 (1993), col 1 + col 2 + col 3 + col 4 + col 5 + col 6 + WPRS #64 (1993), col 1 + WPRS #65 (1993), col 1 + col 6, expressed as a percentage of 1993 registrants] - [Wisconsin WPRS #61 (1991), col 2 + col 4 + WPRS #63 (1991), col 1 + col 2 + col 3 + col 4 + col 5 + col 6 + WPRS #64 (1991), col 1 + WPRS #65 (1991), col 1 + col 6, expressed as a percentage of 1991 registrants].

4: Wisconsin WPRS #61 (1991), col 1, expressed as a percentage of 1991 registrants.

- 5: [Wisconsin WPRS #61 (1993), col 1, expressed as a percentage of 1993 registrants] – [Wisconsin WPRS #61 (1991 and 1993), col 1, expressed as a percentage of 1991 registrants].
- 6: [Wisconsin WPRS #61 (1993), col 3, expressed as a percentage of 1993 registrants] – [Wisconsin WPRS #61 (1991), col 3, expressed as a percentage of 1991 registrants].
- 7: Derived from Jessica Kasten study of caseload change, University of Wisconsin–Madison, May 1995.
- 8: U.S. Census Summary Tape File 3A (1990).
- 9: U.S. Census Summary Tape File 1A (1990), “Hispanic.”
- 10–11: Annual county data on employment and unemployment, Current Population Survey, Bureau of Labor Statistics, U.S. Department of Labor, 1991 and 1994.

APPENDIX 2

Following are details about the statistical tests of the models referred to in the text.

Wisconsin time series analysis (January 1986–December 1994)

Unit Root Tests

In all specifications, the tests failed to reject the null hypothesis (H_0) of a unit root for the original caseload data series but rejected it for the transformed (percentage change) series. Alpha was .05:

Augmented Dickey-Fuller tests with two lags.

Raw caseload series only

Model Used in Test	T-Value for Lagged Dep. Term	Asymptotic Critical Value	Decision
Lagged dep. term plus constant	-1.75	-2.86	Don't reject H_0
Plus time trend	-1.65	-3.41	Don't reject H_0
Plus time trend, time trend squared	-0.62	-3.83	Don't reject H_0

Raw caseload series with annual and monthly dummies

Model Used in Test	T-Value for Lagged Dep. Term	Asymptotic Critical Value	Decision
Lagged dep. term plus constant	-0.51	-2.86	Don't reject H_0
Plus time trend	-0.51	-3.41	Don't reject H_0
Plus time trend, time trend squared	-1.43	-3.83	Don't reject H_0

Percentage change caseload series only

Model Used in Test	T-Value for Lagged Dep. Term	Asymptotic Critical Value	Decision
Lagged dep. term plus constant	-5.04	-2.86	Reject H_0
Plus time trend	-5.07	-3.41	Reject H_0
Plus constant, time trend, time trend squared	-5.38	-3.83	Reject H_0

Percentage change caseload series with annual and monthly dummies

Model Used in Test	T-Value for Lagged Dep. Term	Asymptotic Critical Value	Decision
Lagged dep. term plus constant	-5.07	-2.86	Reject H_0
Plus time trend	-5.07	-3.41	Reject H_0
Plus time trend, time trend squared	-5.16	-3.83	Reject H_0

Augmented Dickey-Fuller tests with three lags.

Raw caseload series only

Model Used in Test	T-Value for Lagged Dep. Term	Asymptotic Critical Value	Decision
Lagged dep. term plus constant	-1.86	-2.86	Don't reject H_0
Plus constant, time trend	-1.96	-3.41	Don't reject H_0
Plus constant, time trend, time trend squared	-0.98	-3.83	Don't reject H_0

Raw caseload series with annual and monthly dummies

Model Used in Test	T-Value for Lagged Dep. Term	Asymptotic Critical Value	Decision
Lagged dep. term plus constant	-0.97	-2.86	Don't reject H_0
Plus time trend	-0.97	-3.41	Don't reject H_0
Plus time trend, time trend squared	-1.74	-3.83	Don't reject H_0

Percentage change caseload series only:

Model Used in Test	T-Value for Lagged Dep. Term	Asymptotic Critical Value	Decision
Lagged dep. term plus constant	-5.65	-2.86	Reject H_0
Plus constant, time trend	-5.69	-3.41	Reject H_0
Plus constant, time trend, time trend squared	-6.06	-3.83	Reject H_0

Percentage change caseload series with annual and monthly dummies:

Model used in test	T-Value for Lagged Dep. Term	Asymptotic Critical Value	Decision
Lagged dep. term plus constant	-4.30	-2.86	Reject H_0
Plus time trend	-4.30	-3.41	Reject H_0
Plus time trend, time trend squared	-4.36	-3.83	Reject H_0

Autocorrelation Tests

Breusch-Pagan/Godfrey LM test of final time series model (2 lags).

$$R^2 = .055, T = 103$$

$$T^* R^2 = 5.62$$

Critical value is $\chi^2(2) = 5.99$

H_0 of no autocorrelation is not rejected.

Breusch-Pagan/Godfrey LM test of final time series model (3 lags).

$$R^2 = .112, T = 102$$

$$T^* R^2 = 11.38$$

Critical value is $\chi^2(3) = 7.82$

H_0 of no autocorrelation is rejected.

Reported results were adjusted for the remaining autocorrelation. Effectively, this includes within the model additional terms needed to account for the errors. A significant influence on each residual was the third lag—the residual three before it in the series. The adjustment estimates this coefficient alongside the b coefficients.

Estimates of rho (lags in error term):

<i>Lag</i>	<i>Coefficient</i>
1	.000
2	.000
3	-.248

Wisconsin cross-sectional analyses

Heteroskedasticity

Several tests were applied to the cross-sectional models. With one exception, all the tests failed to reject the null hypothesis of homoskedasticity.

The following tests were used (alpha was .05):

- Cook-Weisberg: Produces a χ^2 test of the null hypothesis that, in the expression $\text{var}(e_i) = \sigma^2 \exp(\lambda'z_i)$, λ is zero. Here, λ is a vector of unknown coefficients, and z is either the fitted values of Y or specified independent variables thought to produce heteroskedasticity.
- Goldfeld-Quandt: Ranks cases into two groups (here the upper and lower 26 cases) based on some variable thought to produce heteroskedasticity. Produces an F -test of the null hypothesis that the error variance of the tested model is the same for the two groups.
- Breusch-Pagan/Godfrey: Produces a χ^2 test of the null hypothesis that the error variance does not vary with a vector of one or more independent variables. One version assumes normal distribution of the errors; another (Koenker and Basset) does not.

Large cross section (Table 3): The Cook-Weisberg test used fitted values and the explainers for number of persons employed 1986 and for whether a county was metropolitan. The Goldfeld-Quandt test sorted cases on the basis of the employment variable. The Breusch-Pagan/Godfrey used both variables.

First small cross section (Table 4) The Cook-Weisberg test used fitted values and the explainers for the size of a county's JOBS caseload relative to the statewide caseload 1991 and for whether a county was metropolitan. The Goldfeld-Quandt test sorted cases on the basis of the size of a county's JOBS caseload variable. The Breusch-Pagan/Godfrey used both variables.

Second small cross section (Table 5): The Cook-Weisberg test used fitted values. The Goldfeld-Quandt test sorted cases on the basis of number of persons employed 1986. The Breusch-Pagan/Godfrey also used this variable.

The one test that rejected homoskedasticity was one of the Cook-Weisberg tests of the first small cross section. Here, the Cook-Weisberg test using fitted values rejected the null, yet the version using the two specific variables sustained it. We concluded that no adjustments were needed.

Correlation Tables for Cross-sectional Models

Tables use brief names corresponding to the terms in Tables 3–5.

Large cross section (Table 3)

	% Δ AFDC 86–94	Δ % Active 91–93	% Inactive 91	Δ % Inactive 91–93	% Train 91	% Remed 91	% Postsec 91
% Δ AFDC86–94	1.00						
Δ % Active 91–93	-.34	1.00					
% Inactive 91	-.00	-.03	1.00				
Δ % Inactive 91–93	.15	.17	-.57	1.00			
% Train 91	-.22	-.26	.11	-.17	1.00		
% Remedial 91	-.04	-.27	.27	-.26	.25	1.00	
% Postsec 91	.10	-.26	-.02	-.11	-.06	.15	1.00
Δ % Counsel 91–93	.25	.00	.15	-.02	-.24	.03	.03
% Adjudic 91	-.01	-.29	.44	-.40	-.09	.03	-.10
Δ % Sancs 91–93	-.04	.11	-.23	.25	-.09	.06	.04
Δ Child sup rec	-.46	.21	.31	-.23	.15	.15	-.06
Δ % Unwed 86–93	.14	-.03	.27	-.12	.01	.26	-.21
% Aged <21 86	.15	-.14	-.02	.10	.10	.06	.07
% Aged 21–25 86	.33	-.21	-.05	.16	-.03	.07	.49
% Male 86	-.25	.16	.27	-.27	.13	.15	-.31
% Asian 86	.35	-.20	.07	-.03	-.14	.30	.25
Metro county	.52	-.18	-.14	.14	-.22	-.08	.24
# Employed 86	.49	-.24	-.07	.14	-.15	-.10	.01
% Δ Empl 86–89	.02	.05	-.08	.05	-.21	-.02	.05
% Δ Empl 90–94	.18	.04	-.16	-.02	-.13	.10	-.03
Unempl rate 86	.04	.05	-.03	-.03	.14	.27	-.23
Δ Unempl 86–89	-.01	-.07	.02	.03	-.01	-.12	.15
Δ Unempl 90–94	.03	-.01	.08	-.12	.14	-.01	-.09

	Δ % Counsel 91-93	% Adjudic 91	Δ % Sancs 91-93	Δ Child Sup Rec	Δ % Unwed 86-93	% Aged <21 86	% Aged 21-25 86
Δ % Counsel 91-93	1.00						
% Adjudic 91	.07	1.00					
Δ % Sancs 91-93	-.04	-.23	1.00				
Δ Child sup rec	.05	.20	-.13	1.00			
Δ % Unwed 86-93	.10	.26	.14	.09	1.00		
% Aged <21 86	-.16	-.12	.14	-.30	-.02	1.00	
% Aged 21-25 86	-.11	-.19	.14	-.27	-.09	.64	1.00
% Male 86	.08	.26	-.13	.27	.17	-.58	-.74
% Asian 86	.04	.02	-.02	-.13	-.05	.16	.24
Metro county	-.10	-.02	.08	-.31	-.08	.33	.37
# Employed 86	-.03	.22	-.03	-.25	.04	.01	-.02
% Δ Empl 86-89	-.08	.05	-.00	-.07	-.25	.11	.09
% Δ Empl 90-94	.19	-.02	.00	.01	-.02	.01	-.07
Unempl rate 86	.16	-.02	.15	.11	.19	-.01	-.13
Δ Unempl 86-89	-.11	-.07	-.02	-.08	-.10	.02	.15
Δ Unempl 90-94	.04	-.05	.13	.09	.09	-.19	-.19

	% Male 86	% Asian 86	Metro County	# Employed 86	% Δ Empl 86-89	% Δ Empl 90-94	Unempl Rate 86
% Male 86	1.00						
% Asian 86	-.13	1.00					
Metro county	-.46	.50	1.00				
# Employed 86	-.02	.22	.51	1.00			
% Δ Empl 86-89	-.05	.13	.24	.07	1.00		
% Δ Empl 90-94	-.05	-.05	-.09	-.13	.28	1.00	
Unempl rate 86	.09	-.23	-.26	-.24	.19	.56	1.00
Δ Unempl 86-89	-.12	.20	.20	.19	-.39	-.60	-.88
Δ Unempl 90-94	.23	-.23	-.30	-.18	-.07	-.17	.25

	Δ Unempl 86-89	Δ Unempl 90-94
Δ Unempl 86-89	1.00	
Δ Unempl 90-94	-.21	1.00

First small cross section (Table 4)

	% Δ AFDC 86-99	Δ % Unwed 86-93	% Aged <21	% Aged 21-25	% Working 20+ 86	% Black 86	Rel Size JOBS 91
% Δ AFDC86-90	1.00						
Δ Unwed % 86-93	.50	1.00					
% Aged <21 86	-.01	-.03	1.00				
% Aged 21-25 86	.21	-.14	.64	1.00			
% Working 20+ 86	-.52	-.55	.11	.08	1.00		
% Black 86	.31	.29	-.01	-.05	-.27	1.00	
Rel size JOBS 91	.32	.33	-.16	-.27	-.37	.74	1.00
Metro county	.39	.01	.33	.37	-.10	.42	.32
Milwaukee	.23	.30	-.22	-.37	-.34	.64	.98
% Δ Empl 86-89	-.02	.22	.11	.09	-.08	.01	.00

	Metro county	Milwaukee	% Δ Empl 86–89
Metro county	1.00		
Milwaukee	.20	1.00	
% Δ Empl 86–89	.24	-.02	1.00

Second small cross section (Table 5)

	% Δ AFDC 91–94	% Active 91	Δ % Active 91–93	% Assessed 91	Δ % Assessed 91–93	Δ % Counsel 91–93	WEJT June 88
% Δ AFDC 91–94	1.00						
% Active 91	-.13	1.00					
Δ % Active 91–93	-.33	-.59	1.00				
% Assessed 91	-.18	.40	-.15	1.00			
Δ % Assessed 91–93	-.18	-.15	.18	-.46	1.00		
Δ % Counsel 91–93	.20	-.13	.00	-.02	-.04	1.00	
WEJT June 88	-.05	-.12	.04	-.27	.18	.22	1.00
Fem-headed pov 89	-.21	.01	.03	-.11	.05	.20	.06
% Pop Hispanic 90	.28	-.16	-.09	-.28	.06	.07	.45
% Δ Empl 91–94	.07	-.06	.03	.14	-.15	.07	-.04
Δ Unempl 91–94	.05	.13	.02	.14	-.04	.09	-.13

	Fem-Headed Pov 89	% Pop Hisp 90	% Δ Empl 91–94	Δ Unempl 91–94
Fem-headed pov 89	1.00			
% Pop Hispanic 90	-.06	1.00		
% Δ Empl 91–94	.16	-.12	1.00	
Δ Unempl 91–94	.20	-.04	-.19	1.00

Multicollinearity

For each model, we calculated condition indexes (CI) for the eigenvalues that compose the determinant of $X'X$. The eigenvalues account for the sampling variance of the regression coefficients. For each eigenvalue, the CI is the square root of the ratio of the largest eigenvalue to the given eigenvalue. Condition indexes above 20 may indicate

collinearity. Coefficients where more than .50 of the sampling variance was explained by these eigenvalues could be affected by multicollinearity.

Large cross section (Table 3): Four of 23 eigenvalues had $CI > 20$. The variables that had more than half of their sampling variance associated with these eigenvalues were the intercept (.95), percentage of welfare adults aged 21–25 (.61) and percentage of welfare adults male (.70).

First small cross section (Table 4) Two of ten eigenvalues had $CI > 20$. Variables with more than half of their sampling variance associated with these eigenvalues were the intercept (.54), percentage of welfare adults aged 21–25 (.57), JOBS caseload as share of the statewide caseload 1991 (.66), and the Milwaukee dummy (.72). The last two loadings, which were on the smallest eigenvalue, no doubt reflect the very high intercorrelation between the JOBS caseload term and the Milwaukee dummy: .98.

Second small cross section (Table 5): One of eleven eigenvalues had $CI > 20$, and the only affected variable was the intercept (.98).

In all cases we tried omitting the affected variables one by one. The effect was either little change in the results or damaging change, with several terms becoming nonsignificant. The substantive interpretation of the results was the same. So we elected to make no changes.

Outliers and Influence Diagnostics

Statistics used to assess influence included the following. Cutoffs were those suggested in Belsley, Kuh, and Welsch (1980):

- Leverage; cutoff was: $h_i = (2 * \text{no. of parameters}) / \text{no. of observations}$.
- Studentized residuals; cutoff was 2 in absolute value.
- Covariance ratio; cutoff was: $\text{Covr} = (3 * \text{no. of parameters}) / (\text{no. of observations} + 1)$.
- DFFITS; cutoff was 2 in absolute value.

We investigated cases where any three of these four indicators were over the cutoffs, or where the deviation for any one of them was large.

Large cross section (Table 3): The questionable cases were Menominee and Milwaukee, the one with the smallest caseload and the other with the largest caseload in the state.

First small cross section (Table 4): The one questionable case was Racine.

Second small cross section (Table 5): No cases were questionable.

The question was how sensitive the results were to these aberrant cases. We tried omitting the Menominee and Milwaukee cases individually from the large cross section. We tried omitting each of these cases, then Racine, and then all three from the first cross section. We also tried omitting Milwaukee from the second small cross section. None of these trials produced any qualitative change in the results, so we elected to make no changes.

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